

IACUC Semi-Annual Program Review  
Subcommittee Meeting  
October 23, 2019

# IACUC Semi-Annual Program Review and Animal Facility Inspection Report

## Semi-Annual Program Review

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      - iv. Reports to the United States Department of Agriculture (USDA)
      - v. Occupational Health and Safety of Personnel
      - vi. Investigating and Reporting Animal Welfare Concerns
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**Memorandum to:** Dr. Terry Magnuson

**From:** Institutional Animal Care and Use Committee (IACUC)

**Subject:** Semiannual Report of the Program Review and Facility Inspection

**Date:** December 9, 2019

This report summarizes the IACUC's results of its most recent program review and facility inspection, as required by the Public Health Service (PHS) Policy on Humane Care and Use of Laboratory Animals (Policy), Section IV.B.1.-3., the *Guide for the Care and Use of Laboratory Animals* (Guide), and the Animal Welfare Act (AWA) regulations, as applicable. Submission of semiannual reports to the Institutional Official is a condition of this institution's Animal Welfare Assurance with the NIH Office of Laboratory Animal Welfare (OLAW).

**Since the last review, the following changes have occurred in the institution's program for animal care and use (PHS Policy IV.A.1.a.-i.): [optional]**

**October 23, 2019 Semiannual Program Review and Inspection Report Subcommittee**

**Meeting Summary:** The program review details are found in the October 23, 2019 IACUC meeting minutes and the accompanying PDF included as part of this report. All IACUC members received an electronic copy of the Semiannual Program Review Agenda as well as the Semiannual Facility Inspection Report and were invited to attend the subcommittee meeting. The IACUC Chair presented the subcommittee summary information to the IACUC at the November 1, 2019 convened meeting. A majority of the quorum present at the meeting voted to accept the subcommittee's conclusion. After evaluating all the information presented, the IACUC concluded that the UNC-Chapel Hill animal care program had no significant or minor deficiencies.

The following bullets detail some of the changes that occurred in our animal care program during the last six (6) months.

**Facility Updates:**

- Groundbreaking for the \_\_\_\_\_ is currently scheduled for the end of 2020. The project is over budget, but work is being done to correct this. The second phase, design and development, will start soon.
- The renovations in \_\_\_\_\_ are complete and 4,000 cages have been relocated to the facility. \_\_\_\_\_ renovations will be done at the end of November. \_\_\_\_\_ opens at the beginning of December and the \_\_\_\_\_ renovations should be done at the end of January. The Carolina Wise program was relocated to another room in \_\_\_\_\_ and the former PI is expanding into the old space. A study will be done to evaluate the possibility of a vivarium and a plan is being developed to improve air quality. A backup generator is available to keep the pumps and filters going in the event of a power outage. A backup generator at \_\_\_\_\_ will be added in the next 6 months. The \_\_\_\_\_ received a backup

generator last year. The renovations there should be done in November.      will be closing when DCM moves out.

- The University Animal Facility Disaster plan, maintained by the Division of Comparative Medicine (DCM) has been updated to address recent hurricanes, winter storms and OWASA water outages. DCM purchased a trailer to tow a 275-gallon tank to bring well water to campus sites when needed and is purchasing a third 600-gallon storage tank to allow the program to go 3 days without OWASA water in case of supply disruption. The Attending Veterinarian (AV) indicated that Principal Investigators (PIs) with satellites have assigned mandatory employees (not students) to care for animals during closures and most PIs have listed themselves.

#### **Office of Animal Care and Use (OACU) Updates:**

- Since April 2019, the OACU has had 4 employees leave. The loss of 4 employees in a 10-person office within 7 months has been very difficult. These are specialized positions that require training that can take up to a year. Salaries in the OACU may not be comparable to other units or other institutions with all but 2 of the 8 SHRA positions below market value, one by as much as \$8,700. It was noted that salaries should be reevaluated in order to improve retention and to minimize risk.
- The OACU Compliance team conducted 129 semiannual inspections (DCM facility, PI laboratory, satellite facility, procedural observation, and informational sessions) during the past 6 months and only 3 deficiencies were detected.
- OACU has overhauled the entire IACUC website, a project started in 2018. Old, irrelevant documents were identified and deleted; the FAQs were updated and reorganized; and IACUC Standards were updated in PolicyStat and a new link provided.
- All OACU letter and comment templates have been updated to ensure these links are correct across the board.
- OACU has developed a printable checklist which will assist new faculty as they transition to UNC and the UNC animal care and use program.
- OACU performed 70 congruency reviews during the last 6 months. 44 were congruent at initial review versus 26 that were not. This represents 63% congruent at initial review compared to 58% in April and 52% in 2018.
- In 2013 the IACUC determined that any collaborations involving animal work conducted at foreign institutions would require the foreign institution to be AAALAC accredited. AAALAC International accreditation represents an international animal care standard in the absence of other comparisons. However, during the past 6 months, 3 UNC PIs sought collaborations with non-AAALAC International accredited foreign institutions. As a result of the 3 requests, the OACU explored different documentation that could be considered an acceptable substitute for AAALAC accreditation. In the case of the Canadian institution, it was determined that the Canadian Council on Animal Care (CCAC) accreditation is accepted by the NIH and could serve as a standard for Canadian institutions. The other 2 Australian institutions submitted a variety of regulatory documentation, standards and inspection reports in lieu of AAALAC accreditation. The processes taken to approve these foreign collaborations will serve as guidance for possible future requests.

- The AAALAC Program Description is being updated and is due for submission to AAALAC on April 1<sup>st</sup>, 2020. The draft will be forwarded to the Institutional Official and Research Compliance Officer for input and edits at the beginning of February 2020. The site visit will likely take place June or July 2020. Key leadership should send the dates of any planned unavailability to the OACU Director as AAALAC may take this into consideration when selecting the dates of the site visit.

#### **IACUC Updates:**

- The IACUC and OACU have developed a process for serving as the IACUC of record for VA-funded collaborations in which the VA facility does not have an IACUC. The process is now in place for any future such VA collaborations.
- The university has received several public records requests from animal activists over the past 6 months. These requests are reviewed and processed by the UNC Public Records office with input from OACU. The Daily Tar Heel (DTH) published an article based on a Freedom of Information Act (FOIA) request made by a DTH student journalist for all UNC reports to OLAW during a several-year period. The OLAW, USDA, and AAALAC have been advised of the article. Although the article was written to make the information seem shocking, the known details had been reported by the UNC IACUC many months previously. Part of the article described a fish tank used for observation in a biology classroom. A student realized there was no protocol in place and reported this to the IACUC. The IACUC investigated and the PI submitted the necessary protocol describing the observational study. The IACUC reported this issue to OLAW even though it was not required as it was not NIH-funded. DCM will send an email to all DCM staff reminding them to contact their supervisor should they be contacted by individuals or the media.
- Of the 3 animal concern reports in the last 6 months, 2 were reportable to OLAW.

#### **Environment Health and Safety (EHS) Updates:**

- The EHS Director is retiring effective November 1<sup>st</sup>. The EHS Assistant Director will become the interim EHS Director and the primary IACUC member. The Associate Biological Safety Officer will be added to the IACUC roster as the EHS alternate.
- The use of radiological hazards continues to decline.
- There are 1,356 researchers working on campus, 85% of which have completed their annual review with 2 requiring additional evaluation at the UEOHC.
- 90% of DCM employees are compliant with their training and medical surveillance and EHS investigated and completed reports on 13 DCM injuries. DCM accounts for about 7% of the total injuries/illnesses/near misses reported to EHS.
- There has only been one serious campus workplace incident resulting in 6 or more workdays lost since 2016.
- In 2018 there were 2 incidents involving animals which were reportable to the NIH/CDC. To date, there has only been one in 2019. Mouse escapes have been tracked for several years, but there have been none since 2016.

**Division of Comparative Medicine (DCM) Updates:**

- DCM handles approximately 10,000 clinical care cases per year, 8,000 of which are mice. There has been an increase in non-rodent species care with 3 new PIs requesting studies involving pig surgery.
- There have been approximately 1,000 intra-University transports in the last 6 months, 65 imports from other institutions and 140 exports.
- There was one false positive in a sentinel animal this summer, but there have been no disease outbreaks, even with the change in PPE usage. There have been no health issues seen in the few cases of mixed housing of reptiles/amphibians or rodent species in the same room.
- Enrichment programs for all species housed in UNC provide environmental enrichment that exceeds NIH and USDA standards. More staff has been dedicated to socializing animals and increasing positive experiences beyond study contact. Over the last 6 months across both facilities, 88-93% of dogs have been exercised outside of their runs and 67-100% of dogs have been socialized individually. While some degree of socialization and enrichment has always been a part of the program, this activity has been documented regularly since October 2018.
- The training team has been expanded and there will be more opportunities for specialized training and techniques, particularly in non-rodent species.

**I. Description of the Nature and Extent of the Institution's Adherence to the PHS Policy, the *Guide*, and the AWA**

Departures from the PHS Policy, the *Guide*, and the AWA.

Select A or B:

- ☒ A. There were no departures during this reporting period.
- ☐ B. The following departures have been reviewed and approved by the IACUC: [*include reason for each departure*]

**Performance Based Items, Guide-based Exceptions, and Animal Welfare Act Exceptions Reviewed and Approved by the IACUC****Ongoing performance-based items:**

- Mouse cage density - IACUC continued to endorse the UNC Cage Density Standard for Breeding Mice. The IACUC subcommittee determined during the October 23, 2019 program review that this performance-based standard continues to be acceptable based on over 15 years of satisfactory performance and animal health.
- Cage change for individually ventilated mouse cages - IACUC continues to endorse the 2-week interval for cage change of individually ventilated mouse cages. During the October 23, 2019 program review the subcommittee determined that this performance-based standard continued to be acceptable based on satisfactory performance standards and animal health.

**Guide-based Exceptions:**

- Single housing of social animals – justification for single housing of social animals is described within each individual ACAP and the IACUC approves case-by-case during protocol review. During the October 23, 2019 program review the subcommittee determined that this exception continued to be acceptable.

- Housing of different animal species in the same housing room – there are a few instances where animals are housed in individually ventilated cages (mice/rats, rats/gerbils, guinea pigs/rats, hamsters/gerbils) and in filter top caging (reptiles/amphibians and fish/amphibians) within the same room. The need for this exception to the Guide was reviewed during the October 23, 2019 program review the subcommittee determined that this exception continued to be acceptable.

**Animal Welfare Act Exceptions:**

- Survival surgery on a USDA-regulated species is performed outside of the dedicated DCM surgical suite based on scientific necessity as described in two IACUC-approved protocols. An IACUC-approved space is used by 2 PIs solely for surgeries with ferrets. Surgery is performed using aseptic technique and the animals' vital parameters are monitored continuously during the surgical procedure. DCM veterinary services is involved in anesthesia selection, timing of surgeries, and pre- and post-operative care of animals. The need for this exception to the Guide was reviewed during the October 23, 2019 program review and the subcommittee determined that this exception continued to be acceptable.

## II. Deficiencies in the Institution's Animal Care and Use Program

Animal Care and Use Program Review Date(s):

Select A or B:

- ☒ A. There were no deficiencies in the program during this reporting period.
- ☐ B. The following deficiencies have been identified: *[describe each deficiency, identify each deficiency as either minor or significant, and provide a reasonable and specific plan and schedule for the correction of each deficiency, deficiencies may be recorded on a separate table and attached, the last page of OLAW's Sample Semiannual Program Review and Facility Inspection Checklist provides a sample table]*

During the October 23, 2019 IACUC Semi-annual Program Review subcommittee meeting, the IACUC subcommittee identified no minor or significant deficiencies in the institution's animal care and use program. The full IACUC met on November 1, 2019 to discuss the results of the subcommittee meeting. A majority of the IACUC quorum voted unanimously to accept the subcommittee's recommendations.

### III. Deficiencies in the Institution's Animal Facility

Animal Facility Inspection Date(s): multiple

Select A or B:

- ☐ A. There were no deficiencies in the animal facility during this reporting period.
- ☒ B. The following deficiencies have been identified: *[describe each deficiency, identify each deficiency as either minor or significant, and provide a reasonable and specific plan and schedule for the correction of each deficiency, deficiencies may be recorded on a separate table and attached, the last page of OLAW's Sample Semiannual Program Review and Facility Inspection Checklist provides a sample table]*

Please see accompanying semi-annual facility and laboratory inspection report in which minor deficiencies were identified and corrected.

### IV. Minority Views

Select A or B:

- ☒ A. No minority views were submitted or expressed.
- ☐ B. The following minority views were expressed: *[insert minority views here or attach]*

NA

### V. Status of AAALAC Accreditation *[identify accredited facilities, if applicable]*

The University of North Carolina at Chapel Hill animal care and use program remains fully accredited with AAALAC International. The most recent AAALAC site visit was conducted May 30 – June 2, 2017. The next visit will take place in summer 2020.

### VI. Signatures *[See accompanying signature sheet containing signatures of a majority of the IACUC members required by AWAR (§2.31,c,3).]*



**SEMIANNUAL PROGRAM REVIEW SUBCOMMITTEE MEETING AND FACILITY INSPECTION SIGN-IN SHEET**  
**DATE: OCTOBER 23, 2019**

|     | Primary Member | Initials | Alternate Member | Initials | Alternate Member | Initials |
|-----|----------------|----------|------------------|----------|------------------|----------|
| 1.  |                |          |                  |          |                  |          |
| 2.  |                |          |                  |          |                  |          |
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**MONTHLY IACUC MEETING AND OCTOBER 2019 SEMIANNUAL PROGRAM REVIEW AND FACILITY  
INSPECTION REPORT SIGN IN SHEET**

**DATE NOVEMBER 1, 2019**

|     | Primary Member | Initials | Alternate Member | Initials | Alternate Member | Initials |
|-----|----------------|----------|------------------|----------|------------------|----------|
| 1.  |                |          |                  |          |                  |          |
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## Minutes of the UNC-CH Institutional Animal Care and Use Committee

### Semiannual Animal Care Program Review Subcommittee Meeting, October 23, 2019

A subcommittee of the Institutional Animal Care and Use Committee (IACUC) met to review the Animal Care and Use Program on October 23, 2019 starting at 8:00 am. The meeting took place in

The individuals attending the meeting were the following:

The Vice Chair started the proceedings by bringing to order the semiannual program review. Copies of the semiannual inspection reports and the agenda and supporting documentation were provided electronically (PDF file) to all of the IACUC members, regardless of whether they were attending the meeting. The Vice Chair directed the subcommittee to refer to the agenda listing all items to be covered at today's meeting (see below).

The list below outlines all items and aspects of the program the IACUC assesses every six months during this program review. None of the items in the program review were categorized by the subcommittee as a minor deficiency (summarized starting next paragraph). Where there was no discussion, whether because there was no problem or because the information was covered in a document, the item appears on the list but is not followed by any remarks or explanation.

#### I. Issues that were addressed in the previous review

- A. NHP updates
- B. IACUC membership
- C. ACAP and OACU Administrative updates
- D. Regulatory Burden updates
- E. Mouse Breeding/Cage Density issues
- F. Carolina WISE updates
- G. Homes for Animal Heroes/Adoption MOU
- H. Consideration, review, inspection of new non-DCM surgical space for regulated species

*reminded the subcommittee of the items discussed at the last Semiannual Program Review meeting. The only comment was that oversight of the Carolina Wise program is now fully under a DCM veterinarian.*

#### II. University Administration Updates – Institutional Official

- A. Overview of progress of Institutional support for animal care program
- B. Resources necessary to manage the animal care program and veterinary care are provided
- C. DCM and IACUC/OACU budgets



*provided an update on the Groundbreaking is currently scheduled for the end of 2020. The project is over budget, but work is being done to correct this. The second phase, design and development, will start soon.*

*informed the subcommittee that a 4<sup>th</sup> OACU employee has accepted a position with a higher paying salary. These are specialized positions that require training that can take up to a year. Salaries in the OACU may not be comparable to other units or other institutions. confirmed that there are several positions within the OACU that remain below market value and noted that retention should be improved to minimize perceived risk. advised the subcommittee that in a 10-person office, losing 4 employees in 7 months was extremely difficult.*

### III. Abbreviated OLAW Semi-annual Program Review Checklist

#### A. Institutional Policies and Responsibilities

##### 1. Animal Care and Use Program

- Responsibility for animal well-being is assumed by all members of the program (*Guide, p.1*) [must]
- Resources necessary to manage program of veterinary care are provided (*Guide, p.14*) [must]
- Responsibilities for daily animal care and facility management are assigned to specific individual(s) when a full-time veterinarian is not available on site (*Guide, p.14*) [must]

*informed the subcommittee that specifics of the animal care program are reviewed and discussed at the IACUC meetings. The subcommittee was invited to review the inspection reports.*

##### 2. Disaster Planning and Emergency Preparedness

- Disaster plans for each facility to include satellite locations are in place (*Guide, p.35, p.75*) [must]
- Plans include provisions for euthanasia (*Guide, p.35*) [must]

*informed the subcommittee that the disaster plan has been updated to address recent hurricanes, winter storms, and OWASA water outages. DCM purchased a trailer to tow a 275-gallon tank to bring well water to campus sites when needed. A third 600-gallon storage tank is being purchased to allow the program to go 3 days without water from OWASA in case of supply disruption. asked for an update on student access to facilities during adverse weather and similar events. informed the subcommittee that the PIs with satellites have assigned a mandatory person to care during closures, and this cannot be a student. Most PIs have listed themselves.*

##### 3. IACUC

- Meets as necessary to fulfill responsibilities (*Guide, p.25*) [must]
- IACUC Members named in protocols or with conflicts recuse themselves from protocol decisions (*Guide, p.26*) [must]



#### 4. IACUC Protocol Review – Special Considerations

- Restraint devices are justified in the animal use protocols (*Guide*, p 29) [*must*]
- Veterinary care is provided if lesions or illness result from restraint (*Guide*, p 30) [*must*]
- USDA - requires that the IACUC conduct continuing reviews of activities...not less than annually.” [PHS Policy requires a complete new review every 3 years utilizing all the criteria for initial review]
- USDA – requires that the principal investigator (PI) consider alternatives to procedures that cause more than momentary or slight pain or distress to the animals, and has provided a written narrative description of the methods and sources...used to determine that alternatives were not available.”
- USDA – requires that the PI has provided written assurance that the activities do not unnecessarily duplicate previous experiments.”
- USDA - procedures that may cause more than momentary or slight pain or distress to the animals will involve in their planning, consultation with the attending veterinarian or his or her designee; [PHS Policy does not specify veterinary consultation] and not include paralytics without the use of anesthesia
- USDA – requires that no animal will be used in more than one major operative procedure from which it is allowed to recover, unless justified for scientific reasons by the principal investigator, in writing...”

#### 5. IACUC Membership and Functions

- Methods for reporting and investigating animal welfare concerns are in place (*Guide*, p 23) [*must*]
- Requests for exemptions from major survival surgical procedure restrictions are made to USDA/APHIS<sup>i</sup> (*Guide*, p 30) [*must*]
- Semiannual inspections [information is included in the PDF for member review]
  - i. DCM animal facilities and procedure rooms
  - ii. PI laboratories where surgical or painful procedures conducted, USDA-regulated species work conducted, or animals housed for > 12 hours (USDA regulated) or > 24 hours (non USDA-regulated)
  - iii. Satellite Facilities (PI maintained housing areas) – quarterly inspections [14]
  - iv. Animal Procedural Space Exceptions (APSE) –[4]
- Mouse breeding compliance



*informed the committee that semiannual facility inspections are reviewed at the IACUC meetings to determine if deficiencies have been categorized appropriately. The subcommittee was invited to review a graph on the inspection trends. More satellites are moving under DCM oversight, but a new one has recently been requested. The IACUC has reviewed the justifications and approved the satellite, but the space has not yet been approved.*

#### 6. IACUC Training

- IACUC member monthly training

*informed the subcommittee that committee members typically receive training at the monthly IACUC meetings on topics such as foreign collaborations and how to improve protocol review.*

#### 7. IACUC Records and Reporting Requirements

- Reports to Office of Laboratory Animal Welfare (OLAW)
  - i. promptly advises OLAW of serious/ongoing *Guide* deviations or *PHS Policy* noncompliance
  - ii. promptly advises OLAW of any suspension of activity by the IACUC - none
  - iii. reports include any minority IACUC views – none
  - iv. annual report with required information to OLAW documents program changes and dates of IACUC semiannual review

*advised the subcommittee of the process for reporting issues to OLAW. Concerns are identified through self-reports, anonymous reports, and inspections. OLAW is informed verbally when the investigation starts. After the IACUC discusses and votes, written responses are sent to OLAW for concerns deemed reportable.*

*The subcommittee then discussed the DTH article published this morning. OLAW, the USDA, and AAALAC have been advised of the article. A FOIA request had been made from an individual for all UNC reports to OLAW for several years. Per the OLAW deputy director, the amount of reports submitted to OLAW by UNC is what is to be expected for an institution of our size. Although the article was written to make the information seem shocking, the known details had been reported and the IACUC was unable to report claims that had not been made known to the IACUC. Part of the article described a fish tank used for observation in a biology classroom. A student realized there was no protocol in place and reported this to the IACUC. The IACUC investigated and the investigator submitted the necessary protocol. This was reported to OLAW even though it was not required since it was not NIH-funded. The subcommittee also discussed any future response. University communications is reaching out to the PI.*

*stated that DCM will be sending an email to all DCM staff and animal users reminding them that if they are contacted by individuals or the media, they should refer them to DCM.*



- Reports to United States Department of Agriculture [USDA]
  - i. “...each reporting facility shall submit an annual report to the APHIS, AC sector supervisor for the State where the facility is located on or before December 1 of each calendar year.” [The USDA annual report has a list of requirements which differ from PHS annual report]
  - ii. exceptions to standards and regulations must be specified and explained by the principal investigator, approved by the IACUC and attached to the facility’s annual report.: Protocol(s) 17-094, 17-182, 18-047, 19-096
  - iii. any failure to adhere to the plan and schedule that results in a significant deficiency remaining uncorrected shall be reported in writing within 15 business days by the IACUC, through the institutional official, to APHIS and any Federal agency funding that activity - none
  - iv. reports of suspension of covered species activity by the IACUC to USDA and any Federal funding agency – none

*informed the subcommittee of the USDA reporting requirements, including the annual report. There are two long-standing exceptions to AWA regulations: one is to perform survival surgery on ferrets in a PI lab due to equipment restrictions, and the other is to house ferrets in the lab greater than 12 hours. The space has been approved by the IACUC and the USDA.*

8. Veterinary Care [Details will be discussed in next section –Veterinary Care]

- Veterinary access to all animals is provided (*Guide*, p 14) [*must*]
- Direct or delegated authority is given to the veterinarian to oversee all aspects of animal care and use (*Guide*, p 14) [*must*]
- Veterinarian provides consultation when pain and distress exceeds anticipated level in protocol (*Guide*, p 5) [*must*]
- Veterinarian provides consultation when interventional control is not possible (*Guide*, p 5) [*must*]
- Veterinarian(s) have experience and training in species used (*Guide*, p 15) [*must*]

9. Personnel Qualifications and Training

- All personnel are adequately educated, trained, and/or qualified in basic principles of laboratory animal science. Personnel included: [*must*]
- OACU Training
  - i. one-on-one training
  - ii. LAC training
  - iii. mouse breeding training
  - iv. mouse and rat handling and aseptic technique classes



v. informational sessions and mandatory meetings

*informed the subcommittee that training has moved to DCM. leads the rodent training effort. DCM will begin providing the training updates starting with the next Semiannual Program Review meeting. The LAC training will remain under the OACU. invited the subcommittee to review the training statistics of the last 6 months, noting a 49% increase in the Mouse Cage Density Lecture attendance.*

10. Occupational Health and Safety of Personnel

- Program is in place and is consistent with federal, state, and local regulations (*Guide, p 17*) [*must*]
- Considers confidentiality and other legal factors as required by federal, state and local regulations (*Guide, p 22*) [*must*]
- If serum samples are collected, the purpose is consistent with federal and state laws (*Guide, p 22*) [*must*]

*informed the committee that. would be resigning as Director of EHS effective November 1<sup>st</sup>. will become the primary IACUC member, and will be added as the EHS alternate. invited the subcommittee to review the EHS slides. It was pointed out that use of radiological hazards continues to decline. 10% of DCM employees are non-compliant with their training and medical surveillance. EHS investigated and completed reports on 13 DCM injuries. In 2018 there were 2 incidents involving animals reportable to the NIH/CDC. To date, there has only been one in 2019. Mouse escapes have been tracked for several years, but there have been none since 2016. suggested this could probably be removed from the items reported at the Semiannual Program Review in the future. DCM accounts for about 7% of the total injuries/illnesses/near misses reported to EHS. There has only been on serious campus workplace incident resulting in 6 or more workdays lost since 2016. There are 1,356 researchers working on campus, 85% of which have completed their annual review, with 2 who required additional evaluation at the UEOHC. It was noted that percentage comparisons should account for the increased size of DCM. will be serving as interim until is replaced, however there has been no notification of when this may occur.*

11. Personnel Security

12. Investigating & Reporting Animal Welfare Concerns

- Methods for investigating and reporting animal welfare concerns are established (*Guide, p 23*) [*must*]
- Reported concerns and corrective actions are documented (*Guide, p 24*)
- Mechanisms for reporting concerns are posted in facility and at applicable website with instructions (*Guide, p 24*)
- Includes multiple contacts (*Guide, p 24*)
- Includes anonymity, whistle blower policy, nondiscrimination and reprisal protection (*Guide, p 24*)





- No facility employee, Committee member, or laboratory personnel shall be discriminated against or be subject to any reprisal for reporting violations of any regulation or standards under the Act.” [USDA requirement additional to PHS Policy]
- Animal Concern Reports and Trends

*invited the subcommittee to review the animal concern statistics and provided an explanation of what OLAW defines as reportable, noting some concerns do not meet their criteria. Over the last 6 months, 2 concerns were deemed reportable. There is a formal process for identifying, investigating, and bringing concerns to the IACUC for review. There are multiple methods of reporting and multiple points of contact listed on the IACUC and ACAP websites. It is required that a fully anonymous method be provided, and we meet this requirement by using Ethicspoint. noted the graph provided will be double checked for accuracy.*

## B. Veterinary Care

### 1. Clinical Care and Management

- Veterinary program offers high quality of care and ethical standards (*Guide, p 105*) [must]
- Procedures established for timely reporting of animal injury, illness, or disease (*Guide, p 114*) [must]
- Procedures established for veterinary assessment, treatment, or euthanasia (*Guide, p 114*) [must]
- Veterinarian is authorized to treat, relieve pain, and/or euthanize (*Guide, p 114*) [must]

*informed the IACUC that DCM handles approximately 10,000 clinical care cases per year, 8,000 of which are mice. The biggest shift DCM is seeing is an increase in non-rodent species care. There have been 3 new PI's requesting studies involving pig surgery. The PI who is working with the VA plans to start next week. stated the IACUC had not heard anything about the VA IACUC member. stated they had contacted the VA but not heard back on the final arrangement and will reach out to the PI to determine the current status. will wait to hear from before the studies are allowed to move forward.*

### 2. Animal Procurement and Transportation/Preventative Medicine

- Procedures for lawful animal procurement are in place (*Guide, p 106*) [must]
- Procedures for compliance with animal transportation regulations, including international requirements, are in place (*Guide, p 107*) [must]

*informed the subcommittee that there have been approximately 1,000 intra-University transports in the last 6 months, 65 imports from other institutions, and 140 exports. There was one false positive in a sentinel this summer, but there have been no outbreaks, even with the change in PPE usage. There have been no health issues with the same room mixed housing of reptiles/amphibians or rodent species.*



### 3. Surgery

- Researchers have appropriate training to ensure good technique (*Guide*, p 115) [must]
- "...no animal will be used in more than one major operative procedure from which it is allowed to recover unless...(it is) justified for scientific reasons...(or is) required as routine veterinary procedure...or other special circumstances as determined by the Administrator on an individual basis." [additional USDA justification for multiple survival surgeries]

### 4. Pain, Distress, Anesthesia and Analgesia

- Procedures are in place to assure antinociception before surgery begins (*Guide*, p 122) [must]

### 5. Euthanasia

- Procedures and training are in place to ensure death is confirmed (*Guide*, p 124) [must]

### 6. Drug Storage and Control

- Program complies with federal regulations for human and veterinary drugs (*Guide*, p 115) [must]
- Procedures are in place to ensure analgesics and anesthetics are used within expiration date (*Guide*, p 122) [must]

## IV. Policy and Standards reviewed by IACUC during past 6 months and update regarding new Policy and Standard format

### A. Reviewed by IACUC during the past 6 months (as of September 2019):

<https://research.unc.edu/iacuc/>

1. University Standard on Rat Cage Density
2. University Standard on Adoption of Companion Animals
3. University Standard for Animal Transport and Biosecurity
4. University Standard on Mouse Cage Density
5. University Standard on Tumor Burden in Rodents
6. University Standard for Documentation of Monthly Principal Investigator Check Sheet
7. University Standard for Satellite Facilities
8. University Standard for Monitoring Animals on Neuromuscular Blocking Agents (NMB)
9. University Standard for Rodent Survival Surgery
10. University Standard for Survival Surgeries for USDA Covered Species





11. University Standard for Reporting and Veterinary Care for Research Animals
12. University Standard for Animal Procedural Space Exception
13. University Standard for Satellite Facilities
14. University Standard for Rodent Identification
15. University Standard for Administered Agents
16. University Standard for Post-Operative Analgesia

*invited the subcommittee to look over the provided list of IACUC Standards reviewed in the last 6 months. These are all on the new Standard template and have been uploaded to the PolicyStat website.*

**B. Reviewed by IACUC semi-annually – USDA-regulated species (as of September 2019):**

<http://research.unc.edu/offices/iacuc/policies-procedures/>

1. University Policy on the Care and Use of Vertebrate Animals for Research, Training and Teaching Purposes
2. University Standard for Animal Monitoring Documentation and Recordkeeping
3. University Standard for Weight Loss in Research Animals
4. University Standard for the Assignment of Animals into Pain Categories
5. University Standard for Exercise and Socialization
6. University Standard for Isoflurane Euthanasia Drop Method
7. University Standard for Administered Agents
8. University Standard for Post-Operative Analgesia
9. University Standard for Anesthetic Vaporizers
10. University Standard for Environmental Enrichment Program for Research Animals
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12. University Standard for the Acclimation Period for Received Animals
13. University Standard for Social Housing of Research Animals (Terrestrial and Aquatic)
14. University Standard for Amendments and Other Protocol Changes
15. University Standard for Exceptions
16. University Standard for Animal Transport and Biosecurity
17. University Standard for Preparation Storage and Use of Tribromoethanol
18. University Standard for Survival Surgeries for USDA Covered Species
19. University Standard on Food and/or Water Restriction and/or Deprivation in Rats, Mice, Rabbits and Ferrets
20. University Standard for Documentation of Monthly Principal Investigator Check Sheet
21. University Standard for Adoption of Companion Animals
22. University Standard for Monitoring Animals on Neuromuscular Blocking Agents (NMB)
23. University Standard on Animal Procedural Space Exception – APSE
24. University Standard on Reporting and Veterinary Care for Research Animals
25. University Standard on Satellite Animal Facilities
26. Disaster Plan for UNC Satellite Facilities
27. Reporting Animal Welfare Concerns or Animal Protocol Non-Compliance



28. DCM Veterinarian Recommended Formularies and Regimens
29. USDA Covered Species – Information for Investigators
30. Animal Biosafety Level 2 SOP
31. Environmental Enhancement Policy for Non-Human Primates
32. Guidelines for Use of Animal Core Facilities

*invited the subcommittee to look over the provided list of IACUC Standards that concern the use of USDA covered species. To meet the USDA requirement of review every 6 months, they are included as part of the Semiannual Program Review.*

- C. Species Specific Environmental Enhancement Plans: reviewed and approved by the Environmental Enrichment Committee, and DCM Veterinarians prior to implementation. Included in Program Review PDF for review by IACUC semiannually.

*informed the subcommittee that enrichment programs for all species housed in UNC-CH facilities continue to provide environmental enrichment that exceeds all NIH and USDA standards. More staff has been dedicated to socializing animals and increasing positive experiences beyond study contact. Over the last 6 months across both facilities, 88-93% of dogs are being exercised outside of their runs and 67-100% of dogs are being socialized individually. While some degree of socialization and enrichment has always been a part of the program, this has been documented regularly since October 2018.*

#### V. Performance Based Items, Animal Welfare Act regulations and Guide Exceptions Reviewed by the IACUC

- A. Ongoing performance based items:
  1. UNC Mouse Cage Density Standard - 15 + years
  2. Two- week cage change for individually ventilated small rodent cages

*informed the subcommittee that there continues to be 2 ongoing performance-based items. The Mouse Cage Density Standard was recently updated. There is a chance the next version of the Guide may alter cage change guidance.*

- B. Animal Welfare Act Regulations and Guide Exceptions:
  1. Single housing of social animals – justification included in individual Animal Care and Use Application (ACAP)
  2. Housing of different animal species in the same housing room – separate individually ventilated cages on the same rack (mice/rats, rats/gerbils, guinea pigs/rats) and filter top caging (reptiles/amphibians), fish and amphibians.



*informed the subcommittee that there continue to be exceptions, but no departures. These are handled at the protocol level with the PI providing justification. With multiple species in the same room, there have been no animal health issues. There have been no new exceptions of this type recently, so the subcommittee has not needed to meet.*

## VI. Division of Comparative Animal Medicine [DCM] Facilities and Management

### A. General Space Update

1. DCM Master Plan: HDR - Animal Facility Assessment and Consolidation
2. Update on new construction and renovations
3. PI Satellites

*reiterated that the [redacted] is on schedule to begin construction in late 2020. [redacted] also informed the subcommittee that the renovations in [redacted] are now complete and 4,000 cages have been relocated to the facility. [redacted] renovations will be done at the end of November. [redacted] opens at the beginning of December and the [redacted] renovations should be done at the end of January. Work is being done in [redacted]. One of the [redacted] labs is closing, and they do not plan to move forward with animals. The Carolina Wise program was relocated to another room in [redacted] and the former PI is expanding into the old space. A study will be done to evaluate the possibility of a vivarium in [redacted] and a plan is being developed to improve air quality. A backup generator is available to keep the pumps and filters going in the event of a power outage. A backup generator at [redacted] will be added in the next 6 months. The [redacted] received a backup generator last year. The renovations there should be done in November and there is a recruitment effort to bring new PI's into the facility. [redacted] will be closing when DCM moves out. A study is planned to look at HVAC backup concerns and remedies in the facilities.*

### B. Management structure

1. Training of personnel
2. Staff updates

*informed the subcommittee that the training team has been expanded and there will be more opportunities for specialized training and techniques, particularly in non-rodent species.*

## VII. Grant Congruency

### A. Assessment of grant congruency, subcontracts/collaborations, IIAs

1. Foreign subawards
2. Salisbury VA Medical Center

*invited the subcommittee to review the provided slides. There were 70 congruency reviews performed in the last 6 months. Of those, 44 were congruent at initial review versus 26 that were not, meaning 37% were non-congruent at initial review. This is down from 58% in April, and 52% in 2018. Time to bring*



*the items congruent is also down to around 15 days. This is likely an indication that PIs are understanding the process better, and are willing to work on the issues upfront, eliminating a lot of back and forth. stated they now have the PI start amendments as soon as missing items are identified and will work directly with them on the unsubmitted document, so it is ready for IACUC review. The number of MOUs have increased and there has been a significant jump in the number of IIAs. There were 3 in the last 6 months that involved foreign institutions with no PHS assurance. clarified that in 2013 the IACUC voted to have foreign institutions provide a standard instead. The selected standard was AAALAC. The OACU explored different documentation that could be considered an acceptable substitute and did find comparable reviews and standards. In the case of the Canadian institution, they were not pleased with the requests for additional documentation. It was later discovered that in unrelated discussions with a Canadian AAALAC member that the Canadian Council on Animal Care can be accepted by the NIH and may even be more rigorous. In the future, this will be considered an acceptable when a PHS Assurance and AAALAC Accreditation are absent. also confirmed they will speak to the PI to move things along concerning the VA collaboration.*

#### VIII. IACUC-DCM Leadership Meeting Summaries

- A. Protocol reviewers – see every revised protocol or include comment to permit OACU staff verification
- B. Request for ACAP question to identify sterile room placement
- C. Discussion of foreign collaboration (Queensland, Australia)
- D. VA MOU
- E. Mice and rats housed on IVC rack in different cages
- F. Discussion of serial rodent survival surgeries and maximum number of surgeries using one sterile pack
- G. Solutions to analgesia shortages (bupivacaine, meloxicam) to assist researchers
- H. Adherence to IACUC Standards if specific humane endpoints in standard are not described in protocol
- I. FOIA, animal numbers, field studies
- J. Lock out tag out for cage/rack washers
- K. Anonymity and veterinary protocol reviews

*informed the subcommittee that the IACUC/DCM subcommittee continues to meet on the Tuesday prior to the IACUC meetings. Various topics are discussed, and invited to review the list of recent discussions. Key leadership from the IACUC, OACU, and DCM attend, and the discussions save time during IACUC meetings.*

#### X. General Updates

- A. AAALAC site visit Summer 2020

*informed the subcommittee that the Program Description is being prepared now and is due for submission April 1<sup>st</sup>. When the draft is completed it will be forwarded to for any input or edits, possibility at the end of January or beginning of February. The site visitors will be assigned shortly after submission and UNC will be notified of the dates. It will likely be in June or July. Key leadership*

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should send the dates of any planned unavailability to [redacted] as AAALAC may take this into consideration when selecting the dates of the site visit.

#### B. IACUC membership

[redacted] informed the subcommittee that the IACUC currently has a full roster with the 4 new members being added this month.

#### C. Regulatory Burden updates

[redacted] informed the subcommittee that the effort to look for ways to reduce burden is ongoing. There have been no broad new changes. [redacted] noted that moving the [redacted] to DCM has reduced burden.

#### D. ACAP and OACU Administrative updates

[redacted] updated the subcommittee on recent staff changes within the OACU. In ACAP, there were a large number of minor changes to condense multistep administrative processes, enabling the OACU staff to be more responsive. Items updated include the addition of DMR vs. FCR designation at the submission level, various shortcuts to allow rapid movement between and through protocols, and an auto notification flagging the addition of DoD/VA funding sources for additional review. The page for overview of online certifications was modified to include more details and is now color-coded for review at a glance. The process to remove exceptions now allows for additional documentation and data preservation when withdrawn. A major improvement added an auto notification process for Cores so they can recertify arrangements with PI's when updated by amendment. A URL scrubber was installed to identify broken or incomplete links and to run URL's that are longer than can be accommodated by the protocol form to be made shorter automatically. A major issue with ACAP and the ACAP server was corrected that involved the inability for certain symbols to be correctly displayed in the PDF. This took numerous months for IT to investigate and solve. Previously, these 2 items created issues with formatting that had to be manually corrected prior to review, a process that could 20 minutes or more per instance. [redacted] explained that the IT staff identified the source of an issue with rapid opening of protocols that caused the same data to appear in multiple documents which they now believe has been corrected. [redacted] advised the subcommittee that the OACU is frequently contacted by departments needing IACUC approval pages, but access is limited since the business officers are not on the protocols. A new system was built to allow access to be granted in Backbone by the role managers, allowing departmental representatives to retrieve these documents directly through a link on their pages. In addition, the Protocol Administration pages continue to provide links for PI's and department representatives for the most recently approved item (annual renewal, amendment, etc.) along with the newly added link for the original approval page. It is not possible to provide every approval document, but these are the ones requested most often. PI's and departments can still contact the OACU if additional documentation is needed. Finally, [redacted] advised the subcommittee that the IACUC website has been overhauled. [redacted] started this project in 2018 and it is within days of completion. Old, irrelevant documents were identified and deleted. The FAQ's were updated and reorganized. Standards that have been updated in PolicyStat now have the new link, and the OACU is in the process of reviewing all letter and comment templates to ensure these links are correct across the board. One of the highlights of this project was the development of a printable checklist for



*PIs new to animal research that works hand-in-hand with the "Getting Started with Animal Research" page.*

E. FOIA and Public Records requests

*informed the subcommittee that approximately 1 request is received per month. NC has very liberal public record laws and requests from anyone, even individuals who shield their true identity with fraudulent names, are treated as valid. Based on recent requests, there appear to be coordinated nationwide campaigns targeting several institutions right now. The reasons for why we do not currently charge for record requests was discussed by the group.*

F. NHP updates

*informed the committee that the imaging center is currently responsible for the animals used routinely for non-invasive imaging studies.*

G. Requirements for subcontracts with foreign institutes to carry out animal work

*(Discussed earlier in the meeting.)*

XI. Supporting Documentation

- A. OLAW Semiannual Program Review Checklist
- B. Updated (April 2017) OLAW Assurance Statement
- C. OACU Outcomes Assessment Report (2018)

*invited the subcommittee to review the supporting documents.*

XII. Other

*asked the subcommittee if they felt there were any deficiencies with the program, major or minor. The group agreed unanimously and with no comment that no issues were identified.*

*The meeting concluded at 9:42 am.*



**Wednesday, October 23, 2019 – 8:00 am IACUC Semi-annual Program Review Subcommittee Meeting**

I. Issues that were addressed in the previous review

- A. NHP updates
- B. IACUC membership
- C. ACAP and OACU Administrative updates
- D. Regulatory Burden updates
- E. Mouse Breeding/Cage Density issues
- F. Carolina WISE updates
- G. Homes for Animal Heroes/Adoption MOU
- H. Consideration, review, inspection of new non-DCM surgical space for regulated species

II. University Administration Updates – Institutional Official

- A. Overview of progress of Institutional support for animal care program
- B. Resources necessary to manage the animal care program and veterinary care are provided
- C. DCM and IACUC/OACU budgets

III. Abbreviated OLAW Semi-annual Program Review Checklist

A. Institutional Policies and Responsibilities

1. Animal Care and Use Program

- Responsibility for animal well-being is assumed by all members of the program (*Guide*, p 1) [*must*]
- Resources necessary to manage program of veterinary care are provided (*Guide*, p 14) [*must*]
- Responsibilities for daily animal care and facility management are assigned to specific individual(s) when a full-time veterinarian is not available on site (*Guide*, p 14) [*must*]

2. Disaster Planning and Emergency Preparedness

- Disaster plans for each facility to include satellite locations are in place (*Guide*, p 35, p 75) [*must*]
- Plans include provisions for euthanasia (*Guide*, p 35) [*must*]

3. IACUC

- Meets as necessary to fulfill responsibilities (*Guide*, p 25) [*must*]
- IACUC Members named in protocols or with conflicts recuse themselves from protocol decisions (*Guide*, p 26) [*must*]

#### 4. IACUC Protocol Review – Special Considerations

- Restraint devices are justified in the animal use protocols (*Guide*, p 29) [*must*]
- Veterinary care is provided if lesions or illness result from restraint (*Guide*, p 30) [*must*]
- USDA - requires that the IACUC conduct continuing reviews of activities...not less than annually.” [PHS Policy requires a complete new review every 3 years utilizing all the criteria for initial review]
- USDA – requires that the principal investigator (PI) consider alternatives to procedures that cause more than momentary or slight pain or distress to the animals, and has provided a written narrative description of the methods and sources...used to determine that alternatives were not available.”
- USDA – requires that the PI has provided written assurance that the activities do not unnecessarily duplicate previous experiments.”
- USDA - procedures that may cause more than momentary or slight pain or distress to the animals will involve in their planning, consultation with the attending veterinarian or his or her designee; [PHS Policy does not specify veterinary consultation] and not include paralytics without the use of anesthesia
- USDA – requires that no animal will be used in more than one major operative procedure from which it is allowed to recover, unless justified for scientific reasons by the principal investigator, in writing...”

#### 5. IACUC Membership and Functions

- Methods for reporting and investigating animal welfare concerns are in place (*Guide*, p 23) [*must*]
- Requests for exemptions from major survival surgical procedure restrictions are made to USDA/APHIS<sup>1</sup> (*Guide*, p 30) [*must*]
- Semiannual inspections [information is included in the PDF for member review]
  - i. DCM animal facilities and procedure rooms
  - ii. PI laboratories where surgical or painful procedures conducted, USDA-regulated species work conducted, or animals housed for > 12 hours (USDA regulated) or > 24 hours (non USDA-regulated)
  - iii. Satellite Facilities (PI maintained housing areas) – quarterly inspections [14]



- iv. Animal Procedural Space Exceptions (APSE) –[4]
- Mouse breeding compliance

#### 6. IACUC Training

- IACUC member monthly training

#### 7. IACUC Records and Reporting Requirements

- Reports to Office of Laboratory Animal Welfare (OLAW)
  - i. promptly advises OLAW of serious/ongoing *Guide* deviations or *PHS Policy* noncompliance
  - ii. promptly advises OLAW of any suspension of activity by the IACUC - none
  - iii. reports include any minority IACUC views – none
  - iv. annual report with required information to OLAW documents program changes and dates of IACUC semiannual review
- Reports to United States Department of Agriculture [USDA]
  - i. “...each reporting facility shall submit an annual report to the APHIS, AC sector supervisor for the State where the facility is located on or before December 1 of each calendar year.” [The USDA annual report has a list of requirements which differ from PHS annual report]
  - ii. exceptions to standards and regulations must be specified and explained by the principal investigator, approved by the IACUC and attached to the facility’s annual report.: Protocol(s) 17-094, 17-182, 18-047, 19-096
  - iii. any failure to adhere to the plan and schedule that results in a significant deficiency remaining uncorrected shall be reported in writing within 15 business days by the IACUC, through the institutional official, to APHIS and any Federal agency funding that activity - none
  - iv. reports of suspension of covered species activity by the IACUC to USDA and any Federal funding agency – none

#### 8. Veterinary Care [Details will be discussed in next section –Veterinary Care]

- Veterinary access to all animals is provided (*Guide*, p 14) [*must*]

- Direct or delegated authority is given to the veterinarian to oversee all aspects of animal care and use (*Guide*, p 14) [*must*]
- Veterinarian provides consultation when pain and distress exceeds anticipated level in protocol (*Guide*, p 5) [*must*]
- Veterinarian provides consultation when interventional control is not possible (*Guide*, p 5) [*must*]
- Veterinarian(s) have experience and training in species used (*Guide*, p 15) [*must*]

#### 9. Personnel Qualifications and Training

- All personnel are adequately educated, trained, and/or qualified in basic principles of laboratory animal science. Personnel included: [*must*]
- OACU Training
  - i. one-on-one training
  - ii. LAC training
  - iii. mouse breeding training
  - iv. mouse and rat handling and aseptic technique classes
  - v. informational sessions and mandatory meetings

#### 10. Occupational Health and Safety of Personnel

- Program is in place and is consistent with federal, state, and local regulations (*Guide*, p 17) [*must*]
- Considers confidentiality and other legal factors as required by federal, state and local regulations (*Guide*, p 22) [*must*]
- If serum samples are collected, the purpose is consistent with federal and state laws (*Guide*, p 22) [*must*]

#### 11. Personnel Security

#### 12. Investigating & Reporting Animal Welfare Concerns

- Methods for investigating and reporting animal welfare concerns are established (*Guide*, p 23) [*must*]
- Reported concerns and corrective actions are documented (*Guide*, p 24)
- Mechanisms for reporting concerns are posted in facility and at applicable website with instructions (*Guide*, p 24)
- Includes multiple contacts (*Guide*, p 24)
- Includes anonymity, whistle blower policy, nondiscrimination and reprisal protection (*Guide*, p 24)
- No facility employee, Committee member, or laboratory personnel shall be discriminated against or be subject to any reprisal for reporting violations of any regulation or

standards under the Act.” [USDA requirement additional to PHS Policy]

- Animal Concern Reports and Trends

## B. Veterinary Care

### 1. Clinical Care and Management

- Veterinary program offers high quality of care and ethical standards (*Guide*, p 105) [*must*]
- Procedures established for timely reporting of animal injury, illness, or disease (*Guide*, p 114) [*must*]
- Procedures established for veterinary assessment, treatment, or euthanasia (*Guide*, p 114) [*must*]
- Veterinarian is authorized to treat, relieve pain, and/or euthanize (*Guide*, p 114) [*must*]

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- Procedures for lawful animal procurement are in place (*Guide*, p 106) [*must*]
- Procedures for compliance with animal transportation regulations, including international requirements, are in place (*Guide*, p 107) [*must*]

### 3. Surgery

- Researchers have appropriate training to ensure good technique (*Guide*, p 115) [*must*]
- “...no animal will be used in more than one major operative procedure from which it is allowed to recover unless...(it is) justified for scientific reasons...(or is) required as routine veterinary procedure...or other special circumstances as determined by the Administrator on an individual basis.” [additional USDA justification for multiple survival surgeries]

### 4. Pain, Distress, Anesthesia and Analgesia

- Procedures are in place to assure antinociception before surgery begins (*Guide*, p 122) [*must*]

### 5. Euthanasia

- Procedures and training are in place to ensure death is confirmed (*Guide*, p 124) [*must*]

### 6. Drug Storage and Control

- Program complies with federal regulations for human and veterinary drugs(*Guide*, p 115) [*must*]
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31. Environmental Enhancement Policy for Non-Human Primates
32. Guidelines for Use of Animal Core Facilities

- C. Species Specific Environmental Enhancement Plans: reviewed and approved by the Environmental Enrichment Committee, and DCM Veterinarians prior to implementation. Included in Program Review PDF for review by IACUC semiannually.

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Reviewed by the IACUC

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  - B. IACUC membership
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  - D. ACAP and OACU Administrative updates
  - E. FOIA and Public Records requests
  - F. NHP updates
  - G. Requirements for subcontracts with foreign institutes to carry out animal work
- XI. Supporting Documentation
- A. OLAW Semiannual Program Review Checklist
  - B. Updated (April 2017) OLAW Assurance Statement
  - C. OACU Outcomes Assessment Report (2018)

## XII. Other

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# Overview of Issues Addressed in Previous Review



# University Administration Updates

# OLAW Semi-Annual Program Review Checklist

# Institutional Policies and Responsibilities



JULY

Thursday, July 11<sup>th</sup>: 1:30pm-4:00pm *Meet in the* *at 1:20pm*

, USDA veterinary records:

each - ask for sx records for

If PI is active w/ USDA species, then set up inspection. If DCM does all USDA animal work, then no inspection with PI, only need to review as part of USDA vet records review in DCM )

Primary inspector:  
Secondary Inspector:  
Back-up Inspector:

DCM REPRESENTATIVE:

EHS REPRESENTATIVE:

DCM VETERINARIAN:

2 IACUC MEMBERS:

Wednesday, July 17<sup>th</sup>: 1:30pm-4:00pm *Meet in the* *at 1:20pm*  
*Reserve 1 DCM vehicle: Dodge Journey*

Primary inspector:  
Secondary Inspector:  
Back-up Inspector:

DCM REPRESENTATIVE:

EHS REPRESENTATIVE:

DCM VETERINARIAN:

2 IACUC MEMBERS:

Wednesday, July 31<sup>st</sup>: 1:30pm-4:00pm

*Meet in the*

*at 1:20pm*

Primary inspector:  
Secondary Inspector:  
Back-up Inspector:

DCM REPRESENTATIVE:  
EHS REPRESENTATIVE:  
DCM VETERINARIAN:  
2 IACUC MEMBERS:

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## AUGUST

Thursday, August 8<sup>th</sup>: 1:30pm-4:00pm

*Meet in the*

*at 1:20pm*

\_\_\_\_\_ + DCM vehicle(s) – please arrange for vehicles to be present if possible  
(Contact \_\_\_\_\_; for escort into \_\_\_\_\_ not USDA)

Primary inspector:  
Secondary Inspector:  
Back-up Inspector:

DCM REPRESENTATIVE: please bring Master Key for lockers  
EHS REPRESENTATIVE:  
DCM VETERINARIAN:  
7 IACUC MEMBERS:

Thursday, August 15<sup>th</sup>: 1:30pm-4:00pm

*Meet in the*

*at 1:20pm*

Primary inspector:  
Secondary Inspector:

**Back-up Inspector:**

**DCM REPRESENTATIVE:**

**EHS REPRESENTATIVE:**

**DCM VETERINARIAN:**

**4 IACUC MEMBERS:**

**Wednesday, August 21<sup>st</sup>: 1:30pm – 4:00pm**

***Meet in the***

***at 1:20pm***

**record review**

**Primary inspector:**

**Secondary Inspector:**

**Back-up Inspector:**

**DCM REPRESENTATIVE:**

**EHS REPRESENTATIVE:**

**DCM VETERINARIAN:**

**2 IACUC MEMBERS:**

**Thursday, August 29<sup>th</sup>: 1:30-4:00pm**

***Meet in the***

***at 1:20pm***

**Enrichment Documentation- setup to meet in w/ IACUC members – schedule w/ | Mgr. Last reviewed  
3/19, so review all | records for 3/19-8/19  
including water dep. and head cap cleaning records**

**Primary inspector:**

**Secondary Inspector:**

**Back-up Inspector:**

**to schedule record review**

**DCM REPRESENTATIVE:**

**EHS REPRESENTATIVE:**

**DCM VETERINARIAN:**

**1 IACUC MEMBER:**

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## SEPTEMBER

Thursday, September 12<sup>th</sup>: 1:30pm – 4:00pm

*Meet in the*

*at 1:20pm*

access to irradiator [Contact lab for escort into not USDA; contact EHS for  
confirm date/time day before\* Plan room order with , \*Contact a week before and re-  
to include irradiator.

Primary inspector:

Secondary Inspector:

Back-up Inspector:

DCM REPRESENTATIVE:

- please bring Master Key for lockers

EHS REPRESENTATIVE:

DCM VETERINARIAN:

2 IACUC MEMBERS:

Wednesday, September 18<sup>th</sup>: 1:30-4:00pm- reserve 2 DCM vehicles (Dodge Journey & Nissan Pathfinder)

*Meet in the  
the inspectors*

*at 1:20pm; if you will meet us at . please contact one of*

Primary inspector:

Secondary Inspector:

Back-up Inspector:

DCM REPRESENTATIVE:

EHS REPRESENTATIVE:

DCM VETERINARIAN:

2 IACUC MEMBERS:

NO INSPECTION CONDUCTED BECAUSE THE FACILITY WAS INACTIVE

- Inspector contact labs to determine if animals in house anytime in the last 6 months. If yes, schedule inspection to coincide. If no, ask when field collection/surgery scheduled and try to schedule to coincide. If in-person inspection not required, collect records for last 6 month housing (if satellite was active).

Primary inspector:

DCM VETERINARIAN:

1 IACUC MEMBER:

Thursday, September 26<sup>th</sup>: 1:30pm – 4:00pm

Meet in the

at 1:20pm

Schedule inspection of behavior spaces if running experiments during inspection; lab does not need to be present]

Primary inspector:

Secondary Inspector:

Back-up Inspector:

DCM REPRESENTATIVE:

EHS REPRESENTATIVE:

DCM VETERINARIAN:

2 IACUC MEMBERS:

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## OCTOBER

Wednesday, October 2<sup>nd</sup>: 10:00 – 12:30pm

Meet in the

at 9:50am

- ask to review all USDA covered species records-if applicable).
1. – ask to meet in lab space to review all records – not in during | – could be another day w/ 2 IACUC members
  2. Contact EHS for access to irradiator ( procedure room) |  
\*Contact a week before and re-confirm date/time day before\*
  3. Speak to \_\_\_\_ about where Procedure rooms and irradiator fall on room order.  
As of 3/18, is after , and procedure rooms after

\*Note: there is also an imaging machine in one procedure room. It is separate from the irradiator and DCM employees have access.

Primary inspector:



Secondary Inspector:  
Back-up Inspector:

DCM REPRESENTATIVE(S):

EHS REPRESENTATIVE:

DCM VETERINARIAN:

3 IACUC MEMBERS:

Thursday, October 10<sup>th</sup>: 8:30 – 9:30am

Met in the \_\_\_\_\_ at 8:25am

\_\_\_\_\_ – to be scheduled with \_\_\_\_\_  
participate in this inspection)

(must be cleared to enter \_\_\_\_\_ to

1.5 hours, anytime in Oct 2019

Primary inspector:

IACUC Members:

Lab Representative:

Lab Representative:

Lab Representative:

\_\_\_\_\_ – to be scheduled with \_\_\_\_\_  
participate in this inspection)

(must be cleared to enter \_\_\_\_\_ to

1.5 hours, anytime in Oct 2019

Primary inspector:

IACUC Members:

Lab Representative:

\_\_\_\_\_ – to be scheduled with \_\_\_\_\_  
to participate in this inspection)

(must be cleared to enter \_\_\_\_\_

NO ANIMALS IN THIS LOCATION

1.5 hours, anytime in Oct 2019

IACUC Members:

Lab Representative:

\*Need 2 IACUC members if \_\_\_\_\_ has had \_\_\_\_\_ in the space since 5/19 (last inspection). Only one  
needed if no USDA species present. \_\_\_\_\_ has animals in the space so we need 2 other members.

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## IACUC Facility Inspections Details Report

Facility:

Facility Inspection ID 14

Inspectors

Inspection Date 09/18/2019

Response Due Date 10/03/2019

## Inspection Summary

| Room | Checklist Type | Principal Investigator | Deficiencies |
|------|----------------|------------------------|--------------|
|      | DCM            |                        | 2            |
|      | DCM            |                        | 1            |

## Inspection Details

| Room | Checklist Type   | Principal Investigator |  |
|------|--|------------------------|--|
|      | DCM  |                        |  |
|      | 1. Documentation   |                        |  |
|      | <b>Husbandry Logs</b> Inspectors noticed that a monthly duty was not completed according to the husbandry logs. The facility manager had conducted the weekly signoff for this month (July 2019), however no notation was made for the missed duty. This applies to the logs for both rooms  |                        | Minor Deficiency<br>Resolved<br>10/07/2019 |
|      | <b>Other</b> Inspectors noticed that documentation for daily sweeping of the floors was not provided on two occasions on the procedure room log for September 2019 for the treatment room.   |                        | No Deficiency                              |
|      | 7. Physical Plant  |                        |  |
|      | <b>Temperature/Humidity Values</b> Inspectors noted that husbandry logs for these spaces included several humidity and temperature values, over multiple months, outside of the acceptable range, recorded without notation that the supervisor was notified (*). Weekly supervisor initials were present, however there was no indication that the issue with documentation or humidity was addressed. This applied to both (months of June through September 2019) & (month of June 2019) in |                        | Minor Deficiency<br>Resolved<br>10/07/2019 |
|      | 8. USDA Species  |                        |  |
|      | <b>Housing</b> Inspectors noticed some kennels in need of general maintenance and repair located in The technician for that area noted that they are aware of the issue. They also noted that a work order has been submitted to Facilities Services for repairs and that the repairs have already been scheduled.   |                        | No Deficiency                              |
|      | DCM  |                        |  |
|      | 1. Documentation   |                        |  |
|      | <b>Husbandry Logs</b> Inspectors noticed that a monthly duty was not completed according to the husbandry logs for August 2019. The facility manager had conducted the weekly signoff for this month, however no notation was made for missed duties.  |                        | Minor Deficiency<br>Resolved<br>10/07/2019 |
|      | <b>Other</b> Inspectors observed multiple daily, weekly, monthly and quarterly entries missing for duties to be completed within the procedure room logs for the months of July and August 2019 in (procedure room in ).   |                        | No Deficiency                              |

Room Inspected:

Response Due: 10/3/2019

Issue(s) Resolved: 10/7/2019

Resolution occurred after the due date for the reason listed below.

Reason: Delayed response from the PI.

Room Inspected:

Response Due: 10/3/2019

Issue(s) Resolved: 10/7/2019

Resolution occurred after the due date for the reason listed below.

Reason: Delayed response from the PI.

# IACUC Facility Inspections Details Report

Facility:

Facility Inspection ID 1

Inspectors

Inspection Date 07/11/2019

Response Due Date 07/31/2019

## Inspection Summary

| Room | Checklist Type | Principal Investigator | Deficiencies |
|------|----------------|------------------------|--------------|
|      | Other          |                        | 1            |
|      | PI             |                        | 1            |
|      | PI             |                        | 0            |
|      | PI             |                        | 0            |
|      | DCM            |                        | 0            |
|      | DCM            |                        | 1            |
|      | DCM            |                        | 1            |

## Inspection Details

| Room | Checklist Type   | Principal Investigator |                        |
|------|--|------------------------|------------------------|
|      | Other  |                        |                        |
|      | 8. USDA Species  |                        |                        |
|      | <b>Clinical Records</b> The surgical records indicate the start and stop times and toe pinch, however there were no records of vital parameter monitoring for the lengthy procedure (1.5 hours). The protocol indicates that vital parameters are monitored and there should be documentation that monitoring is being done during the procedure.  | Minor Deficiency       | Resolved<br>08/12/2019 |
|      | PI   |                        |                        |
|      | 3. Drugs/Biologics   |                        |                        |
|      | <b>Labeling</b> Inspectors found a bottle containing white liquid without a chemical name or expiration date in the medication box. The EHS Laboratory Safety Manual (3-6) states that you must "Clearly spell out the name of the chemical on the label any time you transfer substances from original containers to secondary containers, or when synthesizing/mixing new substances, if the substances are not for the immediate use of the handler or preparer." | Minor Deficiency       | Resolved<br>08/12/2019 |
|      | PI   |                        |                        |
|      | 2. Animal Identification (Cage Cards)  |                        |                        |
|      | <b>Missing Cage Card</b> A cage was observed without the required cage card information. If a DCM RFID card is not available, the cage must be identified with the PI's name, the current protocol number, and should have the date in which the cage card was requested.  | No Deficiency          |                        |
|      | <b>Other</b> A large set of new and un-used DCM RFID cage cards were observed in the PI's open metal box within the room. Please be aware that RFID cards which are not being used must be stored in a closed metal container/box to ensure the unused cards are not accidentally scanned causing the PI to be charged unnecessarily.  | No Deficiency          |                        |
|      | PI   |                        |                        |
|      | 5. EHS (Occupational Health and Safety of Personnel)   |                        |                        |
|      | <b>Biological/Chemical Hazard Documentation</b> The Chemical Hazard Sheet on rack contains an expired protocol number (16-011) at the time of the inspection. Please remove this sheet or update it with the current protocol number(s) (18-310).  | No Deficiency          |                        |
|      | DCM  |                        |                        |
|      | 1. Documentation   |                        |                        |
|      | <b>Emergency Contacts</b> Inspectors suggest removing outdated contact sheets from the suite since the cubicle sheets contain more accurate information.   | No Deficiency          |                        |
|      | DCM  |                        |                        |
|      | 1. Documentation   |                        |                        |
|      | <b>Husbandry Logs</b> Inspectors noted that a husbandry log for this space included several temperature and humidity values out of range recorded without notation that the supervisor was notified. Weekly supervisor initials were present, however there is no indication that the issue with documentation or humidity was addressed.  | Minor Deficiency       | Resolved<br>07/22/2019 |
|      | For the month of May 2019 all temperature values recorded were 64 degrees. Please ensure the tech is resetting the thermometer on a daily basis.   |                        |                        |
|      | DCM  |                        |                        |
|      | 5. EHS (Occupational Health and Safety of Personnel)   |                        |                        |
|      | <b>Other</b> According to the room log for dirty cage wash, monthly documentation was not provided to indicate that the emergency and safety tests and signage were checked during the months of May and June 2019.  | Minor Deficiency       | Resolved<br>07/22/2019 |
|      | 7. Physical Plant  |                        |                        |
|      | <b>Facility</b> Inspectors noted a few areas that would typically require painting or caulking, however the building is scheduled for demolition within the next few months.   | No Deficiency          |                        |

# IACUC Facility Inspections Details Report

**Temperature/Humidity Values** Husbandry logs throughout the facility indicate that on several days, temperature and humidity levels were outside the acceptable ranges. No animal health issues related to these changes were reported, as all cages are individually ventilated. Facility management is working to correct issues as soon as they are identified. No Deficiency

## 8. USDA Species

**Clinical Records** Inspectors (including at least two IACUC members) conducted a semiannual records review of USDA covered species medical records maintained by DCM veterinary staff, during the inspection of the DCM No Deficiency

This review covers records maintained by DCM Vet Services for procedures and services provided to other investigators.

In addition, IACUC inspectors reviewed records for animals used under protocols for which DCM Veterinarians are PI.

Please ensure that surgical records indicate the species and type of procedure, especially for multi-species protocols (i.e. 19-025, Shipley).

Room Inspected

Response Due: 7/31/2019

Issue(s) Resolved: 8/12/2019

**Resolution occurred after the due date for the reason listed below.**

Reason: Delayed response from the PI.

Room Inspected:

Response Due: 7/31/2019

Issue(s) Resolved: 8/12/2019

**Resolution occurred after the due date for the reason listed below.**

Reason: Delayed response from the PI.

## IACUC Facility Inspections Details Report

Facility:

Facility Inspection ID 3

Inspectors

Inspection Date 07/17/2019

Response Due Date 08/06/2019

## Inspection Summary

| Room | Checklist Type | Principal Investigator | Deficiencies |
|------|----------------|------------------------|--------------|
|      | PI             |                        | 0            |
|      | PI             |                        | 0            |
|      | PI             |                        | 0            |
|      | DCM            |                        | 1            |

## Inspection Details

| Room | Checklist Type  | Principal Investigator |  |
|------|---|------------------------|--|
| 4    | PI  |                        |  |
|      | 5. EHS (Occupational Health and Safety of Personnel)  |                        |  |
|      | <b>Biological/Chemical Hazard Documentation</b> The Chemical Hazard Sheet on the _____ ) contains expired protocol numbers (16-133, 16-013), and hazard cards were not present on any of the cages at the time of the inspection. Please remove this sheet or update it with the current protocol number(s).  |                        | No Deficiency                              |
| 12   | PI  |                        |  |
|      | 2. Animal Identification (Cage Cards)   |                        |  |
|      | <b>Missing Cage Card</b> Two cages were observed without the required cage card information (in _____ ; ACAP: 17-166). If a DCM RFID card is not available, the cage must be identified with the PI's name, the current protocol number, and should have the date in which the cage card was requested.   |                        | No Deficiency                              |
| 15   | PI  |                        |  |
|      | 2. Animal Identification (Cage Cards)   |                        |  |
|      | <b>Missing Cage Card</b> Several cages were observed without the required cage card information (1 in _____ , 1 in _____ ACAP: 18-096). If a DCM RFID card is not available, the cage must be identified with the PI's name, the current protocol number, and should have the date in which the cage card was requested.  |                        | No Deficiency                              |
|      | 3. Drugs/Biologics  |                        |  |
|      | <b>Expiration Date</b> Inspectors found several expired medical products (BNP, exp 6/19 and 3/19) within _____ animal housing room. All chemicals and supplies maintained in the animal care and housing areas must be discarded after the expiration date or labeled, "Expired-do not Use" or "For Acute Use Only" to avoid accidental use in animals.                             |                        | No Deficiency                              |
| 00   | DCM   |                        |  |
|      | 1. Documentation  |                        |  |
|      | <b>Husbandry Logs</b> For _____, inspectors noted that husbandry logs included several temperature values, over multiple months, outside of the acceptable range, recorded without notation that the supervisor was notified (*). Weekly supervisor initials were present, however there is no indication that the issue with documentation or temperature was addressed.           |                        | Minor Deficiency<br>Resolved<br>07/31/2019 |
|      | 5. EHS (Occupational Health and Safety of Personnel)  |                        |  |
|      | <b>Safety</b> Keys for entering hazardous equipment were being stored in an unlocked location, accessible to any employee within the space. Per the EH&S Director present for the inspection, employees with access to the keys should have Lock Out - Tag Out training. Please work with EH&S to identify those requiring the training, or utilize a secure location for the keys. |                        | No Deficiency                              |
|      | <b>Equipment</b>  |                        | Acceptable                                 |
|      | 7. Physical Plant   |                        |  |
|      | <b>Sanitization</b> Please provide adequate mop storage in _____ to avoid storage in the sink.  |                        | No Deficiency                              |

# IACUC Facility Inspections Details Report

Facility:

Facility Inspection ID 10

Inspectors

Inspection Date 08/21/2019

## Inspection Summary

| Room | Checklist Type | Principal Investigator | Deficiencies |
|------|----------------|------------------------|--------------|
|      | DCM            |                        | 0            |
|      | PI             |                        | 0            |

## Inspection Details

| Room   | Checklist Type   | Principal Investigator |               |
|--|--|------------------------|---------------|
|  | DCM  |                        |               |
| 10. Other  |  |                        |               |
| <b>IACUC Standards</b>                               | Inspectors noted outdated IACUC CO2 Standard postings in   | Inspectors             | Acceptable    |
|  | provided the DCM manager with an updated copy and advised them where they can either pick up or print out more to replace all outdated signs.  |                        |               |
| 5. EHS (Occupational Health and Safety of Personnel) |  |                        |               |
| <b>PPE</b>   | Inspectors noted that a faceshield was not available for use when handling the chemicals in the dirty cage wash area.  |                        | No Deficiency |
|  | Eye protection must be worn in the cage wash area when handling chemicals.   |                        |               |
| <b>Safety</b>  | Inspectors noted that the path for egress in the clean cage wash area was hindered by equipment. Inspectors discussed the need to have a proper path of egress should an emergency occur with both the DCM manager and the DCM employee in cage wash at the time.  |                        | No Deficiency |
| <b>Equipment</b>                                     | The recertification sticker for the hood in   shows 07/2019 as the due date. Please replace the sticker with the current due date or have the machine recertified.   |                        | No Deficiency |
|  | PI   |                        |               |
| 6. Cage Density                                      |  |                        |               |
| <b>Breeding Cages</b>                                | Inspectors noted one cage on   that was past the date of weaning present on the pink card that had not been addressed. Please address cages by the end of day on the wean date by either separating or adding a comment to the comment section at the bottom of the pink card. If low body weight or other health issues are delaying the weaning of your animals at day 23 please consider an exception to your protocol. Please reference the Mouse Cage Density Standard: <a href="https://research.unc.edu/files/2012/11/Mouse-Cage-Density-Policy.pdf">https://research.unc.edu/files/2012/11/Mouse-Cage-Density-Policy.pdf</a> |                        | No Deficiency |



# IACUC Facility Inspections Details Report

Facility:

Facility Inspection ID 13

Inspectors

Inspection Date 09/18/2019

Response Due Date 10/03/2019

## Inspection Summary

| Room | Checklist Type | Principal Investigator | Deficiencies |
|------|----------------|------------------------|--------------|
|      | DCM            |                        | 1            |

## Inspection Details

| Room | Checklist Type   | Principal Investigator                  |
|------|--|---|
|      | DCM  |   |
|      | 1. Documentation   |   |
|      | <b>Husbandry Logs</b> Inspectors noticed that several daily duties were not completed according to the husbandry logs in for the month of August 2019. The facility manager had conducted the weekly signoff for this month, however no notation was made for missed duties. |   |
|      |  | Minor Deficiency Resolved<br>09/23/2019 |



## IACUC Facility Inspections Details Report

Facility:

Facility Inspection ID 7

Inspectors

Inspection Date 08/08/2019

Response Due Date 08/29/2019

## Inspection Summary

| Room | Checklist Type | Principal Investigator | Deficiencies |
|------|----------------|------------------------|--------------|
|      | Other          |                        | 0            |
|      | Other          |                        | 0            |
|      | PI             |                        | 1            |
|      | PI             |                        | 1            |
|      | DCM            |                        | 0            |
|      | DCM            |                        | 1            |
|      | PI             |                        | 0            |
|      | DCM            |                        | 0            |
|      | PI             |                        | 1            |
|      | Other          |                        | 0            |
|      | Other          |                        | 0            |
|      | Other          |                        | 0            |
|      | PI             |                        | 1            |
|      | DCM            |                        | 0            |
|      | DCM            |                        | 0            |
|      | DCM            |                        | 1            |
|      | PI             |                        | 0            |
|      | PI             |                        | 1            |
|      | PI             |                        | 0            |
|      | Other          |                        | 0            |
|      | PI             |                        | 0            |
|      | PI             |                        | 1            |
|      | Other          |                        | 0            |
|      | PI             |                        | 0            |
|      | PI             |                        | 0            |
|      | DCM            |                        | 0            |
|      | DCM            |                        | 0            |
|      | PI             |                        | 0            |
|      | DCM            |                        | 0            |

## Inspection Details

| Room | Checklist Type                                       | Principal Investigator  |  |
|------|--|---|--|
|      | Other  |   |  |
|      | 7. Physical Plant                                    |   |  |
|      | <b>Sanitization</b>                                  | There was behavioral equipment maintained in the room. Some of the behavioral chambers contained bedding. It was unclear how long the bedding was maintained within the chambers prior to use and how often it was changed. Please clarify the maintenance of chambers in this area.  | No Deficiency                              |
|      | Other  |   |  |
|      | 5. EHS (Occupational Health and Safety of Personnel) |   |  |
|      | <b>Equipment</b>                                     | Inspectors noted that the F/Air canisters were upright, blocking the holes on the bottom. EHS has issued an updated SOP for the handling of isoflurane and charcoal canisters. A newly created FAQ sheet for the use and disposal of F/AIR canisters can be found here: <a href="https://research.unc.edu/files/2017/08/isoflurane-fact-sheet.pdf">https://research.unc.edu/files/2017/08/isoflurane-fact-sheet.pdf</a> | No Deficiency                              |
|      |  | "To ensure adequate air flow, the holes on the bottom (F/Air canister) or top of canister (VaporGuard) must not be blocked. To ensure adequate air flow, the holes on the bottom (F/Air canister)...must not be blocked."   |  |
|      | PI   |   |  |
|      | 1. Documentation                                     |   |  |
|      | <b>PI Duty Check Sheets</b>                          | Inspectors were notified of missing documentation, and potentially missed duties, within the PI Check Sheet. Animals are food restricted and, according to the approved protocol, must be fed daily. Documentation was not provided for feeding on 2 consecutive days on multiple occasions. Please review the University Standard for Documentation of Monthly Principal Investigator Check Sheet.                     | Minor Deficiency<br>Resolved<br>09/05/2019 |

## IACUC Facility Inspections Details Report

|                                       |  |  |
|---------------------------------------|--|--|
| <b>PI</b>                             |  |  |
| 4. Feed/Water                         |  |  |
| <b>Expiration Date</b>                | Inspectors identified unsealed feed being stored in the PI's locker within _____ without an expiration date or mill date. All feed must be clearly labeled with type and an accurate expiration or milling date. Feed is considered expired 6 months after the mill date or if provided, on the expiration date.   | Minor Deficiency<br>Resolved<br>09/05/2019 |
| <b>DCM</b>                            |  |  |
| 1. Documentation                      |  |  |
| <b>Husbandry Logs</b>                 | Inspectors noted that husbandry logs for these spaces included several humidity values, over multiple months, outside of the acceptable range, recorded without notation that the supervisor was notified (*). Weekly supervisor initials were present, however there was no indication that the issue with documentation or humidity was addressed.   | No Deficiency                              |
| 7. Physical Plant                     |  |  |
| <b>Surgical/Procedure Rooms</b>       | Inspectors noted that the eye wash dust covers were flipped down and not serving their intended purpose.   | No Deficiency                              |
| <b>DCM</b>                            |  |  |
| 1. Documentation                      |  |  |
| <b>Husbandry Logs</b>                 | Inspectors noted that supervisor documentation was not provided in husbandry logs for two of the four weeks in June 2019.  | Minor Deficiency<br>Resolved<br>08/26/2019 |
| <b>PI</b>                             |  |  |
| 3. Drugs/Biologics                    |  |  |
| <b>Expiration Date</b>                | Inspectors identified Styptic Powder in a locker with a past expiration date. All chemicals and supplies maintained in the animal care and housing areas must be discarded after the expiration date or labeled, "Expired-do not Use" or "For Acute Use Only" to avoid accidental use in animals.  | No Deficiency                              |
| <b>DCM</b>                            |  |  |
| 7. Physical Plant                     |  |  |
| <b>Room</b>                           | Inspectors identified chipped paint on the interior walls (located on the left wall when entering room, ~6 ft from floor) that should be repaired to facilitate proper sanitation.   | No Deficiency                              |
| <b>PI</b>                             |  |  |
| 4. Feed/Water                         |  |  |
| <b>Expiration Date</b>                | Inspectors identified an opened container of Hydrogel with a past expiration date. All chemicals and supplies maintained in the animal care and housing areas must be discarded after the expiration date or labeled, "Expired-do not Use" or "For Acute Use Only" to avoid accidental use in animals.   | Minor Deficiency<br>Resolved<br>08/26/2019 |
| 6. Cage Density                       |  |  |
| <b>Breeding Cages</b>                 | Inspectors noted three cages on _____ that were past the date of weaning present on the pink card that had not been addressed. Please address cages by the end of day on the wean date by either separating or adding a comment to the comment section at the bottom of the pink card. If low body weight or other health issues are delaying the weaning of your animals at day 23 please consider an exception to your protocol.   | No Deficiency                              |
| <b>Other</b>                          |  |  |
| 2. Animal Identification (Cage Cards) |  |  |
| <b>Missing Cage Card</b>              | Three cages with temporary cage cards were identified on _____. If a DCM RFID card is not available, the cage must be identified with the PI's name, the current protocol number, and should have the date in which the cage card was requested.   | No Deficiency                              |
| <b>Other</b>                          |  |  |
| 3. Drugs/Biologics                    |  |  |
| <b>Labeling</b>                       | Inspectors found 2 bottles containing liquids ("Sterile 0.5% SDS" and "1 x PBS") without full chemical names or expiration dates. The EHS Laboratory Safety Manual (3-6) states that you must "Clearly spell out the name of the chemical on the label any time you transfer substances from original containers to secondary containers, or when synthesizing/mixing new substances, if the substances are not for the immediate use of the handler or preparer."                     | No Deficiency                              |
| <b>Other</b>                          |  |  |
| 9. Carcass Disposal                   |  |  |
| <b>Carcass Bag Labeling</b>           | Inspectors noted a bag with dead mouse parts in an unlabeled bag within the carcass freezer in the box with your name on it. According to the IACUC Rodent Euthanasia policy, bags are to be labeled with the protocol number before disposal.   | No Deficiency                              |
| <b>PI</b>                             |  |  |
| 6. Cage Density                       |  |  |
| <b>Breeding Cages</b>                 | Multiple cages were not clearly marked. Please ensure that all cages that are covered under the approved Exception are clearly marked. This must be done with a 'E' written on each cage card, in red, or if all cages in the room are covered, a sign may be placed on the inside of the room door indicating that all cages are covered under an Exception. If the Exception applies to the litter within the cage, the E must also be written in the comments box on the pink card. | Minor Deficiency<br>Resolved<br>09/05/2019 |
| <b>DCM</b>                            |  |  |
| 1. Documentation                      |  |  |
| <b>Husbandry Logs</b>                 | Inspectors noted that husbandry logs for these spaces included several humidity values, over _____   | No Deficiency                              |

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multiple months, outside of the acceptable range, recorded without notation that the supervisor was notified (\*). Weekly supervisor initials were present, however there was no indication that the issue with documentation or humidity was addressed. This applied to both room i.

**DCM**

## 1. Documentation

**Husbandry Logs** Inspectors noted that husbandry logs for these spaces included several humidity values, over multiple months, outside of the acceptable range, recorded without notation that the supervisor was notified (\*). Weekly supervisor initials were present, however there was no indication that the issue with documentation or humidity was addressed. This applied to both room i. No Deficiency

**DCM**

## 1. Documentation

**Husbandry Logs** Inspectors observed entries missing for weekly supervisor initials within the husbandry logs in June 2019 in multiple cubicles in this suite. Minor Deficiency  
Resolved  
08/26/2019

**PI**

## 2. Animal Identification (Cage Cards)

**Missing Cage Card** Three cages with temporary cage cards were identified on . If a DCM RFID card is not available, the cage must be identified with the PI's name, the current protocol number, and should have the date in which the cage card was requested. No Deficiency

**PI**

## 4. Feed/Water

**Expiration Date** Inspectors identified unsealed feed being stored in the PI's locker within 1 without an expiration date or mill date. All feed must be clearly labeled with type and an accurate expiration or milling date. Feed is considered expired 6 months after the mill date or if provided, on the expiration date. Minor Deficiency  
Resolved  
09/23/2019

**PI**

## 5. EHS (Occupational Health and Safety of Personnel)

**Biological/Chemical Hazard Documentation** The Chemical Hazard Sheet on contained an expired protocol number at the time of the inspection. Please update it with the current protocol number. No Deficiency

**Other**

## 5. EHS (Occupational Health and Safety of Personnel)

**Biological/Chemical Hazard Documentation** The Chemical Hazard Sheet on contained an expired protocol number at the time of the inspection. Please update it with the current protocol number. No Deficiency

The Chemical Hazard Sheet on contained an expired protocol number at the time of the inspection. Please update it with the current protocol number.

**PI**

## 5. EHS (Occupational Health and Safety of Personnel)

**Biological/Chemical Hazard Documentation** The Chemical Hazard Sheet on contained an expired protocol number at the time of the inspection. Please update it with the current protocol number. No Deficiency

**PI**

## 1. Documentation

**PI Duty Check Sheets** The check sheet for Duties Performed by Investigator (for 19-065) was found to be incomplete. Documentation that cage change is performed is required with a maximum of two consecutive weeks between observations and for the entire duration written on the sheet including weekends and holidays. Minor Deficiency  
Resolved  
09/05/2019

## 2. Animal Identification (Cage Cards)

**Missing Cage Card** Eleven cages with temporary cage cards were identified on . If a DCM RFID card is not available, the cage must be identified with the PI's name, the current protocol number, and should have the date in which the cage card was requested. No Deficiency

Three cages were observed without the required cage card information , after being separated 7/19. If a DCM RFID card is not available, the cage must be identified with the PI's name, the current protocol number, and should have the date in which the cage card was requested. RFID cards should be ordered and placed as soon as possible.

**Other**

## 2. Animal Identification (Cage Cards)

**Missing Cage Card** contained a half rack of mouse cages in which 12 cages were missing DCM cage cards and there was no notation by the investigator indicating that new cage cards had been ordered. Please provide each cage with a cage card having the current ACAP ID. Nearby cages were identified by protocol 16-276. No Deficiency

**PI**

## 2. Animal Identification (Cage Cards)

**Expired Protocol** In on 2 half racks -- , all mouse cages were identified by cage cards bearing the expired ACAP # 16-143. Please replace all expired cage cards with cards bearing the current IACUC approved protocol number. No Deficiency

**PI**

## 2. Animal Identification (Cage Cards)

**Expired Protocol** In on the rack in there were 6 mouse cages that had cage cards with the No Deficiency

## IACUC Facility Inspections Details Report

expired ACAP # 16-165. Please replace all cages having an expired cage card with cards bearing the current protocol number.

**DCM****10. Other**

**DCM SOPs** The laminar flow hood in contained 3 bins of autoclaved food which were extending over the grate and outside of the hood area. When working with autoclaved food and other sterile items, objects should be placed within the grate to maintain sterility. No Deficiency

**DCM****5. EHS (Occupational Health and Safety of Personnel)**

**PPE** An old version of the Personal Protective Equipment (PPE) signage was posted in the cage wash area. Update the PPE signage to correspond to current practices. No Deficiency

**Signage** The Cage wash area in this facility requires hearing protection. There was hearing protection signage posted on only one door of the cage wash area. Please post appropriate hearing protection signage on all entry doors into the cage wash area so that personnel are advised of the need to wear hearing protection. No Deficiency

**7. Physical Plant**

**Vehicles** The vehicle sanitation log for vehicle #316 indicated it was last washed on 11/7/18 despite being used on 8/5, 8/6, and 8/7 of 2019. Please ensure that these vehicles are sanitized regularly and that these actions are documented properly. No Deficiency

The vehicle sanitation log for vehicle #485 indicated a large time gap between washings on 6/20/19 – 8/8/19 despite regular use. Please ensure that these vehicles are sanitized regularly and that these actions are documented properly.

**PI****4. Feed/Water**

**Expiration Date** The special diet in room was labeled with a milling date of 01/2019 and an expiration date of 12/2019. The Guide for the Care and Use of Laboratory Animals states (page 66) 'Purified and chemically defined diets are often less stable than natural-ingredient diets and their shelf life is usually less than 6 months; they should be stored at 39 degree F or lower. No Deficiency

Unless the investigator has scientific justification or an exception for a greater than 6-month storage period for special diet approved in the IACUC protocol 18-293, the allowed maximum time period for animal feed is 6 months.

**Labeling** See above comment. No Deficiency

**DCM****1. Documentation**

**Husbandry Logs** In the DCM maintained husbandry logs, the supervisor weekly check off was missing for one week in July, 2019. No Deficiency

**5. EHS (Occupational Health and Safety of Personnel)**

**Signage** The Needle Safety posting in the anteroom of the room was an old version. Please post the most current version of the Needle Safety document. No Deficiency

**Room Inspected:**

**Response Due:** 8/29/2019

**Issue(s) Resolved:** 9/5/2019

**Resolution occurred after the due date for the reason listed below.**

**Reason:** Delayed response from the PI.

**Room Inspected:**

**Response Due:** 8/29/2019

**Issue(s) Resolved:** 9/5/2019

**Resolution occurred after the due date for the reason listed below.**

**Reason:** Delayed response from the PI.

**Room Inspected:**

**Response Due:** 8/29/2019

**Issue(s) Resolved:** 9/5/2019

**Resolution occurred after the due date for the reason listed below.**

**Reason:** Delayed response from the PI.

**Room Inspected:**

**Response Due:** 8/29/2019

**Issue(s) Resolved:** 9/23/2019

**Resolution occurred after the due date for the reason listed below.**

**Reason:** Delayed response from the PI.

**Room Inspected:**

**Response Due:** 8/29/2019

**Issue(s) Resolved:** 9/5/2019

**Resolution occurred after the due date for the reason listed below.**

**Reason:** Delayed response from the PI.

## IACUC Facility Inspections Details Report

Facility:

Facility Inspection ID 12

Inspectors

Inspection Date 09/12/2019

Response Due Date 09/30/2019

## Inspection Summary

| Room | Checklist Type | Principal Investigator | Deficiencies |
|------|----------------|------------------------|--------------|
|      | DCM            |                        | 0            |
|      | DCM            |                        | 0            |
|      | DCM            |                        | 0            |
|      | PI             |                        | 0            |
|      | EHS            |                        | 0            |
|      | DCM            |                        | 0            |
|      | Other          |                        | 0            |
|      | PI             |                        | 0            |
|      | PI             |                        | 0            |
|      | PI             |                        | 0            |
|      | DCM            |                        | 1            |
|      | PI             |                        | 0            |
|      | DCM            |                        | 0            |
|      | DCM            |                        | 0            |
|      | PI             |                        | 0            |

## Inspection Details

| Room | Checklist Type                                       | Principal Investigator  |               |
|------|--|---|---------------|
|      | <b>DCM</b>   |   |               |
|      | 1. Documentation                                     |   |               |
|      | <b>Husbandry Logs</b>                                | Inspectors did not observe documentation of duties in the husbandry logs for one day in June. A note explained that the duties were completed but not documented as a result of being understaffed.   | No Deficiency |
|      | <b>DCM</b>   |   |               |
|      | 1. Documentation                                     |   |               |
|      | <b>Husbandry Logs</b>                                | Inspectors did not observe documentation of duties in the husbandry logs for one day in June. A note explained that the duties were completed but not documented as a result of being understaffed.   | No Deficiency |
|      | <b>DCM</b>   |   |               |
|      | 1. Documentation                                     |   |               |
|      | <b>Husbandry Logs</b>                                | Inspectors did not observe documentation of duties in the husbandry logs for one day in June. A note explained that the duties were completed but not documented as a result of being understaffed.   | No Deficiency |
|      | <b>PI</b>  |   |               |
|      | 4. Feed/Water  |   |               |
|      | <b>Labeling</b>                                      | Inspectors observed feed in the isolators that did not have the year written on them other than the month and day. Please label all feed with the complete milling date and/or expiration date.   | No Deficiency |
|      | <b>EHS</b>   |   |               |
|      | 5. EHS (Occupational Health and Safety of Personnel) |   |               |
|      | <b>Equipment</b>                                     | The recertification sticker for the hood in shows an expiration date of 5/2018. Please replace the sticker with the current due date or have the machine recertified.   | No Deficiency |
|      | <b>DCM</b>   |   |               |
|      | 5. EHS (Occupational Health and Safety of Personnel) |   |               |
|      | <b>Safety</b>  | The eyewash was last checked on July 2019. Eyewash stations need to be checked and flushed monthly. Please check and flush the eyewash and note this on the tag.  | No Deficiency |
|      | <b>Other</b>   |   |               |
|      | 3. Drugs/Biologics                                   |   |               |
|      | <b>Expiration Date</b>                               | Inspectors identified eye lubricant (BNP+H) with a past expiration date (7/2019) in the medications box. It was also identified that this eye lubricant was labeled for use in . All chemicals and supplies maintained in the animal care and housing areas must be discarded after the expiration date or labeled, "Expired-do not Use" or "For Acute Use Only" to avoid accidental use in animals | No Deficiency |
|      | <b>PI</b>  |   |               |
|      | 3. Drugs/Biologics                                   |   |               |
|      | <b>Expiration Date</b>                               | Inspectors identified three tubes of Curad triple antibiotic ointment in the PI's locker (in the  | No Deficiency |



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common area of ) that expired on 4/2018. These tubes were discarded at the time of inspection. All medical products maintained in the animal care and housing areas must be discarded after the expiration date or labeled, "Expired - do not use" or "For acute use only" to avoid accidental use in animals.

## PI

## 2. Animal Identification (Cage Cards)

**Missing Cage Card** Four cages were observed without the required cage cards. If a DCM RFID card is not available, the cage must be identified with the PI's name, the current protocol number, and the date when the cage card was requested. No Deficiency

## PI

## 2. Animal Identification (Cage Cards)

**Expired Protocol** Inspectors noted 10 cages located on that had an expired protocol number (16-071). All cages must be identified with the current protocol number (19-043). No Deficiency

## DCM

## 1. Documentation

**Husbandry Logs** Inspectors observed that two dates with low humidity were not noted in the husbandry logs that the supervisor was notified (with an asterisk). Weekly supervisor initials were present, however there was no indication that the issue with documentation or humidity were addressed. Minor Deficiency  
Resolved  
10/08/2019

## PI

## 2. Animal Identification (Cage Cards)

**Missing Cage Card** A cage was observed without the required cage card. If a DCM RFID card is not available, the cage must be identified with the PI's name, the current protocol number, and the date when the cage card was requested. No Deficiency

## DCM

## 5. EHS (Occupational Health and Safety of Personnel)

**Signage** Inspectors observed that the needle safety sheet is the previous version. Please update it with the current version. No Deficiency

## DCM

## 4. Feed/Water

**Labeling** Inspectors identified 5VOF feed in an animal transport box without an expiration date or mill date. All feed must be clearly labeled with an accurate expiration date and/or milling date. No Deficiency

## PI

## 4. Feed/Water

**Other** Inspectors observed five water bottles provided by the PI that were left in the hood. Water bottles must be stored in the appropriate containers with expiration dates. No Deficiency

## 9. Carcass Disposal

**Other** Inspectors discovered a bag containing a dead neonate/pup in the hood. Carcasses must be placed in the appropriate storage facilities. No Deficiency

Room Inspected:

Response Due: 9/30/2019

Issue(s) Resolved: 10/8/2019

**Resolution occurred after the due date for the reason listed below.**

Reason: Delayed response from DCM.

## IACUC Facility Inspections Details Report

Facility:

Facility Inspection ID 5

Inspectors

Inspection Date 07/17/2019

Response Due Date 08/06/2019

## Inspection Summary

| Room | Checklist Type | Principal Investigator | Deficiencies |
|------|----------------|------------------------|--------------|
|      | PI             |                        | 0            |
|      | DCM            |                        | 1            |
|      | DCM            |                        | 2            |
|      | DCM            |                        | 2            |

## Inspection Details

| Room | Checklist Type  | Principal Investigator |  |
|------|---|------------------------|--|
|      | PI  |                        |  |
|      | 2. Animal Identification (Cage Cards)   |                        |  |
|      | <b>Other</b> There are multiple cages of animals that were separated due to fighting by DCM Vet Services. There is no date present to indicate when the card was placed or when cards were ordered. Please order new cage cards for these cages and replace the temporary cards as soon as possible.  |                        | No Deficiency                              |
|      | DCM   |                        |  |
|      | 1. Documentation  |                        |  |
|      | <b>Husbandry Logs</b> In , inspectors noted that husbandry logs included several humidity values, over multiple months (April-June, 2019), outside of the acceptable range, recorded without notation that the supervisor was notified (*). Weekly supervisor initials were present, however there is no indication that the issue with documentation or humidity was addressed.  |                        | Minor Deficiency<br>Resolved<br>07/31/2019 |
|      | DCM   |                        |  |
|      | 1. Documentation  |                        |  |
|      | <b>Husbandry Logs</b> Inspectors noted that husbandry logs included several humidity/temperature values, over multiple months, outside of the acceptable ranges, recorded without notation that the supervisor was notified (*). Weekly supervisor initials were present, however there is no indication that the issue with documentation or humidity/temperature was addressed.   |                        | Minor Deficiency<br>Resolved<br>07/31/2019 |
|      | 4. Feed/Water   |                        |  |
|      | <b>Expiration Date</b> Water bottles with a past expiration date were present in an animal housing room.  |                        | Minor Deficiency<br>Resolved<br>07/31/2019 |
|      | DCM   |                        |  |
|      | 10. Other   |                        |  |
|      | <b>DCM SOPs</b> According to the autoclave documentation, cages were processed through the autoclave in this facility without having a second person initial that they had checked the cages (2 days).  |                        | Minor Deficiency<br>Resolved<br>07/31/2019 |
|      | 4. Feed/Water   |                        |  |
|      | <b>Expiration Date</b> Inspectors noted values above 50% humidity documented within the log over several days/months. Feed exposed to temperatures and/or humidities above 70 degrees and/or 50 % respectively, must be used within 3 weeks, or discarded. Feed should be labeled to ensure that it is not accidentally fed to animals if temperatures or humidities are out of acceptable range during the storage period. Feed was not labeled, and a use log was not being maintained. |                        | Minor Deficiency<br>Resolved<br>07/31/2019 |
|      | 5. EHS (Occupational Health and Safety of Personnel)  |                        |  |
|      | <b>Safety</b> Keys for entering hazardous equipment were located in an unlocked location, accessible to any employee within the space. Per the EH&S Director present for the inspection, employees with access to the keys should have Lock Out - Tag Out training. Please work with EH&S to identify those requiring the training, or utilize a secure location for the keys.  |                        | No Deficiency                              |



# IACUC Facility Inspections Details Report

Facility:

Facility Inspection ID 6

Inspectors

Inspection Date 07/31/2019

## Inspection Summary

| Room | Checklist Type | Principal Investigator | Deficiencies |
|------|----------------|------------------------|--------------|
|      | DCM            |                        | 0            |

## Inspection Details

| Room | Checklist Type  | Principal Investigator |               |
|------|---|------------------------|---------------|
|      | DCM   |                        |               |
|      | 5. EHS (Occupational Health and Safety of Personnel)  |                        |               |
|      | Safety The EHS inspector indicated that the 'authorized area' (access panel to autoclave) must be locked to prevent unauthorized/untrained personnel from accessing it. |                        | No Deficiency |



# IACUC Facility Inspections Details Report

Facility:

Facility Inspection ID 11

Inspectors

Inspection Date 08/29/2019

## Inspection Summary

| Room | Checklist Type | Principal Investigator | Deficiencies |
|------|----------------|------------------------|--------------|
|      | DCM            |                        | 0            |

## Inspection Details

| Room | Checklist Type   | Principal Investigator                      |
|------|--|---|
|      | DCM  |   |
|      | 5. EHS (Occupational Health and Safety of Personnel)   |   |
|      | <b>Safety</b> Keys for entering hazardous equipment were located in an unlocked location, accessible to any employee within the space. Employees with access to the keys should have Lock Out - Tag Out training. Please work with EH&S to identify those requiring the training, or utilize a secure location for the keys. | Acceptable                                  |
|      | <b>Equipment</b> Once cage wash machines are up and running, please contact EHS to set a time for noise monitoring.  | Acceptable                                  |
|      | 7. Physical Plant  |   |
|      | <b>Facility</b> had a whistling noise emanating from the hood vent that is currently being investigated.   | Acceptable                                  |
|      | Inspectors did not observe live traps in the   | Please ensure traps are placed in the room. |

## IACUC Facility Inspections Details Report

Facility:

Facility Inspection ID 16

Inspectors

Inspection Date 10/02/2019

Response Due Date 10/17/2019

## Inspection Summary

| Room | Checklist Type | Principal Investigator | Deficiencies |
|------|----------------|------------------------|--------------|
|      | DCM            |                        | 1            |
|      | DCM            |                        | 1            |
|      | Other          |                        | 0            |
|      | PI             |                        | 0            |
|      | PI             |                        | 0            |
|      | PI             |                        | 0            |
|      | DCM            |                        | 1            |
|      | DCM            |                        | 2            |
|      | PI             |                        | 0            |
|      | PI             |                        | 0            |
|      | DCM            |                        | 0            |
|      | DCM            |                        | 3            |
|      | DCM            |                        | 1            |
|      | Other          |                        | 0            |
|      | PI             |                        | 1            |
|      | DCM            |                        | 1            |

## Inspection Details

| Room | Checklist Type   | Principal Investigator |  |
|------|--|------------------------|--|
|      | <b>DCM</b>   |                        |  |
|      | 1. Documentation   |                        |  |
|      | <b>Husbandry Logs</b> Inspectors noted that husbandry logs for these spaces included several temperature values, over multiple months, outside of the acceptable range, recorded without notation that the supervisor was notified (*). Weekly supervisor initials were present, however there was no indication that the issue with documentation or humidity was addressed. This applied to both room  |                        | Minor Deficiency<br>Resolved<br>10/14/2019 |
|      | <b>DCM</b>   |                        |  |
|      | 1. Documentation   |                        |  |
|      | <b>Husbandry Logs</b> Inspectors noted that husbandry logs for these spaces included several temperature values, over multiple months, outside of the acceptable range, recorded without notation that the supervisor was notified (*). Weekly supervisor initials were present, however there was no indication that the issue with documentation or humidity was addressed. This applied to both room  |                        | Minor Deficiency<br>Resolved<br>10/14/2019 |
|      | <b>Other</b>   |                        |  |
|      | 3. Drugs/Biologics   |                        |  |
|      | <b>Expiration Date</b> Inspectors found several expired medical products (sterile surgical gloves and suture) within this PI maintained procedure room. All chemicals and supplies maintained in the animal care and housing areas must be discarded after the expiration date or labeled, "Expired-do not Use" or "For Acute Use Only" to avoid accidental use in animals. USDA policy #3 states: The use of expired medical materials such as drugs, fluids, or sutures on regulated animals is not considered to be acceptable veterinary practice and is not consistent with adequate veterinary care as required by the regulations promulgated under the Animal Welfare Act. |                        | No Deficiency                              |
|      | Alternatively, if you have materials that expire and cannot be utilized by your laboratory, the DCM Training Team would greatly appreciate donations for items we can utilize in our hands-on training courses (sterile gloves, suture).   |                        |  |
|      | 7. Physical Plant  |                        |  |
|      | <b>Surgical/Procedure Rooms</b> Please remove cardboard from the animal care and use spaces as it is neither sealed nor sanitizable. Inspectors noted two cardboard tubes and one cardboard box on the floor.  |                        | No Deficiency                              |
|      | Please remove the storage bin from the floor, so that the room can be properly sanitized.  |                        |  |
|      | <b>PI</b>  |                        |  |
|      | 2. Animal Identification (Cage Cards)  |                        |  |
|      | <b>Missing Cage Card</b> Cages were observed without the required cage card information (protocol 18-188). If a DCM RFID card is not available, the cage must be identified with the PI's name, the current protocol number, and should have the date on which the cage card was requested.  |                        | No Deficiency                              |

## IACUC Facility Inspections Details Report

|  |  |  |
|--|--|--|
| <b>PI</b>  |  |  |
| 1. Documentation                                     |  |  |
| <b>PI Duty Check Sheets</b>                          | Inspectors could not locate a PI husbandry check sheet (protocol 19-013) to verify that animal feeding had been completed for the month of October 2019, although there were cages identified with "PI Will Feed" stickers. The check sheets must be completed when performing husbandry duties  | No Deficiency                              |
| <b>PI</b>  |  |  |
| 1. Documentation                                     |  |  |
| <b>PI Duty Check Sheets</b>                          | Inspectors could not locate a PI husbandry check sheet (protocol 19-070) to verify that animal feeding had been completed for the month of October 2019, although there were cages identified with "PI Will Feed" stickers. The check sheets must be completed when performing husbandry duties  | No Deficiency                              |
| <b>DCM</b>   |  |  |
| 1. Documentation                                     |  |  |
| <b>Husbandry Logs</b>                                | Inspectors noticed that a weekly duty, clean supply/vents, was not completed according to the husbandry logs multiple times over the past few months. The facility manager had conducted the weekly signoff for these months, however no notation was made for missed duties.  | Minor Deficiency<br>Resolved<br>10/14/2019 |
| <b>DCM</b>   |  |  |
| 1. Documentation                                     |  |  |
| <b>Husbandry Logs</b>                                | Inspectors noticed that a weekly duty, clean supply/vents, was not completed according to the husbandry logs multiple times over the past few months. The facility manager had conducted the weekly signoff for these months, however no notation was made for missed duties.  | Minor Deficiency<br>Resolved<br>10/14/2019 |
| 4. Feed/Water  |  |  |
| <b>Labeling</b>                                      | Inspectors noted two cages on the rack containing feed without feed tags and expiration dates. All feed must be clearly labeled with an accurate expiration or milling date. Feed is considered expired 6 months after the mill date or if provided, on the expiration date.   | Minor Deficiency<br>Resolved<br>10/14/2019 |
| <b>PI</b>  |  |  |
| 1. Documentation                                     |  |  |
| <b>PI Duty Check Sheets</b>                          | Inspectors could not locate a PI husbandry check sheet (protocol 17-232) to verify that animal feeding had been completed for the month of October 2019, although there were cages identified with "PI Will Feed" stickers. The check sheets must be completed when performing husbandry duties.   | No Deficiency                              |
| <b>PI</b>  |  |  |
| 1. Documentation                                     |  |  |
| <b>PI Duty Check Sheets</b>                          | Inspectors could not locate a PI husbandry check sheet (protocol 17-128) to verify that animal feeding had been completed for the month of October 2019, although there were cages identified with "PI Will Feed" stickers. The check sheets must be completed when performing husbandry duties.   | No Deficiency                              |
| <b>DCM</b>   |  |  |
| 7. Physical Plant                                    |  |  |
| <b>Room</b>  | Inspectors identified chipped paint on the wall that should be repaired to facilitate proper sanitation. The chip is located above the card reader and is larger than a quarter in size.   | No Deficiency                              |
| <b>DCM</b>   |  |  |
| 1. Documentation                                     |  |  |
| <b>Husbandry Logs</b>                                | Inspectors noticed that a weekly duty, clean supply/vents, was not completed according to the husbandry logs multiple times over the past few months in every cubicle in . The facility manager had conducted the weekly signoff for these months, however no notation was made for missed duties.   | Minor Deficiency<br>Resolved<br>10/14/2019 |
| 3. Drugs/Biologics                                   |  |  |
| <b>Expiration Date</b>                               | Inspectors found several expired medical products (betadine scrub and Sodium Chloride solution) within the Macaque Bite Kit located in . All chemicals and supplies maintained in the animal care and housing areas must be discarded after the expiration date or labeled, "Expired-do not Use" or "For Acute Use Only" to avoid accidental use. It was explained during the inspection that no macaques had been in the building since the expiration of these products, that new products would be obtained as soon as possible, and that macaques were not expected to be housed in the facility in the near future. | No Deficiency                              |
| 5. EHS (Occupational Health and Safety of Personnel) |  |  |
| <b>Equipment</b>                                     | Inspectors noted that the weekly documentation, on the cards, for the eyewash and safety shower located in were filled in for the entire month of October 2019. The inspection of this space occurred on 10/2/19 and dates were filled in and initialed for the following 4 weeks (10/8/19, 10/15/19, 10/22/19, and 10/29/19).   | Minor Deficiency<br>Resolved<br>10/14/2019 |
| 7. Physical Plant                                    |  |  |
| <b>Surgical/Procedure Rooms</b>                      | Inspectors noted three cages in containing cage card holders, enviro-dry bedding, and feed without labels or expiration dates. All feed must be clearly labeled with an accurate expiration or milling date. Feed is considered expired 6 months after the mill date or, if provided, on the expiration date.  | Minor Deficiency<br>Resolved<br>10/14/2019 |
| <b>Other</b>   | Inspectors noted that the broom and mop for were stored on the floor or in the mop bucket. It is recommended that a broom/mop holder be installed for proper storage.  | No Deficiency                              |
| <b>DCM</b>   |  |  |
| 5. EHS (Occupational Health and Safety of Personnel) |  |  |
| <b>Equipment</b>                                     | Inspectors noted an eyewash where the protective caps were not covering the eyewash. Please make sure that eyewashes are clean and covers are in place so that debris does not build up and the eyewash can be used in case of emergency.  | Minor Deficiency<br>Resolved<br>10/14/2019 |

## IACUC Facility Inspections Details Report

**Other****9. Carcass Disposal**

**Other** Inspectors noted several bags of dead mice in plastic bags within a brown paper bag within the carcass freezer. Please empty the plastic bags into the carcass cooler and discard the paper bag.

No Deficiency

**PI****10. Other**

**Other** Inspectors noted that one of the lab's vaporizers is past its due date for re-calibration (4/2019) and was marked 'Do Not Use', but was being utilized during the inspection. Vaporizers used for anesthesia must be calibrated at least bi-annually according to the IACUC Standard for Anesthetic Vaporizers and may be calibrated during the annual appointment scheduled by DCM veterinary services for Eagle Eye Calibration. This option is less expensive than an individual appointment and usually occurs in May-June of each year. Please look for emails from the NLAC listserv or contact DCM Vet Services regarding the DCM scheduled appointment.

Minor Deficiency

Resolved  
10/15/2019**DCM****1. Documentation**

**Husbandry Logs** Inspectors noted that husbandry logs for this space included one humidity value during the month of September 2019 outside of the acceptable range, recorded without notation that the supervisor was notified (\*). Weekly supervisor initials were present, however there was no indication that the issue with documentation or humidity was addressed.

Minor Deficiency

Resolved  
10/14/2019

## IACUC Facility Inspections Details Report

Facility:

Facility Inspection ID 8

Inspectors

Inspection Date 08/15/2019

## Inspection Summary

| Room | Checklist Type | Principal Investigator | Deficiencies |
|------|----------------|------------------------|--------------|
|      | PI             |                        | 0            |
|      | PI             |                        | 0            |
|      | PI             |                        | 0            |
|      | Other          |                        | 0            |

## Inspection Details

| Room | Checklist Type                                       | Principal Investigator   |               |
|------|--|--|---------------|
|      | PI   |  |               |
|      | 2. Animal Identification (Cage Cards)                |  |               |
|      | <b>Missing Cage Card</b>                             | A temporary cage card on _____, created by DCM when they separated the animals, is still present on a cage. Please order a DCM RFID card for this cage.  | No Deficiency |
|      | PI   |  |               |
|      | 2. Animal Identification (Cage Cards)                |  |               |
|      | <b>Missing Cage Card</b>                             | Two cages with temporary cage cards were identified on _____. If a DCM RFID card is not available, the cage must be identified with the PI's name, the current protocol number, and should have the date on which the cage card was requested.   | No Deficiency |
|      |  | A temporary cage card on _____, created by DCM when they separated the animals in June 2019, is still present on a cage. Please order a DCM RFID card for this cage.   |               |
|      | PI   |  |               |
|      | 2. Animal Identification (Cage Cards)                |  |               |
|      | <b>Missing Cage Card</b>                             | Two cages with temporary cage cards were identified on _____. If a DCM RFID card is not available, the cage must be identified with the PI's name, the current protocol number, and should have the date in which the cage card was requested.   | No Deficiency |
|      | Other  |  |               |
|      | 5. EHS (Occupational Health and Safety of Personnel) |  |               |
|      | <b>Signage</b>                                       | All Biohazard signage containing the name(s) of personnel no longer employed by DCM should be replaced as soon as possible to ensure accurate emergency contact names are available. This comment applies to all DCM facilities. The EHS representative indicated that a blank template is available from EHS. | No Deficiency |

## IACUC Facility Inspections Details Report

Facility:

Facility Inspection ID 9

Inspectors

Inspection Date 08/15/2019

Response Due Date 08/30/2019

## Inspection Summary

| Room | Checklist Type | Principal Investigator | Deficiencies |
|------|----------------|------------------------|--------------|
|      | PI             |                        | 0            |
|      | PI             |                        | 0            |
|      | PI             |                        | 0            |
|      | Other          |                        | 1            |

## Inspection Details

| Room | Checklist Type   | Principal Investigator |  |
|------|--|------------------------|--|
|      | PI   |                        |  |
|      | 2. Animal Identification (Cage Cards)  |                        |  |
|      | <b>Missing Cage Card</b> A cage with temporary cage card was identified. If a DCM RFID card is not available, the cage must be identified with the PI's name, the current protocol number, and should have the date on which the cage card was requested.  |                        | No Deficiency                              |
|      | 3. Drugs/Biologics   |                        |  |
|      | <b>Expiration Date</b> Inspectors identified quick stop "blood stop" with a past expiration date (July 2019). All chemicals and supplies maintained in the animal care and housing areas must be discarded after the expiration date or labeled, "Expired-do not Use" or "For Acute Use Only" to avoid accidental use in animals.  |                        | No Deficiency                              |
|      | PI   |                        |  |
|      | 3. Drugs/Biologics   |                        |  |
|      | <b>Expiration Date</b> Inspectors identified alcohol swabs with a past expiration date (June 2019) in the medication box. All chemicals and supplies maintained in the animal care and housing areas must be discarded after the expiration date or labeled, "Expired-do not Use" or "For Acute Use Only" to avoid accidental use in animals.  |                        | No Deficiency                              |
|      | PI   |                        |  |
|      | 2. Animal Identification (Cage Cards)  |                        |  |
|      | <b>Missing Cage Card</b> One cage with temporary cage card was identified on . If a DCM RFID card is not available, the cage must be identified with the PI's name, the current protocol number, and should have the date in which the cage card was requested.  |                        | No Deficiency                              |
|      | Other  |                        |  |
|      | 3. Drugs/Biologics   |                        |  |
|      | <b>Labeling</b> Inspectors found several bottles containing pink and light yellow liquids without a chemical name or expiration date in the refrigerator in . The EHS Laboratory Safety Manual (3-6) states that you must "Clearly spell out the name of the chemical on the label any time you transfer substances from original containers to secondary containers, or when synthesizing/mixing new substances, if the substances are not for the immediate use of the handler or preparer." |                        | Minor Deficiency<br>Resolved<br>08/28/2019 |



# IACUC Facility Inspections Details Report

Facility:

Facility Inspection ID 2

Inspectors

Inspection Date 07/17/2019

## Inspection Summary

| Room | Checklist Type | Principal Investigator | Deficiencies |
|------|----------------|------------------------|--------------|
|      | DCM            |                        | 0            |

## Inspection Details

| Room | Checklist Type  | Principal Investigator |               |
|------|---|------------------------|---------------|
|      | DCM   |                        |               |
|      | 3. Drugs/Biologics  |                        |               |
|      | <b>Expiration Date</b> Inspectors could not find an expiration date on the bottle of Metoclopramide located in the medication box within . Please ensure the drugs are properly labeled to avoid accidental use after expiration.   |                        | No Deficiency |
|      | 5. EHS (Occupational Health and Safety of Personnel)  |                        |               |
|      | <b>Safety</b> Keys for entering hazardous equipment were being stored in an unlocked location, accessible to any employee within the space. Per the EH&S Director present for the inspection, employees with access to the keys should have Lock Out - Tag Out training. Please work with EH&S to identify those requiring the training, or utilize a secure location for the keys. |                        | No Deficiency |
|      | <b>Equipment</b> The semiannual Drager calibrations were not completed as scheduled due to a supply issue (due in 06/2019, completed 07/2019). It has now been completed in all facilities.   |                        | No Deficiency |
|      | <b>Other</b> Per EH&S, please ensure that the area where the Euthanex chamber is currently located, has adequate ventilation for personnel safety.  |                        | Acceptable    |

## IACUC Facility Inspections Details Report

Facility:

Facility Inspection ID 15

Inspectors

Inspection Date 09/26/2019

Response Due Date 10/15/2019

## Inspection Summary

| Room | Checklist Type | Principal Investigator | Deficiencies |
|------|----------------|------------------------|--------------|
|      | Other          |                        | 0            |
|      | Other          |                        | 0            |
|      | PI             |                        | 0            |
|      | PI             |                        | 1            |
|      | PI             |                        | 0            |
|      | PI             |                        | 0            |
|      | PI             |                        | 0            |
|      | PI             |                        | 0            |
|      | PI             |                        | 0            |

## Inspection Details

| Room | Checklist Type                                       | Principal Investigator  | Deficiencies                               |
|------|--|---|--|
|      | Other  |   |  |
|      | 7. Physical Plant                                    |   |  |
|      | Temperature/Humidity Values                          | In Investigator-maintained procedure , the humidity levels during the period 9/19/19 – 9/25/19 were less than 30 percent. Humidity values in the Guide indicate that mouse housing areas should be maintained between 30-70 percent. Humidity levels less than 30 percent can contribute to health issues in mice. Please indicate whether you have noted any health issues in animals maintained in this procedure room.   | No Deficiency                              |
|      | Other  |   |  |
|      | 5. EHS (Occupational Health and Safety of Personnel) |   |  |
|      | Equipment  | In Investigator-maintained procedure , the inspectors noted equipment used for behavioral studies. Unless adequately sanitized, handwashed equipment may pose a risk of microbial contamination. If this behavioral equipment is handwashed, please ensure that it is on a schedule to be assessed for efficacy of sanitization. in DCM coordinates and conducts this microbiologic assessment.   | No Deficiency                              |
|      | Other  | In Investigator-maintained procedure , the inspectors noted a wooden board with a cardboard box taped on it possibly used for behavioral studies. Unsealed wood and cardboard cannot be sanitized effectively. Unsanitized equipment represents a source of possible microbial contamination. Please remove this unsealed board from the DCM facility. If it must be replaced, please use a piece of equipment that is easily sanitized i.e., plastic, vinyl, not unsealed wood). | No Deficiency                              |
|      | PI   |   |  |
|      | 2. Animal Identification (Cage Cards)                |   |  |
|      | Missing Cage Card                                    | In one mouse cage was found without a DCM printed cage card. The cage had an investigator card that indicated 'card ordered on 7/11/19.' DCM typically addresses cage card orders within a day or two. Without proper cage identification, it is difficult to determine the investigator and associate protocol number. Please place a DCM printed cage card on this cage located on  | No Deficiency                              |
|      | PI   |   |  |
|      | 3. Drugs/Biologics                                   |   |  |
|      | Expiration Date                                      | Inspectors identified a bottle of injectable NaCl with a past expiration date of 10/2018 and a bottle of Ethanol with a past expiration date of 5/2019. All chemicals and supplies maintained in the animal care and housing areas must be discarded after the expiration date or labeled, "Expired-do not Use" or "For Acute Use Only" to avoid accidental use in animals.   | Minor Deficiency<br>Resolved<br>10/29/2019 |
|      | 4. Feed/Water  |   |  |
|      | Expiration Date                                      | Inspectors observed a ziplock bag of Fruit Loops with no label or expiration date. All food must be clearly labeled with an expiration date to avoid accidental use.  | No Deficiency                              |
|      | PI   |   |  |
|      | 3. Drugs/Biologics                                   |   |  |
|      | Expiration Date                                      | Inspectors identified a bottle of sulfatrim pediatric suspension with a past expiration date of 7/2017. All chemicals and supplies maintained in the animal care and housing areas must be discarded after the expiration date or labeled, "Expired-do not Use" or "For Acute Use Only" to avoid accidental use in animals.   | No Deficiency                              |
|      | PI   |   |  |
|      | 3. Drugs/Biologics                                   |   |  |
|      | Expiration Date                                      | Inspectors identified a bottle of Ethanol with a past expiration date of 8/2019. All chemicals and supplies maintained in the animal care and housing areas must be discarded after the expiration date or labeled, "Expired-do not Use" or "For Acute Use Only" to avoid accidental use in animals.  | No Deficiency                              |

## IACUC Facility Inspections Details Report

## PI

## 2. Animal Identification (Cage Cards)

**Missing Cage Card** Multiple cages were observed without the required cage card information. If a DCM RFID card is not available, the cage must be identified with the PI's name, the current protocol number, and should have the date in which the cage card was requested. No Deficiency

## PI

## 3. Drugs/Biologics

**Expiration Date** Inspectors identified bacteriostatic NaCl with a past expiration date of 8/2018. All chemicals and supplies maintained in the animal care and housing areas must be discarded after the expiration date or labeled, "Expired-do not Use" or "For Acute Use Only" to avoid accidental use in animals. No Deficiency

## 4. Feed/Water

**Expiration Date** Inspectors identified Fruit Loops being stored in the cabinet drawer with an expiration date of 9/2018. Please discard any expired food to avoid accidental use. No Deficiency

## PI

## 2. Animal Identification (Cage Cards)

**Missing Cage Card** Multiple cages were observed without the required cage card information. If a DCM RFID card is not available, the cage must be identified with the PI's name, the current protocol number, and should have the date in which the cage card was requested. No Deficiency

Room Inspected:

Response Due: 10/15/2019

Issue(s) Resolved: 10/19/2019

Resolution occurred after the due date for the reason listed below.

Reason: Delayed response from the PI.

# IACUC Facility Inspections Details Report

Facility:

Facility Inspection ID 4

Inspectors

Inspection Date 07/17/2019

Response Due Date 08/05/2019

## Inspection Summary

| Room | Checklist Type | Principal Investigator | Deficiencies |
|------|----------------|------------------------|--------------|
|      | DCM            |                        | 1            |

## Inspection Details

| Room | Checklist Type   | Principal Investigator |  |
|------|--|------------------------|--|
|      | DCM  |                        |  |
|      | 1. Documentation   |                        |  |
|      | <b>Husbandry Logs</b> Inspectors noted that husbandry logs for these spaces included several humidity values, over multiple months, outside of the acceptable range, recorded without notation that the supervisor was notified (*). Weekly supervisor initials were present, however there is no indication that the issue with documentation or humidity was addressed. This applies to both |                        | Minor Deficiency<br>Resolved<br>08/09/2019 |
|      | 5. EHS (Occupational Health and Safety of Personnel)   |                        |  |
|      | <b>Signage</b> Please add signage indicating that the freezer room is 'not in service' in  |                        | No Deficiency                              |

Room Inspected:

Response Due: 8/5/2019

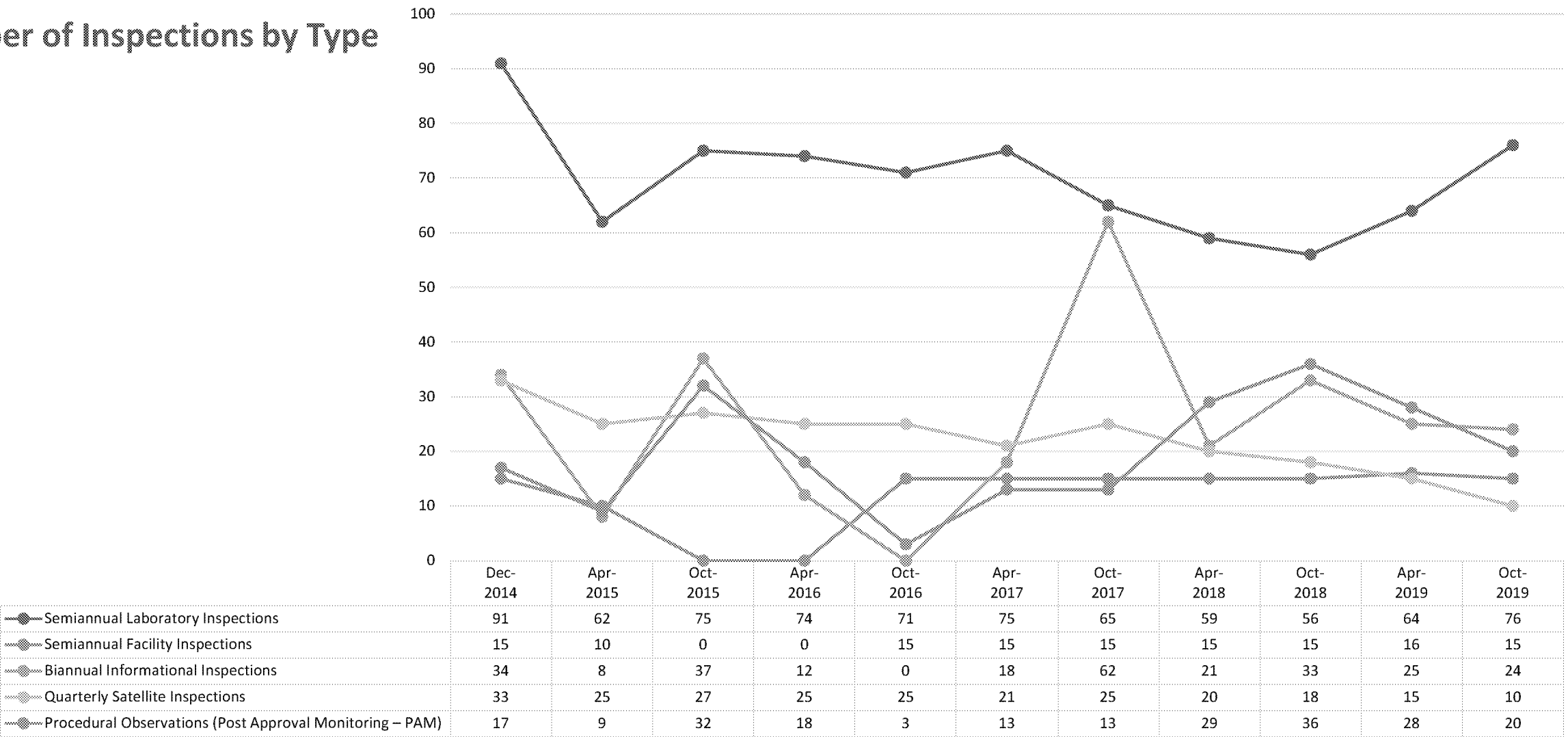
Issue(s) Resolved: 8/9/2019

Resolution occurred after the due date for the reason listed below.

Reason: Delayed response from DCM.

# Inspection Statistics

# Number of Inspections by Type



| Satellite Inspections               |         |
|-------------------------------------|---------|
| Total Inspections                   | 10      |
| Total Completed Inspections         | 10      |
| Total No Deficiencies               | 9 (90%) |
| Total Inspections With Deficiencies | 1 (10%) |

| Dept | Inspection Date | APSE | Deficiencies |
|------|-----------------|------|--------------|
|      | 04/18/2019      |      | 0            |
|      | 05/28/2019      |      | 0            |
|      | 05/28/2019      |      | 0            |
|      | 06/21/2019      |      | 0            |
|      | 06/27/2019      |      | 1            |
|      | 07/30/2019      |      | 0            |
|      | 08/16/2019      |      | 0            |
|      | 08/27/2019      |      | 0            |
|      | 09/24/2019      |      | 0            |
|      | 09/25/2019      |      |              |

| Semiannual Inspections              |          |
|-------------------------------------|----------|
| Total Inspections                   | 76       |
| Total Completed Inspections         | 76       |
| Total No Deficiencies               | 75 (99%) |
| Total Inspections With Deficiencies | 1 (1%)   |

| Dept | Inspection Date | APSE | Deficiencies |
|------|-----------------|------|--------------|
|      | 04/03/2019      |      | 0            |
|      | 04/04/2019      |      | 0            |
|      | 04/10/2019      |      | 0            |
|      | 04/11/2019      |      | 0            |
|      | 04/11/2019      |      | 0            |
|      | 04/15/2019      |      | 0            |
|      | 04/16/2019      |      | 0            |
|      | 04/16/2019      |      | 0            |
|      | 04/18/2019      |      | 0            |
|      | 04/26/2019      |      | 0            |
|      | 05/03/2019      |      | 0            |
|      | 05/08/2019      |      | 0            |
|      | 05/13/2019      |      | 0            |
|      | 05/13/2019      |      | 0            |
|      | 05/15/2019      |      | 0            |
|      | 05/20/2019      |      | 0            |
|      | 05/21/2019      |      | 0            |
|      | 05/21/2019      |      | 0            |
|      | 05/21/2019      |      | 0            |
|      | 05/29/2019      |      | 0            |
|      | 06/04/2019      |      | 0            |
|      | 06/04/2019      |      | 0            |
|      | 06/05/2019      |      | 0            |
|      | 06/19/2019      |      | 0            |
|      | 06/19/2019      |      | 0            |
|      | 06/21/2019      |      | 0            |
|      | 06/21/2019      |      | 0            |
|      | 06/21/2019      |      | 0            |
|      | 06/26/2019      |      | 0            |
|      | 06/26/2019      |      | 0            |
|      | 06/27/2019      |      | 0            |
|      | 06/27/2019      |      | 0            |
|      | 07/11/2019      |      | 0            |
|      | 07/11/2019      |      | 0            |
|      | 07/11/2019      |      | 0            |
|      | 07/11/2019      |      | 0            |
|      | 07/11/2019      |      | 0            |
|      | 07/12/2019      |      | 0            |
|      | 07/17/2019      |      | 0            |
|      | 07/30/2019      |      | 1            |
|      | 07/30/2019      |      | 0            |
|      | 07/30/2019      |      | 0            |
|      | 07/31/2019      |      | 0            |
|      | 07/31/2019      |      | 0            |
|      | 07/31/2019      |      | 0            |
|      | 07/31/2019      |      | 0            |
|      | 07/31/2019      |      | 0            |
|      | 08/09/2019      |      | 0            |
|      | 08/13/2019      |      | 0            |
|      | 08/13/2019      |      | 0            |
|      | 08/14/2019      |      | 0            |
|      | 08/14/2019      |      | 0            |
|      | 08/19/2019      |      | 0            |
|      | 08/19/2019      |      | 0            |
|      | 08/21/2019      |      | 0            |
|      | 08/21/2019      |      | 0            |
|      | 08/21/2019      |      | 0            |
|      | 08/22/2019      |      | 0            |
|      | 08/27/2019      |      | 0            |
|      | 08/28/2019      |      | 0            |
|      | 08/30/2019      |      | 0            |
|      | 09/03/2019      |      | 0            |
|      | 09/03/2019      |      | 0            |
|      | 09/04/2019      |      | 0            |
|      | 09/04/2019      |      | 0            |
|      | 09/05/2019      |      | 0            |



|  |            |  |   |
|--|------------|--|---|
|  | 09/11/2019 |  | 0 |
|  | 09/18/2019 |  | 0 |
|  | 09/19/2019 |  | 0 |
|  | 09/19/2019 |  | 0 |
|  | 09/24/2019 |  | 0 |
|  | 09/24/2019 |  | 0 |
|  | 09/24/2019 |  | 0 |

| Informational Inspections           |           |
|-------------------------------------|-----------|
| Total Inspections                   | 24        |
| Total Completed Inspections         | 24        |
| Total No Deficiencies               | 24 (100%) |
| Total Inspections With Deficiencies | 0 (0%)    |

| Dept | Inspection Date | APSE | Deficiencies |
|------|-----------------|------|--------------|
|      | 04/15/2019      |      | 0            |
|      | 04/18/2019      |      | 0            |
|      | 04/22/2019      |      | 0            |
|      | 04/22/2019      |      | 0            |
|      | 04/22/2019      |      | 0            |
|      | 04/22/2019      |      | 0            |
|      | 04/22/2019      |      | 0            |
|      | 04/25/2019      |      | 0            |
|      | 04/25/2019      |      | 0            |
|      | 04/29/2019      |      | 0            |
|      | 04/29/2019      |      | 0            |
|      | 05/01/2019      |      | 0            |
|      | 05/03/2019      |      | 0            |
|      | 05/09/2019      |      | 0            |
|      | 05/15/2019      |      | 0            |
|      | 05/21/2019      |      | 0            |
|      | 05/31/2019      |      | 0            |
|      | 06/12/2019      |      | 0            |
|      | 06/21/2019      |      | 0            |
|      | 07/09/2019      |      | 0            |
|      | 07/12/2019      |      | 0            |
|      | 09/05/2019      |      | 0            |
|      | 09/17/2019      |      | 0            |
|      | 09/26/2019      |      | 0            |

| Procedural Observations             |          |
|-------------------------------------|----------|
| Total Inspections                   | 20       |
| Total Completed Inspections         | 20       |
| Total No Deficiencies               | 19 (95%) |
| Total Inspections With Deficiencies | 1 (5%)   |

| Dept | Inspection Date | APSE | Deficiencies |
|------|-----------------|------|--------------|
|      | 04/10/2019      |      | 0            |
|      | 04/18/2019      |      | 0            |
|      | 04/25/2019      |      | 0            |
|      | 04/26/2019      |      | 0            |
|      | 05/03/2019      |      | 0            |
|      | 05/15/2019      |      | 0            |
|      | 05/20/2019      |      | 0            |
|      | 05/23/2019      |      | 0            |
|      | 05/23/2019      |      | 0            |
|      | 06/05/2019      |      | 0            |
|      | 06/26/2019      |      | 0            |
|      | 07/01/2019      |      | 0            |
|      | 07/25/2019      |      | 0            |
|      | 08/15/2019      |      | 1            |
|      | 08/16/2019      |      | 0            |
|      | 08/29/2019      |      | 0            |
|      | 09/16/2019      |      | 0            |
|      | 09/17/2019      |      | 0            |
|      | 09/19/2019      |      | 0            |
|      | 09/24/2019      |      | 0            |

# Inspection Detail Reports



|   |   |
|---|---|
| <b>PI:</b><br>PI PID _____<br><b>Inspection ID</b> 9654<br><b>Inspection Type</b> Semiannual<br><b>Lab Coordinators</b> | <b>Inspection Date:</b> 05/03/2019<br><b>Inspectors</b> |
|---|---|

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable

Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

## 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

The new surgical space in MEJ was inspected and approved as part of this inspection. Please ensure that all new animal spaces are added to the protocol prior to work being conducted within them. You may send an email to [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with the applicable protocol numbers and room numbers to be added, and we will handle this administratively for you.

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) No Deficiency

An editable PDF can be found on the "Room Use" page of the lab's online EH&S lab safety plan. Please update information and signage for new MEJ space.

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

## 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) No Deficiency

The IACUC has instituted new guidelines in for post-operative monitoring at the cage side level. Use of the new pink Post-Procedure Monitoring and Analgesia Card has been implemented and is required for all cages receiving analgesia and/or post-operative monitoring. The cards are available in the DCM facilities. This does not take the place of post-operative monitoring records that should be readily available to the IACUC during laboratory inspections.

<https://research.unc.edu/files/2017/02/Informational-Memo-March-2017.pdf>

<https://research.unc.edu/files/2017/02/Post-Procedure-Monitoring-card-FINAL-2017.pdf>

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

## 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) No Deficiency

Inspectors reminded the LAC and survival surgeon that expired pharmaceuticals may not be used for anesthesia, analgesia, euthanasia, or acute intervention. Additionally, medical materials (e.g., suture, saline) used during survival procedures may not be expired. All pharmaceuticals used for anesthesia, analgesia, euthanasia, or acute intervention in animals must be discarded after the expiration date or labeled, "Expired-do not Use" or "For Acute Use Only" to avoid accidental use in animals.

Because the laboratory performs both survival and non-survival procedures in the same lab space, inspectors recommend that supplies are separated and labeled to ensure that expired materials are not used for survival procedures.

Regardless of the type of procedure, survival or non-survival, expired anesthetics, analgesics, and euthanasia agents may never be used.

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A



|   |               |
|---|---------------|
| Proper Controlled Substance Storage and Records; double lock  | Acceptable    |
| Laboratories are required to document all anesthetics, analgesics, and euthanasia agents administered to research animals according to the approved application. Logs documenting use should be available to IACUC personnel as part of the inspection. A running balance for controlled substances must be maintained, per DEA policy.   |               |
| Inspectors advised the LAC that anytime a drug is discarded, lost, or a bottle balance reaches zero, two signatures or initials should be provided. Please see page 8 of the following document for more detailed information regarding disposal of or 'zeroing' balances for controlled substances:<br><a href="http://research.unc.edu/files/2013/03/CCM3_039065.pdf">http://research.unc.edu/files/2013/03/CCM3_039065.pdf</a> |               |
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention  | Acceptable    |
| <b>6. PHYSICAL PLANT</b>  |               |
| Impervious surfaces   | Acceptable    |
| General cleanliness   | Acceptable    |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning   | N/A           |
| <b>7. SURGICAL PROCEDURES: General Considerations</b>   |               |
| Location minimizes traffic/contamination (survival surgery)   | Acceptable    |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide   | Acceptable    |
| Interior surfaces smooth and impervious to moisture   | Acceptable    |
| Fixed equipment is sanitizable  | Acceptable    |
| <b>8. SURGICAL PROCEDURES: Anesthesia</b>   |               |
| Adequate records of anesthesia and preoperative care  | Acceptable    |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)  | No Deficiency |
| Please ensure that all documentation for anesthetized animals (undergoing a painful procedure) indicates that the animal reached a surgical plane of anesthesia prior to the start of the procedure (i.e. lack of toe pinch reflex). This was inconsistent among records reviewed during the inspection.  |               |
| Procedures for administering and monitoring analgesia (survival surgery)  | Acceptable    |
| Proper anesthetics, doses, routes of anesthesia (records maintained)  | Acceptable    |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>  |               |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure   | Acceptable    |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible)  | N/A           |
| Use of effective aseptic procedures for survival surgery  | N/A           |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)  | N/A           |
| Use of sterile gloves and drapes  | N/A           |
| Preparation of sterile incision site and surrounding area   | N/A           |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue  | N/A           |
| Proper recovery monitoring  | N/A           |
| Records of postoperative care including analgesia agents (all species)  | N/A           |
| <b>10. SATELLITE FACILITIES</b>   |               |
| Daily feed/water/observation-records maintained   | N/A           |
| Animal identification posted (PI, ACAP ID #, species, source)   | N/A           |
| Changes in environment since last inspection (noise, illumination, vibration, etc)  | N/A           |
| Disaster plan in place, annual review, updates since last provided to OACU  | N/A           |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply   | N/A           |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)   | N/A           |
| HVAC adequate and non-recirculating (suggest monitoring annually)   | N/A           |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?   | N/A           |
| Pest control (frequency, effectiveness)   | N/A           |
| Sanitation schedule (daily/weekly/monthly/annually) maintained  | N/A           |
| Veterinary contact info visibly posted  | N/A           |
| <b>11. AQUATIC FACILITIES</b>   |               |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing   | N/A           |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering  | N/A           |
| Temperature/humidity values recorded  | N/A           |
| Equipment properly sanitized, separation based on health status   | N/A           |
| Tank allows for undisturbed observation, enrichment present   | N/A           |
| Personnel trained in H2O quality, animal health monitoring  | N/A           |
| How is MS222 prepared for use?  | N/A           |



|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 05/21/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 10808        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

## 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page:

<https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place No Deficiency

The eyewash must be checked and flushed monthly. The laboratory is responsible for maintaining documentation for these monthly checks.

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) No Deficiency

Inspectors discussed the use of transparent, non-PVC containing bags to store carcasses for disposal. These bags can be obtained through DCM, and should be used when disposing of carcasses as all carcasses leave campus for incineration. Please see policy at the following URL:

<http://research.unc.edu/files/2012/11/Disposal-of-Rodents-Carcasses-Policy.pdf>

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.: radiation, biohazard, chemicals, ABSL) No Deficiency

An editable PDF can be found on the "Room Use" page of the lab's online EH&S lab safety plan. Please update information and signage for new MEJ space.

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

## 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) N/A

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

## 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock N/A

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

## 6 PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

## 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable

## 8 SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care Acceptable

Proper monitoring for depth of surgical anesthesia (toe pinch documented?) Acceptable



|  |            |
|--|------------|
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | Acceptable |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
| Use of effective aseptic procedures for survival surgery   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A        |
| Use of sterile gloves and drapes   | Acceptable |
| Preparation of sterile incision site and surrounding area  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A        |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)   | N/A        |
| <b>10. SATELLITE FACILITIES</b>  |            |
| Daily feed/water/observation-records maintained  | N/A        |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A        |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A        |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A        |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A        |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A        |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A        |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A        |
| Pest control (frequency, effectiveness)  | N/A        |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A        |
| Veterinary contact info visibly posted   | N/A        |
| <b>11. AQUATIC FACILITIES</b>  |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A        |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A        |
| Temperature/humidity values recorded   | N/A        |
| Equipment properly sanitized, separation based on health status  | N/A        |
| Tank allows for undisturbed observation, enrichment present  | N/A        |
| Personnel trained in H2O quality, animal health monitoring   | N/A        |
| How is MS222 prepared for use?   | N/A        |





PI:  
 PI PID  
 Inspection ID 11900  
 Inspection Type Semiannual  
 Lab Coordinators

Inspection Date: 08/21/2019  
 Inspectors

Deficiency Count: 0

Inspection Comments: 4

# 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable

Inspectors spoke with , the Laboratory Animal Coordinator (LAC) and Alicia Tagliateia, a lab member, during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

Inspectors learned that the only animal procedures conducted in your lab space (outside of DCM space) are tumor inductions. This alleviates the requirement for a semiannual inspection of your lab space so we are changing you over to an Informational Inspection schedule instead. This informational inspection fulfills the institutional goal that we visit each lab performing any animal work at least every two years. If you should need any assistance from the IACUC or Office of Animal Care and Use between inspections, please don't hesitate to contact us or check our website for information (<http://research.unc.edu/offices/iacuc/index.htm>). If the lab begins performing surgeries or other more invasive procedures within the lab space, we must be contacted so that we can visit the space semiannually.

# 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

# 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL) No Deficiency

Isoflurane is used with a vaporizer outfitted with a charcoal canister for scavenging. Isoflurane is considered a chemical hazard. However, inspectors did not observe a laboratory entrance sign denoting hazards. Signs should be visible at the entrance to all laboratories to notify individuals of potential hazards. Please obtain and display a laboratory entrance sign denoting the use of chemical hazards (isoflurane) used in this laboratory space. Signage can be downloaded from the EHS website at <https://ehs.unc.edu/lab/signs/>

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use N/A

# 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) Acceptable

# 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock N/A

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention N/A

# 6 PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning N/A

Obtained by Rise for Animals. Uploaded 07/05/2020



## 7. SURGICAL PROCEDURES: General Considerations

|   |     |
|---|-----|
| Location minimizes traffic/contamination (survival surgery)   | N/A |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
| Interior surfaces smooth and impervious to moisture   | N/A |
| Fixed equipment is sanitizable  | N/A |

## 8. SURGICAL PROCEDURES: Anesthesia

|  |            |
|--|------------|
| Adequate records of anesthesia and preoperative care<br>Inspectors were informed that surgeries are not performed and that the isoflurane is used solely to restrain animals. If surgeries will be performed in the future, it is necessary to document that the animal reached a surgical plane of anesthesia prior to the start of the procedure (i.e. lack of toe pinch reflex). A sample template is provided here:<br><br><a href="https://research.unc.edu/files/2012/11/Isoflurane-Vaporizer-Monitoring-Log-Template.pdf">https://research.unc.edu/files/2012/11/Isoflurane-Vaporizer-Monitoring-Log-Template.pdf</a> | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)   | N/A        |
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable |

## 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|  |     |
|--|-----|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |

## 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                   | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visibly posted  | N/A |

## 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 04/18/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 11937        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |

## 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|  |            |
|--|------------|
| Summary Conducted  | Acceptable |
| Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years. |            |

## 2. DOCUMENTATIONS and POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area   | Acceptable |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted   | Acceptable |
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA   | Acceptable |
| The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <a href="https://research.unc.edu/iacuc/">https://research.unc.edu/iacuc/</a> |            |

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page:  
<https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

|   |            |
|---|------------|
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research | Acceptable |
|---|------------|

## 3. HEALTH AND SAFETY

|   |            |
|---|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place                                | Acceptable |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight                       | Acceptable |
| Proper sharps disposal, hazardous waste disposal  | Acceptable |
| Current copy of Needle Safety in Animal Studies posted  | Acceptable |
| Proper carcass disposal (especially hazard contaminated)  | Acceptable |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL)            | Acceptable |
| Cage side chemical hazard identification training   | N/A        |
| Review of chemical hazard forms by laboratory personnel before initial use                            | Acceptable |

## 4. ANIMAL CARE

|  |            |
|--|------------|
| Report animal health issues to Division of Comparative Medicine          | Acceptable |
| Clinical records for individual animals (covered species)                | N/A        |
| Analgesia/anesthesia use as described in approved ACAP                   | Acceptable |
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
| Means to track animal usage/Euthanasia log                               | Acceptable |
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc)              | Acceptable |
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP)                  | N/A        |

## 5. AGENTS ADMINISTERED

|   |               |
|---|---------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | No Deficiency |
| Please ensure secondary containers for Betadine are labeled with the expiration date from the stock container.                  |               |
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)                                | Acceptable    |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?           | Acceptable    |
| Proper Controlled Substance Storage and Records; double lock  | Acceptable    |
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention            | Acceptable    |

## 6. PHYSICAL PLANT

|   |            |
|---|------------|
| Impervious surfaces   | Acceptable |
| General cleanliness   | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | Acceptable |

## 7. SURGICAL PROCEDURES: General Considerations

|   |            |
|---|------------|
| Location minimizes traffic/contamination (survival surgery)   | Acceptable |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | Acceptable |
| Interior surfaces smooth and impervious to moisture   | Acceptable |
| Fixed equipment is sanitizable  | Acceptable |

## 8. SURGICAL PROCEDURES: Anesthesia

|  |            |
|--|------------|
| Adequate records of anesthesia and preoperative care                       | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |



|  |            |
|--|------------|
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | Acceptable |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
| Use of effective aseptic procedures for survival surgery   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A        |
| Use of sterile gloves and drapes   | N/A        |
| Preparation of sterile incision site and surrounding area  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)   | Acceptable |
| <b>10. SATELLITE FACILITIES</b>  |            |
| Daily feed/water/observation-records maintained  | N/A        |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A        |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A        |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A        |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A        |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A        |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A        |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A        |
| Pest control (frequency, effectiveness)  | N/A        |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A        |
| Veterinary contact info visibly posted   | N/A        |
| <b>11. AQUATIC FACILITIES</b>  |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A        |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A        |
| Temperature/humidity values recorded   | N/A        |
| Equipment properly sanitized, separation based on health status  | N/A        |
| Tank allows for undisturbed observation, enrichment present  | N/A        |
| Personnel trained in H2O quality, animal health monitoring   | N/A        |
| How is MS222 prepared for use?   | N/A        |



|                  |            |                             |
|------------------|------------|-----------------------------|
| PI:              |            | Inspection Date: 04/03/2019 |
| PI PID           |            | Inspectors                  |
| Inspection ID    | 11949      | IACUC Vet                   |
| Inspection Type  | Semiannual | IACUC                       |
| Lab Coordinators |            |                             |

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|  |            |
|--|------------|
| Summary Conducted  | Acceptable |
| Inspectors spoke with the PI during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.     |            |
| Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Yellow check marks indicate the person is due for recertification. |            |

## 2 DOCUMENTATIONS and POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area   | Acceptable |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted   | Acceptable |
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA   | Acceptable |
| The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <a href="https://research.unc.edu/iacuc/">https://research.unc.edu/iacuc/</a>       |            |
| All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <a href="https://research.unc.edu/iacuc/policies-procedures/">https://research.unc.edu/iacuc/policies-procedures/</a>  |            |
| Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab. |            |
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research   | Acceptable |

## 3 HEALTH AND SAFETY

|   |            |
|---|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place                                | N/A        |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight                       | N/A        |
| Proper sharps disposal, hazardous waste disposal  | N/A        |
| Current copy of Needle Safety in Animal Studies posted  | N/A        |
| Proper carcass disposal (especially hazard contaminated)  | Acceptable |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
| Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL)            | N/A        |
| Cage side chemical hazard identification training   | Acceptable |
| Review of chemical hazard forms by laboratory personnel before initial use                            | Acceptable |

## 4 ANIMAL CARE

|  |            |
|--|------------|
| Report animal health issues to Division of Comparative Medicine          | Acceptable |
| Clinical records for individual animals (covered species)                | Acceptable |
| Analgesia/anesthesia use as described in approved ACAP                   | Acceptable |
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
| Means to track animal usage/Euthanasia log                               | Acceptable |
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc)              | Acceptable |
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP)                  | N/A        |

## 5 AGENTS ADMINISTERED

|   |            |
|---|------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)                                | Acceptable |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?           | Acceptable |
| Proper Controlled Substance Storage and Records; double lock  | Acceptable |
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention            | Acceptable |

## 6 PHYSICAL PLANT

|   |            |
|---|------------|
| Impervious surfaces   | Acceptable |
| General cleanliness   | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | Acceptable |

## 7 SURGICAL PROCEDURES: General Considerations

|   |     |
|---|-----|
| Location minimizes traffic/contamination (survival surgery)   | N/A |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
| Interior surfaces smooth and impervious to moisture   | N/A |
| Fixed equipment is sanitizable  | N/A |

## 8 SURGICAL PROCEDURES: Anesthesia

|  |     |
|--|-----|
| Adequate records of anesthesia and preoperative care                       | N/A |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |
| Proper anesthetics, doses, routes of anesthesia (records maintained)       | N/A |





#### 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|  |     |
|--|-----|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |

#### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?                    | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visably posted  | N/A |

#### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



|  |   |
|--|---|
| <b>PI:</b><br>PI PID<br><b>Inspection ID</b> 11951<br><b>Inspection Type</b> Semiannual<br><b>Lab Coordinators</b> | <b>Inspection Date:</b> 04/11/2019<br><b>Inspectors</b> |
|--|---|

# 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|                   |            |
|-------------------|------------|
| Summary Conducted | Acceptable |
|-------------------|------------|

All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

# 2 DOCUMENTATIONS and POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted | Acceptable |
|---|------------|

|   |            |
|---|------------|
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA | Acceptable |
|---|------------|

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

|   |            |
|---|------------|
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research | Acceptable |
|---|------------|

# 3 HEALTH AND SAFETY

|  |            |
|--|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place | Acceptable |
|--|------------|

|   |            |
|---|------------|
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Proper sharps disposal, hazardous waste disposal | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Current copy of Needle Safety in Animal Studies posted | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Proper carcass disposal (especially hazard contaminated) | Acceptable |
|--|------------|

|   |            |
|---|------------|
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) | Acceptable |
|--|------------|

|   |            |
|---|------------|
| Cage side chemical hazard identification training | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Review of chemical hazard forms by laboratory personnel before initial use | Acceptable |
|--|------------|

# 4 ANIMAL CARE

|   |            |
|---|------------|
| Report animal health issues to Division of Comparative Medicine | Acceptable |
|---|------------|

|   |     |
|---|-----|
| Clinical records for individual animals (covered species) | N/A |
|---|-----|

|  |            |
|--|------------|
| Analgesia/anesthesia use as described in approved ACAP | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Means to track animal usage/Euthanasia log | Acceptable |
|--|------------|

|   |     |
|---|-----|
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc) | N/A |
|---|-----|

|   |            |
|---|------------|
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP) | Acceptable |
|---|------------|

# 5 AGENTS ADMINISTERED

|   |            |
|---|------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) | Acceptable |
|--|------------|

|   |     |
|---|-----|
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? | N/A |
|---|-----|

|  |     |
|--|-----|
| Proper Controlled Substance Storage and Records; double lock | N/A |
|--|-----|

|  |            |
|--|------------|
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention | Acceptable |
|--|------------|

# 6 PHYSICAL PLANT

|                     |            |
|---------------------|------------|
| Impervious surfaces | Acceptable |
|---------------------|------------|

|                     |            |
|---------------------|------------|
| General cleanliness | Acceptable |
|---------------------|------------|

|   |            |
|---|------------|
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | Acceptable |
|---|------------|

# 7 SURGICAL PROCEDURES: General Considerations

|   |     |
|---|-----|
| Location minimizes traffic/contamination (survival surgery) | N/A |
|---|-----|

|   |     |
|---|-----|
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
|---|-----|

|   |     |
|---|-----|
| Interior surfaces smooth and impervious to moisture | N/A |
|---|-----|

|                                |     |
|--------------------------------|-----|
| Fixed equipment is sanitizable | N/A |
|--------------------------------|-----|

# 8 SURGICAL PROCEDURES: Anesthesia

|  |     |
|--|-----|
| Adequate records of anesthesia and preoperative care | N/A |
|--|-----|

|  |     |
|--|-----|
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | N/A |
|--|-----|

|  |     |
|--|-----|
| Procedures for administering and monitoring analgesia (survival surgery) | N/A |
|--|-----|



|  |     |
|--|-----|
| Proper anesthetics, doses, routes of anesthesia (records maintained) | N/A |
|--|-----|

#### 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|  |     |
|--|-----|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |

#### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                   | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visibly posted  | N/A |

#### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |





|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 04/11/2019 |
| PI PID                            | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 11953        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |

## 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable  
 Inspectors spoke with \_\_\_\_\_, a member of the lab, during the inspection.

The IACUC and the Office of Animal Care and Use expect that all comments and deficiencies, as well as pertinent items discussed during the inspection, will be shared with all animal handlers in the laboratory. Please ensure that all members of the laboratory involved with animal care or use are apprised of all issues, updated policies & procedures, upcoming events, etc. We thank you for your time.

## 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page:  
<https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

## 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

## 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock Acceptable

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention No Deficiency  
 Laboratories are required to document all anesthetics, analgesics, and euthanasia agents administered to research animals according to the approved application. Please ensure that each administration of post-operative analgesia associated with the protocol is documented.

## 6. PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

## 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable

## 8. SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care Acceptable

Proper monitoring for depth of surgical anesthesia (toe pinch documented?) Acceptable

Procedures for administering and monitoring analgesia (survival surgery) Acceptable

Proper anesthetics, doses, routes of anesthesia (records maintained) Acceptable



### 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|  |            |
|--|------------|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | Acceptable |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
| Use of effective aseptic procedures for survival surgery   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | Acceptable |
| Use of sterile gloves and drapes   | N/A        |
| Preparation of sterile incision site and surrounding area  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)   | Acceptable |

### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?                    | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visably posted  | N/A |

### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



PI:  
PI PID  
Inspection ID 11954  
Inspection Type Semiannual  
Lab Coordinators

Inspection Date: 04/10/2019  
Inspectors

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable

Inspectors spoke with the PI and the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Yellow check marks indicate the person is due for recertification.

## 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place No Deficiency  
Please ensure that you add monthly documentation for eyewash flush for the new MEJ spaces.

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) No Deficiency  
An editable PDF can be found on the "Room Use" page of the lab's online EH&S lab safety plan. Please update information and signage for new MEJ space.

Cage side chemical hazard identification training Acceptable

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

## 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

## 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock N/A

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention No Deficiency  
inspectors suggested adding SID or BID to templates to more easily distinguish between requirements/approvals for each type of drug regimen used in the lab.

## 6. PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

## 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Interior surfaces smooth and impervious to moisture Acceptable



|  |            |
|--|------------|
| Fixed equipment is sanitizable   | Acceptable |
| <b>8. SURGICAL PROCEDURES: Anesthesia</b>  |            |
| Adequate records of anesthesia and preoperative care   | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                                       | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | Acceptable |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
| Use of effective aseptic procedures for survival surgery   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A        |
| Use of sterile gloves and drapes   | Acceptable |
| Preparation of sterile incision site and surrounding area  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)   | Acceptable |
| <b>10. SATELLITE FACILITIES</b>  |            |
| Daily feed/water/observation-records maintained  | N/A        |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A        |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A        |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A        |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A        |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A        |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A        |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A        |
| Pest control (frequency, effectiveness)  | N/A        |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A        |
| Veterinary contact info visibly posted   | N/A        |
| <b>11. AQUATIC FACILITIES</b>  |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A        |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A        |
| Temperature/humidity values recorded   | N/A        |
| Equipment properly sanitized, separation based on health status  | N/A        |
| Tank allows for undisturbed observation, enrichment present  | N/A        |
| Personnel trained in H2O quality, animal health monitoring   | N/A        |
| How is MS222 prepared for use?   | N/A        |



|  |   |
|--|---|
| <b>PI:</b><br>PI PID<br><b>Inspection ID</b> 11960<br><b>Inspection Type</b> Semiannual<br><b>Lab Coordinators</b> | <b>Inspection Date:</b> 04/15/2019<br><b>Inspectors</b> |
|--|---|

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|  |            |
|--|------------|
| <b>Summary Conducted</b><br>Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years. | Acceptable |
|--|------------|

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

## 2 DOCUMENTATIONS and POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted | Acceptable |
|---|------------|

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

|   |            |
|---|------------|
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research | Acceptable |
|---|------------|

## 3 HEALTH AND SAFETY

|  |            |
|--|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place | Acceptable |
|--|------------|

|   |            |
|---|------------|
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Proper sharps disposal, hazardous waste disposal | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Current copy of Needle Safety in Animal Studies posted | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Proper carcass disposal (especially hazard contaminated) | Acceptable |
|--|------------|

|   |            |
|---|------------|
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL) | Acceptable |
|--|------------|

|   |     |
|---|-----|
| Cage side chemical hazard identification training | N/A |
|---|-----|

|  |            |
|--|------------|
| Review of chemical hazard forms by laboratory personnel before initial use | Acceptable |
|--|------------|

## 4. ANIMAL CARE

|   |            |
|---|------------|
| Report animal health issues to Division of Comparative Medicine | Acceptable |
|---|------------|

|   |     |
|---|-----|
| Clinical records for individual animals (covered species) | N/A |
|---|-----|

|  |            |
|--|------------|
| Analgesia/anesthesia use as described in approved ACAP | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Means to track animal usage/Euthanasia log | Acceptable |
|--|------------|

|   |            |
|---|------------|
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc) | Acceptable |
|---|------------|

|   |     |
|---|-----|
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP) | N/A |
|---|-----|

## 5 AGENTS ADMINISTERED

|   |            |
|---|------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) | Acceptable |
|--|------------|

|   |            |
|---|------------|
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? | Acceptable |
|---|------------|

|  |     |
|--|-----|
| Proper Controlled Substance Storage and Records; double lock | N/A |
|--|-----|

|  |            |
|--|------------|
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention | Acceptable |
|--|------------|

## 6 PHYSICAL PLANT

|                     |            |
|---------------------|------------|
| Impervious surfaces | Acceptable |
|---------------------|------------|

|                     |            |
|---------------------|------------|
| General cleanliness | Acceptable |
|---------------------|------------|

|   |            |
|---|------------|
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | Acceptable |
|---|------------|

## 7 SURGICAL PROCEDURES: General Considerations

|   |            |
|---|------------|
| Location minimizes traffic/contamination (survival surgery) | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Interior surfaces smooth and impervious to moisture | Acceptable |
|---|------------|

|                                |            |
|--------------------------------|------------|
| Fixed equipment is sanitizable | Acceptable |
|--------------------------------|------------|

## 8 SURGICAL PROCEDURES: Anesthesia

|  |            |
|--|------------|
| Adequate records of anesthesia and preoperative care | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Procedures for administering and monitoring analgesia (survival surgery) | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Proper anesthetics, doses, routes of anesthesia (records maintained) | Acceptable |
|--|------------|

Obtained by Rise for Animals. Uploaded 07/05/2020





## 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|   |               |
|---|---------------|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure   | Acceptable    |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible)<br>Inspectors discussed with the LAC, that instruments used in survival surgeries should initially be sterilized via autoclaving. A hot bead sterilizer should be used to sterilize instrument tips between animals not as the main source of sterilization. | No Deficiency |
| <a href="https://research.unc.edu/files/2012/11/Guidelines-for-Aseptic-Technique-for-Rodent-Survival-Surgeries.pdf">https://research.unc.edu/files/2012/11/Guidelines-for-Aseptic-Technique-for-Rodent-Survival-Surgeries.pdf</a>   |               |
| Use of effective aseptic procedures for survival surgery  | Acceptable    |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)  | Acceptable    |
| Use of sterile gloves and drapes  | N/A           |
| Preparation of sterile incision site and surrounding area   | Acceptable    |
| Sterile Sutures, Wound Clips, Staples and/or Skin Glue  | Acceptable    |
| Proper recovery monitoring  | Acceptable    |
| Records of postoperative care including analgesia agents (all species)  | Acceptable    |

## 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                   | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visibly posted  | N/A |

## 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



PI: Ralph S Baric

Inspection Date: 04/16/2019

PI PID

Inspectors

Inspection ID

Inspection Type Semiannual

Lab Coordinators

**1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY**

Summary Conducted Acceptable  
 The inspector was escorted inside the BSL3 spaces by for this inspection. The next inspection, in 3 months, will be records  
 review, in Amy's office and lab space. October inspection will again be hot side BSL3.

**2. DOCUMENTATIONS and POSTINGS**

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

**3. HEALTH AND SAFETY**

Gas cylinders immobilized; Eyewash check documented/dust caps in place N/A

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training Acceptable

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

**4. ANIMAL CARE**

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) Acceptable

**5. AGENTS ADMINISTERED**

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock N/A

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

**6. PHYSICAL PLANT**

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning N/A

**7. SURGICAL PROCEDURES: General Considerations**

Location minimizes traffic/contamination (survival surgery) N/A

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide N/A

Interior surfaces smooth and impervious to moisture N/A

Fixed equipment is sanitizable N/A

**8. SURGICAL PROCEDURES: Anesthesia**

Adequate records of anesthesia and preoperative care N/A

Proper monitoring for depth of surgical anesthesia (toe pinch documented?) N/A

Procedures for administering and monitoring analgesia (survival surgery) N/A

Proper anesthetics, doses, routes of anesthesia (records maintained) N/A

**9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures**

Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure N/A

Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) N/A

Obtained by Rise for Animals. Uploaded 07/05/2020



|  |     |
|--|-----|
| Use of effective aseptic procedures for survival surgery                                   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time) | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area                                  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue                                     | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)                     | N/A |

#### 10. SATELLITE FACILITIES

|   |            |
|---|------------|
| Daily feed/water/observation-records maintained   | Acceptable |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | Acceptable |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | Acceptable |
| Disaster plan in place, annual review, updates since last provided to OACU                      | Acceptable |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | Acceptable |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | Acceptable |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | Acceptable |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                   | Acceptable |
| Pest control (frequency, effectiveness)   | Acceptable |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | Acceptable |
| Veterinary contact info visibly posted  | Acceptable |

#### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |





**PI:** \_\_\_\_\_ **Inspection Date:** 04/26/2019  
**PI PID** \_\_\_\_\_ **Inspectors** \_\_\_\_\_  
**Inspection ID** 11965  
**Inspection Type** Semiannual  
**Lab Coordinators** \_\_\_\_\_

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** \_\_\_\_\_ **N/A**  
 Inspectors spoke with \_\_\_\_\_, the Laboratory Animal Coordinators (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

The IACUC and the Office of Animal Care and Use expect that all comments and deficiencies, as well as pertinent items discussed during the inspection, will be shared with all animal handlers in the laboratory. Please ensure that all members of the laboratory involved with animal care or use are apprised of all issues, updated policies & procedures, upcoming events, etc. We thank you for your time.

## 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area **Acceptable**

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted **Acceptable**

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA **Acceptable**

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research **Acceptable**

## 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place **Acceptable**

Procedures for using/scavenging volatile anesthetics; check for Fair can weight **Acceptable**

Proper sharps disposal, hazardous waste disposal **Acceptable**

New Chemical Waste Labeling: Just a reminder that on March 1st, 2018 UNC EHS instituted new labeling requirements for lab chemical waste as part of updated EPA regulations ("Subpart K"). All labs should be using the new chemical waste ("Unwanted Material") labels. The updated labels may be printed using a template from the EHS website (2x3 or 4x4). For more information about the changes, the Laboratory Waste Management Plan (Chapter 12 of the Laboratory Safety Manual) is the EHS guidance document for EPA compliance and Subpart K. If you have any questions about the new labeling requirements please contact EHS.

Current copy of Needle Safety in Animal Studies posted **Acceptable**

Proper carcass disposal (especially hazard contaminated) **Acceptable**

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 **Acceptable**

Warning signs visible upon laboratory entry (i.e.; radiation, biohazard, chemicals, ABSL) **Acceptable**

Cage side chemical hazard identification training **N/A**

Review of chemical hazard forms by laboratory personnel before initial use **Acceptable**

## 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine **Acceptable**

Clinical records for individual animals (covered species) **N/A**

Analgesia/anesthesia use as described in approved ACAP **Acceptable**

Euthanasia performed as described in approved ACAP; tools sharp/adequate **Acceptable**

Means to track animal usage/Euthanasia log **Acceptable**

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) **Acceptable**

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) **N/A**

## 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) **Acceptable**

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) **Acceptable**

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? **N/A**

Proper Controlled Substance Storage and Records; double lock **Acceptable**

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention **Acceptable**

## 6 PHYSICAL PLANT

Impervious surfaces **Acceptable**

General cleanliness **Acceptable**

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning **Acceptable**

## 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) **Acceptable**

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide **Acceptable**



|  |            |
|--|------------|
| Interior surfaces smooth and impervious to moisture  | Acceptable |
| Fixed equipment is sanitizable   | Acceptable |
| <b>8. SURGICAL PROCEDURES: Anesthesia</b>  |            |
| Adequate records of anesthesia and preoperative care   | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                                       | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | Acceptable |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
| Use of effective aseptic procedures for survival surgery   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A        |
| Use of sterile gloves and drapes   | Acceptable |
| Preparation of sterile incision site and surrounding area  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)   | Acceptable |
| <b>10. SATELLITE FACILITIES</b>  |            |
| Daily feed/water/observation-records maintained  | N/A        |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A        |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A        |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A        |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A        |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A        |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A        |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A        |
| Pest control (frequency, effectiveness)  | N/A        |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A        |
| Veterinary contact info visibly posted   | N/A        |
| <b>11. AQUATIC FACILITIES</b>  |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A        |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A        |
| Temperature/humidity values recorded   | N/A        |
| Equipment properly sanitized, separation based on health status  | N/A        |
| Tank allows for undisturbed observation, enrichment present  | N/A        |
| Personnel trained in H2O quality, animal health monitoring   | N/A        |
| How is MS222 prepared for use?   | N/A        |



|  |   |
|--|---|
| <b>PI:</b><br>PI PID<br><b>Inspection ID</b> 11975<br><b>Inspection Type</b> Semiannual<br><b>Lab Coordinators</b> | <b>Inspection Date:</b> 04/04/2019<br><b>Inspectors</b><br>IACUC Vet<br>IACUC |
|--|---|

## 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|  |            |
|--|------------|
| Summary Conducted<br>Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DLAM orientation must be renewed every 3 years. | Acceptable |
|--|------------|

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Yellow check marks indicate the person is due for recertification.

## 2. DOCUMENTATIONS and POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted | Acceptable |
|---|------------|

|   |            |
|---|------------|
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA | Acceptable |
|---|------------|

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

|   |            |
|---|------------|
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research | Acceptable |
|---|------------|

## 3. HEALTH AND SAFETY

|  |            |
|--|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place | Acceptable |
|--|------------|

|   |            |
|---|------------|
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Proper sharps disposal, hazardous waste disposal | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Current copy of Needle Safety in Animal Studies posted | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Proper carcass disposal (especially hazard contaminated) | Acceptable |
|--|------------|

|   |            |
|---|------------|
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) | Acceptable |
|--|------------|

|   |     |
|---|-----|
| Cage side chemical hazard identification training | N/A |
|---|-----|

|  |            |
|--|------------|
| Review of chemical hazard forms by laboratory personnel before initial use | Acceptable |
|--|------------|

## 4. ANIMAL CARE

|   |            |
|---|------------|
| Report animal health issues to Division of Comparative Medicine | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Clinical records for individual animals (covered species) | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Analgesia/anesthesia use as described in approved ACAP | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Means to track animal usage/Euthanasia log | Acceptable |
|--|------------|

|   |            |
|---|------------|
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc) | Acceptable |
|---|------------|

|   |     |
|---|-----|
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP) | N/A |
|---|-----|

## 5. AGENTS ADMINISTERED

|   |            |
|---|------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) | Acceptable |
|--|------------|

|   |     |
|---|-----|
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? | N/A |
|---|-----|

|  |            |
|--|------------|
| Proper Controlled Substance Storage and Records; double lock | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention | Acceptable |
|--|------------|

## 6. PHYSICAL PLANT

|                     |            |
|---------------------|------------|
| Impervious surfaces | Acceptable |
|---------------------|------------|

|                     |            |
|---------------------|------------|
| General cleanliness | Acceptable |
|---------------------|------------|

|   |            |
|---|------------|
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | Acceptable |
|---|------------|

## 7. SURGICAL PROCEDURES: General Considerations

|   |            |
|---|------------|
| Location minimizes traffic/contamination (survival surgery) | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Interior surfaces smooth and impervious to moisture | Acceptable |
|---|------------|

|                                |            |
|--------------------------------|------------|
| Fixed equipment is sanitizable | Acceptable |
|--------------------------------|------------|

## 8. SURGICAL PROCEDURES: Anesthesia

|  |            |
|--|------------|
| Adequate records of anesthesia and preoperative care | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Procedures for administering and monitoring analgesia (survival surgery) | Acceptable |
|--|------------|

Obtained by Rise for Animals. Uploaded 07/05/2020



|  |            |
|--|------------|
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | Acceptable |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
| Use of effective aseptic procedures for survival surgery   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A        |
| Use of sterile gloves and drapes   | Acceptable |
| Preparation of sterile incision site and surrounding area  | Acceptable |
| Sterile Sutures, Wound Clips, Staples and/or Skin Glue   | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)   | Acceptable |

**10. SATELLITE FACILITIES**

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?                    | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visably posted  | N/A |

**11. AQUATIC FACILITIES**

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 05/08/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 11977        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |

## 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|   |            |
|---|------------|
| Summary Conducted   | Acceptable |
| Based on conversation with today, we learned that the only animal procedures conducted in your lab space (outside of DCM space) are non-survival tissue harvests after euthanasia. This procedure doesn't actually warrant a semiannual inspection of your lab space so we are changing you over to an Informational Inspection schedule instead. This informational inspection fulfills the institutional goal that we visit each lab performing any animal work at least every two years. If you should need any assistance from the IACUC or Office of Animal Care and Use between inspections, please don't hesitate to contact us or check our website for information ( <a href="http://research.unc.edu/offices/iacuc/index.htm">http://research.unc.edu/offices/iacuc/index.htm</a> ). If the lab begins performing surgeries or other more invasive procedures within the lab space, we must be contacted so that we can visit the space semiannually. |            |

## 2. DOCUMENTATIONS and POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area   | Acceptable |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted   | Acceptable |
| The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <a href="https://research.unc.edu/iacuc/">https://research.unc.edu/iacuc/</a> |            |
| All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <a href="https://research.unc.edu/iacuc/policies-procedures/">https://research.unc.edu/iacuc/policies-procedures/</a>  |            |

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

|   |            |
|---|------------|
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA | Acceptable |
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research                                     | Acceptable |

## 3. HEALTH AND SAFETY

|   |            |
|---|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place                                | Acceptable |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight                       | Acceptable |
| Proper sharps disposal, hazardous waste disposal  | Acceptable |
| Current copy of Needle Safety in Animal Studies posted  | Acceptable |
| Proper carcass disposal (especially hazard contaminated)  | Acceptable |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL)            | Acceptable |
| Cage side chemical hazard identification training   | N/A        |
| Review of chemical hazard forms by laboratory personnel before initial use                            | Acceptable |

## 4. ANIMAL CARE

|  |            |
|--|------------|
| Report animal health issues to Division of Comparative Medicine          | Acceptable |
| Clinical records for individual animals (covered species)                | N/A        |
| Analgesia/anesthesia use as described in approved ACAP                   | Acceptable |
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
| Means to track animal usage/Euthanasia log                               | Acceptable |
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc)              | Acceptable |
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP)                  | N/A        |

## 5. AGENTS ADMINISTERED

|  |               |
|--|---------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately)  | Acceptable    |
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)   | Acceptable    |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?  | N/A           |
| Proper Controlled Substance Storage and Records; double lock   | N/A           |
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention   | No Deficiency |
| Laboratories are required to document all anesthetics, analgesics, and euthanasia agents administered to research animals according to the approved application. Logs documenting use of isoflurane (including vaporizers utilized within a Core area) must be available to IACUC personnel. |               |

A suggested template can be found here:

<https://research.unc.edu/files/2012/11/Isoflurane-Vaporizer-Monitoring-Log-Template.pdf>

## 6. PHYSICAL PLANT

|   |            |
|---|------------|
| Impervious surfaces   | Acceptable |
| General cleanliness   | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | N/A        |

## 7. SURGICAL PROCEDURES: General Considerations

|   |     |
|---|-----|
| Location minimizes traffic/contamination (survival surgery)   | N/A |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
| Interior surfaces smooth and impervious to moisture   | N/A |
| Fixed equipment is sanitizable  | N/A |

## 8. SURGICAL PROCEDURES: Anesthesia

|  |     |
|--|-----|
| Adequate records of anesthesia and preoperative care | N/A |
|--|-----|





|  |     |
|--|-----|
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                                       | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | N/A |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |     |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |
| <b>10. SATELLITE FACILITIES</b>  |     |
| Daily feed/water/observation-records maintained  | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A |
| Pest control (frequency, effectiveness)  | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A |
| Veterinary contact info visibly posted   | N/A |
| <b>11. AQUATIC FACILITIES</b>  |     |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A |
| Temperature/humidity values recorded   | N/A |
| Equipment properly sanitized, separation based on health status  | N/A |
| Tank allows for undisturbed observation, enrichment present  | N/A |
| Personnel trained in H2O quality, animal health monitoring   | N/A |
| How is MS222 prepared for use?   | N/A |



**PI:** **Inspection Date:** 05/15/2019  
**PI PID** **Inspectors**  
**Inspection ID** 11993  
**Inspection Type** Semiannual  
**Lab Coordinators**

# 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable

The IACUC and the Office of Animal Care and Use expect that all comments and deficiencies, as well as pertinent items discussed during the inspection, will be shared with all animal handlers in the laboratory. Please ensure that all members of the laboratory involved with animal care or use are apprised of all issues, updated policies & procedures, upcoming events, etc. We thank you for your time.

## 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page:

<https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

## 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) Acceptable

## 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock Acceptable

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

## 6 PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

## 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable

## 8 SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care Acceptable

Proper monitoring for depth of surgical anesthesia (toe pinch documented?) Acceptable

Procedures for administering and monitoring analgesia (survival surgery) Acceptable

Laboratories are required to document all anesthetics, analgesics, and euthanasia agents administered to research animals according to the approved application. Logs documenting use of isoflurane vaporizer must be available to IACUC personnel.

Template can be found here:

<https://research.unc.edu/files/2012/11/Isoflurane-Vaporizer-Monitoring-Log-Template.pdf>

Obtained by Rise for Animals. Uploaded 07/05/2020



|  |            |
|--|------------|
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | Acceptable |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
| Use of effective aseptic procedures for survival surgery   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A        |
| Use of sterile gloves and drapes   | Acceptable |
| Preparation of sterile incision site and surrounding area  | Acceptable |
| Sterile Sutures, Wound Clips, Staples and/or Skin Glue   | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)   | Acceptable |
| <b>10. SATELLITE FACILITIES</b>  |            |
| Daily feed/water/observation-records maintained  | N/A        |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A        |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A        |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A        |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A        |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A        |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A        |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A        |
| Pest control (frequency, effectiveness)  | N/A        |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A        |
| Veterinary contact info visibly posted   | N/A        |
| <b>11. AQUATIC FACILITIES</b>  |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A        |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A        |
| Temperature/humidity values recorded   | N/A        |
| Equipment properly sanitized, separation based on health status  | N/A        |
| Tank allows for undisturbed observation, enrichment present  | N/A        |
| Personnel trained in H2O quality, animal health monitoring   | N/A        |
| How is MS222 prepared for use?   | N/A        |





|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 05/13/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 11994        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators:</b>          |                                    |

# 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|  |            |
|--|------------|
| <b>Summary Conducted</b><br>Based on conversation with _____, today, we learned that the only animal procedures conducted in your lab space (outside of DCM space) are non-survival tissue harvests after euthanasia. This procedure doesn't actually warrant a semiannual inspection of your lab space so we are changing you over to an Informational Inspection schedule instead. This informational inspection fulfills the institutional goal that we visit each lab performing any animal work at least every two years. If you should need any assistance from the IACUC or Office of Animal Care and Use between inspections, please don't hesitate to contact us or check our website for information ( <a href="http://research.unc.edu/offices/iacuc/index.htm">http://research.unc.edu/offices/iacuc/index.htm</a> ). If the lab begins performing surgeries or other more invasive procedures within the lab space, we must be contacted so that we can visit the space semiannually. | Acceptable |
|--|------------|

# 2. DOCUMENTATIONS and POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area   | Acceptable |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted   | Acceptable |
| The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <a href="https://research.unc.edu/iacuc/">https://research.unc.edu/iacuc/</a><br><br>All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <a href="https://research.unc.edu/iacuc/policies-procedures/">https://research.unc.edu/iacuc/policies-procedures/</a> |            |

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

|   |            |
|---|------------|
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research | Acceptable |
|---|------------|

# 3. HEALTH AND SAFETY

|   |            |
|---|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place                                | Acceptable |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight                       | N/A        |
| Proper sharps disposal, hazardous waste disposal  | Acceptable |
| Current copy of Needle Safety in Animal Studies posted  | Acceptable |
| Proper carcass disposal (especially hazard contaminated)  | Acceptable |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL)            | Acceptable |
| Cage side chemical hazard identification training   | N/A        |
| Review of chemical hazard forms by laboratory personnel before initial use                            | Acceptable |

# 4. ANIMAL CARE

|  |            |
|--|------------|
| Report animal health issues to Division of Comparative Medicine          | Acceptable |
| Clinical records for individual animals (covered species)                | N/A        |
| Analgesia/anesthesia use as described in approved ACAP                   | Acceptable |
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
| Means to track animal usage/Euthanasia log                               | Acceptable |
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc)              | Acceptable |
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP)                  | N/A        |

# 5. AGENTS ADMINISTERED

|   |            |
|---|------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)                                | Acceptable |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?           | N/A        |
| Proper Controlled Substance Storage and Records; double lock  | Acceptable |
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention            | Acceptable |

# 6. PHYSICAL PLANT

|   |            |
|---|------------|
| Impervious surfaces   | Acceptable |
| General cleanliness   | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | Acceptable |

# 7. SURGICAL PROCEDURES: General Considerations

|   |     |
|---|-----|
| Location minimizes traffic/contamination (survival surgery)   | N/A |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
| Interior surfaces smooth and impervious to moisture   | N/A |
| Fixed equipment is sanitizable  | N/A |

# 8. SURGICAL PROCEDURES: Anesthesia

|   |               |
|---|---------------|
| Adequate records of anesthesia and preoperative care  | N/A           |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)<br>The laboratory must maintain documentation for all anesthetized animals indicating that the animal reached a surgical plane of anesthesia prior to the start of the procedure (i.e. lack of toe pinch reflex). Please add this to your current documentation. | No Deficiency |
| Procedures for administering and monitoring analgesia (survival surgery)  | N/A           |



|  |     |
|--|-----|
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | N/A |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |     |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |
| <b>10. SATELLITE FACILITIES</b>  |     |
| Daily feed/water/observation-records maintained  | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A |
| Pest control (frequency, effectiveness)  | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A |
| Veterinary contact info visibly posted   | N/A |
| <b>11. AQUATIC FACILITIES</b>  |     |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A |
| Temperature/humidity values recorded   | N/A |
| Equipment properly sanitized, separation based on health status  | N/A |
| Tank allows for undisturbed observation, enrichment present  | N/A |
| Personnel trained in H2O quality, animal health monitoring   | N/A |
| How is MS222 prepared for use?   | N/A |



|  |   |
|--|---|
| <b>PI:</b><br>PI PID<br><b>Inspection ID</b> 11997<br><b>Inspection Type</b> Semiannual<br><b>Lab Coordinators</b> | <b>Inspection Date:</b> 05/21/2019<br><b>Inspectors</b> |
|--|---|

### 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|  |            |
|--|------------|
| <b>Summary Conducted</b><br>Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years. | Acceptable |
|--|------------|

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

### 2 DOCUMENTATIONS and POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted | Acceptable |
|---|------------|

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

|   |            |
|---|------------|
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research | Acceptable |
|---|------------|

### 3 HEALTH AND SAFETY

|  |            |
|--|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place | Acceptable |
|--|------------|

|   |            |
|---|------------|
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Proper sharps disposal, hazardous waste disposal | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Current copy of Needle Safety in Animal Studies posted | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Proper carcass disposal (especially hazard contaminated) | Acceptable |
|--|------------|

|   |            |
|---|------------|
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL) | Acceptable |
|--|------------|

|   |            |
|---|------------|
| Cage side chemical hazard identification training | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Review of chemical hazard forms by laboratory personnel before initial use | Acceptable |
|--|------------|

### 4. ANIMAL CARE

|   |            |
|---|------------|
| Report animal health issues to Division of Comparative Medicine | Acceptable |
|---|------------|

|   |     |
|---|-----|
| Clinical records for individual animals (covered species) | N/A |
|---|-----|

|  |            |
|--|------------|
| Analgesia/anesthesia use as described in approved ACAP | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Means to track animal usage/Euthanasia log | Acceptable |
|--|------------|

|   |            |
|---|------------|
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc) | Acceptable |
|---|------------|

|   |     |
|---|-----|
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP) | N/A |
|---|-----|

### 5 AGENTS ADMINISTERED

|   |            |
|---|------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) | Acceptable |
|--|------------|

|   |            |
|---|------------|
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Proper Controlled Substance Storage and Records; double lock | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention | Acceptable |
|--|------------|

### 6 PHYSICAL PLANT

|                     |            |
|---------------------|------------|
| Impervious surfaces | Acceptable |
|---------------------|------------|

|                     |            |
|---------------------|------------|
| General cleanliness | Acceptable |
|---------------------|------------|

|   |            |
|---|------------|
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | Acceptable |
|---|------------|

### 7 SURGICAL PROCEDURES: General Considerations

|   |            |
|---|------------|
| Location minimizes traffic/contamination (survival surgery) | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Interior surfaces smooth and impervious to moisture | Acceptable |
|---|------------|

|                                |            |
|--------------------------------|------------|
| Fixed equipment is sanitizable | Acceptable |
|--------------------------------|------------|

### 8 SURGICAL PROCEDURES: Anesthesia

|  |            |
|--|------------|
| Adequate records of anesthesia and preoperative care | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Procedures for administering and monitoring analgesia (survival surgery) | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Proper anesthetics, doses, routes of anesthesia (records maintained) | Acceptable |
|--|------------|

Obtained by Rise for Animals. Uploaded 07/05/2020

**9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures**

|  |            |
|--|------------|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | Acceptable |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
| Use of effective aseptic procedures for survival surgery   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A        |
| Use of sterile gloves and drapes   | Acceptable |
| Preparation of sterile incision site and surrounding area  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)   | Acceptable |

**10. SATELLITE FACILITIES**

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?                    | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visably posted  | N/A |

**11. AQUATIC FACILITIES**

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 05/21/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 11998        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |

### 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** Acceptable

Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

### 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

### 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training Acceptable

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

### 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

### 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? Acceptable

Proper Controlled Substance Storage and Records; double lock Acceptable

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

### 6 PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

### 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable

### 8 SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care Acceptable

Proper monitoring for depth of surgical anesthesia (toe pinch documented?) Acceptable

Procedures for administering and monitoring analgesia (survival surgery) Acceptable

Proper anesthetics, doses, routes of anesthesia (records maintained) Acceptable

Obtained by Rise for Animals. Uploaded 07/05/2020



**9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures**

|  |            |
|--|------------|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | Acceptable |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
| Use of effective aseptic procedures for survival surgery   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A        |
| Use of sterile gloves and drapes   | Acceptable |
| Preparation of sterile incision site and surrounding area  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)   | Acceptable |

**10. SATELLITE FACILITIES**

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?                    | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visably posted  | N/A |

**11. AQUATIC FACILITIES**

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 05/21/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12008        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |
| <b>Deficiency Count:</b> 0        | <b>Inspection Comments:</b> 1      |

**1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY**

|  |            |
|--|------------|
| Summary Conducted  | Acceptable |
| This inspection was combined with the Dayton inspection in May 2019, as LAC, spaces and logs are shared. |            |

**2 DOCUMENTATIONS and POSTINGS**

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area   | Acceptable |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted   | Acceptable |
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA | Acceptable |
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research                                     | Acceptable |

**3 HEALTH AND SAFETY**

|   |            |
|---|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place                                | Acceptable |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight                       | Acceptable |
| Proper sharps disposal, hazardous waste disposal  | Acceptable |
| Current copy of Needle Safety in Animal Studies posted  | Acceptable |
| Proper carcass disposal (especially hazard contaminated)  | Acceptable |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL)            | Acceptable |
| Cage side chemical hazard identification training   | Acceptable |
| Review of chemical hazard forms by laboratory personnel before initial use                            | Acceptable |

**4 ANIMAL CARE**

|  |            |
|--|------------|
| Report animal health issues to Division of Comparative Medicine          | Acceptable |
| Clinical records for individual animals (covered species)                | N/A        |
| Analgesia/anesthesia use as described in approved ACAP                   | Acceptable |
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
| Means to track animal usage/Euthanasia log                               | Acceptable |
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc)              | Acceptable |
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP)                  | N/A        |

**5 AGENTS ADMINISTERED**

|   |            |
|---|------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)                                | Acceptable |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?           | N/A        |
| Proper Controlled Substance Storage and Records; double lock  | N/A        |
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention            | Acceptable |

**6 PHYSICAL PLANT**

|   |            |
|---|------------|
| Impervious surfaces   | Acceptable |
| General cleanliness   | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | N/A        |

**7 SURGICAL PROCEDURES: General Considerations**

|   |     |
|---|-----|
| Location minimizes traffic/contamination (survival surgery)   | N/A |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
| Interior surfaces smooth and impervious to moisture   | N/A |
| Fixed equipment is sanitizable  | N/A |

**8 SURGICAL PROCEDURES: Anesthesia**

|  |     |
|--|-----|
| Adequate records of anesthesia and preoperative care                       | N/A |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |
| Proper anesthetics, doses, routes of anesthesia (records maintained)       | N/A |

**9 SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures**

|  |     |
|--|-----|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |



|  |     |
|--|-----|
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue                 | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species) | N/A |

#### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                   | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visibly posted  | N/A |

#### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |





**PI:**  
 PI PID  
**Inspection ID** 12010  
**Inspection Type** Semiannual  
**Lab Coordinators**

**Inspection Date:** 05/13/2019  
**Inspectors**

# 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted No Deficiency

# 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area No Deficiency

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted No Deficiency

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA No Deficiency

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research No Deficiency

# 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place No Deficiency

Procedures for using/scavenging volatile anesthetics; check for Fair can weight No Deficiency

Proper sharps disposal, hazardous waste disposal No Deficiency

Current copy of Needle Safety in Animal Studies posted No Deficiency

Proper carcass disposal (especially hazard contaminated) No Deficiency

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 No Deficiency

Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL) N/A

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use No Deficiency

# 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine No Deficiency

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP No Deficiency

Euthanasia performed as described in approved ACAP; tools sharp/adequate No Deficiency

Means to track animal usage/Euthanasia log No Deficiency

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) No Deficiency

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) No Deficiency

# 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) No Deficiency

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) No Deficiency

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock No Deficiency

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention No Deficiency

# 6. PHYSICAL PLANT

Impervious surfaces No Deficiency

General cleanliness No Deficiency

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning N/A

# 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) No Deficiency

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide No Deficiency

Interior surfaces smooth and impervious to moisture No Deficiency

Fixed equipment is sanitizable No Deficiency

# 8. SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care No Deficiency

Proper monitoring for depth of surgical anesthesia (toe pinch documented?) No Deficiency

Procedures for administering and monitoring analgesia (survival surgery) N/A

Proper anesthetics, doses, routes of anesthesia (records maintained) No Deficiency

# 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure N/A

Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) N/A

Use of effective aseptic procedures for survival surgery N/A

Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time) N/A

Use of sterile gloves and drapes N/A

Preparation of sterile incision site and surrounding area N/A



|  |     |
|--|-----|
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue                 | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species) | N/A |

#### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                   | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visibly posted  | N/A |

#### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



**PI:** \_\_\_\_\_ **Inspection Date:** 06/19/2019  
**PI PID** \_\_\_\_\_ **Inspectors** \_\_\_\_\_  
**Inspection ID** 12019  
**Inspection Type** Semiannual  
**Lab Coordinators** \_\_\_\_\_

**Deficiency Count:** 0

**Inspection Comments:** 3

# 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** \_\_\_\_\_ **Acceptable**  
 Inspectors spoke with \_\_\_\_\_ the Principal Investigator (PI), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

## 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area **Acceptable**

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted **Acceptable**

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA **Acceptable**

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research **Acceptable**

## 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place **No Deficiency**  
 The eyewash must be checked and flushed monthly. The laboratory is responsible for maintaining documentation for these monthly checks.

Procedures for using/scavenging volatile anesthetics; check for Fair can weight **Acceptable**

Proper sharps disposal, hazardous waste disposal **Acceptable**

Current copy of Needle Safety in Animal Studies posted **Acceptable**

Proper carcass disposal (especially hazard contaminated) **Acceptable**

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 **Acceptable**

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) **Acceptable**

Cage side chemical hazard identification training **Acceptable**

Review of chemical hazard forms by laboratory personnel before initial use **Acceptable**

## 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine **Acceptable**

Clinical records for individual animals (covered species) **N/A**

Analgesia/anesthesia use as described in approved ACAP **Acceptable**

Euthanasia performed as described in approved ACAP; tools sharp/adequate **Acceptable**

Means to track animal usage/Euthanasia log **Acceptable**

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) **Acceptable**

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) **N/A**

## 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) **Acceptable**

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) **Acceptable**

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? **N/A**

Proper Controlled Substance Storage and Records; double lock **Acceptable**

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention **Acceptable**

## 6 PHYSICAL PLANT

Impervious surfaces **Acceptable**

General cleanliness **Acceptable**

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning **N/A**

## 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) **Acceptable**

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide **Acceptable**

Interior surfaces smooth and impervious to moisture **Acceptable**

Fixed equipment is sanitizable **Acceptable**

## 8 SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care **Acceptable**

Proper monitoring for depth of surgical anesthesia (toe pinch documented?) **Acceptable**



|  |            |
|--|------------|
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | Acceptable |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
| Use of effective aseptic procedures for survival surgery   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A        |
| Use of sterile gloves and drapes   | N/A        |
| Preparation of sterile incision site and surrounding area  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)   | Acceptable |
| <b>10. SATELLITE FACILITIES</b>  |            |
| Daily feed/water/observation-records maintained  | N/A        |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A        |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A        |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A        |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A        |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A        |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A        |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A        |
| Pest control (frequency, effectiveness)  | N/A        |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A        |
| Veterinary contact info visibly posted   | N/A        |
| <b>11. AQUATIC FACILITIES</b>  |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A        |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A        |
| Temperature/humidity values recorded   | N/A        |
| Equipment properly sanitized, separation based on health status  | N/A        |
| Tank allows for undisturbed observation, enrichment present  | N/A        |
| Personnel trained in H2O quality, animal health monitoring   | N/A        |
| How is MS222 prepared for use?   | N/A        |



|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 06/27/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12024        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |
| <b>Deficiency Count:</b> 0        | <b>Inspection Comments:</b> 3      |

### 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable  
 Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

### 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

### 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training Acceptable

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

### 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) Acceptable

### 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock Acceptable

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

### 6 PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

### 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) No Deficiency  
 Please update the protocol with the new lab location immediately. You may do this easiest by emailing [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with a request to update the location. Please include room numbers and sections of the protocol to be updated, including section 3.2, and surgery sections, if applicable.

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable

### 8 SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care Acceptable

Proper monitoring for depth of surgical anesthesia (toe pinch documented?) Acceptable



|  |            |
|--|------------|
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | Acceptable |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
| Use of effective aseptic procedures for survival surgery   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A        |
| Use of sterile gloves and drapes   | Acceptable |
| Preparation of sterile incision site and surrounding area  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)   | Acceptable |
| <b>10. SATELLITE FACILITIES</b>  |            |
| Daily feed/water/observation-records maintained  | N/A        |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A        |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A        |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A        |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A        |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A        |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A        |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A        |
| Pest control (frequency, effectiveness)  | N/A        |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A        |
| Veterinary contact info visibly posted   | N/A        |
| <b>11. AQUATIC FACILITIES</b>  |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A        |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A        |
| Temperature/humidity values recorded   | N/A        |
| Equipment properly sanitized, separation based on health status  | N/A        |
| Tank allows for undisturbed observation, enrichment present  | N/A        |
| Personnel trained in H2O quality, animal health monitoring   | N/A        |
| How is MS222 prepared for use?   | N/A        |





**PI:**  
**PI PID**  
**Inspection ID** 12025  
**Inspection Type** Semiannual  
**Lab Coordinators**

**Inspection Date:** 06/21/2019  
**Inspectors**

**Deficiency Count:** 0

**Inspection Comments:** 1

# 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable  
 Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

# 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable  
 Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable  
 All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable  
 Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

# 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable  
 Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable  
 Proper sharps disposal, hazardous waste disposal Acceptable  
 Current copy of Needle Safety in Animal Studies posted Acceptable  
 Proper carcass disposal (especially hazard contaminated) Acceptable  
 Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable  
 Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable  
 Cage side chemical hazard identification training Acceptable  
 Review of chemical hazard forms by laboratory personnel before initial use Acceptable

# 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable  
 Clinical records for individual animals (covered species) N/A  
 Analgesia/anesthesia use as described in approved ACAP Acceptable  
 Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable  
 Means to track animal usage/Euthanasia log Acceptable  
 MONITORING DOCUMENTATION (weight, drugs, post op care, etc) N/A  
 Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

# 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable  
 Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable  
 Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A  
 Proper Controlled Substance Storage and Records; double lock Acceptable  
 Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

# 6. PHYSICAL PLANT

Impervious surfaces Acceptable  
 General cleanliness Acceptable  
 Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning N/A

# 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) N/A  
 Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide N/A  
 Interior surfaces smooth and impervious to moisture N/A  
 Fixed equipment is sanitizable N/A

# 8. SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care Acceptable  
 Proper monitoring for depth of surgical anesthesia (toe pinch documented?) Acceptable  
 Procedures for administering and monitoring analgesia (survival surgery) N/A  
 Proper anesthetics, doses, routes of anesthesia (records maintained) Acceptable

# 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure N/A  
 Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) N/A  
 Use of effective aseptic procedures for survival surgery N/A

Obtained by Rise for Animals. Uploaded 07/05/2020



|  |     |
|--|-----|
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time) | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area                                  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue                                     | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)                     | N/A |

#### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?                    | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visably posted  | N/A |

#### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |





**PI:** **Inspection Date:** 06/26/2019  
**PI PID** **Inspectors**  
**Inspection ID** 12026  
**Inspection Type** Semiannual  
**Lab Coordinators**

**Deficiency Count:** 0

**Inspection Comments:** 6

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable  
 Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

## 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

As discussed, the LAC may train and certify lab members in techniques for which she has a Proficiency rating of 1. Please reference the following link for instructions on certifying personnel: [http://research.unc.edu/files/2012/11/CCM1\\_030728.pdf](http://research.unc.edu/files/2012/11/CCM1_030728.pdf)

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place N/A

Procedures for using/scavenging volatile anesthetics; check for Fair can weight N/A

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL) N/A

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use N/A

## 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

## 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) No Deficiency

The PI is approved to use non-pharmaceutical grade pentobarbital. At the time of the inspection, the LAC indicated that Fatal Plus is now being used for the non-survival perfusion procedures. CLAW permits the use of Fatal Plus when it is used for euthanasia or for terminal procedures such as perfusion or exsanguination only. Please update your protocol to include this additional agent so that all agents used for non-survival (terminal) procedures are included in the protocol.

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock Acceptable

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

## 6. PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

A Morris water maze is used in the Kerr Hall facility and is inspected during the Kerr Hall inspection.

## 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable

Obtained by Rise for Animals. Uploaded 07/05/2020



|  |            |
|--|------------|
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide  | Acceptable |
| Interior surfaces smooth and impervious to moisture  | Acceptable |
| Fixed equipment is sanitizable   | Acceptable |
| <b>8. SURGICAL PROCEDURES: Anesthesia</b>  |            |
| Adequate records of anesthesia and preoperative care   | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)   | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)<br>The inspectors did not discuss the survival surgical procedures which are conducted in the Kerr Hall DCM procedural area.                                | N/A        |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure<br>The inspectors did not discuss the survival surgical procedures which are conducted in the Kerr Hall DCM procedural area. | N/A        |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible)   | N/A        |
| Use of effective aseptic procedures for survival surgery   | N/A        |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)   | N/A        |
| Use of sterile gloves and drapes   | N/A        |
| Preparation of sterile incision site and surrounding area  | N/A        |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A        |
| Proper recovery monitoring   | N/A        |
| Records of postoperative care including analgesia agents (all species)   | N/A        |
| <b>10. SATELLITE FACILITIES</b>  |            |
| Daily feed/water/observation-records maintained  | N/A        |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A        |
| Changes in environment since last inspection (noise, illumination, vibration, etc)   | N/A        |
| Disaster plan in place, annual review, updates since last provided to OACU   | N/A        |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply  | N/A        |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)  | N/A        |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A        |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?  | N/A        |
| Pest control (frequency, effectiveness)  | N/A        |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A        |
| Veterinary contact info visibly posted   | N/A        |
| <b>11. AQUATIC FACILITIES</b>  |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing  | N/A        |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A        |
| Temperature/humidity values recorded   | N/A        |
| Equipment properly sanitized, separation based on health status  | N/A        |
| Tank allows for undisturbed observation, enrichment present  | N/A        |
| Personnel trained in H2O quality, animal health monitoring   | N/A        |
| How is MS222 prepared for use?   | N/A        |



**PI:** **Inspection Date:** 06/04/2019  
**PI PID:** **Inspectors:**  
**Inspection ID:** 12027  
**Inspection Type:** Semiannual  
**Lab Coordinators:**

# 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable

## 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

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Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training Acceptable

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

## 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

## 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock Acceptable

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

## 6. PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

## 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable

## 8. SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care Acceptable

Proper monitoring for depth of surgical anesthesia (toe pinch documented?) No Deficiency

Please ensure that all documentation for anesthetized animals (undergoing a painful procedure) indicates that the animal reached a surgical plane of anesthesia prior to the start of the procedure (i.e. lack of toe pinch reflex).

Procedures for administering and monitoring analgesia (survival surgery) Acceptable

Proper anesthetics, doses, routes of anesthesia (records maintained) Acceptable

## 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure Acceptable

Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) Acceptable

Obtained by Rise for Animals. Uploaded 07/05/2020



|  |            |
|--|------------|
| Use of effective aseptic procedures for survival surgery                                   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time) | N/A        |
| Use of sterile gloves and drapes   | Acceptable |
| Preparation of sterile incision site and surrounding area                                  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue                                     | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)                     | Acceptable |

#### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                   | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visibly posted  | N/A |

#### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



**PI:** **Inspection Date:** 06/04/2019  
**PI PID:** **Inspectors:**  
**Inspection ID:** 12028  
**Inspection Type:** Semiannual  
**Lab Coordinators:**

# 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable

## 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

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All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page:  
<https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training Acceptable

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

## 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

## 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? Acceptable

Proper Controlled Substance Storage and Records; double lock Acceptable

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

## 6 PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

## 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable

## 8 SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care Acceptable

Proper monitoring for depth of surgical anesthesia (toe pinch documented?) Acceptable

Procedures for administering and monitoring analgesia (survival surgery) Acceptable

Proper anesthetics, doses, routes of anesthesia (records maintained) Acceptable

## 9 SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure Acceptable

Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) Acceptable

Use of effective aseptic procedures for survival surgery Acceptable





|  |            |
|--|------------|
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time) | N/A        |
| Use of sterile gloves and drapes   | N/A        |
| Preparation of sterile incision site and surrounding area                                  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue                                     | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)                     | Acceptable |

#### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                   | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visibly posted  | N/A |

#### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 06/21/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12029        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |
| <b>Deficiency Count:</b> 0        | <b>Inspection Comments:</b> 1      |

**1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY**

|                   |            |
|-------------------|------------|
| Summary Conducted | Acceptable |
|-------------------|------------|

**2. DOCUMENTATIONS and POSTINGS**

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted | Acceptable |
|---|------------|

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All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page:  
<https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

|   |            |
|---|------------|
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research | Acceptable |
|---|------------|

**3. HEALTH AND SAFETY**

|  |            |
|--|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place | Acceptable |
|--|------------|

|   |            |
|---|------------|
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Proper sharps disposal, hazardous waste disposal | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Current copy of Needle Safety in Animal Studies posted | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Proper carcass disposal (especially hazard contaminated) | Acceptable |
|--|------------|

|   |            |
|---|------------|
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) | Acceptable |
|--|------------|

|   |            |
|---|------------|
| Cage side chemical hazard identification training | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Review of chemical hazard forms by laboratory personnel before initial use | Acceptable |
|--|------------|

**4. ANIMAL CARE**

|   |            |
|---|------------|
| Report animal health issues to Division of Comparative Medicine | Acceptable |
|---|------------|

|   |     |
|---|-----|
| Clinical records for individual animals (covered species) | N/A |
|---|-----|

|  |            |
|--|------------|
| Analgesia/anesthesia use as described in approved ACAP | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Means to track animal usage/Euthanasia log | Acceptable |
|--|------------|

|   |            |
|---|------------|
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc) | Acceptable |
|---|------------|

|   |     |
|---|-----|
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP) | N/A |
|---|-----|

**5. AGENTS ADMINISTERED**

|   |            |
|---|------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) | Acceptable |
|--|------------|

|   |            |
|---|------------|
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? | Acceptable |
|---|------------|

|  |     |
|--|-----|
| Proper Controlled Substance Storage and Records; double lock | N/A |
|--|-----|

|  |     |
|--|-----|
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention | N/A |
|--|-----|

**6. PHYSICAL PLANT**

|                     |            |
|---------------------|------------|
| Impervious surfaces | Acceptable |
|---------------------|------------|

|                     |            |
|---------------------|------------|
| General cleanliness | Acceptable |
|---------------------|------------|

|   |            |
|---|------------|
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | Acceptable |
|---|------------|

**7. SURGICAL PROCEDURES: General Considerations**

|   |            |
|---|------------|
| Location minimizes traffic/contamination (survival surgery) | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Interior surfaces smooth and impervious to moisture | Acceptable |
|---|------------|

|                                |            |
|--------------------------------|------------|
| Fixed equipment is sanitizable | Acceptable |
|--------------------------------|------------|

**8. SURGICAL PROCEDURES: Anesthesia**

|  |            |
|--|------------|
| Adequate records of anesthesia and preoperative care | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Procedures for administering and monitoring analgesia (survival surgery) | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Proper anesthetics, doses, routes of anesthesia (records maintained) | Acceptable |
|--|------------|

**9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures**

|   |            |
|---|------------|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
|--|------------|

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|  |            |
|--|------------|
| Use of effective aseptic procedures for survival surgery                                   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time) | N/A        |
| Use of sterile gloves and drapes   | Acceptable |
| Preparation of sterile incision site and surrounding area                                  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue                                     | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)                     | Acceptable |

#### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                   | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visibly posted  | N/A |

#### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



**PI:**  
**PI PID**  
**Inspection ID** 12031  
**Inspection Type** Semiannual  
**Lab Coordinators**

**Inspection Date:** 06/21/2019  
**Inspectors**

**Deficiency Count:** 0

**Inspection Comments:** 1

# 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable

## 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

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All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

## 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

## 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? Acceptable

Proper Controlled Substance Storage and Records; double lock N/A

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention N/A

## 6. PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

## 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable

## 8. SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care Acceptable

Proper monitoring for depth of surgical anesthesia (toe pinch documented?) Acceptable

Procedures for administering and monitoring analgesia (survival surgery) Acceptable

Proper anesthetics, doses, routes of anesthesia (records maintained) Acceptable

## 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure Acceptable

Obtained by Rise for Animals. Uploaded 07/05/2020



|  |            |
|--|------------|
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
| Use of effective aseptic procedures for survival surgery   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A        |
| Use of sterile gloves and drapes   | Acceptable |
| Preparation of sterile incision site and surrounding area  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)   | Acceptable |

#### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                   | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visibly posted  | N/A |

#### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 06/05/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12032        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |

## 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable

## 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

## 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

## 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? Acceptable

Proper Controlled Substance Storage and Records; double lock Acceptable

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

## 6. PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

## 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable

## 8. SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care Acceptable

Proper monitoring for depth of surgical anesthesia (toe pinch documented?) Acceptable

Procedures for administering and monitoring analgesia (survival surgery) Acceptable

Proper anesthetics, doses, routes of anesthesia (records maintained) Acceptable

## 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure Acceptable

Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) Acceptable

Obtained by Rise for Animals. Uploaded 07/05/2020



|  |            |
|--|------------|
| Use of effective aseptic procedures for survival surgery                                   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time) | N/A        |
| Use of sterile gloves and drapes   | N/A        |
| Preparation of sterile incision site and surrounding area                                  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue                                     | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)                     | Acceptable |

#### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                   | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visibly posted  | N/A |

#### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



**PI:** **Inspection Date:** 06/27/2019  
**PI PID** **Inspectors**  
**Inspection ID** 12035  
**Inspection Type** Semiannual  
**Lab Coordinators**

**Deficiency Count:** 0

**Inspection Comments:** 4

# 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable  
 Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

# 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable  
 Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable  
 All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable  
 Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

# 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable  
 Procedures for using/scavenging volatile anesthetics; check for Fair can weight N/A  
 Proper sharps disposal, hazardous waste disposal Acceptable  
 Current copy of Needle Safety in Animal Studies posted Acceptable  
 Proper carcass disposal (especially hazard contaminated) Acceptable  
 Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable  
 Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable  
 Cage side chemical hazard identification training Acceptable  
 Review of chemical hazard forms by laboratory personnel before initial use Acceptable

# 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable  
 Clinical records for individual animals (covered species) N/A  
 Analgesia/anesthesia use as described in approved ACAP No Deficiency  
 Please ensure that the approved analgesic is utilized intra-operatively (i.e. bupivacaine, lidocaine) as described in the protocol.  
 Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable  
 Means to track animal usage/Euthanasia log Acceptable  
 MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable  
 Toe Clip Discussion (max P10, 2 toes, approved in ACAP) Acceptable

# 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable  
 Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable  
 Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A  
 Proper Controlled Substance Storage and Records; double lock No Deficiency  
 Overall, controlled substance records are vastly improved from previous inspections with this laboratory. Inspectors commend the current LAC for working to gain compliance within the lab.  
 However, two serious issues were noted, that are likely attributed to a specific person or persons: Dilute controlled drug was stored outside of the approved locked location, unlabeled, at least overnight. Some dilute controlled drug use is not adequately documented consistently. According to DEA/DHHS, once controlled substances are removed from the stock bottle, the bottle balance must be maintained. In addition, a second log, documenting the use/balance of the dilute solution must be maintained.  
 Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

# 6. PHYSICAL PLANT

Impervious surfaces Acceptable  
 General cleanliness Acceptable  
 Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

# 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable  
 Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable  
 Interior surfaces smooth and impervious to moisture Acceptable  
 Fixed equipment is sanitizable Acceptable

# 8. SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care No Deficiency  
 Please be aware, perfusion is considered a non-survival surgery, because the animal is still technically alive when the procedure begins. Please update lab members so that documentation and procedures are consistent for surgeries.  
 Proper monitoring for depth of surgical anesthesia (toe pinch documented?) Acceptable

Obtained by Rise for Animals. Uploaded 07/05/2020





|  |            |
|--|------------|
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable |
| <b>9 SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>  |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | Acceptable |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
| Use of effective aseptic procedures for survival surgery   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A        |
| Use of sterile gloves and drapes   | Acceptable |
| Preparation of sterile incision site and surrounding area  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)   | N/A        |
| <b>10 SATELLITE FACILITIES</b>   |            |
| Daily feed/water/observation-records maintained  | N/A        |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A        |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A        |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A        |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A        |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A        |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A        |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?                                     | N/A        |
| Pest control (frequency, effectiveness)  | N/A        |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A        |
| Veterinary contact info visably posted   | N/A        |
| <b>11 AQUATIC FACILITIES</b>   |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A        |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A        |
| Temperature/humidity values recorded   | N/A        |
| Equipment properly sanitized, separation based on health status  | N/A        |
| Tank allows for undisturbed observation, enrichment present  | N/A        |
| Personnel trained in H2O quality, animal health monitoring   | N/A        |
| How is MS222 prepared for use?   | N/A        |





|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 06/19/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12036        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |

Deficiency Count: 0

Inspection Comments: 3

**1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY****Summary Conducted**

Acceptable

All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

**2. DOCUMENTATIONS and POSTINGS**

Emergency, weekend, and holiday contact information visibly posted in animal housing area

Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted

Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals &amp; Lit Searches no longer req'd unless USDA or DoD/VA

Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research

Acceptable

**3. HEALTH AND SAFETY**

Gas cylinders immobilized; Eyewash check documented/dust caps in place

Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight

Acceptable

Proper sharps disposal, hazardous waste disposal

Acceptable

Current copy of Needle Safety in Animal Studies posted

Acceptable

Proper carcass disposal (especially hazard contaminated)

Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119

Acceptable

Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL)

Acceptable

Cage side chemical hazard identification training

N/A

Review of chemical hazard forms by laboratory personnel before initial use

Acceptable

**4. ANIMAL CARE**

Report animal health issues to Division of Comparative Medicine

Acceptable

Clinical records for individual animals (covered species)

N/A

Analgesia/anesthesia use as described in approved ACAP

Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate

Acceptable

Means to track animal usage/Euthanasia log

Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc)

Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP)

N/A

**5. AGENTS ADMINISTERED**

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately)

Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)

Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?

N/A

Proper Controlled Substance Storage and Records; double lock

N/A

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention

Acceptable

**6. PHYSICAL PLANT**

Impervious surfaces

Acceptable

General cleanliness

Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning

Acceptable

**7. SURGICAL PROCEDURES: General Considerations**

Location minimizes traffic/contamination (survival surgery)

Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide

Acceptable

Interior surfaces smooth and impervious to moisture

Acceptable

Fixed equipment is sanitizable

Acceptable

**8. SURGICAL PROCEDURES: Anesthesia**

Adequate records of anesthesia and preoperative care

Acceptable



|   |               |
|---|---------------|
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)<br>The laboratory must maintain documentation for all anesthetized animals indicating that the animal reached a surgical plane of anesthesia prior to the start of the procedure (i.e. lack of toe pinch reflex). Please ensure that toe-pinch is documented consistently across all non-survival surgery records- including perfusions. | No Deficiency |
| Procedures for administering and monitoring analgesia (survival surgery)  | Acceptable    |
| Proper anesthetics, doses, routes of anesthesia (records maintained)  | Acceptable    |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>  |               |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure   | Acceptable    |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible)  | Acceptable    |
| Use of effective aseptic procedures for survival surgery  | Acceptable    |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)  | N/A           |
| Use of sterile gloves and drapes  | Acceptable    |
| Preparation of sterile incision site and surrounding area   | Acceptable    |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue  | Acceptable    |
| Proper recovery monitoring  | Acceptable    |
| Records of postoperative care including analgesia agents (all species)  | Acceptable    |
| <b>10. SATELLITE FACILITIES</b>   |               |
| Daily feed/water/observation-records maintained   | N/A           |
| Animal identification posted (PI, ACAP ID #, species, source)   | N/A           |
| Changes in environment since last inspection (noise, illumination, vibration, etc)  | N/A           |
| Disaster plan in place, annual review, updates since last provided to OACU  | N/A           |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply   | N/A           |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)   | N/A           |
| HVAC adequate and non-recirculating (suggest monitoring annually)   | N/A           |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?  | N/A           |
| Pest control (frequency, effectiveness)   | N/A           |
| Sanitation schedule (daily/weekly/monthly/annually) maintained  | N/A           |
| Veterinary contact info visably posted  | N/A           |
| <b>11. AQUATIC FACILITIES</b>   |               |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing   | N/A           |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering  | N/A           |
| Temperature/humidity values recorded  | N/A           |
| Equipment properly sanitized, separation based on health status   | N/A           |
| Tank allows for undisturbed observation, enrichment present   | N/A           |
| Personnel trained in H2O quality, animal health monitoring  | N/A           |
| How is MS222 prepared for use?  | N/A           |



|                            |            |                               |                    |
|----------------------------|------------|-------------------------------|--------------------|
| <b>PI:</b>                 |            | <b>Inspection Date:</b>       | 07/17/2019         |
| <b>PI PID</b>              |            | <b>Inspectors</b>             |                    |
| <b>Inspection ID</b>       | 12048      |                               |                    |
| <b>Inspection Type</b>     | Semiannual |                               | IACUC<br>IACUC Vet |
| <b>Lab Coordinators</b>    |            |                               |                    |
| <b>Deficiency Count: 0</b> |            | <b>Inspection Comments: 3</b> |                    |

**1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY**

|                   |            |
|-------------------|------------|
| Summary Conducted | Acceptable |
|-------------------|------------|

**2. DOCUMENTATIONS and POSTINGS**

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area   | Acceptable |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted   | Acceptable |
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA | Acceptable |
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research                                     | Acceptable |

**3. HEALTH AND SAFETY**

|   |               |
|---|---------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place  | Acceptable    |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight   | Acceptable    |
| Proper sharps disposal, hazardous waste disposal  | Acceptable    |
| Current copy of Needle Safety in Animal Studies posted  | Acceptable    |
| Proper carcass disposal (especially hazard contaminated)  | Acceptable    |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119   | Acceptable    |
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL)  | No Deficiency |
| Inspectors noted missing warning sign located at the entrance to TB 6027. An editable PDF can be found on the "Room Use" page of the lab's online lab safety plan, please update information and replace old signage.   |               |
| Cage side chemical hazard identification training   | N/A           |
| Review of chemical hazard forms by laboratory personnel before initial use  | No Deficiency |
| Inspectors found containers containing tissues in formalin, without a chemical name. The EHS Laboratory Safety Manual (3-6) states that you must "Clearly spell out the name of the chemical on the label any time you transfer substances from original containers to secondary containers, or when synthesizing/mixing new substances, if the substances are not for the immediate use of the handler or preparer." |               |

**4. ANIMAL CARE**

|  |            |
|--|------------|
| Report animal health issues to Division of Comparative Medicine          | Acceptable |
| Clinical records for individual animals (covered species)                | Acceptable |
| Analgesia/anesthesia use as described in approved ACAP                   | Acceptable |
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
| Means to track animal usage/Euthanasia log                               | Acceptable |
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc)              | N/A        |
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP)                  | N/A        |

**5. AGENTS ADMINISTERED**

|   |            |
|---|------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)                                | Acceptable |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?           | N/A        |
| Proper Controlled Substance Storage and Records; double lock  | N/A        |
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention            | Acceptable |

**6. PHYSICAL PLANT**

|   |               |
|---|---------------|
| Impervious surfaces   | Acceptable    |
| General cleanliness   | No Deficiency |
| A hood in this space is due for recertification. If not in use please place a not in use sign on the hood. If still in use please recertify before use. |               |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning   | N/A           |

**7. SURGICAL PROCEDURES: General Considerations**

|   |            |
|---|------------|
| Location minimizes traffic/contamination (survival surgery)   | Acceptable |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | Acceptable |
| Interior surfaces smooth and impervious to moisture   | Acceptable |
| Fixed equipment is sanitizable  | Acceptable |

**8. SURGICAL PROCEDURES: Anesthesia**

|  |            |
|--|------------|
| Adequate records of anesthesia and preoperative care                       | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |
| Proper anesthetics, doses, routes of anesthesia (records maintained)       | Acceptable |

**9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures**

|  |     |
|--|-----|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |



|  |     |
|--|-----|
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time) | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area                                  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue                                     | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)                     | N/A |

#### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                   | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visibly posted  | N/A |

#### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



|                            |                             |
|----------------------------|-----------------------------|
| PI:                        | Inspection Date: 07/17/2019 |
| PI PID                     | Inspectors                  |
| Inspection ID 12051        |                             |
| Inspection Type Semiannual |                             |
| Lab Coordinators           |                             |

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable

The IACUC and the Office of Animal Care and Use expect that all comments and deficiencies, as well as pertinent items discussed during the inspection, will be shared with all animal handlers in the laboratory. Please ensure that all members of the laboratory involved with animal care or use are apprised of all issues, updated policies & procedures, upcoming events, etc. We thank you for your time.

This inspection report serves as both the Semiannual and Procedural Observation report. During the observation, \_\_\_\_\_ was very knowledgeable and able to describe survival Brain Cannula as described in protocol #17-206 without the use of a live animal. The inspectors did not find any deficiencies to report. The next procedural observation will not be required from the laboratory for three years or when the person we observed leaves the laboratory whichever happens first.

## 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

Inspectors spoke with \_\_\_\_\_, the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Yellow check marks indicate the person is due for re-certification.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight N/A

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training Acceptable

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

## 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) Acceptable

## 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock Acceptable

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

## 6 PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

## 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable

## 8 SURGICAL PROCEDURES: Anesthesia





|  |            |
|--|------------|
| Adequate records of anesthesia and preoperative care   | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                                       | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | Acceptable |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
| Use of effective aseptic procedures for survival surgery   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A        |
| Use of sterile gloves and drapes   | N/A        |
| Preparation of sterile incision site and surrounding area  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)   | Acceptable |
| <b>10. SATELLITE FACILITIES</b>  |            |
| Daily feed/water/observation-records maintained  | N/A        |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A        |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A        |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A        |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A        |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A        |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A        |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A        |
| Pest control (frequency, effectiveness)  | N/A        |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A        |
| Veterinary contact info visibly posted   | N/A        |
| <b>11. AQUATIC FACILITIES</b>  |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A        |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A        |
| Temperature/humidity values recorded   | N/A        |
| Equipment properly sanitized, separation based on health status  | N/A        |
| Tank allows for undisturbed observation, enrichment present  | N/A        |
| Personnel trained in H2O quality, animal health monitoring   | N/A        |
| How is MS222 prepared for use?   | N/A        |



|   |  |
|---|--|
| <b>PI:</b><br><b>PI PID</b><br><b>Inspection ID</b> 12052<br><b>Inspection Type</b> Semiannual<br><b>Lab Coordinators</b><br><b>Deficiency Count:</b> 0 | <b>Inspection Date:</b> 08/28/2019<br><b>Inspectors</b><br><br><b>Inspection Comments:</b> 3 |
|---|--|

### 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable  
 Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

### 2. DOCUMENTATIONS and IACUC POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable  
 Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable  
 All personnel handling animals in the lab trained/certified and on application Acceptable  
 How are approved applications and amendments available to and reviewed by laboratory personnel? Acceptable  
 Other Acceptable  
 The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>  
 All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>  
 Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

### 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable  
 Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable  
 Proper sharps disposal; Current copy of Needle Safety in Animal Studies posted Acceptable  
 Proper carcass disposal/hazardous waste disposal (especially hazard contaminated) Acceptable  
 Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable  
 Warning signs visible upon laboratory entry (i.e., radiation, biohazard, chemicals, ABSL) Acceptable  
 If chemical/biological hazards in animal facility, using appropriate cage cards to identify hazards? Acceptable  
 Review of chemical hazard forms by laboratory personnel before initial use Acceptable  
 Other Acceptable

### 4. ANIMAL CARE

Does the lab know how to report animal health issues to DCM? Acceptable  
 If USDA regulated species, are there clinical records for individual animals? N/A  
 Analgesia/anesthesia use as described in approved ACAP Acceptable  
 If euthanizing in lab space is euthanasia performed as described in approved protocol; secondary method tools sharp/adequate Acceptable  
 Means to track animal usage Acceptable  
 Experimental Monitoring Documentation (weight loss, tumor size, etc.) Acceptable  
 Toe Clip Discussion (max day 10, max 4 toes, 2 toes per foot (not the dewclaw), approved in ACAP) Acceptable  
 Other Acceptable

### 5. AGENTS ADMINISTERED

Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade) Acceptable  
 Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? Acceptable  
 Proper records maintained for agents used for anesthesia, analgesia, euthanasia, and acute intervention Acceptable  
 Proper Controlled Substance Storage and Records; double lock, running balance Acceptable  
 Is the lab ensuring drugs and biological agents are within expiration date (expired drugs separated or marked appropriately) Acceptable  
 Other Acceptable

### 6. PHYSICAL PLANT- Lab Space

Impervious surfaces Acceptable  
 General cleanliness Acceptable  
 Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning; Are they on the DCM biological monitoring schedule? Acceptable  
 Other No Deficiency  
 The recertification sticker for the two hoods/safety cabinets in room 711 and one in room 709 show 05/2019 as the due date. Please replace the sticker with the current due date or have the machine recertified.

### 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable  
 Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable  
 Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure Acceptable





|   |            |
|---|------------|
| Interior surfaces smooth and impervious to moisture | Acceptable |
| Fixed equipment is sanitizable                      | Acceptable |
| Other   | Acceptable |

#### 8. SURGICAL PROCEDURES: Anesthesia

|  |            |
|--|------------|
| Adequate surgical records of anesthesia and preoperative care                                      | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                         | Acceptable |
| Proper recovery monitoring; Records of postoperative care including analgesia agents (all species) | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)                           | Acceptable |
| Other  | Acceptable |

#### 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|   |            |
|---|------------|
| Autoclave Sterilization procedures are appropriate (e.g.: storage, use of autoclave tape, expiration date visible)  | Acceptable |
| Use of effective aseptic procedures for survival surgery; Preparation of sterile incision site and surrounding area | Acceptable |
| Cold Sterilization procedures are appropriate (e.g.: manufacturer recommended exposure time)                        | N/A        |
| Use of sterile gloves and drapes (for surgeries where glove exposure to the animal occurs)                          | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue  | Acceptable |
| Other   | Acceptable |



|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 07/31/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12053        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |
| <b>Deficiency Count:</b> 0        | <b>Inspection Comments:</b> 2      |

### 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** Acceptable

Inspectors spoke with \_\_\_\_\_ a member of the lab, during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

### 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

### 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight N/A

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

### 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

### 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock Acceptable

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

### 6. PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

### 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable

### 8. SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care Acceptable

Proper monitoring for depth of surgical anesthesia (toe pinch documented?) Acceptable

Procedures for administering and monitoring analgesia (survival surgery) Acceptable

Proper anesthetics, doses, routes of anesthesia (records maintained) Acceptable



### 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|  |            |
|--|------------|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | Acceptable |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
| Use of effective aseptic procedures for survival surgery   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | Acceptable |
| Use of sterile gloves and drapes   | Acceptable |
| Preparation of sterile incision site and surrounding area  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)   | Acceptable |

### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?                    | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visably posted  | N/A |

### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



|                         |            |                         |                   |
|-------------------------|------------|-------------------------|-------------------|
| <b>PI:</b>              |            | <b>Inspection Date:</b> | <b>07/31/2019</b> |
| <b>PI PID</b>           |            | <b>Inspectors</b>       |                   |
| <b>Inspection ID</b>    | 12054      |                         |                   |
| <b>Inspection Type</b>  | Semiannual |                         | IACUC             |
| <b>Lab Coordinators</b> |            |                         |                   |

Deficiency Count: 0

Inspection Comments: 6

**1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY**

Summary Conducted Acceptable  
 Inspectors spoke with , the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

**2 DOCUMENTATIONS and POSTINGS**

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable  
 The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page:  
<https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

**3 HEALTH AND SAFETY**

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable  
 BSL1 viruses are used and administered to animals in the laboratory.

Cage side chemical hazard identification training Acceptable

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

**4 ANIMAL CARE**

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) Acceptable

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

**5 AGENTS ADMINISTERED**

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) No Deficiency  
 Please include expiration dates on the secondary containers for compounded/mixed drugs.

Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock Acceptable

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

**6 PHYSICAL PLANT**

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

**7 SURGICAL PROCEDURES: General Considerations**

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable

Obtained by Rise for Animals. Uploaded 07/05/2020

**8. SURGICAL PROCEDURES: Anesthesia**

|  |            |
|--|------------|
| Adequate records of anesthesia and preoperative care                       | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |
| Proper anesthetics, doses, routes of anesthesia (records maintained)       | Acceptable |

**9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures**

|  |               |
|--|---------------|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure  | Acceptable    |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible)   | Acceptable    |
| Autoclave safety - Environment Health and Safety has a webpage ( <a href="https://ehs.unc.edu/biological/autoclave/">https://ehs.unc.edu/biological/autoclave/</a> ) with several resources for autoclaves. On that page there is a general SOP that researchers can follow and specific requirements in terms of weekly testing (if used for waste). Also, within Schedule F of the Laboratory Safety Plan (LSP) there is a question regarding how researchers treat biological waste, they have to identify where the autoclave is located and who is performing weekly testing. There is also an online training module that covers Autoclave Safety: <a href="https://apps.fo.unc.edu/ehs/training/autoclave-usage-and-safety/">https://apps.fo.unc.edu/ehs/training/autoclave-usage-and-safety/</a> . |               |
| Use of effective aseptic procedures for survival surgery   | No Deficiency |
| Please include expiration dates on the surgical prep supplies such as betadine and alcohol.  |               |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)   | Acceptable    |
| Use of sterile gloves and drapes   | Acceptable    |
| Preparation of sterile incision site and surrounding area  | Acceptable    |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | Acceptable    |
| Proper recovery monitoring   | Acceptable    |
| Records of postoperative care including analgesia agents (all species)   | Acceptable    |

**10. SATELLITE FACILITIES**

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?                    | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visably posted  | N/A |

**11. AQUATIC FACILITIES**

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |





|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 07/31/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12055        | IACUC                              |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |
| <b>Deficiency Count:</b> 0        | <b>Inspection Comments:</b> 7      |

**1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY**

Summary Conducted Acceptable  
 Inspectors spoke with \_\_\_\_\_, the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

**2. DOCUMENTATIONS and POSTINGS**

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable  
 The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page:  
<https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

**3. HEALTH AND SAFETY**

Gas cylinders immobilized; Eyewash check documented/dust caps in place No Deficiency  
 The biological safety cabinet within the laboratory appeared to be last certified in 2009. If this cabinet is utilized for biological agents, please ensure a current recertification.

Procedures for using/scavenging volatile anesthetics; check for Fair can weight N/A

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable  
 BSL1 agents (viruses) are administered to animals.

Cage side chemical hazard identification training Acceptable

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

**4. ANIMAL CARE**

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) Acceptable

**5. AGENTS ADMINISTERED**

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock Acceptable

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

**6. PHYSICAL PLANT**

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable  
 The laboratory is on the DCM schedule for microbiological assessment of hand sanitized equipment.

**7. SURGICAL PROCEDURES: General Considerations**

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable



## 8. SURGICAL PROCEDURES: Anesthesia

|  |            |
|--|------------|
| Adequate records of anesthesia and preoperative care                       | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |
| Proper anesthetics, doses, routes of anesthesia (records maintained)       | Acceptable |

## 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|  |            |
|--|------------|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure  | Acceptable |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible)<br>Autoclave safety - Environment Health and Safety has a webpage ( <a href="https://ehs.unc.edu/biological/autoclave/">https://ehs.unc.edu/biological/autoclave/</a> ) with several resources for autoclaves. On that page there is a general SOP that researchers can follow and specific requirements in terms of weekly testing (if used for waste). Also, within Schedule F of the Laboratory Safety Plan (LSP) there is a question regarding how researchers treat biological waste, they have to identify where the autoclave is located and who is performing weekly testing. There is also an online training module that covers Autoclave Safety: <a href="https://apps.fo.unc.edu/ehs/training/autoclave-usage-and-safety/">https://apps.fo.unc.edu/ehs/training/autoclave-usage-and-safety/</a> . | Acceptable |
| Use of effective aseptic procedures for survival surgery<br>No touch technique is employed for survival surgical procedures.   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)   | N/A        |
| Use of sterile gloves and drapes   | N/A        |
| Preparation of sterile incision site and surrounding area  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)   | Acceptable |

## 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                   | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visibly posted  | N/A |

## 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |





|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 07/30/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12058        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |
| <b>Deficiency Count:</b> 0        | <b>Inspection Comments:</b> 3      |

#### 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable  
 Inspectors spoke with the PI and Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

#### 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable  
 Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable  
 All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable  
 The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>  
 All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

#### 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable  
 Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable  
 Proper sharps disposal, hazardous waste disposal Acceptable  
 Current copy of Needle Safety in Animal Studies posted Acceptable  
 Proper carcass disposal (especially hazard contaminated) Acceptable  
 Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable  
 Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL) Acceptable  
 Cage side chemical hazard identification training N/A  
 Review of chemical hazard forms by laboratory personnel before initial use Acceptable

#### 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable  
 Clinical records for individual animals (covered species) N/A  
 Analgesia/anesthesia use as described in approved ACAP Acceptable  
 Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable  
 Means to track animal usage/Euthanasia log Acceptable  
 MONITORING DOCUMENTATION (weight, drugs, post op care, etc) N/A  
 Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

#### 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable  
 Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade) Acceptable  
 Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A  
 Proper Controlled Substance Storage and Records; double lock N/A  
 Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

#### 6 PHYSICAL PLANT

Impervious surfaces Acceptable  
 General cleanliness Acceptable  
 Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning N/A

#### 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) No Deficiency  
 Please ensure that new spaces are added to the protocol and inspected by IACUC inspectors prior to use with live animals.  
 Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable  
 Interior surfaces smooth and impervious to moisture Acceptable  
 Fixed equipment is sanitizable Acceptable

#### 8 SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care Acceptable  
 Proper monitoring for depth of surgical anesthesia (toe pinch documented?) Acceptable  
 Procedures for administering and monitoring analgesia (survival surgery) N/A



|  |            |
|--|------------|
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A        |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A        |
| Use of effective aseptic procedures for survival surgery   | N/A        |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A        |
| Use of sterile gloves and drapes   | N/A        |
| Preparation of sterile incision site and surrounding area  | N/A        |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A        |
| Proper recovery monitoring   | N/A        |
| Records of postoperative care including analgesia agents (all species)   | N/A        |
| <b>10. SATELLITE FACILITIES</b>  |            |
| Daily feed/water/observation-records maintained  | N/A        |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A        |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A        |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A        |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A        |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A        |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A        |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A        |
| Pest control (frequency, effectiveness)  | N/A        |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A        |
| Veterinary contact info visibly posted   | N/A        |
| <b>11. AQUATIC FACILITIES</b>  |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A        |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A        |
| Temperature/humidity values recorded   | N/A        |
| Equipment properly sanitized, separation based on health status  | N/A        |
| Tank allows for undisturbed observation, enrichment present  | N/A        |
| Personnel trained in H2O quality, animal health monitoring   | N/A        |
| How is MS222 prepared for use?   | N/A        |



**PI:**  
**PI PID**  
**Inspection ID** 12061  
**Inspection Type** Semiannual  
**Lab Coordinators**

**Inspection Date:** 07/12/2019  
**Inspectors**

**Deficiency Count:** 0

**Inspection Comments:** 3

## 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years. Acceptable

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

## 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research No Deficiency

Please update the protocol with the new lab location immediately. You may do this easiest by emailing [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with a request to update the location. Please include room numbers and sections of the protocol to be updated, including section 3.2, and surgery sections, if applicable.

## 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

## 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) Acceptable

## 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock Acceptable

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

## 6. PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning N/A

## 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable

## 8. SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care Acceptable



|  |            |
|--|------------|
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                                       | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | Acceptable |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
| Use of effective aseptic procedures for survival surgery   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A        |
| Use of sterile gloves and drapes   | Acceptable |
| Preparation of sterile incision site and surrounding area  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)   | Acceptable |
| <b>10. SATELLITE FACILITIES</b>  |            |
| Daily feed/water/observation-records maintained  | N/A        |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A        |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A        |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A        |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A        |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A        |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A        |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A        |
| Pest control (frequency, effectiveness)  | N/A        |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A        |
| Veterinary contact info visibly posted   | N/A        |
| <b>11. AQUATIC FACILITIES</b>  |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A        |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A        |
| Temperature/humidity values recorded   | N/A        |
| Equipment properly sanitized, separation based on health status  | N/A        |
| Tank allows for undisturbed observation, enrichment present  | N/A        |
| Personnel trained in H2O quality, animal health monitoring   | N/A        |
| How is MS222 prepared for use?   | N/A        |



**PI:**  
**PI PID**  
**Inspection ID** 12064  
**Inspection Type** Semiannual  
**Lab Coordinators**

**Inspection Date:** 07/30/2019  
**Inspectors**

**Deficiency Count:** 1

**Inspection Comments:** 5

## 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable  
 Inspectors spoke with [redacted], the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

## 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable  
 Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable  
 All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable  
 Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable  
 er N/A

## 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable  
 Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable  
 Proper sharps disposal, hazardous waste disposal Acceptable  
 Current copy of Needle Safety in Animal Studies posted Acceptable  
 Proper carcass disposal (especially hazard contaminated) Acceptable  
 Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable  
 Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable  
 Cage side chemical hazard identification training Acceptable  
 Review of chemical hazard forms by laboratory personnel before initial use Acceptable  
 er N/A

## 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable  
 Clinical records for individual animals (covered species) N/A  
 Analgesia/anesthesia use as described in approved ACAP Acceptable  
 Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable  
 Means to track animal usage/Euthanasia log Acceptable  
 MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable  
 Toe Clip Discussion (max P10, 2 toes, approved in ACAP) Acceptable

## 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) No Deficiency  
 Inspectors reminded the LAC that expired pharmaceuticals may not be used for anesthesia, analgesia, euthanasia, or acute intervention. Additionally, medical materials (e.g., suture, saline) used during survival procedures may not be expired. All pharmaceuticals used for anesthesia, analgesia, euthanasia, or acute intervention in animals must be discarded after the expiration date or labeled, "Expired-do not Use" or "For Acute Use Only" to avoid accidental use in animals. This includes that secondary container that holds Ketamine/Xylazine. Expiration dates should be assigned based on <https://research.unc.edu/files/2013/10/Guidelines-for-Administered-Agents.pdf>.  
 Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade) Acceptable  
 Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A  
 Proper Controlled Substance Storage and Records; double lock Minor Deficiency  
 The lab must be able to account for drugs from receipt to use/waste, including those removed from the stock bottles to create the cocktail bottles. A second log is required with a running balance for use when Ketamine is removed from the stock bottle and added to the saline and Xylazine.  
 The following comment was made in the Semiannual Inspection Report for your lab during the last inspection, as a comment on 1/9/2018 and as a minor deficiency on 7/24/2018:  
 Inspectors advised the LAC that anytime a drug is discarded, lost, or a bottle balance reaches zero, two signatures or initials should be provided. Please see page 8 of the following document for more detailed information regarding disposal of or 'zeroing' balances for controlled substances:  
[http://research.unc.edu/files/2013/03/CCM3\\_039065.pdf](http://research.unc.edu/files/2013/03/CCM3_039065.pdf)  
 The lab must be able to account for drugs from receipt to use/waste, including those removed from the stock bottles to create the cocktail bottles. A second log is required with a running balance for use when Ketamine is removed from the stock bottle and added to the saline and Xylazine.  
 Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

## 6. PHYSICAL PLANT

Impervious surfaces Acceptable  
 General cleanliness Acceptable  
 Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

## 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable





|  |               |
|--|---------------|
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide  | Acceptable    |
| Interior surfaces smooth and impervious to moisture  | Acceptable    |
| Fixed equipment is sanitizable   | Acceptable    |
| <b>8. SURGICAL PROCEDURES: Anesthesia</b>  |               |
| Adequate records of anesthesia and preoperative care<br>As discuss below is a template the lab may use to consolidate documentation for survival surgeries:<br><a href="https://research.unc.edu/files/2017/02/UNC-IACUC-Rodent-Anesthesia-Analgesia-Procedure-Record.pdf">https://research.unc.edu/files/2017/02/UNC-IACUC-Rodent-Anesthesia-Analgesia-Procedure-Record.pdf</a>     | Acceptable    |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)   | Acceptable    |
| Procedures for administering and monitoring analgesia (survival surgery)<br>Laboratories are required to document all anesthetics, analgesics, and euthanasia agents administered to research animals according to the approved application. Logs documenting use of isoflurane (including drop method) must be available to IACUC personnel. This includes lidocaine pre-operative. | No Deficiency |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable    |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |               |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure  | Acceptable    |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible)   | Acceptable    |
| Use of effective aseptic procedures for survival surgery   | Acceptable    |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)   | Acceptable    |
| Use of sterile gloves and drapes   | Acceptable    |
| Preparation of sterile incision site and surrounding area  | Acceptable    |
| Sterile Sutures, Wound Clips, Staples and/or Skin Glue   | Acceptable    |
| Proper recovery monitoring   | Acceptable    |
| Records of postoperative care including analgesia agents (all species)   | Acceptable    |
| <b>10. SATELLITE FACILITIES</b>  |               |
| Daily feed/water/observation-records maintained  | N/A           |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A           |
| Changes in environment since last inspection (noise, illumination, vibration, etc)   | N/A           |
| Disaster plan in place, annual review, updates since last provided to OACU   | N/A           |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply  | N/A           |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)  | N/A           |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A           |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?   | N/A           |
| Pest control (frequency, effectiveness)  | N/A           |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A           |
| Veterinary contact info visably posted   | N/A           |
| <b>11. AQUATIC FACILITIES</b>  |               |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing  | N/A           |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A           |
| Temperature/humidity values recorded   | N/A           |
| Equipment properly sanitized, separation based on health status  | N/A           |
| Tank allows for undisturbed observation, enrichment present  | N/A           |
| Personnel trained in H2O quality, animal health monitoring   | N/A           |
| How is MS222 prepared for use?   | N/A           |



|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 08/21/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12081        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |
| <b>Deficiency Count:</b> 0        | <b>Inspection Comments:</b> 5      |

### 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** Acceptable

Inspectors spoke with the Principal Investigator, during the records review. Only hamster records were reviewed as there had been no rabbit or mouse work within the last year. All animal experiments are conducted in the DCM Berryhill Hall facilities. Animals are anesthetized for restraint for intranasal inoculations or intracheal inoculations via the oral cavity. They are also anesthetized for terminal exsanguination. The protocol contains an approved exception for the potential of singly housing hamsters.

All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

### 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted N/A

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

### 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place N/A

Procedures for using/scavenging volatile anesthetics; check for Fair can weight N/A

Proper sharps disposal, hazardous waste disposal N/A

Current copy of Needle Safety in Animal Studies posted N/A

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) N/A

Cage side chemical hazard identification training Acceptable

Cages of hamsters are flagged with biological hazard cards after inoculation with virus.

Review of chemical hazard forms by laboratory personnel before initial use N/A

### 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) No Deficiency

Principal investigator (PI) maintained documentation for isoflurane induction and recovery time, virus inoculation, and depth of anesthesia monitoring were reviewed as part of the inspection. The records entered by DCM veterinarians appeared to be complete. However, the entries made by PI personnel lacked some detail regarding induction and recovery times as well as toe pinch to assess anesthesia depth. Medical and monitoring records are key elements of the animal care program and are considered critical for documenting animal well-being as well as tracking animal care and use. Please review your records for completeness and ensure that future records are complete.

The PI-maintained record notebook contained several 'Monthly Principal Investigator Duties to be Performed' checklists. These checklists should be maintained by DCM personnel within the animal facility in which the animals are housed. Please remove these checklists for the PI record notebook and contact your DCM facility supervisor to determine the best way to return the forms to DCM care.

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) No Deficiency

See item 4b above regarding clinical records.

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

### 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? Acceptable

Proper Controlled Substance Storage and Records; double lock N/A

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

### 6. PHYSICAL PLANT

Impervious surfaces N/A

General cleanliness N/A





|   |     |
|---|-----|
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | N/A |
|---|-----|

#### 7. SURGICAL PROCEDURES: General Considerations

|   |     |
|---|-----|
| Location minimizes traffic/contamination (survival surgery)   | N/A |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
| Interior surfaces smooth and impervious to moisture   | N/A |
| Fixed equipment is sanitizable  | N/A |

#### 8. SURGICAL PROCEDURES: Anesthesia

|  |     |
|--|-----|
| Adequate records of anesthesia and preoperative care                       | N/A |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |
| Proper anesthetics, doses, routes of anesthesia (records maintained)       | N/A |

#### 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|  |     |
|--|-----|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |

#### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                   | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visibly posted  | N/A |

#### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



**PI:**  
**PI PID**  
**Inspection ID** 12085  
**Inspection Type** Semiannual  
**Lab Coordinators**

**Inspection Date:** 08/22/2019  
**Inspectors**

**Deficiency Count:** 0

**Inspection Comments:** 3

# 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years. Acceptable

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

# 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd N/A

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/> Acceptable

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

# 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place No Deficiency  
Inspectors noted an eyewash where the protective caps were not covering the eyewash. Please make sure that eyewashes are clean and covers are in place so that debris does not build up and the eyewash can be used in case of emergency.

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

# 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) Acceptable

# 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? Acceptable

Proper Controlled Substance Storage and Records; double lock N/A

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

# 6 PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning N/A

# 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) N/A

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide N/A

Interior surfaces smooth and impervious to moisture N/A

Fixed equipment is sanitizable N/A

# 8 SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care N/A

Proper monitoring for depth of surgical anesthesia (toe pinch documented?) N/A

Obtained by Rise for Animals. Uploaded 07/05/2020



|  |     |
|--|-----|
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | N/A |
| <b>9 SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>  |     |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |
| <b>10 SATELLITE FACILITIES</b>   |     |
| Daily feed/water/observation-records maintained  | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?                                     | N/A |
| Pest control (frequency, effectiveness)  | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A |
| Veterinary contact info visably posted   | N/A |
| <b>11 AQUATIC FACILITIES</b>   |     |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A |
| Temperature/humidity values recorded   | N/A |
| Equipment properly sanitized, separation based on health status  | N/A |
| Tank allows for undisturbed observation, enrichment present  | N/A |
| Personnel trained in H2O quality, animal health monitoring   | N/A |
| How is MS222 prepared for use?   | N/A |



|   |  |
|---|--|
| <b>PI:</b><br><b>PI PID</b><br><b>Inspection ID</b> 12086<br><b>Inspection Type</b> Semiannual<br><b>Lab Coordinators</b><br><b>Deficiency Count:</b> 0 | <b>Inspection Date:</b> 08/14/2019<br><b>Inspectors</b><br><br><b>Inspection Comments:</b> 4 |
|---|--|

### 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable  
 Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

### 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA N/A

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable  
 The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

### 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable  
 Inspectors noted an eyewash that had the protective caps were not covering the eyewash. Please make sure that eyewash covers are in place so that debris does not build up and the eyewash can be used in case of emergency.

Procedures for using/scavenging volatile anesthetics; check for Fair can weight N/A

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

### 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

### 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock N/A

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable  
 Inspectors noted that the lab was combining the total volume of Pancuronium bromide within the drug logs at the time of bottle receipt. Please keep a running balance for each bottle that is in use, and zero out each bottle once it is empty. A new log for the next bottle should be started at that time.

### 6. PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning N/A

### 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) N/A

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide N/A

Interior surfaces smooth and impervious to moisture N/A

Fixed equipment is sanitizable N/A

### 8. SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care N/A



|  |     |
|--|-----|
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                                       | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | N/A |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |     |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |
| <b>10. SATELLITE FACILITIES</b>  |     |
| Daily feed/water/observation-records maintained  | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A |
| Pest control (frequency, effectiveness)  | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A |
| Veterinary contact info visibly posted   | N/A |
| <b>11. AQUATIC FACILITIES</b>  |     |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A |
| Temperature/humidity values recorded   | N/A |
| Equipment properly sanitized, separation based on health status  | N/A |
| Tank allows for undisturbed observation, enrichment present  | N/A |
| Personnel trained in H2O quality, animal health monitoring   | N/A |
| How is MS222 prepared for use?   | N/A |





|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 08/13/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12089        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |
| <b>Deficiency Count:</b> 0        | <b>Inspection Comments:</b> 4      |

### 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** Acceptable

Inspectors spoke with (PI) and (lab member) during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

### 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

### 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place No Deficiency

Gas cylinders were not present.

The eyewash must be checked and flushed monthly. The laboratory is responsible for maintaining documentation for these monthly checks.

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal N/A

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training Acceptable

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

### 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

### 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Dr. Matsushima and Kevin described the process of creating and maintaining the cuprizone chow and ensuring that it is used within two weeks.

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock N/A

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

### 6. PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning N/A

### 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) N/A

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide N/A

Interior surfaces smooth and impervious to moisture N/A

Fixed equipment is sanitizable N/A

### 8. SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care Acceptable





|  |            |
|--|------------|
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                                       | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A        |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | N/A        |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A        |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A        |
| Use of effective aseptic procedures for survival surgery   | N/A        |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A        |
| Use of sterile gloves and drapes   | N/A        |
| Preparation of sterile incision site and surrounding area  | N/A        |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A        |
| Proper recovery monitoring   | N/A        |
| Records of postoperative care including analgesia agents (all species)   | N/A        |
| <b>10. SATELLITE FACILITIES</b>  |            |
| Daily feed/water/observation-records maintained  | N/A        |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A        |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A        |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A        |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A        |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A        |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A        |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A        |
| Pest control (frequency, effectiveness)  | N/A        |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A        |
| Veterinary contact info visibly posted   | N/A        |
| <b>11. AQUATIC FACILITIES</b>  |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A        |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A        |
| Temperature/humidity values recorded   | N/A        |
| Equipment properly sanitized, separation based on health status  | N/A        |
| Tank allows for undisturbed observation, enrichment present  | N/A        |
| Personnel trained in H2O quality, animal health monitoring   | N/A        |
| How is MS222 prepared for use?   | N/A        |



|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 08/13/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12090        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |
| <b>Deficiency Count:</b> 0        | <b>Inspection Comments:</b> 4      |

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable  
 Inspectors spoke with the PI, during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

## 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use N/A

## 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

## 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock Acceptable

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

## 6 PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness No Deficiency

Inspectors found general clutter and items unrelated to surgery in the surgical area. Inspectors discussed the importance of the surgical area remaining free of clutter, items which cannot be sanitized and other items unrelated to the surgical procedure. Please tidy the surgical area to be free of general clutter.

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

## 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide No Deficiency

The room was arranged into different areas for each component of surgery, such as animal preparation, surgery, post-op recovery. However, the PI indicated that there was the potential for conduction of non-surgical procedures during the same space where survival surgery was conducted. Inspectors discussed the importance of dedicating the room to survival surgical space during the times survival surgery was conducted. Please schedule procedures in the room so that the non-surgical procedures are conducted during times when the room is not being used for survival surgery.

Interior surfaces smooth and impervious to moisture Acceptable



|  |            |
|--|------------|
| Fixed equipment is sanitizable   | Acceptable |
| <b>8. SURGICAL PROCEDURES: Anesthesia</b>  |            |
| Adequate records of anesthesia and preoperative care   | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                                       | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | Acceptable |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
| Use of effective aseptic procedures for survival surgery   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | Acceptable |
| Use of sterile gloves and drapes   | Acceptable |
| Preparation of sterile incision site and surrounding area  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)   | Acceptable |
| <b>10. SATELLITE FACILITIES</b>  |            |
| Daily feed/water/observation-records maintained  | N/A        |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A        |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A        |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A        |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A        |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A        |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A        |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A        |
| Pest control (frequency, effectiveness)  | N/A        |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A        |
| Veterinary contact info visibly posted   | N/A        |
| <b>11. AQUATIC FACILITIES</b>  |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A        |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A        |
| Temperature/humidity values recorded   | N/A        |
| Equipment properly sanitized, separation based on health status  | N/A        |
| Tank allows for undisturbed observation, enrichment present  | N/A        |
| Personnel trained in H2O quality, animal health monitoring   | N/A        |
| How is MS222 prepared for use?   | N/A        |



|                            |                             |
|----------------------------|-----------------------------|
| PI:                        | Inspection Date: 08/19/2019 |
| PI PID                     | Inspectors                  |
| Inspection ID 12091        |                             |
| Inspection Type Semiannual |                             |
| Lab Coordinators           |                             |

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable

The IACUC and the Office of Animal Care and Use expect that all comments and deficiencies, as well as pertinent items discussed during the inspection, will be shared with all animal handlers in the laboratory. Please ensure that all members of the laboratory involved with animal care or use are apprised of all issues, updated policies & procedures, upcoming events, etc. We thank you for your time.

## 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Yellow check marks indicate the person is due for recertification.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training Acceptable

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

## 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) Acceptable

## 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? Acceptable

Proper Controlled Substance Storage and Records; double lock N/A

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

## 6 PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

## 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) N/A

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide N/A

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable

## 8 SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care Acceptable

Proper monitoring for depth of surgical anesthesia (toe pinch documented?) Acceptable

Procedures for administering and monitoring analgesia (survival surgery) N/A

Obtained by Rise for Animals. Uploaded 07/05/2020



|  |            |
|--|------------|
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A        |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A        |
| Use of effective aseptic procedures for survival surgery   | N/A        |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A        |
| Use of sterile gloves and drapes   | N/A        |
| Preparation of sterile incision site and surrounding area  | N/A        |
| Sterile Sutures, Wound Clips, Staples and/or Skin Glue   | N/A        |
| Proper recovery monitoring   | N/A        |
| Records of postoperative care including analgesia agents (all species)   | N/A        |
| <b>10. SATELLITE FACILITIES</b>  |            |
| Daily feed/water/observation-records maintained  | N/A        |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A        |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A        |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A        |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A        |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A        |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A        |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?                                     | N/A        |
| Pest control (frequency, effectiveness)  | N/A        |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A        |
| Veterinary contact info visably posted   | N/A        |
| <b>11. AQUATIC FACILITIES</b>  |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A        |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A        |
| Temperature/humidity values recorded   | N/A        |
| Equipment properly sanitized, separation based on health status  | N/A        |
| Tank allows for undisturbed observation, enrichment present  | N/A        |
| Personnel trained in H2O quality, animal health monitoring   | N/A        |
| How is MS222 prepared for use?   | N/A        |





|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 08/27/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12092        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |
| <b>Deficiency Count:</b> 0        | <b>Inspection Comments:</b> 5      |

## 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** Acceptable  
 Inspectors spoke with the PI, during the inspection. was very thorough in describing the experimental procedures and techniques used in her laboratory. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

## 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight N/A

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use N/A

## 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

## 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) No Deficiency  
 Inspectors observed that expired drugs were noted as "discarded" in the logs when they were being stored until they could be properly removed. This could lead to confusion as "discarded" implies they were removed from the premises. Please replace "discarded" in the logs with "separated from in-date stock due to expiration" to clarify that they were present but no longer being used.

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock No Deficiency  
 Inspectors did not observe double locks for storing controlled substances. Double locks, such as a lock box within a locked cabinet, are required to provide additional security for controlled substances. Please ensure that a second method of locking controlled substances, such as a lock box, is used.

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention No Deficiency  
 Although none of the agents reviewed were yet expired, inspectors did not observe an expiration date on bottles of drug cocktails. Writing just the date created is not sufficient to determine when a drug cocktail expires. Please indicate on the bottles the earliest expiration date of drugs used in a cocktail.

Inspectors observed that drug logs contained a single column for "expiration" of cocktails. This could cause confusion as to which expiration date should be recorded. Please revise the header to clarify "earliest expiration date of drugs in cocktail."

## 6. PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning N/A

## 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable





|   |            |
|---|------------|
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | Acceptable |
| Interior surfaces smooth and impervious to moisture   | Acceptable |
| Fixed equipment is sanitizable  | Acceptable |
| <b>8. SURGICAL PROCEDURES: Anesthesia</b>   |            |
| Adequate records of anesthesia and preoperative care  | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)  | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)  | N/A        |
| Proper anesthetics, doses, routes of anesthesia (records maintained)  | Acceptable |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>  |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure   | N/A        |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible)                                    | N/A        |
| Use of effective aseptic procedures for survival surgery  | N/A        |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)  | N/A        |
| Use of sterile gloves and drapes  | N/A        |
| Preparation of sterile incision site and surrounding area   | N/A        |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue  | N/A        |
| Proper recovery monitoring  | N/A        |
| Records of postoperative care including analgesia agents (all species)  | N/A        |
| <b>10. SATELLITE FACILITIES</b>   |            |
| Daily feed/water/observation-records maintained   | N/A        |
| Animal identification posted (PI, ACAP ID #, species, source)   | N/A        |
| Changes in environment since last inspection (noise, illumination, vibration, etc)  | N/A        |
| Disaster plan in place, annual review, updates since last provided to OACU  | N/A        |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply   | N/A        |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)   | N/A        |
| HVAC adequate and non-recirculating (suggest monitoring annually)   | N/A        |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?  | N/A        |
| Pest control (frequency, effectiveness)   | N/A        |
| Sanitation schedule (daily/weekly/monthly/annually) maintained  | N/A        |
| Veterinary contact info visably posted  | N/A        |
| <b>11. AQUATIC FACILITIES</b>   |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing   | N/A        |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering  | N/A        |
| Temperature/humidity values recorded  | N/A        |
| Equipment properly sanitized, separation based on health status   | N/A        |
| Tank allows for undisturbed observation, enrichment present   | N/A        |
| Personnel trained in H2O quality, animal health monitoring  | N/A        |
| How is MS222 prepared for use?  | N/A        |



**PI:** \_\_\_\_\_ **Inspection Date:** 06/26/2019  
**PI PID** \_\_\_\_\_ **Inspectors** \_\_\_\_\_  
**Inspection ID** 12097  
**Inspection Type** Semiannual  
**Lab Coordinators** \_\_\_\_\_

**Deficiency Count:** 0

**Inspection Comments:** 7

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted \_\_\_\_\_, the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years. Acceptable

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

## 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

As discussed, the LAC may train and certify lab members in techniques for which she has a Proficiency rating of 1. Please reference the following link for instructions on certifying personnel: [http://research.unc.edu/files/2012/11/CCM1\\_030728.pdf](http://research.unc.edu/files/2012/11/CCM1_030728.pdf)

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

The LACs had a question about the need for both snorkel scavenging units which scavenge volatile anesthetics directly out of the room plus the use of F-Air canisters with the isoflurane vaporizer. The inspectors indicated that the use of both may be redundant; however, to ensure adequate scavenging, the lab should contact Cathy Brennan of EHS to determine how to have the space assessed.

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training Acceptable

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

## 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

## 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock N/A

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

## 6 PHYSICAL PLANT

Impervious surfaces

The separate, dedicated surgical space was in exemplary condition and is an excellent space in which to conduct surgical procedures in rodents.

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning N/A

## 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable



|   |               |
|---|---------------|
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide   | Acceptable    |
| Interior surfaces smooth and impervious to moisture   | Acceptable    |
| Fixed equipment is sanitizable  | Acceptable    |
| <b>8. SURGICAL PROCEDURES: Anesthesia</b>   |               |
| Adequate records of anesthesia and preoperative care  | Acceptable    |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)  | Acceptable    |
| Procedures for administering and monitoring analgesia (survival surgery)  | Acceptable    |
| Proper anesthetics, doses, routes of anesthesia (records maintained)  | Acceptable    |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>  |               |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure   | Acceptable    |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible)  | Acceptable    |
| Use of effective aseptic procedures for survival surgery<br>Please review the Standard for Rodent Survival Surgery to ensure that serial survival surgeries are performed according to the standard. Although the standard does not indicate a maximum number of surgeries conducted in series with the same instruments, it contains helpful details about preferred methods and use of the bead sterilizer between surgeries. | No Deficiency |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)<br>Please review the Standard for Rodent Survival Surgeries for acceptable cold sterilization agents and appropriate contact time for sterilizing the fragile injection needles to ensure IACUC standards are being followed.  | No Deficiency |
| Use of sterile gloves and drapes<br>Tips only technique is employed and no drapes are used.   | N/A           |
| Preparation of sterile incision site and surrounding area   | Acceptable    |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue  | Acceptable    |
| Proper recovery monitoring  | Acceptable    |
| Records of postoperative care including analgesia agents (all species)  | Acceptable    |
| <b>10. SATELLITE FACILITIES</b>   |               |
| Daily feed/water/observation-records maintained   | N/A           |
| Animal identification posted (PI, ACAP ID #, species, source)   | N/A           |
| Changes in environment since last inspection (noise, illumination, vibration, etc)  | N/A           |
| Disaster plan in place, annual review, updates since last provided to OACU  | N/A           |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply   | N/A           |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)   | N/A           |
| HVAC adequate and non-recirculating (suggest monitoring annually)   | N/A           |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?  | N/A           |
| Pest control (frequency, effectiveness)   | N/A           |
| Sanitation schedule (daily/weekly/monthly/annually) maintained  | N/A           |
| Veterinary contact info visably posted  | N/A           |
| <b>11. AQUATIC FACILITIES</b>   |               |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing   | N/A           |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering  | N/A           |
| Temperature/humidity values recorded  | N/A           |
| Equipment properly sanitized, separation based on health status   | N/A           |
| Tank allows for undisturbed observation, enrichment present   | N/A           |
| Personnel trained in H2O quality, animal health monitoring  | N/A           |
| How is MS222 prepared for use?  | N/A           |



**PI:**  
**PI PID**  
**Inspection ID** 12100  
**Inspection Type** Semiannual  
**Lab Coordinators**

**Inspection Date:** 08/09/2019  
**Inspectors**

**Deficiency Count:** 0

**Inspection Comments:** 4

### 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** Acceptable  
 Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

### 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

### 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable  
 Please follow up about fire extinguisher certification (in room 305) with EHS.

Procedures for using/scavenging volatile anesthetics; check for Fair can weight N/A

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry (i.e., radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

### 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP N/A

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) N/A

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

### 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock N/A

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention N/A

### 6. PHYSICAL PLANT

Impervious surfaces No Deficiency  
 Noted a table with exposed wood during inspection. Please cover the exposed area when using the area for experiments or when animals are in the room.

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

### 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) N/A

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide N/A

Interior surfaces smooth and impervious to moisture N/A

Fixed equipment is sanitizable N/A

### 8. SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care N/A

Proper monitoring for depth of surgical anesthesia (toe pinch documented?) N/A

Obtained by Rise for Animals. Uploaded 07/05/2020



|  |     |
|--|-----|
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | N/A |
| <b>9 SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>  |     |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |
| <b>10 SATELLITE FACILITIES</b>   |     |
| Daily feed/water/observation-records maintained  | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?                                     | N/A |
| Pest control (frequency, effectiveness)  | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A |
| Veterinary contact info visably posted   | N/A |
| <b>11 AQUATIC FACILITIES</b>   |     |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A |
| Temperature/humidity values recorded   | N/A |
| Equipment properly sanitized, separation based on health status  | N/A |
| Tank allows for undisturbed observation, enrichment present  | N/A |
| Personnel trained in H2O quality, animal health monitoring   | N/A |
| How is MS222 prepared for use?   | N/A |





|   |  |
|---|--|
| <b>PI:</b><br><b>PI PID</b><br><b>Inspection ID</b> 12104<br><b>Inspection Type</b> Semiannual<br><b>Lab Coordinators</b><br><b>Deficiency Count:</b> 0 | <b>Inspection Date:</b> 08/14/2019<br><b>Inspectors</b><br><br><b>Inspection Comments:</b> 3 |
|---|--|

### 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|   |            |
|---|------------|
| <b>Summary Conducted</b><br>Inspectors spoke with the Principal investigator (PI), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.<br><br>Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification. | Acceptable |
|---|------------|

### 2 DOCUMENTATIONS and POSTINGS

|  |            |
|--|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area  | Acceptable |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted  | Acceptable |
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA  | N/A        |
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research  | Acceptable |
| The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <a href="https://research.unc.edu/iacuc/">https://research.unc.edu/iacuc/</a><br><br>All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <a href="https://research.unc.edu/iacuc/policies-procedures/">https://research.unc.edu/iacuc/policies-procedures/</a><br><br>Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab. |            |

### 3 HEALTH AND SAFETY

|   |            |
|---|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place                                | Acceptable |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight                       | N/A        |
| Proper sharps disposal, hazardous waste disposal  | Acceptable |
| Current copy of Needle Safety in Animal Studies posted  | Acceptable |
| Proper carcass disposal (especially hazard contaminated)  | Acceptable |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL)            | Acceptable |
| Cage side chemical hazard identification training   | N/A        |
| Review of chemical hazard forms by laboratory personnel before initial use                            | Acceptable |

### 4 ANIMAL CARE

|  |            |
|--|------------|
| Report animal health issues to Division of Comparative Medicine          | Acceptable |
| Clinical records for individual animals (covered species)                | N/A        |
| Anaesthesia/anesthesia use as described in approved ACAP                 | Acceptable |
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
| Means to track animal usage/Euthanasia log                               | Acceptable |
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc)              | Acceptable |
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP)                  | N/A        |

### 5 AGENTS ADMINISTERED

|   |            |
|---|------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately)<br>Please refer to the following link for a copy of the IACUC Standard for Administered Agents for guidelines on how to determine expiration date on reconstituted drugs: <a href="https://research.unc.edu/files/2013/10/Guidelines-for-Administered-Agents.pdf">https://research.unc.edu/files/2013/10/Guidelines-for-Administered-Agents.pdf</a> | Acceptable |
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)  | Acceptable |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?   | N/A        |
| Proper Controlled Substance Storage and Records; double lock  | Acceptable |
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention  | Acceptable |

### 6 PHYSICAL PLANT

|   |            |
|---|------------|
| Impervious surfaces   | Acceptable |
| General cleanliness   | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | N/A        |

### 7 SURGICAL PROCEDURES: General Considerations

|   |     |
|---|-----|
| Location minimizes traffic/contamination (survival surgery)   | N/A |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
| Interior surfaces smooth and impervious to moisture   | N/A |
| Fixed equipment is sanitizable  | N/A |

### 8 SURGICAL PROCEDURES: Anesthesia

|  |     |
|--|-----|
| Adequate records of anesthesia and preoperative care                       | N/A |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | N/A |





|  |     |
|--|-----|
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | N/A |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |     |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |
| <b>10. SATELLITE FACILITIES</b>  |     |
| Daily feed/water/observation-records maintained  | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A |
| Pest control (frequency, effectiveness)  | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A |
| Veterinary contact info visibly posted   | N/A |
| <b>11. AQUATIC FACILITIES</b>  |     |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A |
| Temperature/humidity values recorded   | N/A |
| Equipment properly sanitized, separation based on health status  | N/A |
| Tank allows for undisturbed observation, enrichment present  | N/A |
| Personnel trained in H2O quality, animal health monitoring   | N/A |
| How is MS222 prepared for use?   | N/A |



|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 08/19/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12105        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |
| <b>Deficiency Count:</b> 0        | <b>Inspection Comments:</b> 3      |

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** Acceptable  
 Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

## 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight No Deficiency

Inspectors observed that the isoflurane vaporizer did not have an inspection sticker because it was recently purchased. This could lead to confusion regarding when it needs to be calibrated next. Please attach a sticker indicating when it was purchased so that it is clear when it needs to be recalibrated.

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use N/A

## 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) Acceptable

## 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? Acceptable

Proper Controlled Substance Storage and Records; double lock Acceptable

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

## 6 PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning N/A

## 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) N/A

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide N/A

Interior surfaces smooth and impervious to moisture N/A

Fixed equipment is sanitizable N/A

## 8 SURGICAL PROCEDURES: Anesthesia



|  |            |
|--|------------|
| Adequate records of anesthesia and preoperative care   | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                                       | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A        |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A        |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A        |
| Use of effective aseptic procedures for survival surgery   | N/A        |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A        |
| Use of sterile gloves and drapes   | N/A        |
| Preparation of sterile incision site and surrounding area  | N/A        |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A        |
| Proper recovery monitoring   | N/A        |
| Records of postoperative care including analgesia agents (all species)   | N/A        |
| <b>10. SATELLITE FACILITIES</b>  |            |
| Daily feed/water/observation-records maintained  | N/A        |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A        |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A        |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A        |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A        |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A        |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A        |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A        |
| Pest control (frequency, effectiveness)  | N/A        |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A        |
| Veterinary contact info visibly posted   | N/A        |
| <b>11. AQUATIC FACILITIES</b>  |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A        |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A        |
| Temperature/humidity values recorded   | N/A        |
| Equipment properly sanitized, separation based on health status  | N/A        |
| Tank allows for undisturbed observation, enrichment present  | N/A        |
| Personnel trained in H2O quality, animal health monitoring   | N/A        |
| How is MS222 prepared for use?   | N/A        |



|   |  |
|---|--|
| <b>PI:</b><br><b>PI PID</b><br><b>Inspection ID</b> 12106<br><b>Inspection Type</b> Semiannual<br><b>Lab Coordinators</b><br><b>Deficiency Count:</b> 0 | <b>Inspection Date:</b> 08/19/2019<br><b>Inspectors</b><br><br><b>Inspection Comments:</b> 3 |
|---|--|

### 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** Acceptable

Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

### 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

er N/A

### 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight No Deficiency

Inspectors observed that the isoflurane vaporizer did not have an inspection sticker because it was recently purchased. This could lead to confusion regarding when it needs to be calibrated next. Please attach a sticker indicating when it was purchased so that it is clear when it needs to be recalibrated.

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use N/A

er N/A

### 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) Acceptable

### 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? Acceptable

Proper Controlled Substance Storage and Records; double lock Acceptable

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

### 6 PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning N/A

### 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) N/A

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide N/A

Interior surfaces smooth and impervious to moisture N/A



|  |            |
|--|------------|
| Fixed equipment is sanitizable   | N/A        |
| <b>8. SURGICAL PROCEDURES: Anesthesia</b>  |            |
| Adequate records of anesthesia and preoperative care   | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                                       | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A        |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A        |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A        |
| Use of effective aseptic procedures for survival surgery   | N/A        |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A        |
| Use of sterile gloves and drapes   | N/A        |
| Preparation of sterile incision site and surrounding area  | N/A        |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A        |
| Proper recovery monitoring   | N/A        |
| Records of postoperative care including analgesia agents (all species)   | N/A        |
| <b>10. SATELLITE FACILITIES</b>  |            |
| Daily feed/water/observation-records maintained  | N/A        |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A        |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A        |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A        |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A        |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A        |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A        |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A        |
| Pest control (frequency, effectiveness)  | N/A        |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A        |
| Veterinary contact info visibly posted   | N/A        |
| <b>11. AQUATIC FACILITIES</b>  |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A        |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A        |
| Temperature/humidity values recorded   | N/A        |
| Equipment properly sanitized, separation based on health status  | N/A        |
| Tank allows for undisturbed observation, enrichment present  | N/A        |
| Personnel trained in H2O quality, animal health monitoring   | N/A        |
| How is MS222 prepared for use?   | N/A        |





|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 08/21/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12117        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |
| <b>Deficiency Count:</b> 0        | <b>Inspection Comments:</b> 3      |

### 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** Acceptable

Inspectors spoke with the PI, during the inspection. was very thorough in describing her research and experiments, and provided complete, organized records that were easy to follow. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

### 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

### 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place N/A

Procedures for using/scavenging volatile anesthetics; check for Fair can weight N/A

Proper sharps disposal, hazardous waste disposal N/A

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training Acceptable

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

### 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) Acceptable

Inspectors, including at least 2 IACUC members, and a DCM veterinarian reviewed USDA covered species records as part of this semiannual inspection.

Analgesia/anesthesia use as described in approved ACAP N/A

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

### 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock N/A

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

### 6 PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning N/A

### 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) N/A

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide N/A

Interior surfaces smooth and impervious to moisture N/A

Fixed equipment is sanitizable N/A

### 8 SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care N/A





|  |     |
|--|-----|
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                                       | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | N/A |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |     |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |
| <b>10. SATELLITE FACILITIES</b>  |     |
| Daily feed/water/observation-records maintained  | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A |
| Pest control (frequency, effectiveness)  | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A |
| Veterinary contact info visibly posted   | N/A |
| <b>11. AQUATIC FACILITIES</b>  |     |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A |
| Temperature/humidity values recorded   | N/A |
| Equipment properly sanitized, separation based on health status  | N/A |
| Tank allows for undisturbed observation, enrichment present  | N/A |
| Personnel trained in H2O quality, animal health monitoring   | N/A |
| How is MS222 prepared for use?   | N/A |



**PI:**  
**PI PID**  
**Inspection ID** 12120  
**Inspection Type** Semiannual  
**Lab Coordinators**

**Inspection Date:** 09/19/2019  
**Inspectors**

**Deficiency Count:** 0

**Inspection Comments:** 3

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** Acceptable

Inspectors spoke with a member of the lab, during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to iacuc@med.unc.edu with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

## 2 DOCUMENTATIONS and IACUC POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained/certified and on application Acceptable

How are approved applications and amendments available to and reviewed by laboratory personnel? Acceptable

Other N/A

## 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal; Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal/hazardous waste disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry (i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

If chemical/biological hazards in animal facility, using appropriate cage cards to identify hazards? N/A

Review of chemical hazard forms by laboratory personnel before initial use N/A

Other N/A

## 4 ANIMAL CARE

Does the lab know how to report animal health issues to DCM? Acceptable

If USDA regulated species, are there clinical records for individual animals? N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

If euthanizing in lab space is euthanasia performed as described in approved protocol; secondary method tools sharp/adequate Acceptable

Means to track animal usage Acceptable

Experimental Monitoring Documentation (weight loss, tumor size, etc.) Acceptable

Toe Clip Discussion (max day 10, max 4 toes, 2 toes per foot (not the dewclaw), approved in ACAP) N/A

Other N/A

## 5 AGENTS ADMINISTERED

Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper records maintained for agents used for anesthesia, analgesia, euthanasia, and acute intervention Acceptable

Proper Controlled Substance Storage and Records; double lock, running balance Acceptable

Is the lab ensuring drugs and biological agents are within expiration date (expired drugs separated or marked appropriately) Acceptable

Other N/A

## 6 PHYSICAL PLANT- Lab Space

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning; Are they on the DCM biological monitoring schedule? N/A

Other N/A

## 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure Acceptable

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable

Other N/A



## 8. SURGICAL PROCEDURES: Anesthesia

|  |            |
|--|------------|
| Adequate surgical records of anesthesia and preoperative care<br>Surgical logs were very organized as the lab utilized a customized version of the IACUC template to suit their needs.   | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)   | Acceptable |
| Proper recovery monitoring; Records of postoperative care including analgesia agents (all species)   | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |
| Other<br>Inspectors informed the lab that the vaporizer may be calibrated during the annual appointment scheduled by DCM veterinary services for Eagle Eye Calibration. This option is less expensive than an individual appointment and usually occurs in May-June of each year. Please look for emails from the NLAC listserv or contact DCM Vet Services regarding the DCM scheduled appointment. | Acceptable |

## 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|   |            |
|---|------------|
| Autoclave Sterilization procedures are appropriate (e.g.: storage, use of autoclave tape, expiration date visible)  | Acceptable |
| Use of effective aseptic procedures for survival surgery; Preparation of sterile incision site and surrounding area | Acceptable |
| Cold Sterilization procedures are appropriate (e.g.: manufacturer recommended exposure time)                        | N/A        |
| Use of sterile gloves and drapes (for surgeries where glove exposure to the animal occurs)                          | Acceptable |
| Closure method  | Acceptable |
| Other   | N/A        |



|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 09/11/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12121        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |
| <b>Deficiency Count:</b> 0        | <b>Inspection Comments:</b> 2      |

**1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY**

Summary Conducted \_\_\_\_\_, the Laboratory Animal Coordinator (LAC), during the inspection. \_\_\_\_\_ was very knowledgeable about the protocol and was thorough in her responses to questions. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to iacuc@med.unc.edu with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

Acceptable

**2. DOCUMENTATIONS and IACUC POSTINGS**

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained/certified and on application Acceptable

How are approved applications and amendments available to and reviewed by laboratory personnel? Acceptable

Other N/A

**3. HEALTH AND SAFETY**

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight N/A

Proper sharps disposal; Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal/hazardous waste disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry (i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

If chemical/biological hazards in animal facility, using appropriate cage cards to identify hazards? N/A

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

Other N/A

**4. ANIMAL CARE**

Does the lab know how to report animal health issues to DCM? Acceptable

If USDA regulated species, are there clinical records for individual animals? N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

If euthanizing in lab space is euthanasia performed as described in approved protocol; secondary method tools sharp/adequate Acceptable

Means to track animal usage Acceptable

Experimental Monitoring Documentation (weight loss, tumor size, etc.) Acceptable

Toe Clip Discussion (max day 10, max 4 toes, 2 toes per foot (not the dewclaw), approved in ACAP) Acceptable

Other N/A

**5. AGENTS ADMINISTERED**

Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? Acceptable

Proper records maintained for agents used for anesthesia, analgesia, euthanasia, and acute intervention Acceptable

Inspectors observed that lab members correctly crossed out errors in drug logs with a single line. In some instances, initials next to the error were not observed. Please initial any errors to identify the individual making a correction.

Proper Controlled Substance Storage and Records; double lock, running balance Acceptable

Is the lab ensuring drugs and biological agents are within expiration date (expired drugs separated or marked appropriately) Acceptable

Other N/A

**6. PHYSICAL PLANT- Lab Space**

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning; Are they on the DCM biological monitoring schedule? N/A

Other N/A

**7. SURGICAL PROCEDURES: General Considerations**

Location minimizes traffic/contamination (survival surgery) N/A

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide N/A

Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure N/A

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable

Other N/A

**8. SURGICAL PROCEDURES: Anesthesia**

|  |            |
|--|------------|
| Adequate surgical records of anesthesia and preoperative care                                      | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                         | Acceptable |
| Proper recovery monitoring; Records of postoperative care including analgesia agents (all species) | N/A        |
| Procedures for administering and monitoring analgesia (survival surgery)                           | N/A        |
| Other  | N/A        |

**9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures**

|   |     |
|---|-----|
| Autoclave Sterilization procedures are appropriate (e.g.: storage, use of autoclave tape, expiration date visible)  | N/A |
| Use of effective aseptic procedures for survival surgery; Preparation of sterile incision site and surrounding area | N/A |
| Cold Sterilization procedures are appropriate (e.g.: manufacturer recommended exposure time)                        | N/A |
| Use of sterile gloves and drapes (for surgeries where glove exposure to the animal occurs)                          | N/A |
| Closure method  | N/A |
| Other   | N/A |



|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 09/05/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12125        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |
| <b>Deficiency Count:</b> 0        | <b>Inspection Comments:</b> 5      |

### 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** Acceptable

Inspectors spoke with \_\_\_\_\_, the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

### 2 DOCUMENTATIONS and IACUC POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained/certified and on application Acceptable

How are approved applications and amendments available to and reviewed by laboratory personnel? Acceptable

Other N/A

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

### 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight N/A

Proper sharps disposal; Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal/hazardous waste disposal (especially hazard contaminated) No Deficiency

Inspectors discussed the use of transparent, non-PVC containing bags to store carcasses for disposal. These bags can be obtained through DCM, and should be used when disposing of carcasses as all carcasses leave campus for incineration. Please see policy at the following URL: <http://research.unc.edu/files/2012/11/Disposal-of-Rodents-Carcasses-Policy.pdf>

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry (i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

If chemical/biological hazards in animal facility, using appropriate cage cards to identify hazards? Acceptable

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

Other No Deficiency

The recertification sticker for the hood in this room shows 07/2016 as the due date. Please replace the sticker with the current due date or have the machine recertified.

### 4 ANIMAL CARE

Does the lab know how to report animal health issues to DCM? Acceptable

If USDA regulated species, are there clinical records for individual animals? N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

If euthanizing in lab space is euthanasia performed as described in approved protocol; secondary method tools sharp/adequate Acceptable

Means to track animal usage Acceptable

Experimental Monitoring Documentation (weight loss, tumor size, etc.) Acceptable

Toe Clip Discussion (max day 10, max 4 toes, 2 toes per foot (not the dewclaw), approved in ACAP) Acceptable

Other N/A

### 5 AGENTS ADMINISTERED

Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? Acceptable

Proper records maintained for agents used for anesthesia, analgesia, euthanasia, and acute intervention Acceptable

Proper Controlled Substance Storage and Records; double lock, running balance Acceptable

Is the lab ensuring drugs and biological agents are within expiration date (expired drugs separated or marked appropriately) No Deficiency

At the time of the inspection, there were two unopened bottles labeled USP Reference Standard -- Pentobarbital. The bottles did not contain expiration date information on the label. Outdated drugs used in research animals may adversely affect the animals' health and welfare or may confound research results. Expired pharmaceuticals may not be used for anesthesia, analgesia, euthanasia, or acute intervention.

Because it is important to determine a 'use by' or expiration date for these products, please consult with the manufacturer to determine how to assess the Expiration Dating of USP Reference Standards. If the manufacturer provides information pertaining to these two drugs, please maintain the information with the drugs. If the manufacturer provides relevant 'use' dates, please indicate pertinent dates on the bottle label and indicate whether it is a 'use by' date or an 'opened' date.

Other N/A

### 6 PHYSICAL PLANT- Lab Space

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning; Are they on the DCM biological monitoring schedule? N/A

Obtained by Rise for Animals. Uploaded 07/05/2020





|   |     |
|---|-----|
| Other   | N/A |
| <b>7. SURGICAL PROCEDURES: General Considerations</b>   |     |
| Location minimizes traffic/contamination (survival surgery)   | N/A |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure   | N/A |
| Interior surfaces smooth and impervious to moisture   | N/A |
| Fixed equipment is sanitizable  | N/A |
| Other   | N/A |
| <b>8. SURGICAL PROCEDURES: Anesthesia</b>   |     |
| Adequate surgical records of anesthesia and preoperative care   | N/A |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)  | N/A |
| Proper recovery monitoring; Records of postoperative care including analgesia agents (all species)  | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)  | N/A |
| Other   | N/A |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>  |     |
| Autoclave Sterilization procedures are appropriate (e.g.: storage, use of autoclave tape, expiration date visible)                                  | N/A |
| Use of effective aseptic procedures for survival surgery; Preparation of sterile incision site and surrounding area                                 | N/A |
| Cold Sterilization procedures are appropriate (e.g.: manufacturer recommended exposure time)  | N/A |
| Use of sterile gloves and drapes (for surgeries where glove exposure to the animal occurs)  | N/A |
| Closure method  | N/A |
| Other   | N/A |



|                         |            |                         |                  |
|-------------------------|------------|-------------------------|------------------|
| <b>PI:</b>              |            | <b>Inspection Date:</b> | 09/18/2019       |
| <b>PI PID</b>           |            | <b>Inspectors</b>       |                  |
| <b>Inspection ID</b>    | 12127      |                         |                  |
| <b>Inspection Type</b>  | Semiannual |                         | IACUC            |
| <b>Lab Coordinators</b> |            |                         | DCM Veterinarian |

Deficiency Count: 0

Inspection Comments: 2

**1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY**

Summary Conducted Acceptable

Inspectors spoke with the PI, during the inspection. was very thorough in his responses and explanations. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to iacuc@med.unc.edu with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

**2. DOCUMENTATIONS and IACUC POSTINGS**

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained/certified and on application Acceptable

How are approved applications and amendments available to and reviewed by laboratory personnel? Acceptable

Other N/A

**3. HEALTH AND SAFETY**

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal; Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal/hazardous waste disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry (i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

If chemical/biological hazards in animal facility, using appropriate cage cards to identify hazards? N/A

Review of chemical hazard forms by laboratory personnel before initial use N/A

Other N/A

**4. ANIMAL CARE**

Does the lab know how to report animal health issues to DCM? Acceptable

If USDA regulated species, are there clinical records for individual animals? Acceptable

Analgesia/anesthesia use as described in approved ACAP Acceptable

If euthanizing in lab space is euthanasia performed as described in approved protocol; secondary method tools sharp/adequate Acceptable

Means to track animal usage Acceptable

Experimental Monitoring Documentation (weight loss, tumor size, etc.) Acceptable

Toe Clip Discussion (max day 10, max 4 toes, 2 toes per foot (not the dewclaw), approved in ACAP) N/A

Other N/A

**5. AGENTS ADMINISTERED**

Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper records maintained for agents used for anesthesia, analgesia, euthanasia, and acute intervention Acceptable

Proper Controlled Substance Storage and Records; double lock, running balance Acceptable

Is the lab ensuring drugs and biological agents are within expiration date (expired drugs separated or marked appropriately) Acceptable

Drugs and biological agents were very organized and color-coded for ease of monitoring expiration dates.

Other N/A

**6. PHYSICAL PLANT- Lab Space**

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning; Are they on the DCM biological monitoring schedule? N/A

Other N/A

**7. SURGICAL PROCEDURES: General Considerations**

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure Acceptable

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable



|   |            |
|---|------------|
| Other   | N/A        |
| <b>8. SURGICAL PROCEDURES: Anesthesia</b>   |            |
| Adequate surgical records of anesthesia and preoperative care   | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)  | Acceptable |
| Proper recovery monitoring; Records of postoperative care including analgesia agents (all species)                  | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)  | Acceptable |
| Other   | N/A        |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>  |            |
| Autoclave Sterilization procedures are appropriate (e.g.: storage, use of autoclave tape, expiration date visible)  | Acceptable |
| Use of effective aseptic procedures for survival surgery; Preparation of sterile incision site and surrounding area | Acceptable |
| Cold Sterilization procedures are appropriate (e.g.: manufacturer recommended exposure time)                        | Acceptable |
| Use of sterile gloves and drapes (for surgeries where glove exposure to the animal occurs)                          | Acceptable |
| Closure method  | Acceptable |
| Other   | N/A        |



|                                   |                         |                   |
|-----------------------------------|-------------------------|-------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> | <b>07/31/2019</b> |
| <b>PI PID</b>                     | <b>Inspectors</b>       |                   |
| <b>Inspection ID</b> 12128        |                         |                   |
| <b>Inspection Type</b> Semiannual |                         | IACUC IACUC Vet   |
| <b>Lab Coordinators</b>           |                         |                   |

Deficiency Count: 0

Inspection Comments: 3

**1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY**

Summary Conducted Acceptable  
 Inspectors spoke with \_\_\_\_\_, the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

**2. DOCUMENTATIONS and POSTINGS**

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

**3. HEALTH AND SAFETY**

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training Acceptable

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

**4. ANIMAL CARE**

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) Acceptable  
 Inspectors, including at least 2 IACUC members, and a DCM veterinarian reviewed USDA covered species records as part of this semiannual inspection.

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) Acceptable

**5. AGENTS ADMINISTERED**

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock Acceptable

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

**6. PHYSICAL PLANT**

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning N/A

**7. SURGICAL PROCEDURES: General Considerations**

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable

**8. SURGICAL PROCEDURES: Anesthesia**

Adequate records of anesthesia and preoperative care Acceptable

Proper monitoring for depth of surgical anesthesia (toe pinch documented?) Acceptable



|  |            |
|--|------------|
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A        |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A        |
| Use of effective aseptic procedures for survival surgery   | N/A        |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A        |
| Use of sterile gloves and drapes   | N/A        |
| Preparation of sterile incision site and surrounding area  | N/A        |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A        |
| Proper recovery monitoring   | N/A        |
| Records of postoperative care including analgesia agents (all species)   | N/A        |
| <b>10. SATELLITE FACILITIES</b>  |            |
| Daily feed/water/observation-records maintained  | N/A        |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A        |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A        |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A        |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A        |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A        |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A        |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A        |
| Pest control (frequency, effectiveness)  | N/A        |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A        |
| Veterinary contact info visibly posted   | N/A        |
| <b>11. AQUATIC FACILITIES</b>  |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A        |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A        |
| Temperature/humidity values recorded   | N/A        |
| Equipment properly sanitized, separation based on health status  | N/A        |
| Tank allows for undisturbed observation, enrichment present  | N/A        |
| Personnel trained in H2O quality, animal health monitoring   | N/A        |
| How is MS222 prepared for use?   | N/A        |



|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 09/24/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12130        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |

Deficiency Count: 0

Inspection Comments: 3

**1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY**

Summary Conducted Acceptable  
 Inspectors spoke with the Laboratory Animal Coordinator (LAC), and a member of the lab, during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to iacuc@med.unc.edu with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

**2. DOCUMENTATIONS and IACUC POSTINGS**

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable  
 Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable  
 All personnel handling animals in the lab trained/certified and on application Acceptable  
 How are approved applications and amendments available to and reviewed by laboratory personnel? Acceptable  
 Other N/A

**3. HEALTH AND SAFETY**

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable  
 Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable  
 Proper sharps disposal; Current copy of Needle Safety in Animal Studies posted Acceptable  
 Proper carcass disposal/hazardous waste disposal (especially hazard contaminated) Acceptable  
 Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable  
 Warning signs visible upon laboratory entry (i.e.; radiation, biohazard, chemicals, ABSL) Acceptable  
 If chemical/biological hazards in animal facility, using appropriate cage cards to identify hazards? N/A  
 Review of chemical hazard forms by laboratory personnel before initial use N/A  
 Other N/A

**4. ANIMAL CARE**

Does the lab know how to report animal health issues to DCM? Acceptable  
 If USDA regulated species, are there clinical records for individual animals? N/A  
 Analgesia/anesthesia use as described in approved ACAP Acceptable  
 If euthanizing in lab space is euthanasia performed as described in approved protocol, secondary method tools sharp/adequate Acceptable  
 Means to track animal usage Acceptable  
 Experimental Monitoring Documentation (weight loss, tumor size, etc.) Acceptable  
 Toe Clip Discussion (max day 10, max 4 toes, 2 toes per foot (not the dewclaw), approved in ACAP) Acceptable  
 Other N/A

**5. AGENTS ADMINISTERED**

Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade) Acceptable  
 Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A  
 Proper records maintained for agents used for anesthesia, analgesia, euthanasia, and acute intervention Acceptable  
 Proper Controlled Substance Storage and Records; double lock, running balance Acceptable  
 Is the lab ensuring drugs and biological agents are within expiration date (expired drugs separated or marked appropriately) Acceptable  
 Other N/A

**6. PHYSICAL PLANT- Lab Space**

Impervious surfaces Acceptable  
 General cleanliness Acceptable  
 Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning; Are they on the DCM biological monitoring schedule? N/A  
 Other Acceptable  
 Lab members perform survival surgeries in the lab space of

**7. SURGICAL PROCEDURES: General Considerations**

Location minimizes traffic/contamination (survival surgery) Acceptable  
 Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable  
 Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure Acceptable  
 Interior surfaces smooth and impervious to moisture Acceptable  
 Fixed equipment is sanitizable Acceptable





|   |            |
|---|------------|
| Other   | N/A        |
| <b>8. SURGICAL PROCEDURES: Anesthesia</b>   |            |
| Adequate surgical records of anesthesia and preoperative care   | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)  | Acceptable |
| Proper recovery monitoring; Records of postoperative care including analgesia agents (all species)  | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)  | Acceptable |
| Please note that for some survival surgeries, DCM veterinarians are now recommending administration of pre-emptive analgesics. Please continue to follow the procedure outlined in your protocol, and contact the DCM veterinarians to discuss the possible need to add pre-emptive analgesics to the protocol. |            |
| Other   | N/A        |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>  |            |
| Autoclave Sterilization procedures are appropriate (e.g.: storage, use of autoclave tape, expiration date visible)  | Acceptable |
| Use of effective aseptic procedures for survival surgery; Preparation of sterile incision site and surrounding area   | Acceptable |
| Cold Sterilization procedures are appropriate (e.g.: manufacturer recommended exposure time)  | N/A        |
| Use of sterile gloves and drapes (for surgeries where glove exposure to the animal occurs)  | Acceptable |
| Closure method  | Acceptable |
| Other   | N/A        |



|  |  |
|--|--|
| <b>PI:</b><br><b>PI PID</b><br><b>Inspection ID</b> 12135<br><b>Inspection Type</b><br><b>Lab Coordinators</b><br><b>Deficiency Count:</b> 0 | <b>Inspection Date:</b> 09/04/2019<br><b>Inspectors</b><br><br><b>Inspection Comments:</b> 2 |
|--|--|

### 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** Acceptable

Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. was knowledgeable in answering questions and had all logs and documentation ready to facilitate the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to iacuc@med.unc.edu with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

### 2 DOCUMENTATIONS and IACUC POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area                 | Acceptable |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted | Acceptable |
| All personnel handling animals in the lab trained/certified and on application                            | Acceptable |
| How are approved applications and amendments available to and reviewed by laboratory personnel?           | Acceptable |
| Other   | N/A        |

### 3 HEALTH AND SAFETY

|   |            |
|---|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place                                | Acceptable |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight                       | Acceptable |
| Proper sharps disposal; Current copy of Needle Safety in Animal Studies posted                        | Acceptable |
| Proper carcass disposal/hazardous waste disposal (especially hazard contaminated)                     | Acceptable |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
| Warning signs visible upon laboratory entry (i.e.; radiation, biohazard, chemicals, ABSL)             | Acceptable |
| If chemical/biological hazards in animal facility, using appropriate cage cards to identify hazards?  | N/A        |
| Review of chemical hazard forms by laboratory personnel before initial use                            | N/A        |
| Other   | N/A        |

### 4 ANIMAL CARE

|  |            |
|--|------------|
| Does the lab know how to report animal health issues to DCM?   | Acceptable |
| If USDA regulated species, are there clinical records for individual animals?  | N/A        |
| Analgesia/anesthesia use as described in approved ACAP   | Acceptable |
| If euthanizing in lab space is euthanasia performed as described in approved protocol; secondary method tools sharp/adequate | Acceptable |
| Means to track animal usage  | Acceptable |
| Experimental Monitoring Documentation (weight loss, tumor size, etc.)  | Acceptable |
| Toe Clip Discussion (max day 10, max 4 toes, 2 toes per foot (not the dewclaw), approved in ACAP)                            | N/A        |
| Other  | N/A        |

### 5 AGENTS ADMINISTERED

|   |            |
|---|------------|
| Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade)   | Acceptable |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?   | N/A        |
| Proper records maintained for agents used for anesthesia, analgesia, euthanasia, and acute intervention<br><small>Researchers maintained proper surgical and drug logs. Inspectors observed a few pages that did not clearly differentiate between stock and dilution bottles. This can lead to confusion if different individuals are utilizing the log. Please distinguish each page as stock or dilution bottle.</small> | Acceptable |
| Proper Controlled Substance Storage and Records; double lock, running balance   | Acceptable |
| Is the lab ensuring drugs and biological agents are within expiration date (expired drugs separated or marked appropriately)  | Acceptable |
| Other   | N/A        |

### 6 PHYSICAL PLANT- Lab Space

|  |            |
|--|------------|
| Impervious surfaces  | Acceptable |
| General cleanliness  | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning; Are they on the DCM biological monitoring schedule? | Acceptable |
| Other  | N/A        |

### 7 SURGICAL PROCEDURES: General Considerations

|   |            |
|---|------------|
| Location minimizes traffic/contamination (survival surgery)   | Acceptable |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | Acceptable |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure   | Acceptable |
| Interior surfaces smooth and impervious to moisture   | Acceptable |
| Fixed equipment is sanitizable  | Acceptable |
| Other   | N/A        |

**8. SURGICAL PROCEDURES: Anesthesia**

|  |            |
|--|------------|
| Adequate surgical records of anesthesia and preoperative care                                      | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                         | Acceptable |
| Proper recovery monitoring; Records of postoperative care including analgesia agents (all species) | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)                           | Acceptable |
| Other  | N/A        |

**9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures**

|   |            |
|---|------------|
| Autoclave Sterilization procedures are appropriate (e.g.: storage, use of autoclave tape, expiration date visible)  | Acceptable |
| Use of effective aseptic procedures for survival surgery; Preparation of sterile incision site and surrounding area | Acceptable |
| Cold Sterilization procedures are appropriate (e.g.: manufacturer recommended exposure time)                        | N/A        |
| Use of sterile gloves and drapes (for surgeries where glove exposure to the animal occurs)                          | Acceptable |
| Closure method  | Acceptable |
| Other   | N/A        |



|   |  |
|---|--|
| <b>PI:</b><br><b>PI PID</b><br><b>Inspection ID</b> 12136<br><b>Inspection Type</b> Semiannual<br><b>Lab Coordinators</b><br><b>Deficiency Count:</b> 0 | <b>Inspection Date:</b> 09/03/2019<br><b>Inspectors</b><br><br><b>Inspection Comments:</b> 2 |
|---|--|

### 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years. Acceptable

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

### 2. DOCUMENTATIONS and IACUC POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained/certified and on application Acceptable

How are approved applications and amendments available to and reviewed by laboratory personnel? Acceptable

Other N/A

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

### 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal; Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal/hazardous waste disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry (i.e., radiation, biohazard, chemicals, ABSL) Acceptable

If chemical/biological hazards in animal facility, using appropriate cage cards to identify hazards? Acceptable

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

Other N/A

### 4. ANIMAL CARE

Does the lab know how to report animal health issues to DCM? Acceptable

If USDA regulated species, are there clinical records for individual animals? N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

If euthanizing in lab space is euthanasia performed as described in approved protocol; secondary method tools sharp/adequate Acceptable

Means to track animal usage Acceptable

Experimental Monitoring Documentation (weight loss, tumor size, etc.) Acceptable

Toe Clip Discussion (max day 10, max 4 toes, 2 toes per foot (not the dewclaw), approved in ACAP) N/A

Other N/A

### 5. AGENTS ADMINISTERED

Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper records maintained for agents used for anesthesia, analgesia, euthanasia, and acute intervention Acceptable

Proper Controlled Substance Storage and Records; double lock, running balance Acceptable

Is the lab ensuring drugs and biological agents are within expiration date (expired drugs separated or marked appropriately) Acceptable

Other N/A

### 6. PHYSICAL PLANT- Lab Space

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning; Are they on the DCM biological monitoring schedule? N/A

Other N/A

### 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure Acceptable

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable



|   |            |
|---|------------|
| Other   | N/A        |
| <b>8. SURGICAL PROCEDURES: Anesthesia</b>   |            |
| Adequate surgical records of anesthesia and preoperative care   | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)  | Acceptable |
| Proper recovery monitoring; Records of postoperative care including analgesia agents (all species)                  | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)  | Acceptable |
| Other   | N/A        |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>  |            |
| Autoclave Sterilization procedures are appropriate (e.g.: storage, use of autoclave tape, expiration date visible)  | Acceptable |
| Use of effective aseptic procedures for survival surgery; Preparation of sterile incision site and surrounding area | Acceptable |
| Cold Sterilization procedures are appropriate (e.g.: manufacturer recommended exposure time)                        | N/A        |
| Use of sterile gloves and drapes (for surgeries where glove exposure to the animal occurs)                          | Acceptable |
| Closure method  | Acceptable |
| Other   | N/A        |



|   |  |
|---|--|
| <b>PI:</b><br><b>PI PID</b><br><b>Inspection ID</b> 12137<br><b>Inspection Type</b> Semiannual<br><b>Lab Coordinators</b><br><b>Deficiency Count:</b> 0 | <b>Inspection Date:</b> 09/04/2019<br><b>Inspectors</b><br><br><b>Inspection Comments:</b> 5 |
|---|--|

### 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted \_\_\_\_\_, the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years. Acceptable

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to iacuc@med.unc.edu with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

### 2 DOCUMENTATIONS and IACUC POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained/certified and on application Acceptable

How are approved applications and amendments available to and reviewed by laboratory personnel? Acceptable

Other N/A

### 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal; Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal/hazardous waste disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry (i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

If chemical/biological hazards in animal facility, using appropriate cage cards to identify hazards? N/A

Review of chemical hazard forms by laboratory personnel before initial use N/A

Other N/A

### 4 ANIMAL CARE

Does the lab know how to report animal health issues to DCM? Acceptable

If USDA regulated species, are there clinical records for individual animals? N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

If euthanizing in lab space is euthanasia performed as described in approved protocol; secondary method tools sharp/adequate Acceptable

Means to track animal usage Acceptable

Experimental Monitoring Documentation (weight loss, tumor size, etc.) Acceptable

Toe Clip Discussion (max day 10, max 4 toes, 2 toes per foot (not the dewclaw), approved in ACAP) N/A

Other N/A

### 5 AGENTS ADMINISTERED

Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper records maintained for agents used for anesthesia, analgesia, euthanasia, and acute intervention No Deficiency

The drug logs were properly maintained by the researchers. However, the same sheet was used for multiple bottles. Please use a separate sheet each time a new bottle is used.

Proper Controlled Substance Storage and Records; double lock, running balance No Deficiency

Controlled substances were kept in a locked cabinet within the lab space. Double locks are required for storing controlled substances. As discussed during the inspection, please obtain a lock box that is stored inside the locked cabinet, creating a double lock system for controlled substances.

Is the lab ensuring drugs and biological agents are within expiration date (expired drugs separated or marked appropriately) Acceptable

Other N/A

### 6 PHYSICAL PLANT- Lab Space

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning; Are they on the DCM biological monitoring schedule? N/A

Other No Deficiency

The hood in TB 6113 was due for an inspection on February 2019. The LAC explained that the hood was not used for any animal work. Inspectors reminded the LAC to post a note that the hood is not being used for animal work until they can schedule an inspection.

### 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure Acceptable





|   |            |
|---|------------|
| Interior surfaces smooth and impervious to moisture   | Acceptable |
| Fixed equipment is sanitizable  | Acceptable |
| Other   | Acceptable |
| Inspectors noted that a box of sutures in the surgical area was expired, despite the lab not performing any survival surgeries. Please write "Expired" to avoid accidental use in survival surgeries. |            |

#### 8 SURGICAL PROCEDURES: Anesthesia

|  |            |
|--|------------|
| Adequate surgical records of anesthesia and preoperative care                                      | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                         | Acceptable |
| Proper recovery monitoring; Records of postoperative care including analgesia agents (all species) | N/A        |
| Procedures for administering and monitoring analgesia (survival surgery)                           | N/A        |
| Other  | N/A        |

#### 9 SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|   |     |
|---|-----|
| Autoclave Sterilization procedures are appropriate (e.g.: storage, use of autoclave tape, expiration date visible)  | N/A |
| Use of effective aseptic procedures for survival surgery; Preparation of sterile incision site and surrounding area | N/A |
| Cold Sterilization procedures are appropriate (e.g.: manufacturer recommended exposure time)                        | N/A |
| Use of sterile gloves and drapes (for surgeries where glove exposure to the animal occurs)                          | N/A |
| Closure method  | N/A |
| Other   | N/A |



|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 09/24/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12138        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |
| <b>Deficiency Count:</b> 0        | <b>Inspection Comments:</b> 3      |

### 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** Acceptable

Inspectors spoke with \_\_\_\_\_, the PI and Laboratory Animal Coordinator (LAC), during the inspection. \_\_\_\_\_ was very thorough in answering questions and providing information related to the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

According to \_\_\_\_\_ all future animal work will be conducted in the DCM facilities rather than lab space. This practice alleviates the requirement for a semiannual inspection of your lab space so we are changing you over to a yearly informational inspection schedule instead. If the lab begins performing surgeries or other procedures within the lab space, we must be contacted so that we can visit the space semiannually. If you should need any assistance from the IACUC or Office of Animal Care and Use between inspections, please don't hesitate to contact us or check our website for information (<http://research.unc.edu/offices/iacuc/index.htm>).

### 2 DOCUMENTATIONS and IACUC POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area                 | Acceptable |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted | Acceptable |
| All personnel handling animals in the lab trained/certified and on application                            | Acceptable |
| How are approved applications and amendments available to and reviewed by laboratory personnel?           | Acceptable |
| Other   | N/A        |

### 3 HEALTH AND SAFETY

|   |            |
|---|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place                                | Acceptable |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight                       | N/A        |
| Proper sharps disposal; Current copy of Needle Safety in Animal Studies posted                        | Acceptable |
| Proper carcass disposal/hazardous waste disposal (especially hazard contaminated)                     | Acceptable |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
| Warning signs visible upon laboratory entry (i.e.; radiation, biohazard, chemicals, ABSL)             | Acceptable |
| If chemical/biological hazards in animal facility, using appropriate cage cards to identify hazards?  | Acceptable |
| Review of chemical hazard forms by laboratory personnel before initial use                            | Acceptable |
| Other   | N/A        |

### 4 ANIMAL CARE

|  |            |
|--|------------|
| Does the lab know how to report animal health issues to DCM?   | Acceptable |
| If USDA regulated species, are there clinical records for individual animals?  | N/A        |
| Analgesia/anesthesia use as described in approved ACAP   | Acceptable |
| If euthanizing in lab space is euthanasia performed as described in approved protocol; secondary method tools sharp/adequate | Acceptable |
| Means to track animal usage  | Acceptable |
| Experimental Monitoring Documentation (weight loss, tumor size, etc.)  | Acceptable |
| Toe Clip Discussion (max day 10, max 4 toes, 2 toes per foot (not the dewclaw), approved in ACAP)                            | N/A        |
| Other  | N/A        |

### 5 AGENTS ADMINISTERED

|  |            |
|--|------------|
| Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade)                          | Acceptable |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?        | Acceptable |
| Proper records maintained for agents used for anesthesia, analgesia, euthanasia, and acute intervention                      | Acceptable |
| Proper Controlled Substance Storage and Records; double lock, running balance  | N/A        |
| Is the lab ensuring drugs and biological agents are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
| Other  | N/A        |

### 6 PHYSICAL PLANT- Lab Space

|  |            |
|--|------------|
| Impervious surfaces  | Acceptable |
| General cleanliness  | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning; Are they on the DCM biological monitoring schedule? | N/A        |
| Other  | N/A        |

### 7 SURGICAL PROCEDURES: General Considerations

|   |            |
|---|------------|
| Location minimizes traffic/contamination (survival surgery)   | Acceptable |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | Acceptable |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure   | Acceptable |



|   |            |
|---|------------|
| Interior surfaces smooth and impervious to moisture | Acceptable |
| Fixed equipment is sanitizable                      | Acceptable |
| Other   | N/A        |

#### 8 SURGICAL PROCEDURES: Anesthesia

|   |            |
|---|------------|
| Adequate surgical records of anesthesia and preoperative care<br>Surgical logs were well-maintained by the lab. Inspectors noted that one checkbox for "new or sterilized instruments between animals" was checked. In order for this box to be checked, please ensure that all instruments that touch the animals are new or appropriately sterilized. | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)  | Acceptable |
| Proper recovery monitoring; Records of postoperative care including analgesia agents (all species)  | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)  | Acceptable |
| Other   | N/A        |

#### 9 SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|  |            |
|--|------------|
| Autoclave Sterilization procedures are appropriate (e.g.: storage, use of autoclave tape, expiration date visible)   | Acceptable |
| Use of effective aseptic procedures for survival surgery; Preparation of sterile incision site and surrounding area<br>Inspectors were informed that forceps used to stabilize the head during surgery were rinsed with alcohol and PBS between animals. Alcohol is a disinfectant but not a sterilant. Please consult with a DCM veterinarian regarding whether a hot bead sterilizer is necessary, or if alcohol and PBS is sufficient, between surgeries due to the minimal contact the forceps make with each animal. Also, please update IACUC with their response. | Acceptable |
| Cold Sterilization procedures are appropriate (e.g.: manufacturer recommended exposure time)   | Acceptable |
| Use of sterile gloves and drapes (for surgeries where glove exposure to the animal occurs)   | Acceptable |
| Closure method   | Acceptable |
| Other  | N/A        |



|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 05/29/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b> IACUC Vet        |
| <b>Inspection ID</b> 12140        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |

**1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY**

|   |            |
|---|------------|
| Summary Conducted   | Acceptable |
| Inspectors spoke with the PI and Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years. |            |

**2. DOCUMENTATIONS and POSTINGS**

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area   | Acceptable |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted   | Acceptable |
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA   | Acceptable |
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research   | Acceptable |
| The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <a href="https://research.unc.edu/iacuc/">https://research.unc.edu/iacuc/</a> |            |

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page:  
<https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

**3. HEALTH AND SAFETY**

|   |            |
|---|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place                                | N/A        |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight                       | N/A        |
| Proper sharps disposal, hazardous waste disposal  | N/A        |
| Current copy of Needle Safety in Animal Studies posted  | N/A        |
| Proper carcass disposal (especially hazard contaminated)  | N/A        |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL)            | N/A        |
| Cage side chemical hazard identification training   | N/A        |
| Review of chemical hazard forms by laboratory personnel before initial use                            | N/A        |

**4. ANIMAL CARE**

|  |            |
|--|------------|
| Report animal health issues to Division of Comparative Medicine          | Acceptable |
| Clinical records for individual animals (covered species)                | N/A        |
| Analgesia/anesthesia use as described in approved ACAP                   | N/A        |
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
| Means to track animal usage/Euthanasia log                               | N/A        |
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc)              | N/A        |
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP)                  | N/A        |

**5. AGENTS ADMINISTERED**

|   |            |
|---|------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)                                | Acceptable |
| Tribromoethanol (Avertin); preparation (including sterilization), storage, and proper maintenance- aware of Standard?           | N/A        |
| Proper Controlled Substance Storage and Records; double lock  | N/A        |
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention            | N/A        |

**6. PHYSICAL PLANT**

|   |            |
|---|------------|
| Impervious surfaces   | Acceptable |
| General cleanliness   | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | Acceptable |

**7. SURGICAL PROCEDURES: General Considerations**

|   |     |
|---|-----|
| Location minimizes traffic/contamination (survival surgery)   | N/A |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
| Interior surfaces smooth and impervious to moisture   | N/A |
| Fixed equipment is sanitizable  | N/A |

**8. SURGICAL PROCEDURES: Anesthesia**

|  |     |
|--|-----|
| Adequate records of anesthesia and preoperative care                       | N/A |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |
| Proper anesthetics, doses, routes of anesthesia (records maintained)       | N/A |

**9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures**



|  |     |
|--|-----|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |

#### 10. SATELLITE FACILITIES

|  |               |
|--|---------------|
| Daily feed/water/observation-records maintained  | Acceptable    |
| Animal identification posted (PI, ACAP ID #, species, source)  | Acceptable    |
| Changes in environment since last inspection (noise, illumination, vibration, etc)   | Acceptable    |
| Disaster plan in place, annual review, updates since last provided to OACU   | Acceptable    |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply<br>All feed must be clearly labeled with an accurate expiration or milling date. Feed is considered expired 6 months after the mill date or if provided, on the expiration date. | No Deficiency |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)  | Acceptable    |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | Acceptable    |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?   | Acceptable    |
| Pest control (frequency, effectiveness)  | Acceptable    |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | Acceptable    |
| Veterinary contact info visably posted   | Acceptable    |

#### 11. AQUATIC FACILITIES

|   |            |
|---|------------|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | Acceptable |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | Acceptable |
| Temperature/humidity values recorded  | Acceptable |
| Equipment properly sanitized, separation based on health status             | Acceptable |
| Tank allows for undisturbed observation, enrichment present                 | Acceptable |
| Personnel trained in H2O quality, animal health monitoring                  | Acceptable |
| How is MS222 prepared for use?  | N/A        |



|   |  |
|---|--|
| <b>PI:</b><br><b>PI PID</b><br><b>Inspection ID</b> 12143<br><b>Inspection Type</b> Semiannual<br><b>Lab Coordinators</b><br><b>Deficiency Count:</b> 0 | <b>Inspection Date:</b> 09/03/2019<br><b>Inspectors</b><br><br><b>Inspection Comments:</b> 3 |
|---|--|

#### 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable  
 Inspectors spoke with \_\_\_\_\_, the Laboratory Animal Coordinator (LAC) and Principal Investigator (PI), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

#### 2 DOCUMENTATIONS and IACUC POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable  
 Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable  
 All personnel handling animals in the lab trained/certified and on application Acceptable  
 How are approved applications and amendments available to and reviewed by laboratory personnel? Acceptable  
 Other N/A  
 The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

#### 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable  
 Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable  
 Inspectors informed the LAC that the lab's vaporizer must be calibrated at least bi-annually and may be calibrated during the annual appointment scheduled by DCM veterinary services for Eagle Eye Calibration. This option is less expensive than an individual appointment and usually occurs in May-June of each year. Please look for emails from the NLAC listserv or contact DCM Vet Services regarding the DCM scheduled appointment.  
 Proper sharps disposal; Current copy of Needle Safety in Animal Studies posted Acceptable  
 Proper carcass disposal/hazardous waste disposal (especially hazard contaminated) N/A  
 Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable  
 Warning signs visible upon laboratory entry (i.e.; radiation, biohazard, chemicals, ABSL) Acceptable  
 If chemical/biological hazards in animal facility, using appropriate cage cards to identify hazards? N/A  
 Review of chemical hazard forms by laboratory personnel before initial use N/A  
 Other N/A

#### 4 ANIMAL CARE

Does the lab know how to report animal health issues to DCM? N/A  
 If USDA regulated species, are there clinical records for individual animals? N/A  
 Analgesia/anesthesia use as described in approved ACAP N/A  
 If euthanizing in lab space is euthanasia performed as described in approved protocol; secondary method tools sharp/adequate N/A  
 Means to track animal usage Acceptable  
 Experimental Monitoring Documentation (weight loss, tumor size, etc.) N/A  
 Toe Clip Discussion (max day 10, max 4 toes, 2 toes per foot (not the dewclaw), approved in ACAP) N/A  
 Other N/A

#### 5 AGENTS ADMINISTERED

Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade) N/A  
 Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A  
 Proper records maintained for agents used for anesthesia, analgesia, euthanasia, and acute intervention N/A  
 Proper Controlled Substance Storage and Records; double lock, running balance N/A  
 Is the lab ensuring drugs and biological agents are within expiration date (expired drugs separated or marked appropriately) Acceptable  
 Other N/A

#### 6 PHYSICAL PLANT- Lab Space

Impervious surfaces Acceptable  
 General cleanliness Acceptable  
 Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning; Are they on the DCM biological monitoring schedule? Acceptable  
 Other N/A

#### 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) N/A  
 Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide N/A  
 Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure N/A





|   |     |
|---|-----|
| Interior surfaces smooth and impervious to moisture | N/A |
| Fixed equipment is sanitizable                      | N/A |
| Other   | N/A |

**8. SURGICAL PROCEDURES: Anesthesia**

|  |     |
|--|-----|
| Adequate surgical records of anesthesia and preoperative care                                      | N/A |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                         | N/A |
| Proper recovery monitoring; Records of postoperative care including analgesia agents (all species) | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)                           | N/A |
| Other  | N/A |

**9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures**

|   |     |
|---|-----|
| Autoclave Sterilization procedures are appropriate (e.g.: storage, use of autoclave tape, expiration date visible)  | N/A |
| Use of effective aseptic procedures for survival surgery; Preparation of sterile incision site and surrounding area | N/A |
| Cold Sterilization procedures are appropriate (e.g.: manufacturer recommended exposure time)                        | N/A |
| Use of sterile gloves and drapes (for surgeries where glove exposure to the animal occurs)                          | N/A |
| Closure method  | N/A |
| Other   | N/A |



|   |  |
|---|--|
| <b>PI:</b><br><b>PI PID</b><br><b>Inspection ID</b> 12152<br><b>Inspection Type</b> Semiannual<br><b>Lab Coordinators</b><br><b>Deficiency Count:</b> 0 | <b>Inspection Date:</b> 09/24/2019<br><b>Inspectors</b><br><br><b>Inspection Comments:</b> 3 |
|---|--|

### 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** Acceptable

Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. was very thorough in answering questions and providing information related to the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

According to all future animal work will be conducted in the DCM facilities rather than lab space. This practice alleviates the requirement for a semiannual inspection of your lab space so we are changing you over to a yearly informational inspection schedule instead. If the lab begins performing surgeries or other procedures within the lab space, we must be contacted so that we can visit the space semiannually. If you should need any assistance from the IACUC or Office of Animal Care and Use between inspections, please don't hesitate to contact us or check our website for information (<http://research.unc.edu/offices/iacuc/index.htm>).

### 2 DOCUMENTATIONS and IACUC POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area                 | Acceptable |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted | Acceptable |
| All personnel handling animals in the lab trained/certified and on application                            | Acceptable |
| How are approved applications and amendments available to and reviewed by laboratory personnel?           | Acceptable |
| Other   | N/A        |

### 3 HEALTH AND SAFETY

|   |            |
|---|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place                                | Acceptable |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight                       | N/A        |
| Proper sharps disposal; Current copy of Needle Safety in Animal Studies posted                        | Acceptable |
| Proper carcass disposal/hazardous waste disposal (especially hazard contaminated)                     | Acceptable |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
| Warning signs visible upon laboratory entry (i.e.; radiation, biohazard, chemicals, ABSL)             | Acceptable |
| If chemical/biological hazards in animal facility, using appropriate cage cards to identify hazards?  | Acceptable |
| Review of chemical hazard forms by laboratory personnel before initial use                            | Acceptable |
| Other   | N/A        |

### 4 ANIMAL CARE

|  |            |
|--|------------|
| Does the lab know how to report animal health issues to DCM?   | Acceptable |
| If USDA regulated species, are there clinical records for individual animals?  | N/A        |
| Analgesia/anesthesia use as described in approved ACAP   | Acceptable |
| If euthanizing in lab space is euthanasia performed as described in approved protocol; secondary method tools sharp/adequate | Acceptable |
| Means to track animal usage  | Acceptable |
| Experimental Monitoring Documentation (weight loss, tumor size, etc.)  | Acceptable |
| Toe Clip Discussion (max day 10, max 4 toes, 2 toes per foot (not the dewclaw), approved in ACAP)                            | N/A        |
| Other  | N/A        |

### 5 AGENTS ADMINISTERED

|  |            |
|--|------------|
| Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade)                          | Acceptable |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?        | Acceptable |
| Proper records maintained for agents used for anesthesia, analgesia, euthanasia, and acute intervention                      | Acceptable |
| Proper Controlled Substance Storage and Records; double lock, running balance  | N/A        |
| Is the lab ensuring drugs and biological agents are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
| Other  | N/A        |

### 6 PHYSICAL PLANT- Lab Space

|  |            |
|--|------------|
| Impervious surfaces  | Acceptable |
| General cleanliness  | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning; Are they on the DCM biological monitoring schedule? | N/A        |
| Other  | N/A        |

### 7 SURGICAL PROCEDURES: General Considerations

|   |            |
|---|------------|
| Location minimizes traffic/contamination (survival surgery)   | Acceptable |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | Acceptable |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure   | Acceptable |



|   |            |
|---|------------|
| Interior surfaces smooth and impervious to moisture | Acceptable |
| Fixed equipment is sanitizable                      | Acceptable |
| Other   | N/A        |

#### 8 SURGICAL PROCEDURES: Anesthesia

|   |            |
|---|------------|
| Adequate surgical records of anesthesia and preoperative care<br>Surgical logs were well-maintained by the lab. Inspectors noted that one checkbox for "new or sterilized instruments between animals" was checked. In order for this box to be checked, please ensure that all instruments that touch the animals are new or appropriately sterilized. | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)  | Acceptable |
| Proper recovery monitoring; Records of postoperative care including analgesia agents (all species)  | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)  | Acceptable |
| Other   | N/A        |

#### 9 SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|  |            |
|--|------------|
| Autoclave Sterilization procedures are appropriate (e.g.: storage, use of autoclave tape, expiration date visible)   | Acceptable |
| Use of effective aseptic procedures for survival surgery; Preparation of sterile incision site and surrounding area<br>Inspectors were informed that forceps used to stabilize the head during surgery were rinsed with alcohol and PBS between animals. Alcohol is a disinfectant but not a sterilant. Please consult with a DCM veterinarian regarding whether a hot bead sterilizer is necessary, or if alcohol and PBS is sufficient, between surgeries due to the minimal contact the forceps make with each animal. Also, please update IACUC with their response. | Acceptable |
| Cold Sterilization procedures are appropriate (e.g.: manufacturer recommended exposure time)   | Acceptable |
| Use of sterile gloves and drapes (for surgeries where glove exposure to the animal occurs)   | Acceptable |
| Closure method   | Acceptable |
| Other  | N/A        |



**PI:**  
**PI PID**  
**Inspection ID** 12154  
**Inspection Type** Semiannual  
**Lab Coordinators**

**Inspection Date:** 07/31/2019  
**Inspectors**

**Deficiency Count:** 0

**Inspection Comments:** 5

## 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable  
 Inspectors spoke with the Principal Investigator, during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

## 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight N/A

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

Inspectors noted outdated contact information on warning sign located at the entrance to Marsico 6229. An editable PDF can be found on the "Room Use" page of the lab's online lab safety plan, please update information and replace old signage.

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

## 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) Acceptable

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) No Deficiency

Toe Pinch was not being documented on current surgery records. Please refer to the following link for a copy of a suggested drug log to be used when accounting for controlled drug usage: <https://research.unc.edu/files/2012/11/Drug-Log-Template.pdf>

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

## 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Expired/Unwanted Controlled Substance (e.g. >0.5 ml or mg by volume in leftover multiuse vials or bulk powder containers, unused tablets, capsules, ampules or vials):  
 In cases where product is unwanted or expired, registrants must contact NC-DHHS AND UNC EHS representatives to schedule controlled substance destruction. If large quantities of controlled substances are identified, (e.g. abandonment or retirement), registrants may also need to contact a DEA certified reverse distributor to arrange for reverse disposal. Because this list changes due to registration requirements, please contact NC-DHHS, Drug Control Unit at 919-733-1765 or DEA Diversion Control at 336-547-4219 or the EHS Hazardous Materials Manager (919-962-5509) for approved vendors.

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock Acceptable

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

## 6. PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

## 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) N/A

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide N/A



|  |     |
|--|-----|
| Interior surfaces smooth and impervious to moisture  | N/A |
| Fixed equipment is sanitizable   | N/A |
| <b>8. SURGICAL PROCEDURES: Anesthesia</b>  |     |
| Adequate records of anesthesia and preoperative care   | N/A |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                                       | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | N/A |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |     |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |
| <b>10. SATELLITE FACILITIES</b>  |     |
| Daily feed/water/observation-records maintained  | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A |
| Pest control (frequency, effectiveness)  | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A |
| Veterinary contact info visibly posted   | N/A |
| <b>11. AQUATIC FACILITIES</b>  |     |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A |
| Temperature/humidity values recorded   | N/A |
| Equipment properly sanitized, separation based on health status  | N/A |
| Tank allows for undisturbed observation, enrichment present  | N/A |
| Personnel trained in H2O quality, animal health monitoring   | N/A |
| How is MS222 prepared for use?   | N/A |



PI:  
PI PID  
Inspection ID 12156  
Inspection Type Semiannual  
Lab Coordinators

Inspection Date: 04/16/2019  
Inspectors

## 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable  
Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

## 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable  
The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page:  
<https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training Acceptable

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

## 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) Acceptable

## 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock Acceptable

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

## 6. PHYSICAL PLANT

Impervious surfaces N/A

General cleanliness N/A

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning N/A

## 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) N/A

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide N/A

Interior surfaces smooth and impervious to moisture N/A

Fixed equipment is sanitizable N/A

## 8. SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care N/A





|  |     |
|--|-----|
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                                       | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | N/A |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |     |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |
| <b>10. SATELLITE FACILITIES</b>  |     |
| Daily feed/water/observation-records maintained  | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?                                     | N/A |
| Pest control (frequency, effectiveness)  | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A |
| Veterinary contact info visably posted   | N/A |
| <b>11. AQUATIC FACILITIES</b>  |     |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A |
| Temperature/humidity values recorded   | N/A |
| Equipment properly sanitized, separation based on health status  | N/A |
| Tank allows for undisturbed observation, enrichment present  | N/A |
| Personnel trained in H2O quality, animal health monitoring   | N/A |
| How is MS222 prepared for use?   | N/A |



|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 05/20/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12159        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable  
 Inspectors spoke with \_\_\_\_\_, the Laboratory Animal Coordinator (LAC), during the inspections of both Marsico animal facility procedural space and USDA records, as well as lab space for rodent surgical procedures.

All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

## 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place No Deficiency  
 The eyewash must be checked and flushed monthly. The laboratory is responsible for maintaining documentation for these monthly checks.

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training Acceptable

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

## 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) Acceptable

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

## 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? Acceptable

Proper Controlled Substance Storage and Records; double lock Acceptable

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

## 6 PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning N/A

## 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable

## 8 SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care Acceptable

Proper monitoring for depth of surgical anesthesia (toe pinch documented?) Acceptable

Procedures for administering and monitoring analgesia (survival surgery) Acceptable

Proper anesthetics, doses, routes of anesthesia (records maintained) Acceptable

Obtained by Rise for Animals. Uploaded 07/05/2020



### 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|  |            |
|--|------------|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | Acceptable |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
| Use of effective aseptic procedures for survival surgery   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A        |
| Use of sterile gloves and drapes   | Acceptable |
| Preparation of sterile incision site and surrounding area  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)   | Acceptable |

### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                   | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visibly posted  | N/A |

### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 07/30/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12173        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |
| <b>Deficiency Count:</b> 0        | <b>Inspection Comments:</b> 6      |

## 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** Acceptable

Inspectors spoke with \_\_\_\_\_, the Laboratory Animal Coordinator (LAC), and \_\_\_\_\_ the individual now responsible for working with the research lab and DCM to provide husbandry during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

## 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

## 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place N/A

Procedures for using/scavenging volatile anesthetics; check for Fair can weight N/A

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Carcasses are frozen and then autoclaved for 8 hours before providing to DCM for incineration.

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use N/A

## 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

## 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock Acceptable

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

## 6. PHYSICAL PLANT

Impervious surfaces N/A

Did not view Satellite space. Record review only.

General cleanliness N/A

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning N/A

## 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) N/A

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide N/A

Interior surfaces smooth and impervious to moisture N/A

Fixed equipment is sanitizable N/A

## 8. SURGICAL PROCEDURES: Anesthesia



|  |     |
|--|-----|
| Adequate records of anesthesia and preoperative care                       | N/A |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |
| Proper anesthetics, doses, routes of anesthesia (records maintained)       | N/A |

#### 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|  |     |
|--|-----|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |

#### 10. SATELLITE FACILITIES

|   |               |
|---|---------------|
| Daily feed/water/observation-records maintained   | Acceptable    |
| Animal identification posted (PI, ACAP ID #, species, source)   | N/A           |
| Satellite facility not inspected. Records review only.  |               |
| Changes in environment since last inspection (noise, illumination, vibration, etc)  | N/A           |
| Disaster plan in place, annual review, updates since last provided to OACU  | N/A           |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply   | N/A           |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)   | N/A           |
| HVAC adequate and non-recirculating (suggest monitoring annually)   | N/A           |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?  | Acceptable    |
| Pest control (frequency, effectiveness)   | N/A           |
| Sanitation schedule (daily/weekly/monthly/annually) maintained  | No Deficiency |
| Racks are sanitized only every 3-4 years when facility is taken down for cleaning and maintenance. This is an exception to the standard DCM sanitation schedule for rack sanitation every 6 months and should be noted in the Program Description and also endorsed by the IACUC. |               |
| Veterinary contact info visibly posted  | N/A           |

#### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |





|                                   |                                    |
|-----------------------------------|------------------------------------|
| <b>PI:</b>                        | <b>Inspection Date:</b> 09/19/2019 |
| <b>PI PID</b>                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12198        |                                    |
| <b>Inspection Type</b> Semiannual |                                    |
| <b>Lab Coordinators</b>           |                                    |
| <b>Deficiency Count:</b> 0        | <b>Inspection Comments:</b> 3      |

**1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY**

**Summary Conducted** Acceptable

Inspectors spoke with \_\_\_\_\_, a member of the lab, during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to iacuc@med.unc.edu with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

**2 DOCUMENTATIONS and IACUC POSTINGS**

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained/certified and on application Acceptable

How are approved applications and amendments available to and reviewed by laboratory personnel? Acceptable

Other N/A

**3 HEALTH AND SAFETY**

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal; Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal/hazardous waste disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry (i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

If chemical/biological hazards in animal facility, using appropriate cage cards to identify hazards? N/A

Review of chemical hazard forms by laboratory personnel before initial use N/A

Other N/A

**4 ANIMAL CARE**

Does the lab know how to report animal health issues to DCM? Acceptable

If USDA regulated species, are there clinical records for individual animals? N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

If euthanizing in lab space is euthanasia performed as described in approved protocol; secondary method tools sharp/adequate Acceptable

Means to track animal usage Acceptable

Experimental Monitoring Documentation (weight loss, tumor size, etc.) Acceptable

Toe Clip Discussion (max day 10, max 4 toes, 2 toes per foot (not the dewclaw), approved in ACAP) N/A

Other N/A

**5 AGENTS ADMINISTERED**

Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper records maintained for agents used for anesthesia, analgesia, euthanasia, and acute intervention Acceptable

Proper Controlled Substance Storage and Records; double lock, running balance Acceptable

Is the lab ensuring drugs and biological agents are within expiration date (expired drugs separated or marked appropriately) Acceptable

Other N/A

**6 PHYSICAL PLANT- Lab Space**

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning; Are they on the DCM biological monitoring schedule? N/A

Other N/A

**7 SURGICAL PROCEDURES: General Considerations**

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure Acceptable

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable

Other N/A

**8 SURGICAL PROCEDURES: Anesthesia**





|  |            |
|--|------------|
| Adequate surgical records of anesthesia and preoperative care<br>Surgical logs were very organized as the lab utilized a customized version of the IACUC template to suit their needs.   | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)   | Acceptable |
| Proper recovery monitoring; Records of postoperative care including analgesia agents (all species)   | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |
| Other<br>Inspectors informed the lab that the vaporizer may be calibrated during the annual appointment scheduled by DCM veterinary services for Eagle Eye Calibration. This option is less expensive than an individual appointment and usually occurs in May-June of each year. Please look for emails from the NLAC listserv or contact DCM Vet Services regarding the DCM scheduled appointment. | Acceptable |

#### 9 SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|   |            |
|---|------------|
| Autoclave Sterilization procedures are appropriate (e.g.: storage, use of autoclave tape, expiration date visible)  | Acceptable |
| Use of effective aseptic procedures for survival surgery; Preparation of sterile incision site and surrounding area | Acceptable |
| Cold Sterilization procedures are appropriate (e.g.: manufacturer recommended exposure time)                        | N/A        |
| Use of sterile gloves and drapes (for surgeries where glove exposure to the animal occurs)                          | Acceptable |
| Closure method  | Acceptable |
| Other   | N/A        |



|                         |                               |                                    |
|-------------------------|-------------------------------|------------------------------------|
| <b>PI:</b>              |                               | <b>Inspection Date:</b> 05/03/2019 |
| <b>PI PID</b>           |                               | <b>Inspectors</b>                  |
| <b>Inspection ID</b>    | 293                           |                                    |
| <b>Inspection Type</b>  | Semiannual with<br>Procedural |                                    |
| <b>Lab Coordinators</b> |                               |                                    |

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable

This inspection report serves as both the Semiannual and Procedural Observation report. During the observation was very knowledgeable and able to describe survival Mandibular Surgical Model as described in approved protocol #18-194 without the use of a live animal. The inspectors did not find any deficiencies to report. The next procedural observation will not be required from the laboratory for three years or when the person we observed leaves the laboratory whichever happens first.

According to the LAC, all future animal work will be conducted in the DCM facilities, rather than lab space. This practice alleviates the requirement for a semiannual inspection of your lab space so we are changing you over to an informational inspection schedule instead. This informational inspection fulfills the institutional goal that we visit each lab performing any animal work at least every two years (annually if any surgery is performed, regardless of location). If you should need any assistance from the IACUC or Office of Animal Care and Use between inspections, please don't hesitate to contact us or check our website for information (<http://research.unc.edu/offices/iacuc/index.htm>). If the lab begins performing surgeries or other more invasive procedures within the lab space, we must be contacted so that we can visit the space semiannually.

## 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place No Deficiency  
The eyewash must be checked and flushed monthly. The laboratory is responsible for maintaining documentation for these monthly checks.

Procedures for using/scavenging volatile anesthetics; check for Fair can weight N/A

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted N/A

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

## 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Anaesthesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

## 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) No Deficiency  
Inspectors reminded the PI that expired pharmaceuticals may not be used for anesthesia, analgesia, euthanasia, or acute intervention. Additionally, medical materials (e.g., suture, saline) used during survival procedures may not be expired. All pharmaceuticals used for anesthesia, analgesia, euthanasia, or acute intervention in animals must be discarded after the expiration date or labeled, "Expired-do not Use" or "For Acute Use Only" to avoid accidental use in animals.

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock Acceptable

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

## 6 PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

## 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable

## 8 SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care Acceptable



|  |               |
|--|---------------|
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | No Deficiency |
|--|---------------|

Please ensure that all documentation for anesthetized animals (undergoing a painful procedure) indicates that the animal reached a surgical plane of anesthesia prior to the start of the procedure (i.e. lack of toe pinch reflex).

|  |            |
|--|------------|
| Procedures for administering and monitoring analgesia (survival surgery) | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Proper anesthetics, doses, routes of anesthesia (records maintained) | Acceptable |
|--|------------|

<https://research.unc.edu/files/2017/02/UNC-IACUC-Rodent-Anesthesia-Analgesia-Procedure-Record.pdf>

#### 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|   |            |
|---|------------|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Use of effective aseptic procedures for survival surgery | Acceptable |
|--|------------|

|  |     |
|--|-----|
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time) | N/A |
|--|-----|

|                                  |            |
|----------------------------------|------------|
| Use of sterile gloves and drapes | Acceptable |
|----------------------------------|------------|

|   |            |
|---|------------|
| Preparation of sterile incision site and surrounding area | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue | Acceptable |
|--|------------|

|                            |            |
|----------------------------|------------|
| Proper recovery monitoring | Acceptable |
|----------------------------|------------|

|  |            |
|--|------------|
| Records of postoperative care including analgesia agents (all species) | Acceptable |
|--|------------|

The IACUC has instituted new guidelines in for post-operative monitoring at the cage side level. Use of the new pink Post-Procedure Monitoring and Analgesia Card has been implemented and is required for all cages receiving analgesia and/or post-operative monitoring. The cards are available in the DCM facilities. This does not take the place of post-operative monitoring records that should be readily available to the IACUC during laboratory inspections.

<https://research.unc.edu/files/2017/02/Informational-Memo-March-2017.pdf>

<https://research.unc.edu/files/2017/02/Post-Procedure-Monitoring-card-FINAL-2017.pdf>

#### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained | N/A |
|---|-----|

|   |     |
|---|-----|
| Animal identification posted (PI, ACAP ID #, species, source) | N/A |
|---|-----|

|  |     |
|--|-----|
| Changes in environment since last inspection (noise, illumination, vibration, etc) | N/A |
|--|-----|

|  |     |
|--|-----|
| Disaster plan in place, annual review, updates since last provided to OACU | N/A |
|--|-----|

|   |     |
|---|-----|
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
|---|-----|

|   |     |
|---|-----|
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population) | N/A |
|---|-----|

|   |     |
|---|-----|
| HVAC adequate and non-recirculating (suggest monitoring annually) | N/A |
|---|-----|

|   |     |
|---|-----|
| Maintaining electronic census/ Acquired new animals? Source? Permits on file? | N/A |
|---|-----|

|   |     |
|---|-----|
| Pest control (frequency, effectiveness) | N/A |
|---|-----|

|  |     |
|--|-----|
| Sanitation schedule (daily/weekly/monthly/annually) maintained | N/A |
|--|-----|

|  |     |
|--|-----|
| Veterinary contact info visibly posted | N/A |
|--|-----|

#### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
|---|-----|

|  |     |
|--|-----|
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering | N/A |
|--|-----|

|                                      |     |
|--------------------------------------|-----|
| Temperature/humidity values recorded | N/A |
|--------------------------------------|-----|

|   |     |
|---|-----|
| Equipment properly sanitized, separation based on health status | N/A |
|---|-----|

|   |     |
|---|-----|
| Tank allows for undisturbed observation, enrichment present | N/A |
|---|-----|

|  |     |
|--|-----|
| Personnel trained in H2O quality, animal health monitoring | N/A |
|--|-----|

|                                |     |
|--------------------------------|-----|
| How is MS222 prepared for use? | N/A |
|--------------------------------|-----|



|                         |                               |                                    |
|-------------------------|-------------------------------|------------------------------------|
| <b>PI:</b>              |                               | <b>Inspection Date:</b> 04/26/2019 |
| <b>PI PID</b>           |                               | <b>Inspectors</b>                  |
| <b>Inspection ID</b>    | 11938                         |                                    |
| <b>Inspection Type</b>  | Semiannual with<br>Procedural |                                    |
| <b>Lab Coordinators</b> |                               |                                    |

#### 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|   |            |
|---|------------|
| <b>Summary Conducted</b>  | Acceptable |
| This inspection report serves as both the Semiannual and Procedural Observation report. During the observation, _____ was very knowledgeable and able to describe non-survival IVC Blood Draw as described in approved protocol #18-075 without the use of a live animal. The inspectors did not find any deficiencies to report, however suggestions for improvement are included in this report. The next procedural observation will not be required from the laboratory for three years or when the person we observed leaves the laboratory whichever happens first. |            |

#### 2. DOCUMENTATIONS and POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area   | Acceptable |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted   | Acceptable |
| The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <a href="https://research.unc.edu/iacuc/">https://research.unc.edu/iacuc/</a> |            |

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page:  
<https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

|   |            |
|---|------------|
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA | Acceptable |
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research                                     | Acceptable |

#### 3. HEALTH AND SAFETY

|   |            |
|---|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place                                | Acceptable |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight                       | Acceptable |
| Proper sharps disposal, hazardous waste disposal  | Acceptable |
| Current copy of Needle Safety in Animal Studies posted  | Acceptable |
| Proper carcass disposal (especially hazard contaminated)  | Acceptable |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL)            | Acceptable |
| Cage side chemical hazard identification training   | Acceptable |
| Review of chemical hazard forms by laboratory personnel before initial use                            | Acceptable |

#### 4. ANIMAL CARE

|  |            |
|--|------------|
| Report animal health issues to Division of Comparative Medicine          | Acceptable |
| Clinical records for individual animals (covered species)                | N/A        |
| Analgesia/anesthesia use as described in approved ACAP                   | Acceptable |
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
| Means to track animal usage/Euthanasia log                               | Acceptable |
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc)              | Acceptable |
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP)                  | N/A        |

#### 5. AGENTS ADMINISTERED

|   |            |
|---|------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)                                | Acceptable |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?           | N/A        |
| Proper Controlled Substance Storage and Records; double lock  | N/A        |
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention            | Acceptable |

#### 6. PHYSICAL PLANT

|   |            |
|---|------------|
| Impervious surfaces   | Acceptable |
| General cleanliness   | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | N/A        |

#### 7. SURGICAL PROCEDURES: General Considerations

|   |            |
|---|------------|
| Location minimizes traffic/contamination (survival surgery)   | Acceptable |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | Acceptable |
| Interior surfaces smooth and impervious to moisture   | Acceptable |
| Fixed equipment is sanitizable  | Acceptable |

#### 8. SURGICAL PROCEDURES: Anesthesia

|  |            |
|--|------------|
| Adequate records of anesthesia and preoperative care                       | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |
| Proper anesthetics, doses, routes of anesthesia (records maintained)       | Acceptable |

#### 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures



|  |     |
|--|-----|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |

#### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?                    | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visably posted  | N/A |

#### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |





**PI:** **Inspection Date:** 04/10/2019  
**PI PID**  
**Inspection ID** 11958 **Inspectors**  
**Inspection Type** Semiannual with  
 Procedural  
**Lab Coordinators**

### 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** Acceptable  
 Inspectors spoke with the PI during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

### 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable  
 Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable  
 All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable  
 The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page:  
<https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable  
 This inspection report serves as both the Semiannual and Procedural Observation report. During the observation, was very knowledgeable and able to describe non-survival tracheostomy as described in protocol # 16-326 without the use of a live animal. The inspectors did not find any deficiencies to report. The next procedural observation will not be required from the laboratory for three years.

### 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable  
 Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable  
 Proper sharps disposal, hazardous waste disposal Acceptable  
 Current copy of Needle Safety in Animal Studies posted Acceptable  
 Proper carcass disposal (especially hazard contaminated) Acceptable  
 Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable  
 Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL) Acceptable  
 Cage side chemical hazard identification training Acceptable  
 Review of chemical hazard forms by laboratory personnel before initial use Acceptable

### 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable  
 Clinical records for individual animals (covered species) N/A  
 Analgesia/anesthesia use as described in approved ACAP Acceptable  
 Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable  
 Means to track animal usage/Euthanasia log Acceptable  
 MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable  
 Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

### 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable  
 Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable  
 Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A  
 Proper Controlled Substance Storage and Records; double lock Acceptable  
 Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

### 6 PHYSICAL PLANT

Impervious surfaces Acceptable  
 General cleanliness Acceptable  
 Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

### 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable  
 Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable  
 Interior surfaces smooth and impervious to moisture Acceptable





|  |            |
|--|------------|
| Fixed equipment is sanitizable   | Acceptable |
| <b>8. SURGICAL PROCEDURES: Anesthesia</b>  |            |
| Adequate records of anesthesia and preoperative care   | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                                       | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | Acceptable |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
| Use of effective aseptic procedures for survival surgery   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | Acceptable |
| Use of sterile gloves and drapes   | Acceptable |
| Preparation of sterile incision site and surrounding area  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)   | Acceptable |
| <b>10. SATELLITE FACILITIES</b>  |            |
| Daily feed/water/observation-records maintained  | N/A        |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A        |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A        |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A        |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A        |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A        |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A        |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A        |
| Pest control (frequency, effectiveness)  | N/A        |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A        |
| Veterinary contact info visibly posted   | N/A        |
| <b>11. AQUATIC FACILITIES</b>  |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A        |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A        |
| Temperature/humidity values recorded   | N/A        |
| Equipment properly sanitized, separation based on health status  | N/A        |
| Tank allows for undisturbed observation, enrichment present  | N/A        |
| Personnel trained in H2O quality, animal health monitoring   | N/A        |
| How is MS222 prepared for use?   | N/A        |



|   |                                    |
|---|------------------------------------|
| <b>PI:</b>  | <b>Inspection Date:</b> 04/18/2019 |
| <b>PI PID</b>                                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 11964                        |                                    |
| <b>Inspection Type</b> Semiannual with Procedural |                                    |
| <b>Lab Coordinators</b>                           |                                    |

### 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** Acceptable  
 Inspectors spoke with \_\_\_\_\_, the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

This inspection report serves as both the Semiannual and Procedural Observation report. During the observation, \_\_\_\_\_ was very knowledgeable and able to describe survival Cannula Implantation as described in protocol #19-016 without the use of a live animal. The inspectors did not find any deficiencies to report, however suggestions for improvement are included in this report. The next procedural observation will not be required from the laboratory for three years or when the person we observed leaves the laboratory whichever happens first.

### 2 DOCUMENTATIONS and POSTINGS

**Emergency, weekend, and holiday contact information visibly posted in animal housing area** Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

**Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted** Acceptable

**All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA** Acceptable

**Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research** Acceptable

### 3 HEALTH AND SAFETY

**Gas cylinders immobilized; Eyewash check documented/dust caps in place** No Deficiency  
 The eyewash must be checked and flushed monthly. The laboratory is responsible for maintaining documentation for these monthly checks.

**Procedures for using/scavenging volatile anesthetics; check for Fair can weight** Acceptable

**Proper sharps disposal, hazardous waste disposal** Acceptable

**Current copy of Needle Safety in Animal Studies posted** Acceptable

**Proper carcass disposal (especially hazard contaminated)** Acceptable

**Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119** Acceptable

**Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL)** Acceptable

**Cage side chemical hazard identification training** N/A

**Review of chemical hazard forms by laboratory personnel before initial use** Acceptable

### 4 ANIMAL CARE

**Report animal health issues to Division of Comparative Medicine** Acceptable

**Clinical records for individual animals (covered species)** N/A

**Analgesia/anesthesia use as described in approved ACAP** Acceptable

**Euthanasia performed as described in approved ACAP; tools sharp/adequate** Acceptable

**Means to track animal usage/Euthanasia log** Acceptable

**MONITORING DOCUMENTATION (weight, drugs, post op care, etc)** Acceptable

**Toe Clip Discussion (max P10, 2 toes, approved in ACAP)** N/A

### 5 AGENTS ADMINISTERED

**Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately)** Acceptable

**Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)** Acceptable

**Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?** N/A

**Proper Controlled Substance Storage and Records; double lock** Acceptable

**Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention** Acceptable

### 6 PHYSICAL PLANT

**Impervious surfaces** Acceptable

**General cleanliness** Acceptable

**Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning** Acceptable

### 7 SURGICAL PROCEDURES: General Considerations

**Location minimizes traffic/contamination (survival surgery)** Acceptable

**Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide** Acceptable

**Interior surfaces smooth and impervious to moisture** Acceptable

**Fixed equipment is sanitizable** Acceptable

### 8 SURGICAL PROCEDURES: Anesthesia



|   |               |
|---|---------------|
| Adequate records of anesthesia and preoperative care  | Acceptable    |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)<br>The laboratory must maintain documentation for all anesthetized animals indicating that the animal reached a surgical plane of anesthesia prior to the start of the procedure (i.e. lack of toe pinch reflex). Please add this to your current perfusion documentation. | No Deficiency |
| Procedures for administering and monitoring analgesia (survival surgery)  | Acceptable    |
| Proper anesthetics, doses, routes of anesthesia (records maintained)  | Acceptable    |
| <b>9 SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |               |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure   | Acceptable    |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible)  | Acceptable    |
| Use of effective aseptic procedures for survival surgery  | Acceptable    |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)  | N/A           |
| Use of sterile gloves and drapes  | Acceptable    |
| Preparation of sterile incision site and surrounding area   | Acceptable    |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue  | Acceptable    |
| Proper recovery monitoring  | Acceptable    |
| Records of postoperative care including analgesia agents (all species)  | Acceptable    |
| <b>10. SATELLITE FACILITIES</b>   |               |
| Daily feed/water/observation-records maintained   | N/A           |
| Animal identification posted (PI, ACAP ID #, species, source)   | N/A           |
| Changes in environment since last inspection (noise, illumination, vibration, etc)  | N/A           |
| Disaster plan in place, annual review, updates since last provided to OACU  | N/A           |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply   | N/A           |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)   | N/A           |
| HVAC adequate and non-recirculating (suggest monitoring annually)   | N/A           |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?   | N/A           |
| Pest control (frequency, effectiveness)   | N/A           |
| Sanitation schedule (daily/weekly/monthly/annually) maintained  | N/A           |
| Veterinary contact info visibly posted  | N/A           |
| <b>11. AQUATIC FACILITIES</b>   |               |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing   | N/A           |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering  | N/A           |
| Temperature/humidity values recorded  | N/A           |
| Equipment properly sanitized, separation based on health status   | N/A           |
| Tank allows for undisturbed observation, enrichment present   | N/A           |
| Personnel trained in H2O quality, animal health monitoring  | N/A           |
| How is MS222 prepared for use?  | N/A           |



|                         |                               |                                    |
|-------------------------|-------------------------------|------------------------------------|
| <b>PI:</b>              |                               | <b>Inspection Date:</b> 05/20/2019 |
| <b>PI PID</b>           |                               | <b>Inspectors</b>                  |
| <b>Inspection ID</b>    | 11988                         |                                    |
| <b>Inspection Type</b>  | Semiannual with<br>Procedural |                                    |
| <b>Lab Coordinators</b> |                               |                                    |

# 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|  |            |
|--|------------|
| <b>Summary Conducted</b>   | Acceptable |
| This inspection report serves as both the Semiannual and Procedural Observation report. During the observation, was very knowledgeable and able to describe non-survival perfusion as outlined in approved protocol #18-064 without the use of a live animal. The inspectors did not find any deficiencies to report. The next procedural observation will not be required from the laboratory for three years or when the person we observed leaves the laboratory whichever happens first. |            |

# 2 DOCUMENTATIONS and POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area   | Acceptable |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted   | Acceptable |
| The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <a href="https://research.unc.edu/iacuc/">https://research.unc.edu/iacuc/</a>       |            |
| All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <a href="https://research.unc.edu/iacuc/policies-procedures/">https://research.unc.edu/iacuc/policies-procedures/</a>  |            |
| Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab. |            |
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA   | Acceptable |
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research   | Acceptable |

# 3 HEALTH AND SAFETY

|   |            |
|---|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place                                | Acceptable |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight                       | Acceptable |
| Proper sharps disposal, hazardous waste disposal  | Acceptable |
| Current copy of Needle Safety in Animal Studies posted  | Acceptable |
| Proper carcass disposal (especially hazard contaminated)  | Acceptable |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL)            | Acceptable |
| Cage side chemical hazard identification training   | N/A        |
| Review of chemical hazard forms by laboratory personnel before initial use                            | Acceptable |

# 4 ANIMAL CARE

|  |            |
|--|------------|
| Report animal health issues to Division of Comparative Medicine          | Acceptable |
| Clinical records for individual animals (covered species)                | N/A        |
| Analgesia/anesthesia use as described in approved ACAP                   | Acceptable |
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
| Means to track animal usage/Euthanasia log                               | Acceptable |
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc)              | Acceptable |
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP)                  | Acceptable |

# 5 AGENTS ADMINISTERED

|   |            |
|---|------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)                                | Acceptable |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?           | N/A        |
| Proper Controlled Substance Storage and Records; double lock  | N/A        |
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention            | Acceptable |

# 6 PHYSICAL PLANT

|   |            |
|---|------------|
| Impervious surfaces   | Acceptable |
| General cleanliness   | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | Acceptable |

# 7 SURGICAL PROCEDURES: General Considerations

|   |     |
|---|-----|
| Location minimizes traffic/contamination (survival surgery)   | N/A |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
| Interior surfaces smooth and impervious to moisture   | N/A |
| Fixed equipment is sanitizable  | N/A |

# 8 SURGICAL PROCEDURES: Anesthesia

|  |            |
|--|------------|
| Adequate records of anesthesia and preoperative care                       | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A        |
| Proper anesthetics, doses, routes of anesthesia (records maintained)       | Acceptable |

# 9 SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures



|  |     |
|--|-----|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |

#### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?                    | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visably posted  | N/A |

#### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |





|   |                                    |
|---|------------------------------------|
| <b>PI:</b>  | <b>Inspection Date:</b> 05/23/2019 |
| <b>PI PID</b>                                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 11990                        |                                    |
| <b>Inspection Type</b> Semiannual with Procedural |                                    |
| <b>Lab Coordinators</b>                           |                                    |

### 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|  |            |
|--|------------|
| Summary Conducted  | Acceptable |
| Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years. |            |

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

### 2. DOCUMENTATIONS and POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area   | Acceptable |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted   | Acceptable |
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA | Acceptable |

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

|   |            |
|---|------------|
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research | Acceptable |
|---|------------|

### 3. HEALTH AND SAFETY

|   |            |
|---|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place                                | Acceptable |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight                       | Acceptable |
| Proper sharps disposal, hazardous waste disposal  | Acceptable |
| Current copy of Needle Safety in Animal Studies posted  | Acceptable |
| Proper carcass disposal (especially hazard contaminated)  | Acceptable |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL)            | Acceptable |
| Cage side chemical hazard identification training   | Acceptable |
| Review of chemical hazard forms by laboratory personnel before initial use                            | Acceptable |

### 4. ANIMAL CARE

|  |            |
|--|------------|
| Report animal health issues to Division of Comparative Medicine          | Acceptable |
| Clinical records for individual animals (covered species)                | N/A        |
| Analgesia/anesthesia use as described in approved ACAP                   | Acceptable |
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
| Means to track animal usage/Euthanasia log                               | Acceptable |
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc)              | N/A        |
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP)                  | Acceptable |

### 5. AGENTS ADMINISTERED

|   |            |
|---|------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)                                | Acceptable |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?           | N/A        |
| Proper Controlled Substance Storage and Records; double lock  | N/A        |
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention            | Acceptable |

### 6. PHYSICAL PLANT

|   |            |
|---|------------|
| Impervious surfaces   | Acceptable |
| General cleanliness   | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | N/A        |

### 7. SURGICAL PROCEDURES: General Considerations

|   |            |
|---|------------|
| Location minimizes traffic/contamination (survival surgery)   | Acceptable |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | Acceptable |
| Interior surfaces smooth and impervious to moisture   | Acceptable |
| Fixed equipment is sanitizable  | Acceptable |

### 8. SURGICAL PROCEDURES: Anesthesia



**Adequate records of anesthesia and preoperative care**

This inspection report serves as both the Semiannual and Procedural Observation report. During the observation, [redacted] was very knowledgeable and able to describe non-survival perfusion as described protocol # 18-236 without the use of a live animal. The inspectors did not find any deficiencies to report, however suggestions for improvement are included in this report. The next procedural observation will not be required from the laboratory for three years or when the person we observed leaves the laboratory whichever happens first.

Acceptable

**Proper monitoring for depth of surgical anesthesia (toe pinch documented?)**

Please ensure that all documentation for anesthetized animals (undergoing a painful procedure) indicates that the animal reached a surgical plane of anesthesia prior to the start of the procedure (i.e. lack of toe pinch reflex).

No Deficiency

**Procedures for administering and monitoring analgesia (survival surgery)**

Acceptable

**Proper anesthetics, doses, routes of anesthesia (records maintained)**

Acceptable

**9 SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures**

Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure

N/A

Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible)

N/A

Use of effective aseptic procedures for survival surgery

N/A

Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)

N/A

Use of sterile gloves and drapes

N/A

Preparation of sterile incision site and surrounding area

N/A

Sterile Sutures; Wound Clips, Staples and/or Skin Glue

N/A

Proper recovery monitoring

N/A

Records of postoperative care including analgesia agents (all species)

N/A

**10. SATELLITE FACILITIES**

Daily feed/water/observation-records maintained

N/A

Animal identification posted (PI, ACAP ID #, species, source)

N/A

Changes in environment since last inspection (noise, illumination, vibration, etc)

N/A

Disaster plan in place, annual review, updates since last provided to OACU

N/A

Food stored in sealed container with date of expiration/milling/plan for interruption to supply

N/A

Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)

N/A

HVAC adequate and non-recirculating (suggest monitoring annually)

N/A

Maintaining electronic census/ Acquired new animals? Source? Permits on file?

N/A

Pest control (frequency, effectiveness)

N/A

Sanitation schedule (daily/weekly/monthly/annually) maintained

N/A

Veterinary contact info visibly posted

N/A

**11. AQUATIC FACILITIES**

Chlorine/chloramine/chemicals removed or neutralized, water quality testing

N/A

Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering

N/A

Temperature/humidity values recorded

N/A

Equipment properly sanitized, separation based on health status

N/A

Tank allows for undisturbed observation, enrichment present

N/A

Personnel trained in H2O quality, animal health monitoring

N/A

How is MS222 prepared for use?

N/A



**PI:**  
**PI PID**  
**Inspection ID** 12015  
**Inspection Type** Semiannual with Procedural  
**Lab Coordinators**

**Inspection Date:** 06/26/2019  
**Inspectors**

**Deficiency Count:** 0

**Inspection Comments:** 8

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable  
 Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

## 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

The LAC may train and certify lab members in techniques for which she has a Proficiency rating of 1. Please reference the following link for instructions on certifying personnel: [http://research.unc.edu/files/2012/11/CCM1\\_030728.pdf](http://research.unc.edu/files/2012/11/CCM1_030728.pdf)

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable  
 The LAC had a question about the need for both snorkel scavenging units which scavenge volatile anesthetics directly out of the room plus the use of F-Air canisters with the isoflurane vaporizer. The inspectors indicated that the use of both may be redundant; however, to ensure adequate scavenging, the lab should contact Cathy Brennan of EHS to determine how to have the space assessed.

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL) N/A

Cage side chemical hazard identification training Acceptable

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

## 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

## 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock N/A

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

## 6 PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning N/A

## 7 SURGICAL PROCEDURES: General Considerations



|  |               |
|--|---------------|
| Location minimizes traffic/contamination (survival surgery)<br>This inspection report serves as both the Semiannual and Procedural Observation report. During the observation, _____ was very knowledgeable and able to describe survival intracranial injection procedure as described in protocol 18-022 without the use of a live animal. The inspectors did not find any deficiencies to report, however suggestions for improvement are included in this report. The next procedural observation will not be required from the laboratory for three years or when the person we observed leaves the laboratory whichever happens first. | Acceptable    |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide<br>The dedicated surgical area was in exemplary condition and is an excellent space in which to conduct survival and non-survival surgical procedures in rodents.  | Acceptable    |
| Interior surfaces smooth and impervious to moisture  | Acceptable    |
| Fixed equipment is sanitizable   | Acceptable    |
| <b>8. SURGICAL PROCEDURES: Anesthesia</b>  |               |
| Adequate records of anesthesia and preoperative care   | Acceptable    |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)   | Acceptable    |
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable    |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable    |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |               |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure  | Acceptable    |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible)   | Acceptable    |
| Use of effective aseptic procedures for survival surgery<br>Please review the Standard for Rodent Survival Surgery to ensure that serial survival surgeries are performed according to the standard. Although the standard does not indicate a maximum number of surgeries conducted in series with the same instruments, it contains helpful details about preferred methods and use of the bead sterilizer between surgeries.  | No Deficiency |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)<br>Please review the Standard for Rodent Survival Surgeries for acceptable cold sterilization agents and appropriate contact time for sterilizing the fragile injection needles to ensure IACUC standards are being followed.   | No Deficiency |
| Use of sterile gloves and drapes<br>The tips only surgical method was employed without the use of drapes.  | N/A           |
| Preparation of sterile incision site and surrounding area  | Acceptable    |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | Acceptable    |
| Proper recovery monitoring   | Acceptable    |
| Records of postoperative care including analgesia agents (all species)   | Acceptable    |
| <b>10. SATELLITE FACILITIES</b>  |               |
| Daily feed/water/observation-records maintained  | N/A           |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A           |
| Changes in environment since last inspection (noise, illumination, vibration, etc)   | N/A           |
| Disaster plan in place, annual review, updates since last provided to OACU   | N/A           |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply  | N/A           |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)  | N/A           |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A           |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?  | N/A           |
| Pest control (frequency, effectiveness)  | N/A           |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A           |
| Veterinary contact info visibly posted   | N/A           |
| <b>11. AQUATIC FACILITIES</b>  |               |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing  | N/A           |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A           |
| Temperature/humidity values recorded   | N/A           |
| Equipment properly sanitized, separation based on health status  | N/A           |
| Tank allows for undisturbed observation, enrichment present  | N/A           |
| Personnel trained in H2O quality, animal health monitoring   | N/A           |
| How is MS222 prepared for use?   | N/A           |



|                          |                            |                             |                   |
|--------------------------|----------------------------|-----------------------------|-------------------|
| <b>PI:</b>               |                            | <b>Inspection Date:</b>     | <b>07/25/2019</b> |
| <b>PI PID</b>            |                            | <b>Inspectors</b>           |                   |
| <b>Inspection ID</b>     | 12056                      |                             |                   |
| <b>Inspection Type</b>   | Semiannual with Procedural |                             |                   |
| <b>Lab Coordinators</b>  |                            |                             |                   |
| <b>Deficiency Count:</b> | 0                          | <b>Inspection Comments:</b> | 2                 |

|   |               |
|---|---------------|
| <b>1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY</b>   |               |
| Summary Conducted   | Acceptable    |
| <b>2. DOCUMENTATIONS and POSTINGS</b>   |               |
| Emergency, weekend, and holiday contact information visibly posted in animal housing area   | Acceptable    |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted   | Acceptable    |
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA | Acceptable    |
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research                                     | Acceptable    |
| <b>3. HEALTH AND SAFETY</b>   |               |
| Gas cylinders immobilized; Eyewash check documented/dust caps in place  | Acceptable    |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight   | Acceptable    |
| Proper sharps disposal, hazardous waste disposal  | Acceptable    |
| Current copy of Needle Safety in Animal Studies posted  | Acceptable    |
| Proper carcass disposal (especially hazard contaminated)  | Acceptable    |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119   | Acceptable    |
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL)  | Acceptable    |
| Cage side chemical hazard identification training   | N/A           |
| Review of chemical hazard forms by laboratory personnel before initial use  | Acceptable    |
| <b>4. ANIMAL CARE</b>   |               |
| Report animal health issues to Division of Comparative Medicine   | Acceptable    |
| Clinical records for individual animals (covered species)   | N/A           |
| Analgesia/anesthesia use as described in approved ACAP  | Acceptable    |
| Euthanasia performed as described in approved ACAP; tools sharp/adequate  | Acceptable    |
| Means to track animal usage/Euthanasia log  | Acceptable    |
| <b>MONITORING DOCUMENTATION</b> (weight, drugs, post op care, etc)  | No Deficiency |
| Please ensure consistent use of pink post-operative cards after survival surgeries.   |               |
| Please add a column for toe pinch on the isoflurane record.   |               |
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP)   | N/A           |
| <b>5. AGENTS ADMINISTERED</b>   |               |
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately)                       | Acceptable    |
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)  | Acceptable    |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?                                 | Acceptable    |
| Proper Controlled Substance Storage and Records; double lock  | N/A           |
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention                                  | Acceptable    |
| <b>6. PHYSICAL PLANT</b>  |               |
| Impervious surfaces   | Acceptable    |
| General cleanliness   | Acceptable    |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning   | N/A           |
| <b>7. SURGICAL PROCEDURES: General Considerations</b>   |               |
| Location minimizes traffic/contamination (survival surgery)   | Acceptable    |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide   | Acceptable    |
| Interior surfaces smooth and impervious to moisture   | Acceptable    |
| Fixed equipment is sanitizable  | Acceptable    |
| <b>8. SURGICAL PROCEDURES: Anesthesia</b>   |               |
| Adequate records of anesthesia and preoperative care  | Acceptable    |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)  | Acceptable    |
| Procedures for administering and monitoring analgesia (survival surgery)  | Acceptable    |
| Proper anesthetics, doses, routes of anesthesia (records maintained)  | Acceptable    |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>  |               |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure   | Acceptable    |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible)                                      | Acceptable    |
| Use of effective aseptic procedures for survival surgery  | Acceptable    |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)  | N/A           |



|  |               |
|--|---------------|
| Use of sterile gloves and drapes   | N/A           |
| Preparation of sterile incision site and surrounding area  | Acceptable    |
| Sterile Sutures, Wound Clips, Staples and/or Skin Glue<br>inspectors identified tissue adhesive with a past expiration date. All chemicals and supplies maintained in the animal care and housing areas must be discarded after the expiration date or labeled, "Expired-do not Use" or "For Acute Use Only" to avoid accidental use in animals. | No Deficiency |
| Proper recovery monitoring   | Acceptable    |
| Records of postoperative care including analgesia agents (all species)   | Acceptable    |

**10. SATELLITE FACILITIES**

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?                    | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visably posted  | N/A |

**11. AQUATIC FACILITIES**

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |





**PI:**  
**PI PID**  
**Inspection ID** 12073  
**Inspection Type** Semiannual with Procedural  
**Lab Coordinators**

**Inspection Date:** 08/29/2019  
**Inspectors**

Deficiency Count: 0

Inspection Comments: 2

## 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable

Inspectors spoke with the Laboratory Animal Coordinator (LAC), and the PI, during the inspection. were very organized and complete in their explanations and responses to questions. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

This inspection report serves as both the Semiannual and Procedural Observation report. was very thorough and knowledgeable throughout the observation. The inspectors did not find any deficiencies to report. The next procedural observation will not be required from the laboratory for three years or when the person we observed leaves the laboratory, whichever happens first.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to iacuc@med.unc.edu with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

## 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use N/A

## 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) Acceptable

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

## 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock Acceptable

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

## 6. PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

Because your laboratory is responsible for the sanitation of animal related experimental/behavior testing equipment, microbiological sampling may be necessary to ensure that adequate disinfection is taking place. Please contact Yumiko Hayes to set up a routine sampling of your equipment.

## 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable

Obtained by Rise for Animals. Uploaded 07/05/2020



**8. SURGICAL PROCEDURES: Anesthesia**

|  |            |
|--|------------|
| Adequate records of anesthesia and preoperative care                       | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |
| Proper anesthetics, doses, routes of anesthesia (records maintained)       | Acceptable |

**9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures**

|  |            |
|--|------------|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | Acceptable |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
| Use of effective aseptic procedures for survival surgery   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | Acceptable |
| Use of sterile gloves and drapes   | Acceptable |
| Preparation of sterile incision site and surrounding area  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)   | Acceptable |



|   |                                    |
|---|------------------------------------|
| <b>PI:</b>  | <b>Inspection Date:</b> 08/15/2019 |
| <b>PI PID</b>                                     | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12093                        |                                    |
| <b>Inspection Type</b> Semiannual with Procedural |                                    |
| <b>Lab Coordinators</b>                           |                                    |
| <b>Deficiency Count:</b> 1                        | <b>Inspection Comments:</b> 5      |

**1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY**

|                   |            |
|-------------------|------------|
| Summary Conducted | Acceptable |
|-------------------|------------|

Inspectors spoke with [redacted] the Principal Investigator (PI), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

This inspection report serves as both the Semiannual and Procedural Observation report. During the observation, Dr. [redacted] described the non-survival cochlear surgical procedure performed by [redacted] in protocol # [redacted] without the use of a live animal. The next procedural observation will not be required from the laboratory for three years or when the person we observed leaves the laboratory whichever happens first.

**2 DOCUMENTATIONS and POSTINGS**

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted | Acceptable |
|---|------------|

|   |            |
|---|------------|
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research | Acceptable |
|---|------------|

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

**3 HEALTH AND SAFETY**

|  |            |
|--|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place | Acceptable |
|--|------------|

|   |     |
|---|-----|
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight | N/A |
|---|-----|

|  |            |
|--|------------|
| Proper sharps disposal, hazardous waste disposal | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Current copy of Needle Safety in Animal Studies posted | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Proper carcass disposal (especially hazard contaminated) | Acceptable |
|--|------------|

|   |            |
|---|------------|
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL) | Acceptable |
|--|------------|

A urethane hazard posting and handling instructions was posted in the procedure area near the fume hood.

|   |     |
|---|-----|
| Cage side chemical hazard identification training | N/A |
|---|-----|

|  |     |
|--|-----|
| Review of chemical hazard forms by laboratory personnel before initial use | N/A |
|--|-----|

**4 ANIMAL CARE**

|   |            |
|---|------------|
| Report animal health issues to Division of Comparative Medicine | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Clinical records for individual animals (covered species) | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Analgesia/anesthesia use as described in approved ACAP | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Means to track animal usage/Euthanasia log | Acceptable |
|--|------------|

|   |            |
|---|------------|
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc) | Acceptable |
|---|------------|

|   |     |
|---|-----|
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP) | N/A |
|---|-----|

**5 AGENTS ADMINISTERED**

|   |                  |
|---|------------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | Minor Deficiency |
|---|------------------|

In Glaxo 142, lidocaine, which expired on 4/30/19, was used past its expiration date as an adjunct supplemental agent in 11 gerbils. For the acute terminal procedure, lidocaine was administered prior to non-survival surgery and in conjunction with the general anesthetics Nembutal and urethane. Although animals were fully anesthetized throughout the acute terminal procedures as indicated by stable vital parameters and persistent lack of withdrawal response to toe pinch, expired pharmaceuticals may not be used for surgery and are contrary to accepted veterinary practice. The investigator should review the laboratory's practices for ensuring that expired medications providing anesthesia, analgesia, or euthanasia are not used in animals (e.g., clearly labeled "expired" and/or separated from other medications and medical supplies.)

Notification Sent

|  |            |
|--|------------|
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) | Acceptable |
|--|------------|

Non-pharmaceutical grade urethane is used as described in the approved protocol.

|   |     |
|---|-----|
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? | N/A |
|---|-----|

|  |            |
|--|------------|
| Proper Controlled Substance Storage and Records; double lock | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention | Acceptable |
|--|------------|

**6 PHYSICAL PLANT**

|                     |            |
|---------------------|------------|
| Impervious surfaces | Acceptable |
|---------------------|------------|



|   |            |
|---|------------|
| General cleanliness   | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning   | N/A        |
| <b>7. SURGICAL PROCEDURES: General Considerations</b>   |            |
| Location minimizes traffic/contamination (survival surgery)   | Acceptable |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | Acceptable |
| Interior surfaces smooth and impervious to moisture   | Acceptable |
| Fixed equipment is sanitizable  | Acceptable |
| <b>8. SURGICAL PROCEDURES: Anesthesia</b>   |            |
| Adequate records of anesthesia and preoperative care  | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)  | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)  | N/A        |
| Proper anesthetics, doses, routes of anesthesia (records maintained)  | Acceptable |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>  |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure   | N/A        |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible)                                    | N/A        |
| Use of effective aseptic procedures for survival surgery  | N/A        |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)  | N/A        |
| Use of sterile gloves and drapes  | N/A        |
| Preparation of sterile incision site and surrounding area   | N/A        |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue  | N/A        |
| Proper recovery monitoring  | N/A        |
| Records of postoperative care including analgesia agents (all species)  | N/A        |
| <b>10. SATELLITE FACILITIES</b>   |            |
| Daily feed/water/observation-records maintained   | N/A        |
| Animal identification posted (PI, ACAP ID #, species, source)   | N/A        |
| Changes in environment since last inspection (noise, illumination, vibration, etc)  | N/A        |
| Disaster plan in place, annual review, updates since last provided to OACU  | N/A        |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply   | N/A        |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)   | N/A        |
| HVAC adequate and non-recirculating (suggest monitoring annually)   | N/A        |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?   | N/A        |
| Pest control (frequency, effectiveness)   | N/A        |
| Sanitation schedule (daily/weekly/monthly/annually) maintained  | N/A        |
| Veterinary contact info visibly posted  | N/A        |
| <b>11. AQUATIC FACILITIES</b>   |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing   | N/A        |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering  | N/A        |
| Temperature/humidity values recorded  | N/A        |
| Equipment properly sanitized, separation based on health status   | N/A        |
| Tank allows for undisturbed observation, enrichment present   | N/A        |
| Personnel trained in H2O quality, animal health monitoring  | N/A        |
| How is MS222 prepared for use?  | N/A        |



**PI:**  
**PI PID**  
**Inspection ID** 12102  
**Inspection Type** Semiannual with Procedural  
**Lab Coordinators**

**Inspection Date:** 08/16/2019  
**Inspectors**

**Deficiency Count:** 0

**Inspection Comments:** 7

# 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable  
 Inspectors spoke with a lab member, and the Laboratory Animal Coordinators (LAC), and lab members, during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

This inspection report serves as both the Semiannual and Procedural Observation report. During the observation, was very knowledgeable and able to demonstrate tumor resection surgery as described in protocol #18-062 without the use of a live animal. The inspectors did not find any deficiencies to report. The next procedural observation will not be required from the laboratory for three years or when the person we observed leaves the laboratory whichever happens first.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to iacuc@med.unc.edu with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

# 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

# 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use N/A

# 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable  
 Inspectors reviewed humane endpoint records to ensure animals were not allowed to exceed the humane endpoints as described in the protocol. Tumor size and body weight data from the animal handlers indicated animals were monitored and were not allowed to exceed humane endpoints.

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

# 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? Acceptable

Proper Controlled Substance Storage and Records; double lock Acceptable

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

# 6 PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning N/A

# 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable



|  |               |
|--|---------------|
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide  | Acceptable    |
| Interior surfaces smooth and impervious to moisture  | Acceptable    |
| Fixed equipment is sanitizable   | Acceptable    |
| <b>8. SURGICAL PROCEDURES: Anesthesia</b>  |               |
| Adequate records of anesthesia and preoperative care<br>Inspectors observed that anesthesia records did not include a column to indicate that the animal reached a surgical plane of anesthesia prior to the start of the procedure (i.e. lack of toe pinch reflex). Laboratories must document that all animals have reached the appropriate surgical plane of anesthesia. Please update anesthesia records to include this information. A template is available here:<br><br><a href="https://research.unc.edu/files/2012/11/Drug-Log-Template.pdf">https://research.unc.edu/files/2012/11/Drug-Log-Template.pdf</a>   | No Deficiency |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)   | Acceptable    |
| Procedures for administering and monitoring analgesia (survival surgery)<br>The IACUC has instituted new guidelines in for post-operative monitoring at the cage side level. Use of the new pink Post-Procedure Monitoring and Analgesia Card is required for all cages of animals receiving analgesia and/or post-operative monitoring. The cards are available in the DCM facilities. If the Post-Procedural Monitoring card will be used to document post-operative monitoring records, please save them and they should be readily available to the IACUC during laboratory inspections.<br><br><a href="https://research.unc.edu/files/2017/02/Informational-Memo-March-2017.pdf">https://research.unc.edu/files/2017/02/Informational-Memo-March-2017.pdf</a><br><a href="https://research.unc.edu/files/2017/02/Post-Procedure-Monitoring-card-FINAL-2017.pdf">https://research.unc.edu/files/2017/02/Post-Procedure-Monitoring-card-FINAL-2017.pdf</a> | Acceptable    |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable    |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |               |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure  | Acceptable    |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible)   | Acceptable    |
| Use of effective aseptic procedures for survival surgery   | Acceptable    |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)<br>Inspectors were informed that all necessary surgical supplies are autoclaved.  | Acceptable    |
| Use of sterile gloves and drapes<br>Inspectors noted during the procedural observation that the sterile gloves were past their expiration date. The expired gloves were not used for survival surgery. Expired items cannot be used in a survival surgery. Please ensure that all surgical supplies are in-date prior to use.  | No Deficiency |
| Preparation of sterile incision site and surrounding area  | Acceptable    |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | Acceptable    |
| Proper recovery monitoring   | Acceptable    |
| Records of postoperative care including analgesia agents (all species)   | Acceptable    |
| <b>10. SATELLITE FACILITIES</b>  |               |
| Daily feed/water/observation-records maintained  | N/A           |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A           |
| Changes in environment since last inspection (noise, illumination, vibration, etc)   | N/A           |
| Disaster plan in place, annual review, updates since last provided to OACU   | N/A           |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply  | N/A           |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)  | N/A           |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A           |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?  | N/A           |
| Pest control (frequency, effectiveness)  | N/A           |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A           |
| Veterinary contact info visibly posted   | N/A           |
| <b>11. AQUATIC FACILITIES</b>  |               |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing  | N/A           |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A           |
| Temperature/humidity values recorded   | N/A           |
| Equipment properly sanitized, separation based on health status  | N/A           |
| Tank allows for undisturbed observation, enrichment present  | N/A           |
| Personnel trained in H2O quality, animal health monitoring   | N/A           |
| How is MS222 prepared for use?   | N/A           |





**PI:** \_\_\_\_\_ **Inspection Date:** 09/24/2019  
**PI PID** \_\_\_\_\_ **Inspectors** \_\_\_\_\_  
**Inspection ID** 12129  
**Inspection Type** Semiannual with  
 Procedural  
**Lab Coordinators** \_\_\_\_\_

**Deficiency Count:** 0

**Inspection Comments:** 1

# 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted \_\_\_\_\_ Acceptable

Inspectors spoke with \_\_\_\_\_ the Laboratory Animal Coordinator (LAC), and \_\_\_\_\_ the PI, during the inspection. \_\_\_\_\_ was very organized, which was helpful in guiding inspectors through the lab space. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

This inspection report serves as both the Semiannual and Procedural Observation report. During the observation, \_\_\_\_\_ was very knowledgeable and clearly demonstrated the tissue collection procedure as described in protocol #19-151. The inspectors did not find any deficiencies to report. The next procedural observation will not be required from the laboratory for three years or when the person we observed leaves the laboratory whichever happens first.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to iacuc@med.unc.edu with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

# 2 DOCUMENTATIONS and IACUC POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained/certified and on application Acceptable

How are approved applications and amendments available to and reviewed by laboratory personnel? Acceptable

Other N/A

# 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal; Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal/hazardous waste disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry (i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

If chemical/biological hazards in animal facility, using appropriate cage cards to identify hazards? N/A

Review of chemical hazard forms by laboratory personnel before initial use N/A

Other N/A

# 4 ANIMAL CARE

Does the lab know how to report animal health issues to DCM? Acceptable

If USDA regulated species, are there clinical records for individual animals? N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

If euthanizing in lab space is euthanasia performed as described in approved protocol; secondary method tools sharp/adequate Acceptable

Means to track animal usage Acceptable

Experimental Monitoring Documentation (weight loss, tumor size, etc.) Acceptable

Toe Clip Discussion (max day 10, max 4 toes, 2 toes per foot (not the dewclaw), approved in ACAP) Acceptable

Other N/A

# 5 AGENTS ADMINISTERED

Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? Acceptable

Proper records maintained for agents used for anesthesia, analgesia, euthanasia, and acute intervention Acceptable

Proper Controlled Substance Storage and Records; double lock, running balance Acceptable

Is the lab ensuring drugs and biological agents are within expiration date (expired drugs separated or marked appropriately) Acceptable

Other N/A

# 6 PHYSICAL PLANT- Lab Space

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning; Are they on the DCM biological monitoring schedule? N/A

Other N/A

# 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure Acceptable





|   |            |
|---|------------|
| Interior surfaces smooth and impervious to moisture | Acceptable |
| Fixed equipment is sanitizable                      | Acceptable |
| Other   | N/A        |

**8. SURGICAL PROCEDURES: Anesthesia**

|  |            |
|--|------------|
| Adequate surgical records of anesthesia and preoperative care                                      | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                         | Acceptable |
| Proper recovery monitoring; Records of postoperative care including analgesia agents (all species) | N/A        |
| Procedures for administering and monitoring analgesia (survival surgery)                           | N/A        |
| Other  | N/A        |

**9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures**

|   |     |
|---|-----|
| Autoclave Sterilization procedures are appropriate (e.g.: storage, use of autoclave tape, expiration date visible)  | N/A |
| Use of effective aseptic procedures for survival surgery; Preparation of sterile incision site and surrounding area | N/A |
| Cold Sterilization procedures are appropriate (e.g.: manufacturer recommended exposure time)                        | N/A |
| Use of sterile gloves and drapes (for surgeries where glove exposure to the animal occurs)                          | N/A |
| Closure method  | N/A |
| Other   | N/A |



**PI:**  
**PI PID**  
**Inspection ID** 12131  
**Inspection Type** Semiannual with Procedural  
**Lab Coordinators**  
**Inspection Date:** 09/16/2019  
**Inspectors**  
**Deficiency Count:** 0  
**Inspection Comments:** 7

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** Acceptable  
 Inspectors spoke with , co-PI, and a member of the lab, during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.  
 It was discussed that the current LAC, , will be leaving the lab. Please submit an amendment as soon as possible to add the new LAC to the protocol.  
 A mock procedural observation was included with this Semiannual inspection. performed a mock demonstration of a burn procedure, covered under approved protocol number 18-118. appeared knowledgeable of the procedure and the inspectors had no significant suggestions for improvement. The next procedural will be required in three years or if the current surgeon leaves the laboratory.  
 Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.  
 Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to iacuc@med.unc.edu with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

## 2 DOCUMENTATIONS and IACUC POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable  
 Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted No Deficiency  
 Inspectors observed that Room 8061 had the appropriate signs posted (e.g. Reporting an Animal Concern, Emergency Telephone Numbers). Inspectors did not observe these signs in Room 8058. The most recent version of these documents can be obtained from our website at: <http://research.unc.edu/offices/iacuc>.  
 All personnel handling animals in the lab trained/certified and on application Acceptable  
 How are approved applications and amendments available to and reviewed by laboratory personnel? Acceptable  
 Other N/A

## 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place No Deficiency  
 Inspectors observed that the eye wash in Room 8061 was properly checked and flushed. The eye wash in Room 8058 was last checked and flushed on 7/2019. The eyewash must be checked and flushed monthly. The laboratory is responsible for maintaining documentation for these monthly checks.  
 This comment was previously made in the 9/21/2018 inspection report.  
 Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable  
 Proper sharps disposal; Current copy of Needle Safety in Animal Studies posted No Deficiency  
 Inspectors did not observe the Needle Safety in Animal Studies sign in Room 8058. The sign was properly posted in Room 8061. The most recent version of these documents can be obtained from our website at: <http://research.unc.edu/offices/iacuc>.  
 Proper carcass disposal/hazardous waste disposal (especially hazard contaminated) No Deficiency  
 Laboratory personnel were not certain where they obtained their carcass disposal bags. Inspectors discussed the use of transparent, non-PVC containing bags to store carcasses for disposal. These bags can be obtained through DCM, and should be used when disposing of carcasses as all carcasses leave campus for incineration. Please see policy at the following URL:  
<http://research.unc.edu/files/2012/11/Disposal-of-Rodents-Carcasses-Policy.pdf>  
 Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable  
 Warning signs visible upon laboratory entry (i.e.; radiation, biohazard, chemicals, ABSL) Acceptable  
 If chemical/biological hazards in animal facility, using appropriate cage cards to identify hazards? N/A  
 Review of chemical hazard forms by laboratory personnel before initial use Acceptable  
 Other N/A

## 4 ANIMAL CARE

Does the lab know how to report animal health issues to DCM? Acceptable  
 If USDA regulated species, are there clinical records for individual animals? N/A  
 Analgesia/anesthesia use as described in approved ACAP Acceptable  
 If euthanizing in lab space is euthanasia performed as described in approved protocol; secondary method tools sharp/adequate Acceptable  
 Means to track animal usage Acceptable  
 Experimental Monitoring Documentation (weight loss, tumor size, etc.) Acceptable  
 Toe Clip Discussion (max day 10, max 4 toes, 2 toes per foot (not the dewclaw), approved in ACAP) N/A  
 Other N/A

## 5 AGENTS ADMINISTERED

Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade) Acceptable  
 Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? Acceptable  
 Proper records maintained for agents used for anesthesia, analgesia, euthanasia, and acute intervention Acceptable  
 Proper Controlled Substance Storage and Records; double lock, running balance Acceptable  
 Is the lab ensuring drugs and biological agents are within expiration date (expired drugs separated or marked appropriately) No Deficiency  
 Inspectors observed multiple tubes of eye lubricant with an expiration date of 8/2019. All materials used on animals must be discarded after the expiration date or labeled, "Expired-do not Use" or "For Acute Use Only" to avoid accidental use on animals.  
 Other N/A

**6. PHYSICAL PLANT- Lab Space**

|  |            |
|--|------------|
| Impervious surfaces  | Acceptable |
| General cleanliness  | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning; Are they on the DCM biological monitoring schedule? | N/A        |
| Other  | N/A        |

**7. SURGICAL PROCEDURES: General Considerations**

|   |            |
|---|------------|
| Location minimizes traffic/contamination (survival surgery)   | Acceptable |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | Acceptable |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure   | Acceptable |
| Interior surfaces smooth and impervious to moisture   | Acceptable |
| Fixed equipment is sanitizable  | Acceptable |
| Other   | N/A        |

**8. SURGICAL PROCEDURES: Anesthesia**

|  |            |
|--|------------|
| Adequate surgical records of anesthesia and preoperative care                                      | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                         | Acceptable |
| Proper recovery monitoring; Records of postoperative care including analgesia agents (all species) | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)                           | Acceptable |
| Other  | N/A        |

**9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures**

|   |               |
|---|---------------|
| Autoclave Sterilization procedures are appropriate (e.g.: storage, use of autoclave tape, expiration date visible)  | N/A           |
| Use of effective aseptic procedures for survival surgery; Preparation of sterile incision site and surrounding area | Acceptable    |
| Cold Sterilization procedures are appropriate (e.g.: manufacturer recommended exposure time)                        | N/A           |
| Use of sterile gloves and drapes (for surgeries where glove exposure to the animal occurs)                          | Acceptable    |
| Closure method  | N/A           |
| Other   | No Deficiency |

Inspectors observed nitrile gloves with expiration dates of 1/2016, 4/2017, and 7/2017. All materials used on animals must be discarded after the expiration date or labeled, "Expired-do not Use" or "For Acute Use Only" to avoid accidental use on animals.



|  |  |
|--|--|
| <b>PI:</b><br><b>PI PID</b><br><b>Inspection ID</b> 12134<br><b>Inspection Type</b> Semiannual with<br>Procedural<br><b>Lab Coordinators</b><br><b>Deficiency Count:</b> 0 | <b>Inspection Date:</b> 09/17/2019<br><b>Inspectors</b><br><br><b>Inspection Comments:</b> 3 |
|--|--|

### 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** Acceptable

Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

A mock procedural observation was included with this semi-annual inspection. performed a mock demonstration of a terminal perfusion for tissue harvest procedure, covered under approved protocol number 18-073. appeared knowledgeable of the procedure and the inspectors had no significant suggestions for improvement. The next procedural will be required in three years or if the current surgeon leaves the laboratory.

### 2 DOCUMENTATIONS and IACUC POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained/certified and on application Acceptable

How are approved applications and amendments available to and reviewed by laboratory personnel? Acceptable

Other N/A

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

### 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place No Deficiency

The eyewash must be checked and flushed monthly (last checked 7/21/19). The laboratory is responsible for maintaining documentation for these monthly checks.

Inspectors noted an eyewash where the protective caps were not covering the eyewash. Please make sure that eyewashes are clean and covers are in place so that debris does not build up and the eyewash can be used in case of emergency.

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal; Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal/hazardous waste disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry (i.e., radiation, biohazard, chemicals, ABSL) Acceptable

If chemical/biological hazards in animal facility, using appropriate cage cards to identify hazards? Acceptable

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

Other N/A

### 4. ANIMAL CARE

Does the lab know how to report animal health issues to DCM? Acceptable

If USDA regulated species, are there clinical records for individual animals? N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

If euthanizing in lab space is euthanasia performed as described in approved protocol; secondary method tools sharp/adequate Acceptable

Means to track animal usage Acceptable

Experimental Monitoring Documentation (weight loss, tumor size, etc.) Acceptable

Toe Clip Discussion (max day 10, max 4 toes, 2 toes per foot (not the dewclaw), approved in ACAP) Acceptable

Other N/A

### 5. AGENTS ADMINISTERED

Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? Acceptable

Proper records maintained for agents used for anesthesia, analgesia, euthanasia, and acute intervention Acceptable

Proper Controlled Substance Storage and Records; double lock, running balance N/A

Is the lab ensuring drugs and biological agents are within expiration date (expired drugs separated or marked appropriately) Acceptable

Other N/A

### 6 PHYSICAL PLANT- Lab Space

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning; Are they on the N/A

DCM biological monitoring schedule?

Other N/A



## 7. SURGICAL PROCEDURES: General Considerations

|   |            |
|---|------------|
| Location minimizes traffic/contamination (survival surgery)   | N/A        |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A        |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure   | N/A        |
| Interior surfaces smooth and impervious to moisture   | Acceptable |
| Fixed equipment is sanitizable  | Acceptable |
| Other   | N/A        |

## 8. SURGICAL PROCEDURES: Anesthesia

|  |            |
|--|------------|
| Adequate surgical records of anesthesia and preoperative care                                      | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                         | Acceptable |
| Proper recovery monitoring; Records of postoperative care including analgesia agents (all species) | N/A        |
| Procedures for administering and monitoring analgesia (survival surgery)                           | N/A        |
| Other  | N/A        |

## 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|   |     |
|---|-----|
| Autoclave Sterilization procedures are appropriate (e.g.: storage, use of autoclave tape, expiration date visible)  | N/A |
| Use of effective aseptic procedures for survival surgery; Preparation of sterile incision site and surrounding area | N/A |
| Cold Sterilization procedures are appropriate (e.g.: manufacturer recommended exposure time)                        | N/A |
| Use of sterile gloves and drapes (for surgeries where glove exposure to the animal occurs)                          | N/A |
| Closure method  | N/A |
| Other   | N/A |



|                         |                               |                         |            |
|-------------------------|-------------------------------|-------------------------|------------|
| <b>PI:</b>              |                               | <b>Inspection Date:</b> | 09/19/2019 |
| <b>PI PID</b>           |                               | <b>Inspectors</b>       |            |
| <b>Inspection ID</b>    | 12277                         |                         |            |
| <b>Inspection Type</b>  | Semiannual with<br>Procedural |                         | IACUC      |
| <b>Lab Coordinators</b> |                               |                         |            |

Deficiency Count: 0

Inspection Comments: 6

**1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY**

Summary Conducted Acceptable

Inspectors spoke with the Laboratory Animal Coordinator (LAC), and the Principal Investigator (PI), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

A mock procedural observation was included with this semiannual inspection. performed a mock demonstration of a head plate attachment surgery, covered under approved protocol number 19-079. appeared knowledgeable of the procedure and the inspectors had no significant suggestions for improvement. The next procedural will be required in three years or if the current surgeon leaves the laboratory.

**2. DOCUMENTATIONS and IACUC POSTINGS**

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained/certified and on application Acceptable

How are approved applications and amendments available to and reviewed by laboratory personnel? Acceptable

Other N/A

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

**3. HEALTH AND SAFETY**

Gas cylinders immobilized; Eyewash check documented/dust caps in place No Deficiency

The eyewash stations must be checked and flushed monthly. The laboratory is responsible for maintaining documentation for these monthly checks.

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal; Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal/hazardous waste disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry (i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

If chemical/biological hazards in animal facility, using appropriate cage cards to identify hazards? N/A

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

Other N/A

**4. ANIMAL CARE**

Does the lab know how to report animal health issues to DCM? Acceptable

If USDA regulated species, are there clinical records for individual animals? No Deficiency

Please ensure that all documentation for anesthetized animals (undergoing a painful procedure) indicates that the animal reached a surgical plane of anesthesia prior to the start of the procedure (i.e. lack of toe pinch reflex).

Analgesia/anesthesia use as described in approved ACAP Acceptable

If euthanizing in lab space is euthanasia performed as described in approved protocol; secondary method tools sharp/adequate Acceptable

Means to track animal usage Acceptable

Experimental Monitoring Documentation (weight loss, tumor size, etc.) Acceptable

Toe Clip Discussion (max day 10, max 4 toes, 2 toes per foot (not the dewclaw), approved in ACAP) N/A

Other N/A

Inspectors (including at least two IACUC members) conducted a semiannual records review of USDA covered species medical records maintained by the lab, during the inspection of the lab surgical suite.

**5. AGENTS ADMINISTERED**

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper records maintained for agents used for anesthesia, analgesia, euthanasia, and acute intervention Acceptable

Proper Controlled Substance Storage and Records; double lock, running balance N/A

Is the lab ensuring drugs and biological agents are within expiration date (expired drugs separated or marked appropriately) Acceptable

Other N/A

**6. PHYSICAL PLANT- Lab Space**

Impervious surfaces Acceptable

General cleanliness Acceptable





|  |            |
|--|------------|
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning; Are they on the DCM biological monitoring schedule?   | Acceptable |
| Because your laboratory is responsible for the sanitation of animal related experimental/behavior testing equipment, microbiological sampling may be necessary to ensure that adequate disinfection is taking place. DCM may contact you to set up a routine sampling of your equipment. Yumiko Hayes- yhayes@med.unc.edu. |            |
| Other  | N/A        |

#### 7. SURGICAL PROCEDURES: General Considerations

|   |            |
|---|------------|
| Location minimizes traffic/contamination (survival surgery)   | Acceptable |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | Acceptable |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure   | Acceptable |
| Interior surfaces smooth and impervious to moisture   | Acceptable |
| Fixed equipment is sanitizable  | Acceptable |
| Other   | N/A        |

#### 8. SURGICAL PROCEDURES: Anesthesia

|  |            |
|--|------------|
| Adequate surgical records of anesthesia and preoperative care                                      | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                         | Acceptable |
| Proper recovery monitoring; Records of postoperative care including analgesia agents (all species) | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)                           | Acceptable |
| Other  | N/A        |

#### 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|   |            |
|---|------------|
| Autoclave Sterilization procedures are appropriate (e.g.: storage, use of autoclave tape, expiration date visible)  | Acceptable |
| Use of effective aseptic procedures for survival surgery; Preparation of sterile incision site and surrounding area | Acceptable |
| Cold Sterilization procedures are appropriate (e.g.: manufacturer recommended exposure time)                        | N/A        |
| Use of sterile gloves and drapes (for surgeries where glove exposure to the animal occurs)                          | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue  | Acceptable |
| Other   | N/A        |



|   |   |
|---|---|
| <b>PI:</b><br>PI PID<br><b>Inspection ID</b> 12063<br><b>Inspection Type</b> Satellite<br><b>Lab Coordinators</b> | <b>Inspection Date:</b> 04/18/2019<br><b>Inspectors</b> |
|---|---|

# 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|  |            |
|--|------------|
| Summary Conducted<br>Inspectors spoke with _____, the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years. | Acceptable |
|--|------------|

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

# 2 DOCUMENTATIONS and POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area   | Acceptable |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted   | N/A        |
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA | Acceptable |
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research                                     | Acceptable |

# 3 HEALTH AND SAFETY

|   |            |
|---|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place                                | Acceptable |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight                       | N/A        |
| Proper sharps disposal, hazardous waste disposal  | Acceptable |
| Current copy of Needle Safety in Animal Studies posted  | Acceptable |
| Proper carcass disposal (especially hazard contaminated)  | Acceptable |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL)            | Acceptable |
| Cage side chemical hazard identification training   | N/A        |
| Review of chemical hazard forms by laboratory personnel before initial use                            | Acceptable |

# 4 ANIMAL CARE

|  |            |
|--|------------|
| Report animal health issues to Division of Comparative Medicine          | Acceptable |
| Clinical records for individual animals (covered species)                | Acceptable |
| Analgesia/anesthesia use as described in approved ACAP                   | Acceptable |
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
| Means to track animal usage/Euthanasia log                               | Acceptable |
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc)              | Acceptable |
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP)                  | N/A        |

# 5 AGENTS ADMINISTERED

|   |            |
|---|------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)                                | Acceptable |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?           | N/A        |
| Proper Controlled Substance Storage and Records; double lock  | N/A        |
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention            | N/A        |

# 6 PHYSICAL PLANT

|   |            |
|---|------------|
| Impervious surfaces   | Acceptable |
| General cleanliness   | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | Acceptable |

# 7 SURGICAL PROCEDURES: General Considerations

|   |     |
|---|-----|
| Location minimizes traffic/contamination (survival surgery)   | N/A |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
| Interior surfaces smooth and impervious to moisture   | N/A |
| Fixed equipment is sanitizable  | N/A |

# 8 SURGICAL PROCEDURES: Anesthesia

|  |     |
|--|-----|
| Adequate records of anesthesia and preoperative care                       | N/A |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |
| Proper anesthetics, doses, routes of anesthesia (records maintained)       | N/A |

# 9 SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|  |     |
|--|-----|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |



|  |     |
|--|-----|
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time) | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area                                  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue                                     | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)                     | N/A |

#### 10. SATELLITE FACILITIES

|   |            |
|---|------------|
| Daily feed/water/observation-records maintained   | Acceptable |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | Acceptable |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | Acceptable |
| Disaster plan in place, annual review, updates since last provided to OACU                      | Acceptable |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | Acceptable |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | Acceptable |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | Acceptable |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                   | Acceptable |
| Pest control (frequency, effectiveness)   | Acceptable |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | Acceptable |
| Veterinary contact info visibly posted  | Acceptable |

#### 11. AQUATIC FACILITIES

|   |            |
|---|------------|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | Acceptable |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | Acceptable |
| Temperature/humidity values recorded  | Acceptable |
| Equipment properly sanitized, separation based on health status             | Acceptable |
| Tank allows for undisturbed observation, enrichment present                 | Acceptable |
| Personnel trained in H2O quality, animal health monitoring                  | Acceptable |
| How is MS222 prepared for use?  | Acceptable |



|                                  |                                    |
|----------------------------------|------------------------------------|
| <b>PI:</b>                       | <b>Inspection Date:</b> 05/28/2019 |
| <b>PI PID</b>                    | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12101       |                                    |
| <b>Inspection Type</b> Satellite |                                    |
| <b>Lab Coordinators</b>          |                                    |

### 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|  |            |
|--|------------|
| Summary Conducted  | Acceptable |
| Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years. |            |

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

### 2 DOCUMENTATIONS and POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted | Acceptable |
|---|------------|

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

|   |            |
|---|------------|
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research | Acceptable |
|---|------------|

### 3 HEALTH AND SAFETY

|  |            |
|--|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place | Acceptable |
|--|------------|

|   |            |
|---|------------|
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Proper sharps disposal, hazardous waste disposal | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Current copy of Needle Safety in Animal Studies posted | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Proper carcass disposal (especially hazard contaminated) | Acceptable |
|--|------------|

|   |            |
|---|------------|
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL) | Acceptable |
|--|------------|

|   |     |
|---|-----|
| Cage side chemical hazard identification training | N/A |
|---|-----|

|  |            |
|--|------------|
| Review of chemical hazard forms by laboratory personnel before initial use | Acceptable |
|--|------------|

### 4. ANIMAL CARE

|   |            |
|---|------------|
| Report animal health issues to Division of Comparative Medicine | Acceptable |
|---|------------|

|   |     |
|---|-----|
| Clinical records for individual animals (covered species) | N/A |
|---|-----|

|  |            |
|--|------------|
| Analgesia/anesthesia use as described in approved ACAP | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Means to track animal usage/Euthanasia log | Acceptable |
|--|------------|

|   |            |
|---|------------|
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc) | Acceptable |
|---|------------|

|   |     |
|---|-----|
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP) | N/A |
|---|-----|

### 5 AGENTS ADMINISTERED

|   |            |
|---|------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) | Acceptable |
|--|------------|

|   |     |
|---|-----|
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? | N/A |
|---|-----|

|  |     |
|--|-----|
| Proper Controlled Substance Storage and Records; double lock | N/A |
|--|-----|

|  |            |
|--|------------|
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention | Acceptable |
|--|------------|

### 6 PHYSICAL PLANT

|                     |            |
|---------------------|------------|
| Impervious surfaces | Acceptable |
|---------------------|------------|

|                     |            |
|---------------------|------------|
| General cleanliness | Acceptable |
|---------------------|------------|

|   |            |
|---|------------|
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | Acceptable |
|---|------------|

### 7 SURGICAL PROCEDURES: General Considerations

|   |     |
|---|-----|
| Location minimizes traffic/contamination (survival surgery) | N/A |
|---|-----|

|   |     |
|---|-----|
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
|---|-----|

|   |     |
|---|-----|
| Interior surfaces smooth and impervious to moisture | N/A |
|---|-----|

|                                |     |
|--------------------------------|-----|
| Fixed equipment is sanitizable | N/A |
|--------------------------------|-----|

### 8 SURGICAL PROCEDURES: Anesthesia

|  |     |
|--|-----|
| Adequate records of anesthesia and preoperative care | N/A |
|--|-----|

|  |     |
|--|-----|
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | N/A |
|--|-----|

|  |     |
|--|-----|
| Procedures for administering and monitoring analgesia (survival surgery) | N/A |
|--|-----|

|  |     |
|--|-----|
| Proper anesthetics, doses, routes of anesthesia (records maintained) | N/A |
|--|-----|

Obtained by Rise for Animals. Uploaded 07/05/2020

**9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures**

|  |     |
|--|-----|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |

**10. SATELLITE FACILITIES**

|   |            |
|---|------------|
| Daily feed/water/observation-records maintained   | Acceptable |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | Acceptable |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | Acceptable |
| Disaster plan in place, annual review, updates since last provided to OACU                      | Acceptable |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | Acceptable |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | Acceptable |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | Acceptable |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                   | Acceptable |
| Pest control (frequency, effectiveness)   | Acceptable |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | Acceptable |
| Veterinary contact info visibly posted  | Acceptable |

**11. AQUATIC FACILITIES**

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



**PI:** **Inspection Date:** 05/28/2019  
**PI PID** **Inspectors**  
**Inspection ID** 12107  
**Inspection Type** Satellite  
**Lab Coordinators**

## 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted No Deficiency

Inspectors discussed the need to have the Laboratory Coordinator (LAC) for the lab present during the satellite inspection and during normal satellite operations. The LAC listed on the approved protocol is no longer with the lab, the new LAC will be \_\_\_\_\_, who the inspectors met with today. Please submit an amendment as soon as possible to add \_\_\_\_\_ to the protocol.

The IACUC and the Office of Animal Care and Use expect that all comments and deficiencies, as well as pertinent items discussed during the inspection, will be shared with all animal handlers in the laboratory. Please ensure that all members of the laboratory involved with animal care or use are apprised of all issues, updated policies & procedures, upcoming events, etc. We thank you for your time.

## 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area No Deficiency

Please update the Emergency Contact information on the laboratory refrigerator with the new LAC's information.

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry (i.e.; radiation, biohazard, chemicals, ABSL)

Inspectors noted outdated contact information on warning sign located at the entrance to MIRB 1120. An editable PDF can be found on the "Room Use" page of the lab's online lab safety plan, please update information and replace old signage.

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

## 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

## 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock N/A

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention N/A

## 6. PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

## 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable

## 8. SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care Acceptable

Proper monitoring for depth of surgical anesthesia (toe pinch documented?) Acceptable





|  |            |
|--|------------|
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A        |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
| Use of effective aseptic procedures for survival surgery   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A        |
| Use of sterile gloves and drapes   | Acceptable |
| Preparation of sterile incision site and surrounding area  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)   | Acceptable |
| <b>10. SATELLITE FACILITIES</b>  |            |
| Daily feed/water/observation-records maintained  | Acceptable |
| Animal identification posted (PI, ACAP ID #, species, source)  | Acceptable |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | Acceptable |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | Acceptable |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | Acceptable |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | Acceptable |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | Acceptable |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | Acceptable |
| Pest control (frequency, effectiveness)  | Acceptable |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | Acceptable |
| Veterinary contact info visibly posted   | Acceptable |
| <b>11. AQUATIC FACILITIES</b>  |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | Acceptable |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | Acceptable |
| Temperature/humidity values recorded   | Acceptable |
| Equipment properly sanitized, separation based on health status  | Acceptable |
| Tank allows for undisturbed observation, enrichment present  | Acceptable |
| Personnel trained in H2O quality, animal health monitoring   | Acceptable |
| How is MS222 prepared for use?   | Acceptable |



|                                  |                                    |
|----------------------------------|------------------------------------|
| <b>PI:</b>                       | <b>Inspection Date:</b> 06/21/2019 |
| PI PID                           | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12126       |                                    |
| <b>Inspection Type</b> Satellite |                                    |
| <b>Lab Coordinators</b>          |                                    |

**1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY**

|                   |            |
|-------------------|------------|
| Summary Conducted | Acceptable |
|-------------------|------------|

**2. DOCUMENTATIONS and POSTINGS**

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area   | N/A        |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted   | N/A        |
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA | Acceptable |
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research                                     | Acceptable |

**3. HEALTH AND SAFETY**

|   |     |
|---|-----|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place                                | N/A |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight                       | N/A |
| Proper sharps disposal, hazardous waste disposal  | N/A |
| Current copy of Needle Safety in Animal Studies posted  | N/A |
| Proper carcass disposal (especially hazard contaminated)  | N/A |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | N/A |
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL)            | N/A |
| Cage side chemical hazard identification training   | N/A |
| Review of chemical hazard forms by laboratory personnel before initial use                            | N/A |

**4. ANIMAL CARE**

|  |            |
|--|------------|
| Report animal health issues to Division of Comparative Medicine          | Acceptable |
| Clinical records for individual animals (covered species)                | N/A        |
| Analgesia/anesthesia use as described in approved ACAP                   | N/A        |
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | N/A        |
| Means to track animal usage/Euthanasia log                               | Acceptable |
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc)              | N/A        |
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP)                  | N/A        |

**5. AGENTS ADMINISTERED**

|   |     |
|---|-----|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | N/A |
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)                                | N/A |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?           | N/A |
| Proper Controlled Substance Storage and Records; double lock  | N/A |
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention            | N/A |

**6. PHYSICAL PLANT**

|   |     |
|---|-----|
| Impervious surfaces   | N/A |
| General cleanliness   | N/A |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | N/A |

**7. SURGICAL PROCEDURES: General Considerations**

|   |     |
|---|-----|
| Location minimizes traffic/contamination (survival surgery)   | N/A |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
| Interior surfaces smooth and impervious to moisture   | N/A |
| Fixed equipment is sanitizable  | N/A |

**8. SURGICAL PROCEDURES: Anesthesia**

|  |     |
|--|-----|
| Adequate records of anesthesia and preoperative care                       | N/A |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |
| Proper anesthetics, doses, routes of anesthesia (records maintained)       | N/A |

**9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures**

|  |     |
|--|-----|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |



Records of postoperative care including analgesia agents (all species)

N/A

**10. SATELLITE FACILITIES**

Daily feed/water/observation-records maintained

No Deficiency

Please ensure the month and year are consistently written the daily logs.

Animal identification posted (PI, ACAP ID #, species, source)

Acceptable

Changes in environment since last inspection (noise, illumination, vibration, etc)

Acceptable

Disaster plan in place, annual review, updates since last provided to OACU

Acceptable

Food stored in sealed container with date of expiration/milling/plan for interruption to supply

Acceptable

Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)

Acceptable

HVAC adequate and non-recirculating (suggest monitoring annually)

Acceptable

Maintaining electronic census/ Acquired new animals? Source? Permits on file?

Acceptable

Pest control (frequency, effectiveness)

Acceptable

Sanitation schedule (daily/weekly/monthly/annually) maintained

Acceptable

Veterinary contact info visibly posted

Acceptable

**11. AQUATIC FACILITIES**

Chlorine/chloramine/chemicals removed or neutralized, water quality testing

Acceptable

Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering

Acceptable

Temperature/humidity values recorded

Acceptable

Equipment properly sanitized, separation based on health status

Acceptable

Tank allows for undisturbed observation, enrichment present

Acceptable

Personnel trained in H2O quality, animal health monitoring

Acceptable

How is MS222 prepared for use?

Acceptable



|                                  |                                    |
|----------------------------------|------------------------------------|
| <b>PI:</b>                       | <b>Inspection Date:</b> 06/27/2019 |
| <b>PI PID</b>                    | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12133       |                                    |
| <b>Inspection Type</b> Satellite |                                    |
| <b>Lab Coordinators</b>          |                                    |
| <b>Deficiency Count:</b> 1       | <b>Inspection Comments:</b> 15     |

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable

Inspectors spoke with [redacted], the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

## 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

As discussed, the LAC may train and certify lab members in techniques for which she has a Proficiency rating of 1. Please reference the following link for instructions on certifying personnel: [http://research.unc.edu/files/2012/11/CCM1\\_030728.pdf](http://research.unc.edu/files/2012/11/CCM1_030728.pdf)

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place N/A

Procedures for using/scavenging volatile anesthetics; check for Fair can weight N/A

Proper sharps disposal, hazardous waste disposal No Deficiency

Sharps containers in the satellite were beige and opaque and contained no labeling. These type of containers should comply with EHS requirements for containers holding needles and sharps. (From EHS website: White plastic sharps containers are recommended for accumulation and disposal of hypodermic syringes and needles and other metal sharps such as razor and scalpel blades. These are available from Fisher Scientific. These containers may be placed in the ordinary trash for disposal.) For further information regarding proper labeling, please refer to the following URL: [https://ehs.unc.edu/files/2015/07/non\\_haz\\_needles\\_sharps.pdf](https://ehs.unc.edu/files/2015/07/non_haz_needles_sharps.pdf)

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Minor Deficiency  
 Toads which have died and experienced deterioration of the carcass, leaving it unsuitable for necropsy, were disposed of along with the container sand in the regular trash dumpster. Carcasses should not be placed in the dumpster. Instead, they should be placed in a non-PVC containing plastic bag obtained from DCM and disposed of in a DCM carcass freezer.

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) N/A

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use N/A

## 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine No Deficiency  
 Animals should be euthanized according to the humane endpoints described in the approved protocol. If any animal exhibits the described humane endpoints or fails to eat and there is a question of whether to euthanize, please contact DCM veterinary services and indicate that the matter is 'urgent' so that DCM is aware that the matter requires timely attention.

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) Acceptable

## 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) No Deficiency  
 Please ensure that the newly purchased MS-222, which was 'in the field' at the time of the inspection, is pharmaceutical grade. Western Chemical produces a pharmaceutical grade Tricaine (MS-222). If a pharmaceutical grade agent is not available, Section 11.3 of ACAP must be completed and approved by the IACUC.

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock N/A

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

## 6 PHYSICAL PLANT



|  |               |
|--|---------------|
| Impervious surfaces  | Acceptable    |
| General cleanliness<br>Please remove any unnecessary cardboard and paper products which may attract vermin and store only essential items within the satellite facility.   | No Deficiency |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning<br>Behavioral Room 439 Wilson contained a large plastic pool which, when operational, contained water and frogs. Speakers were placed on plastic containers positioned in the pool. There was no evidence of GFI plugs within the room. The placement of the speakers represented a possible electrical hazard. Please consult with EHS personnel to determine the optimal set-up to ensure personnel and animal safety.   | No Deficiency |
| <b>7. SURGICAL PROCEDURES: General Considerations</b>  |               |
| Location minimizes traffic/contamination (survival surgery)  | N/A           |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide  | N/A           |
| Interior surfaces smooth and impervious to moisture  | N/A           |
| Fixed equipment is sanitizable   | N/A           |
| <b>8. SURGICAL PROCEDURES: Anesthesia</b>  |               |
| Adequate records of anesthesia and preoperative care   | N/A           |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)   | N/A           |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A           |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | N/A           |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |               |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure  | N/A           |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible)   | N/A           |
| Use of effective aseptic procedures for survival surgery   | N/A           |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)<br>After surgical instruments are removed from the ethanol bath, lab members flame sterilize with a 115 hour candle purchased by the laboratory prior to performing toe clips. The candle container appeared to be made of glass. If so, this type of sterilizer represents a potential fire hazard if broken and EHS does not recommend using this type of sterilizer. Instead, EHS recommends several safer alternatives at the following link<br><a href="https://unc.policystat.com/policy/5854079/latest/">https://unc.policystat.com/policy/5854079/latest/</a>   | No Deficiency |
| Information pertaining to flammable gases is found in Chapter 9 of the Biosafety Manual under EHS Policy - Flammable Gases in Biological Safety Cabinets at the very end of this large chapter.  |               |
| In addition, please consult with EHS about whether a fire extinguisher is needed in this area with use of the flame sterilizer.  |               |
| Use of sterile gloves and drapes   | N/A           |
| Preparation of sterile incision site and surrounding area  | N/A           |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A           |
| Proper recovery monitoring   | N/A           |
| Records of postoperative care including analgesia agents (all species)   | N/A           |
| <b>10. SATELLITE FACILITIES</b>  |               |
| Daily feed/water/observation-records maintained  | Acceptable    |
| Animal identification posted (PI, ACAP ID #, species, source)<br>Please remove the tags placed on animal container racks which have expired protocol numbers.  | No Deficiency |
| Changes in environment since last inspection (noise, illumination, vibration, etc)   | Acceptable    |
| Disaster plan in place, annual review, updates since last provided to OACU   | Acceptable    |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply<br>Several refrigerated food products (cricket feed, shrimp brine, etc.) were labeled with the 'opened' date, but contained no 'expiration date.' Please work with DCM personnel (Janet Steele or veterinary personnel) to determine a proper storage time interval and, instead, label the containers with an 'expiration date.'  | No Deficiency |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)  | Acceptable    |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A           |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?  | Acceptable    |
| Pest control (frequency, effectiveness)<br>The B49 anteroom contained large glue/sticky boards used to catch stray crickets, a food source for the toads. The glue boards are large and sticky enough to catch rodent vermin. Alternatives to "sticky/adhesive" live board traps should be used to avoid unnecessary animal distress as required by the Guide as part of a program of adequate veterinary care. AAALAC also considers that this guidance applies to all mice, be they laboratory or vermin mice. Please work with DCM to evaluate the method of catching stray crickets and selecting an alternative method.   | No Deficiency |
| Sanitation schedule (daily/weekly/monthly/annually) maintained<br>If the behavioral and other hand-sanitized equipment in the satellite facility and in room 439 Wilson are not currently on a schedule of bacteriological monitoring to assess adequacy of sanitization, please contact Yumi Hayes in DCM so that she can put this room and equipment on her monitoring schedule.   | No Deficiency |
| Veterinary contact info visibly posted   | Acceptable    |
| <b>11. AQUATIC FACILITIES</b>  |               |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing<br>There were no tadpoles currently housed in this area.   | N/A           |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A           |
| Temperature/humidity values recorded<br>In Room B61 from June 1 through June 20, documentation logs indicated that maximum/minimum temperatures readings were consistently 84/77 degrees. The logs indicated that the optimum temperatures should range from 80-66 degrees. The LAC indicated that there were no animal health issues noted during this time. Temperature extremes outside of the optimum range may result in animal health issues. Please note temperature extremes in future and take any necessary actions to bring temperatures within the desired range. Because the temperatures remained 84/77 for a 20 day period, please review the resetting mechanism on the max/min thermometer in the event it was not reset. | No Deficiency |
| Equipment properly sanitized, separation based on health status  | N/A           |
| Tank allows for undisturbed observation, enrichment present  | N/A           |
| Personnel trained in H2O quality, animal health monitoring   | N/A           |
| How is MS222 prepared for use?   | Acceptable    |





**PI:**  
**PI PID**  
**Inspection ID** 12175  
**Inspection Type** Satellite  
**Lab Coordinators**  
**Deficiency Count:** 0

**Inspection Date:** 07/30/2019  
**Inspectors**  
  
**Inspection Comments:** 14

## 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** Acceptable  
 Inspectors spoke with the Principal Investigator and Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.  
 Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.  
 Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

## 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable  
 Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable  
 All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable  
 Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable  
 The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'important Notices' for approximately six months: <https://research.unc.edu/iacuc/>  
 All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>  
 Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

## 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place No Deficiency  
 Over the past 6 months, there have been periodic lapses in the monthly documentation for eyewash checks. Please ensure that the eyewash stations are checked monthly for efficacy and documentation is recorded.  
 Procedures for using/scavenging volatile anesthetics; check for Fair can weight N/A  
 Proper sharps disposal, hazardous waste disposal Acceptable  
 Current copy of Needle Safety in Animal Studies posted Acceptable  
 Proper carcass disposal (especially hazard contaminated) Acceptable  
 Currently carcasses are stored in a freezer and then taken to the DCM Berryhill Hall facility for disposal. DCM and the PI will need to make new provisions for proper carcass disposal when Berryhill is decommissioned.  
 Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable  
 Warning signs visible upon laboratory entry (i.e.; radiation, biohazard, chemicals, ABSL) No Deficiency  
 BSL2 signage was posted on the exterior surface of the room door. The signage indicated the use of a hormone that was previously used in the housing area. Per Environment Health and Safety (EHS), BSL2 postings are tied into the Laboratory Safety Plan (LSP) and agents the laboratory has listed as biohazards for specific rooms on the Schedule F. EHS checked the laboratory's LSP and the hormone agents are no longer listed. Therefore, please remove the BSL2 signage as it is no longer pertinent and is confusing. If the lab wishes to use this or other approved hazards in the future, please add them to the Schedule F and also post signage on the door of specific room.  
 Cage side chemical hazard identification training N/A  
 Review of chemical hazard forms by laboratory personnel before initial use Acceptable  
 MS222 is used occasionally, although not recently. It is prepared under a chemical fume hood, buffered, and disposed (not stored) after the batch is used.

## 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable  
 The PI is working with veterinarian with DCM, to report and review and either treat or euthanize frogs with health issues. In addition, has been hired by DCM to assist with husbandry and daily observations of these animals.  
 Clinical records for individual animals (covered species) N/A  
 Analgesia/anesthesia use as described in approved ACAP Acceptable  
 Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable  
 Means to track animal usage/Euthanasia log Acceptable  
 MONITORING DOCUMENTATION (weight, drugs, post op care, etc) N/A  
 MS222 has not been utilized recently. If it is used in the future, records should be readily available in the satellite area for IACUC review.  
 Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

## 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable  
 Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) N/A  
 Although the agent was not available for inspection, the investigator indicated that Pharmaceutical Tricaine (MS222) was utilized in the past. Before MS222 is utilized in animal again, please ensure that the agent is pharmaceutical grade. Western Chemical Inc. has distributed pharmaceutical grade Tricaine in the past and may still do so.  
 Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A  
 Proper Controlled Substance Storage and Records; double lock N/A  
 Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention N/A

## 6. PHYSICAL PLANT

Impervious surfaces Acceptable  
 General cleanliness Acceptable





|   |               |
|---|---------------|
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning   | Acceptable    |
| The behavioral equipment in this space is on the DCM microbiological periodic assessment for sanitation efficacy of hand washed equipment.  |               |
| <b>7 SURGICAL PROCEDURES: General Considerations</b>  |               |
| Location minimizes traffic/contamination (survival surgery)   | N/A           |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide   | N/A           |
| Interior surfaces smooth and impervious to moisture   | N/A           |
| Fixed equipment is sanitizable  | N/A           |
| <b>8 SURGICAL PROCEDURES: Anesthesia</b>  |               |
| Adequate records of anesthesia and preoperative care  | N/A           |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)  | N/A           |
| Procedures for administering and monitoring analgesia (survival surgery)  | N/A           |
| Proper anesthetics, doses, routes of anesthesia (records maintained)  | N/A           |
| <b>9 SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |               |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure   | N/A           |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible)  | N/A           |
| Use of effective aseptic procedures for survival surgery  | N/A           |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)  | N/A           |
| Use of sterile gloves and drapes  | N/A           |
| Preparation of sterile incision site and surrounding area   | N/A           |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue  | N/A           |
| Proper recovery monitoring  | N/A           |
| Records of postoperative care including analgesia agents (all species)  | N/A           |
| <b>10 SATELLITE FACILITIES</b>  |               |
| Daily feed/water/observation-records maintained   | Acceptable    |
| Animal identification posted (PI, ACAP ID #, species, source)   | Acceptable    |
| Changes in environment since last inspection (noise, illumination, vibration, etc)  | N/A           |
| Disaster plan in place, annual review, updates since last provided to OACU<br>The investigator indicated that the Disaster plan had recently been update. Please maintain a copy of the current disaster plan within the Satellite facility and provide DCM (Janet Steele) with an updated copy.  | No Deficiency |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply   | Acceptable    |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)<br>Recent mortality was indicated on the daily records. The PI is working with a veterinarian with DCM, to report and review and either treat or euthanize frogs with health issues. In addition, has been hired by DCM to assist with husbandry and daily observations of these animals. | Acceptable    |
| HVAC adequate and non-recirculating (suggest monitoring annually)   | N/A           |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?   | Acceptable    |
| Pest control (frequency, effectiveness)   | Acceptable    |
| Sanitation schedule (daily/weekly/monthly/annually) maintained<br>The lab has been working with DCM to run housing containers through the Berryhill Hall cage wash. Please work with DCM when Berryhill is decommissioned to use a cage wash in another nearby facility.  | Acceptable    |
| Veterinary contact info visibly posted  | Acceptable    |
| <b>11 AQUATIC FACILITIES</b>  |               |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing   | N/A           |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering  | N/A           |
| Temperature/humidity values recorded  | N/A           |
| Equipment properly sanitized, separation based on health status   | N/A           |
| Tank allows for undisturbed observation, enrichment present   | N/A           |
| Personnel trained in H2O quality, animal health monitoring  | N/A           |
| How is MS222 prepared for use?<br>MS222 is used occasionally, although not recently. It is prepared under a chemical fume hood, buffered, and disposed (not stored) after the batch is used.  | Acceptable    |



**PI:** **Inspection Date:** 08/27/2019  
**PI PID** **Inspectors**  
**Inspection ID** 12238  
**Inspection Type** Satellite  
**Lab Coordinators**

**Deficiency Count:** 0

**Inspection Comments:** 8

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

### Summary Conducted

Acceptable

During the inspection, IACUC inspectors met with \_\_\_\_\_ as the Laboratory Animal Coordinator (LAC) had been called out unexpectedly. The inspector was able to speak with \_\_\_\_\_ later in the day to receive answers to outstanding questions. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

## 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

## 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place N/A

Procedures for using/scavenging volatile anesthetics; check for Fair can weight No Deficiency

isoflurane drop method was utilized to anesthetize mice in this area. The practice included isoflurane placed on gauze in a plastic canister within a plastic superware container. The process was initiated under the hood, but then the plastic container with the anesthetized mouse was moved to the bench top. When isoflurane drop method is used on the open bench, scavenging may be insufficient, and the practice and ventilation should be assessed by Environment Health and Safety (EHS) to ensure personnel safety. Please contact EHS regarding the use of isoflurane (drop method) outside of a hood to ensure that it is safe for personnel to use in this area.

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL) N/A

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use N/A

## 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) N/A

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

## 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock N/A

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention

## 6. PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning N/A  
All behavior work is done by the Behavior Core.

## 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) N/A



|  |               |
|--|---------------|
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide  | N/A           |
| Interior surfaces smooth and impervious to moisture  | N/A           |
| Fixed equipment is sanitizable   | N/A           |
| <b>8. SURGICAL PROCEDURES: Anesthesia</b>  |               |
| Adequate records of anesthesia and preoperative care   | N/A           |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)   | N/A           |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A           |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | N/A           |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |               |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure  | N/A           |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible)   | N/A           |
| Use of effective aseptic procedures for survival surgery   | N/A           |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)   | N/A           |
| Use of sterile gloves and drapes   | N/A           |
| Preparation of sterile incision site and surrounding area  | N/A           |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A           |
| Proper recovery monitoring   | N/A           |
| Records of postoperative care including analgesia agents (all species)   | N/A           |
| <b>10. SATELLITE FACILITIES</b>  |               |
| Daily feed/water/observation-records maintained  | Acceptable    |
| Animal identification posted (PI, ACAP ID #, species, source)  | Acceptable    |
| Changes in environment since last inspection (noise, illumination, vibration, etc)   | No Deficiency |
| The husbandry documentation indicated that there were temperatures above the upper limit of 72 during the months of June, July and August (e.g., 72.6 for 16 days, 74.6 for most of June.) In early summer, the LAC contacted facilities to assess the room temperature because, at the time, the room temperatures were dipping below the lower limit. If temperatures continue to fluctuate, it may be necessary to contact Facilities Services to adjust the HVAC/temperature. There have been no animal health issues associated with the warmer, room temperatures.   |               |
| Disaster plan in place, annual review, updates since last provided to OACU   | Acceptable    |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply  | Acceptable    |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)  | Acceptable    |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | No Deficiency |
| Please coordinate with Division of Comparative Medicine/Facilities Services to have the room air exchange assessed in early 2020 in time for the summer AAALAC accreditation site visit.   |               |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?  | Acceptable    |
| Pest control (frequency, effectiveness)  | Acceptable    |
| A live trap for escaped mice was used and was monitored daily with appropriate documentation. Small cardboard traps were in place for insect pests.  |               |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | Acceptable    |
| Cage change within the satellite facility was described and met the conditions determined during the initial assessment conducted by Environment Health and Safety (EHS) at the time of Satellite Facility approval. Recently, however, employees changing cages have used N-95 respirators in place of surgical masks. The employees did not appear to have been fit tested for the use of respirators. Employees who wear N-95 masks, should be properly assessed and fit tested by occupational health professionals. Please contact Cathy Brennan of EHS to have cage changing and N-95 mask practices assessed. |               |
| The housing facility is on the schedule for biological monitoring and assessment of hand washed equipment.   |               |
| Veterinary contact info visibly posted   | Acceptable    |
| <b>11. AQUATIC FACILITIES</b>  |               |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing  | N/A           |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A           |
| Temperature/humidity values recorded   | N/A           |
| Equipment properly sanitized, separation based on health status  | N/A           |
| Tank allows for undisturbed observation, enrichment present  | N/A           |
| Personnel trained in H2O quality, animal health monitoring   | N/A           |
| How is MS222 prepared for use?   | N/A           |



|                                  |                                    |
|----------------------------------|------------------------------------|
| <b>PI:</b>                       | <b>Inspection Date:</b> 08/16/2019 |
| <b>PI PID</b>                    | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12239       |                                    |
| <b>Inspection Type</b> Satellite |                                    |
| <b>Lab Coordinators</b>          |                                    |
| <b>Deficiency Count:</b> 0       | <b>Inspection Comments:</b> 3      |

## 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** Acceptable  
 Inspectors spoke with the Laboratory Animal Coordinator (LAC) and a lab member, during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

## 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight N/A

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry (i.e., radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use N/A

## 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) Acceptable

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

## 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock N/A

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

## 6. PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning N/A

## 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable

## 8. SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care Acceptable



|  |               |
|--|---------------|
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)   | Acceptable    |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A           |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable    |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |               |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure  | Acceptable    |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible)   | Acceptable    |
| Use of effective aseptic procedures for survival surgery   | Acceptable    |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)   | Acceptable    |
| Use of sterile gloves and drapes   | Acceptable    |
| Preparation of sterile incision site and surrounding area  | Acceptable    |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | Acceptable    |
| Proper recovery monitoring   | Acceptable    |
| Records of postoperative care including analgesia agents (all species)   | Acceptable    |
| <b>10. SATELLITE FACILITIES</b>  |               |
| Daily feed/water/observation-records maintained  | Acceptable    |
| Animal identification posted (PI, ACAP ID #, species, source)  | Acceptable    |
| Changes in environment since last inspection (noise, illumination, vibration, etc)   | Acceptable    |
| Disaster plan in place, annual review, updates since last provided to OACU<br>inspectors noted that the disaster plan was outdated. As a satellite facility, a current version is required in case of an emergency. Please update the disaster plan with the most current information and ensure all laboratory personnel review it at least annually. | No Deficiency |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply  | Acceptable    |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)  | Acceptable    |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | Acceptable    |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?   | Acceptable    |
| Pest control (frequency, effectiveness)  | Acceptable    |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | Acceptable    |
| Veterinary contact info visibly posted   | Acceptable    |
| <b>11. AQUATIC FACILITIES</b>  |               |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing  | Acceptable    |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | Acceptable    |
| Temperature/humidity values recorded   | Acceptable    |
| Equipment properly sanitized, separation based on health status  | Acceptable    |
| Tank allows for undisturbed observation, enrichment present  | Acceptable    |
| Personnel trained in H2O quality, animal health monitoring   | Acceptable    |
| How is MS222 prepared for use?   | Acceptable    |





|                                  |                                    |
|----------------------------------|------------------------------------|
| <b>PI:</b>                       | <b>Inspection Date:</b> 09/26/2019 |
| <b>PI PID</b>                    | <b>Inspectors</b> DCN-NCCU         |
| <b>Inspection ID</b> 12244       |                                    |
| <b>Inspection Type</b> Satellite |                                    |
| <b>Lab Coordinators</b>          |                                    |
| <b>Deficiency Count:</b> 0       | <b>Inspection Comments:</b> 2      |

### 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** Acceptable

NCCU Inspector Dr. Derek Norford spoke with \_\_\_\_\_, the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

### 2. DOCUMENTATIONS and IACUC POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained/certified and on application Acceptable

How are approved applications and amendments available to and reviewed by laboratory personnel? Acceptable

**Other** N/A

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

### 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight N/A

Proper sharps disposal; Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal/hazardous waste disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry (i.e., radiation, biohazard, chemicals, ABSL) Acceptable

If chemical/biological hazards in animal facility, using appropriate cage cards to identify hazards? Acceptable

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

**Other** N/A

### 4. ANIMAL CARE

Does the lab know how to report animal health issues to DCM? Acceptable

If USDA regulated species, are there clinical records for individual animals? N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

If euthanizing in lab space is euthanasia performed as described in approved protocol; secondary method tools sharp/adequate Acceptable

Means to track animal usage Acceptable

Experimental Monitoring Documentation (weight loss, tumor size, etc.) Acceptable

Toe Clip Discussion (max day 10, max 4 toes, 2 toes per foot (not the dewclaw), approved in ACAP) N/A

**Other** N/A

### 5. AGENTS ADMINISTERED

Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper records maintained for agents used for anesthesia, analgesia, euthanasia, and acute intervention Acceptable

Proper Controlled Substance Storage and Records; double lock, running balance N/A

Is the lab ensuring drugs and biological agents are within expiration date (expired drugs separated or marked appropriately) Acceptable

**Other** N/A

### 6. PHYSICAL PLANT- Lab Space

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning; Are they on the DCM biological monitoring schedule? N/A

**Other** N/A

### 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) N/A

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide N/A

Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure N/A

Interior surfaces smooth and impervious to moisture N/A

Fixed equipment is sanitizable N/A





|   |            |
|---|------------|
| Other   | N/A        |
| <b>8. SURGICAL PROCEDURES: Anesthesia</b>   |            |
| Adequate surgical records of anesthesia and preoperative care   | N/A        |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)  | N/A        |
| Proper recovery monitoring; Records of postoperative care including analgesia agents (all species)                  | N/A        |
| Procedures for administering and monitoring analgesia (survival surgery)  | N/A        |
| Other   | N/A        |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>  |            |
| Autoclave Sterilization procedures are appropriate (e.g.: storage, use of autoclave tape, expiration date visible)  | N/A        |
| Use of effective aseptic procedures for survival surgery; Preparation of sterile incision site and surrounding area | N/A        |
| Cold Sterilization procedures are appropriate (e.g.: manufacturer recommended exposure time)                        | N/A        |
| Use of sterile gloves and drapes (for surgeries where glove exposure to the animal occurs)                          | N/A        |
| Closure method  | N/A        |
| Other   | N/A        |
| <b>10. SATELLITE FACILITIES</b>   |            |
| Daily feed/water/observation-records maintained   | Acceptable |
| Animal identification posted (PI, ACAP ID #, species, source)   | Acceptable |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                                  | Acceptable |
| Disaster plan in place, annual review, updates since last provided to OACU  | Acceptable |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                     | Acceptable |
| Health/mortality records/reports to Vet Services (i.e. multiple, removed from population)                           | Acceptable |
| HVAC adequate and non-recirculating (suggest monitoring annually)   | Acceptable |
| Maintaining electronic census/Acquired new animals? Source? Permits on file?  | Acceptable |
| Pest control (frequency, effectiveness)   | Acceptable |
| Sanitation schedule (daily/weekly/monthly/annually) maintained  | Acceptable |
| Veterinary contact info visibly posted  | Acceptable |
| Other   | N/A        |
| <b>11. AQUATIC FACILITIES</b>   |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing   | Acceptable |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering  | Acceptable |
| Temperature/humidity values recorded  | Acceptable |
| Equipment properly sanitized, separation based on health status   | Acceptable |
| Tank allows for undisturbed observation, enrichment present   | Acceptable |
| Personnel trained in H2O quality, animal health monitoring  | Acceptable |
| How is MS222 prepared for use?  | Acceptable |
| Other   | N/A        |



|                                  |                                    |
|----------------------------------|------------------------------------|
| <b>PI:</b>                       | <b>Inspection Date:</b> 09/24/2019 |
| <b>PI PID</b>                    | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12270       |                                    |
| <b>Inspection Type</b> Satellite | DCM vet                            |
| <b>Lab Coordinators</b>          | EHS                                |
| <b>Deficiency Count:</b> 0       | <b>Inspection Comments:</b> 6      |

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted \_\_\_\_\_, the Laboratory Animal Coordinator (LAC), and \_\_\_\_\_ a member of the lab, during the inspection. As a result \_\_\_\_\_ were very generous with their time in accommodating the inspectors. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years. Acceptable

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to iacuc@med.unc.edu with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

## 2 DOCUMENTATIONS and IACUC POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable  
 Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable  
 All personnel handling animals in the lab trained/certified and on application Acceptable  
 How are approved applications and amendments available to and reviewed by laboratory personnel? Acceptable  
 Other N/A

## 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable  
 Procedures for using/scavenging volatile anesthetics; check for Fair can weight N/A  
 Proper sharps disposal; Current copy of Needle Safety in Animal Studies posted Acceptable  
 Proper carcass disposal/hazardous waste disposal (especially hazard contaminated) Acceptable  
 Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable  
 Warning signs visible upon laboratory entry (i.e.; radiation, biohazard, chemicals, ABSL) N/A  
 If chemical/biological hazards in animal facility, using appropriate cage cards to identify hazards? N/A  
 Review of chemical hazard forms by laboratory personnel before initial use N/A  
 Other No Deficiency  
 WH 439 contained a large plastic pool which was used for conducting behavioral studies with frogs. Speakers were placed above the water level on plastic containers positioned in the pool. The placement of the speakers represented a possible electrical hazard. Please consult with EHS personnel to determine if the outlets are GFCI-protected as well as to determine the optimal set-up to ensure personnel and animal safety.

## 4 ANIMAL CARE

Does the lab know how to report animal health issues to DCM? Acceptable  
 If USDA regulated species, are there clinical records for individual animals? N/A  
 Analgesia/anesthesia use as described in approved ACAP Acceptable  
 If euthanizing in lab space is euthanasia performed as described in approved protocol; secondary method tools sharp/adequate Acceptable  
 Means to track animal usage Acceptable  
 Experimental Monitoring Documentation (weight loss, tumor size, etc.) N/A  
 Toe Clip Discussion (max day 10, max 4 toes, 2 toes per foot (not the dewclaw), approved in ACAP) N/A  
 Other N/A

## 5 AGENTS ADMINISTERED

Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade) No Deficiency  
 The LAC shared that the MS 222 being used by the lab was not pharmaceutical grade. The inspectors and DCM veterinarians explained that all products used within live animals must be pharmaceutical or veterinary grade, unless otherwise approved onto a protocol. The lab has already purchased pharmaceutical grade MS 222, and until it arrives, should request pharmaceutical grade supplies from DCM veterinarians if needed.  
 Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A  
 Proper records maintained for agents used for anesthesia, analgesia, euthanasia, and acute intervention Acceptable  
 Proper Controlled Substance Storage and Records; double lock, running balance N/A  
 Is the lab ensuring drugs and biological agents are within expiration date (expired drugs separated or marked appropriately) Acceptable  
 Other N/A

## 6 PHYSICAL PLANT- Lab Space

Impervious surfaces Acceptable  
 General cleanliness No Deficiency  
 DCM veterinarians observed numerous cages with dead crickets on the top surface of the sand. It was recommended that dead crickets be removed from the cages in between cleanings.  
 Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning; Are they on the DCM biological monitoring schedule? Acceptable  
 Other No Deficiency  
 Inspectors observed bags of sand on the floor of the stairwell next to room B49. Some of the bags were torn and/or leaked sand onto the floor. Bags should be stored off of the floor, such as on a pallet or rack, to minimize the possibility of contamination with bugs and/or mold. A pallet jack was recommended by the Environment Health and Safety (EHS) representative to quickly and effectively move the bags upon delivery and to store them off of the floor. Please follow up with Cathy Brennan of EHS to determine a satisfactory ergonomic solution to moving the sand bags.



## 7. SURGICAL PROCEDURES: General Considerations

|   |     |
|---|-----|
| Location minimizes traffic/contamination (survival surgery)   | N/A |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure   | N/A |
| Interior surfaces smooth and impervious to moisture   | N/A |
| Fixed equipment is sanitizable  | N/A |
| Other   | N/A |

## 8. SURGICAL PROCEDURES: Anesthesia

|  |     |
|--|-----|
| Adequate surgical records of anesthesia and preoperative care                                      | N/A |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                         | N/A |
| Proper recovery monitoring; Records of postoperative care including analgesia agents (all species) | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)                           | N/A |
| Other  | N/A |

## 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|   |     |
|---|-----|
| Autoclave Sterilization procedures are appropriate (e.g.: storage, use of autoclave tape, expiration date visible)  | N/A |
| Use of effective aseptic procedures for survival surgery; Preparation of sterile incision site and surrounding area | N/A |
| Cold Sterilization procedures are appropriate (e.g.: manufacturer recommended exposure time)                        | N/A |
| Use of sterile gloves and drapes (for surgeries where glove exposure to the animal occurs)                          | N/A |
| Closure method  | N/A |
| Other   | N/A |

## 10. SATELLITE FACILITIES

|   |            |
|---|------------|
| Daily feed/water/observation-records maintained   | Acceptable |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | Acceptable |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A        |
| Disaster plan in place, annual review, updates since last provided to OACU                      | Acceptable |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | Acceptable |
| Health/mortality records/reports to Vet Services (i.e. multiple, removed from population)       | Acceptable |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | Acceptable |
| Maintaining electronic census/Acquired new animals? Source? Permits on file?                    | Acceptable |
| Pest control (frequency, effectiveness)   | Acceptable |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | Acceptable |
| Veterinary contact info visibly posted  | Acceptable |
| Other   | N/A        |

## 11. AQUATIC FACILITIES

|   |               |
|---|---------------|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing   | N/A           |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering  | N/A           |
| Temperature/humidity values recorded<br>Inspectors observed that husbandry logs included an ideal humidity range of 0-100%. As this range contained all possible values, it made it difficult to note any unusual values. Please consult with DCM veterinarians to determine an optimal humidity range for this species of toad and update the husbandry logs with the new range for humidity values. | No Deficiency |
| Equipment properly sanitized, separation based on health status   | Acceptable    |
| Tank allows for undisturbed observation, enrichment present   | N/A           |
| Personnel trained in H2O quality, animal health monitoring  | N/A           |
| How is MS222 prepared for use?  | Acceptable    |
| Other   | N/A           |



**PI:** \_\_\_\_\_ **Inspection Date:** 04/15/2019  
**PI PID** \_\_\_\_\_ **Inspectors** \_\_\_\_\_  
**Inspection ID** 297  
**Inspection Type** Informational  
**Lab Coordinators** \_\_\_\_\_

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** \_\_\_\_\_ **Acceptable**  
 Inspectors spoke with \_\_\_\_\_, the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

## 2 DOCUMENTATIONS and POSTINGS

**Emergency, weekend, and holiday contact information visibly posted in animal housing area** **Acceptable**

**Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted** **Acceptable**

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

**All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA** **Acceptable**

**Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research** **Acceptable**

## 3 HEALTH AND SAFETY

**Gas cylinders immobilized; Eyewash check documented/dust caps in place** **Acceptable**

**Procedures for using/scavenging volatile anesthetics; check for Fair can weight** **Acceptable**

**Proper sharps disposal, hazardous waste disposal** **Acceptable**

**Current copy of Needle Safety in Animal Studies posted** **Acceptable**

**Proper carcass disposal (especially hazard contaminated)** **Acceptable**

**Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119** **Acceptable**

**Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL)** **Acceptable**

**Cage side chemical hazard identification training** **N/A**

**Review of chemical hazard forms by laboratory personnel before initial use** **Acceptable**

## 4. ANIMAL CARE

**Report animal health issues to Division of Comparative Medicine** **Acceptable**

**Clinical records for individual animals (covered species)** **N/A**

**Analgesia/anesthesia use as described in approved ACAP** **Acceptable**

**Euthanasia performed as described in approved ACAP; tools sharp/adequate** **Acceptable**

**Means to track animal usage/Euthanasia log** **Acceptable**

**MONITORING DOCUMENTATION (weight, drugs, post op care, etc)** **Acceptable**

**Toe Clip Discussion (max P10, 2 toes, approved in ACAP)** **N/A**

## 5 AGENTS ADMINISTERED

**Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately)** **Acceptable**

**Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)** **Acceptable**

**Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?** **N/A**

**Proper Controlled Substance Storage and Records; double lock** **Acceptable**

**Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention** **No Deficiency**

The LAC was informed that anytime drugs are disposed of or a bottle emptied, a witness must be present and initial/sign the drug log at that time. Please see page 8 of the following document for more detailed information regarding disposal of or 'zeroing' balances for controlled substances: [http://research.unc.edu/files/2013/03/CCM3\\_039065.pdf](http://research.unc.edu/files/2013/03/CCM3_039065.pdf)

## 6. PHYSICAL PLANT

**Impervious surfaces** **Acceptable**

**General cleanliness** **Acceptable**

**Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning** **Acceptable**

## 7 SURGICAL PROCEDURES: General Considerations

**Location minimizes traffic/contamination (survival surgery)** **N/A**

**Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide** **N/A**

**Interior surfaces smooth and impervious to moisture** **N/A**

**Fixed equipment is sanitizable** **N/A**

## 8 SURGICAL PROCEDURES: Anesthesia

**Adequate records of anesthesia and preoperative care** **N/A**

**Proper monitoring for depth of surgical anesthesia (toe pinch documented?)** **N/A**



|  |     |
|--|-----|
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | N/A |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |     |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |
| <b>10. SATELLITE FACILITIES</b>  |     |
| Daily feed/water/observation-records maintained  | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A |
| Pest control (frequency, effectiveness)  | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A |
| Veterinary contact info visibly posted   | N/A |
| <b>11. AQUATIC FACILITIES</b>  |     |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A |
| Temperature/humidity values recorded   | N/A |
| Equipment properly sanitized, separation based on health status  | N/A |
| Tank allows for undisturbed observation, enrichment present  | N/A |
| Personnel trained in H2O quality, animal health monitoring   | N/A |
| How is MS222 prepared for use?   | N/A |





|                               |                             |
|-------------------------------|-----------------------------|
| PI:                           | Inspection Date: 05/01/2019 |
| PI PID                        | Inspectors                  |
| Inspection ID 1323            |                             |
| Inspection Type Informational |                             |
| Lab Coordinators              |                             |

### 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|  |            |
|--|------------|
| Summary Conducted  | Acceptable |
| Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years. |            |
| Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.                                  |            |

### 2. DOCUMENTATIONS and POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area   | Acceptable |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted   | Acceptable |
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA   | Acceptable |
| The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <a href="https://research.unc.edu/iacuc/">https://research.unc.edu/iacuc/</a> |            |
| All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <a href="https://research.unc.edu/iacuc/policies-procedures/">https://research.unc.edu/iacuc/policies-procedures/</a>  |            |

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

|   |            |
|---|------------|
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research | Acceptable |
|---|------------|

### 3. HEALTH AND SAFETY

|   |            |
|---|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place                                | Acceptable |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight                       | N/A        |
| Proper sharps disposal, hazardous waste disposal  | Acceptable |
| Current copy of Needle Safety in Animal Studies posted  | Acceptable |
| Proper carcass disposal (especially hazard contaminated)  | Acceptable |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL)            | Acceptable |
| Cage side chemical hazard identification training   | N/A        |
| Review of chemical hazard forms by laboratory personnel before initial use                            | Acceptable |

### 4. ANIMAL CARE

|  |            |
|--|------------|
| Report animal health issues to Division of Comparative Medicine          | Acceptable |
| Clinical records for individual animals (covered species)                | N/A        |
| Analgesia/anesthesia use as described in approved ACAP                   | Acceptable |
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
| Means to track animal usage/Euthanasia log                               | Acceptable |
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc)              | N/A        |
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP)                  | N/A        |

### 5. AGENTS ADMINISTERED

|   |            |
|---|------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)                                | Acceptable |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?           | N/A        |
| Proper Controlled Substance Storage and Records; double lock  | N/A        |
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention            | N/A        |

### 6. PHYSICAL PLANT

|   |            |
|---|------------|
| Impervious surfaces   | Acceptable |
| General cleanliness   | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | N/A        |

### 7. SURGICAL PROCEDURES: General Considerations

|   |     |
|---|-----|
| Location minimizes traffic/contamination (survival surgery)   | N/A |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
| Interior surfaces smooth and impervious to moisture   | N/A |
| Fixed equipment is sanitizable  | N/A |

### 8. SURGICAL PROCEDURES: Anesthesia

|  |     |
|--|-----|
| Adequate records of anesthesia and preoperative care                       | N/A |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |
| Proper anesthetics, doses, routes of anesthesia (records maintained)       | N/A |





### 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|  |     |
|--|-----|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |

### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?                    | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visably posted  | N/A |

### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



|                                      |                                    |
|--------------------------------------|------------------------------------|
| <b>PI:</b>                           | <b>Inspection Date:</b> 04/22/2019 |
| <b>PI PID</b>                        | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 1324            |                                    |
| <b>Inspection Type</b> Informational |                                    |
| <b>Lab Coordinators</b>              |                                    |

# 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable  
 Inspectors spoke with \_\_\_\_\_, the Laboratory Animal Coordinator (LAC) for \_\_\_\_\_ (as all animal use spaces are shared), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

# 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

# 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training Acceptable

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

# 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

# 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock N/A

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention N/A

# 6. PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

# 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) N/A

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide N/A

Interior surfaces smooth and impervious to moisture N/A

Fixed equipment is sanitizable N/A

# 8. SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care N/A

Proper monitoring for depth of surgical anesthesia (toe pinch documented?) N/A

Procedures for administering and monitoring analgesia (survival surgery) N/A

Proper anesthetics, doses, routes of anesthesia (records maintained) N/A



### 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|  |     |
|--|-----|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |

### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?                    | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visably posted  | N/A |

### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



**PI:**  
**PI PID**  
**Inspection ID** 1326  
**Inspection Type** Informational  
**Lab Coordinators**

**Inspection Date:** 04/22/2019  
**Inspectors**

# 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable  
 Inspectors spoke with the Laboratory Animal Coordinator (LAC) for (as all animal use spaces are shared), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

# 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

# 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training Acceptable

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

# 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

# 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock N/A

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention N/A

# 6. PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

# 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) N/A

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide N/A

Interior surfaces smooth and impervious to moisture N/A

Fixed equipment is sanitizable N/A

# 8. SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care N/A

Proper monitoring for depth of surgical anesthesia (toe pinch documented?) N/A

Procedures for administering and monitoring analgesia (survival surgery) N/A

Proper anesthetics, doses, routes of anesthesia (records maintained) N/A



### 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|  |     |
|--|-----|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |

### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                   | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visibly posted  | N/A |

### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |





|   |   |
|---|---|
| <b>PI:</b><br><b>PI PID</b><br><b>Inspection ID</b> 1327<br><b>Inspection Type</b> Informational<br><b>Lab Coordinators</b> | <b>Inspection Date:</b> 04/22/2019<br><b>Inspectors</b> |
|---|---|

### 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|  |            |
|--|------------|
| <b>Summary Conducted</b><br>Inspectors spoke with the Laboratory Animal Coordinator (LAC) for (as all animal use spaces are shared), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years. | Acceptable |
|--|------------|

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

### 2 DOCUMENTATIONS and POSTINGS

|  |            |
|--|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area  | Acceptable |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted  | Acceptable |
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA<br>The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <a href="https://research.unc.edu/iacuc/">https://research.unc.edu/iacuc/</a><br><br>All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <a href="https://research.unc.edu/iacuc/policies-procedures/">https://research.unc.edu/iacuc/policies-procedures/</a> | Acceptable |

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

|   |            |
|---|------------|
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research | Acceptable |
|---|------------|

### 3 HEALTH AND SAFETY

|   |            |
|---|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place                                | Acceptable |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight                       | Acceptable |
| Proper sharps disposal, hazardous waste disposal  | Acceptable |
| Current copy of Needle Safety in Animal Studies posted  | Acceptable |
| Proper carcass disposal (especially hazard contaminated)  | Acceptable |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL)            | Acceptable |
| Cage side chemical hazard identification training   | Acceptable |
| Review of chemical hazard forms by laboratory personnel before initial use                            | Acceptable |

### 4 ANIMAL CARE

|  |            |
|--|------------|
| Report animal health issues to Division of Comparative Medicine          | Acceptable |
| Clinical records for individual animals (covered species)                | N/A        |
| Analgesia/anesthesia use as described in approved ACAP                   | Acceptable |
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
| Means to track animal usage/Euthanasia log                               | Acceptable |
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc)              | Acceptable |
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP)                  | N/A        |

### 5 AGENTS ADMINISTERED

|   |            |
|---|------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)                                | Acceptable |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?           | N/A        |
| Proper Controlled Substance Storage and Records; double lock  | N/A        |
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention            | N/A        |

### 6 PHYSICAL PLANT

|   |            |
|---|------------|
| Impervious surfaces   | Acceptable |
| General cleanliness   | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | Acceptable |

### 7 SURGICAL PROCEDURES: General Considerations

|   |     |
|---|-----|
| Location minimizes traffic/contamination (survival surgery)   | N/A |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
| Interior surfaces smooth and impervious to moisture   | N/A |
| Fixed equipment is sanitizable  | N/A |

### 8 SURGICAL PROCEDURES: Anesthesia

|  |     |
|--|-----|
| Adequate records of anesthesia and preoperative care                       | N/A |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |





|  |     |
|--|-----|
| Proper anesthetics, doses, routes of anesthesia (records maintained) | N/A |
|--|-----|

#### 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|  |     |
|--|-----|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |

#### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                   | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visibly posted  | N/A |

#### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



|  |   |
|--|---|
| <b>PI:</b><br>PI PID<br><b>Inspection ID</b> 1328<br><b>Inspection Type</b> Informational<br><b>Lab Coordinators</b> | <b>Inspection Date:</b> 04/22/2019<br><b>Inspectors</b> |
|--|---|

# 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable  
 Inspectors spoke with , the Laboratory Animal Coordinator (LAC) for (as all animal use spaces are shared), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

# 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

# 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training Acceptable

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

# 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

# 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock N/A

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention N/A

# 6 PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

# 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) N/A

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide N/A

Interior surfaces smooth and impervious to moisture N/A

Fixed equipment is sanitizable N/A

# 8 SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care N/A

Proper monitoring for depth of surgical anesthesia (toe pinch documented?) N/A

Procedures for administering and monitoring analgesia (survival surgery) N/A

Proper anesthetics, doses, routes of anesthesia (records maintained) N/A



#### 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|  |     |
|--|-----|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |

#### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                   | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visibly posted  | N/A |

#### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



|                                      |                                    |
|--------------------------------------|------------------------------------|
| <b>PI:</b>                           | <b>Inspection Date:</b> 04/29/2019 |
| <b>PI PID</b>                        | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 1331            |                                    |
| <b>Inspection Type</b> Informational |                                    |
| <b>Lab Coordinators</b>              |                                    |

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|   |            |
|---|------------|
| Summary Conducted   | Acceptable |
| Inspectors spoke with the PI and , the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years. |            |

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

## 2 DOCUMENTATIONS and POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area   | Acceptable |
| Please ensure that the LACs inspect the 24 hour contact list posted in the animal housing rooms to ensure that at least one emergency contact is provided should DCM or IACUC personnel need to contact the laboratory on weekends, holidays, and after hours.  |            |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted   | Acceptable |
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA   | Acceptable |
| The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'important Notices' for approximately six months: <a href="https://research.unc.edu/iacuc/">https://research.unc.edu/iacuc/</a>       |            |
| All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <a href="https://research.unc.edu/iacuc/policies-procedures/">https://research.unc.edu/iacuc/policies-procedures/</a>  |            |
| Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab. |            |
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research   | Acceptable |

## 3 HEALTH AND SAFETY

|   |            |
|---|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place                                | Acceptable |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight                       | N/A        |
| Proper sharps disposal, hazardous waste disposal  | Acceptable |
| Current copy of Needle Safety in Animal Studies posted  | Acceptable |
| Proper carcass disposal (especially hazard contaminated)  | Acceptable |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL)            | Acceptable |
| Cage side chemical hazard identification training   | N/A        |
| Review of chemical hazard forms by laboratory personnel before initial use                            | Acceptable |

## 4 ANIMAL CARE

|  |            |
|--|------------|
| Report animal health issues to Division of Comparative Medicine  | Acceptable |
| Please note: A green Health Check card may be placed on any found sick or injured animal cage. These cards are located in the black box containing other colored cards within the animal room. A DCM representative (i.e. veterinary technician, husbandry technician, and supervisor) should be notified after the placement of this card so that these animals can be examined by Vet Services in a timely manner. |            |
| Clinical records for individual animals (covered species)  | N/A        |
| Analgesia/anesthesia use as described in approved ACAP   | Acceptable |
| Euthanasia performed as described in approved ACAP; tools sharp/adequate   | Acceptable |
| Means to track animal usage/Euthanasia log   | Acceptable |
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc)  | N/A        |
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP)  | N/A        |

## 5 AGENTS ADMINISTERED

|   |               |
|---|---------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately)   | Acceptable    |
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)  | Acceptable    |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?   | No Deficiency |
| • During our most recent AAALAC site visit, site visitors recommended the institution provide additional guidance concerning the use of tribromoethanol (i.e., TBE or Avertin). These guidelines ensure the proper and consistent preparation, storage, and time to expiration of TBE for safe usage and will be noted during IACUC inspections. The new standard issued by the IACUC can be reviewed here: <a href="https://research.unc.edu/files/2018/05/University-Standard-for-Tribromoethanol.pdf">https://research.unc.edu/files/2018/05/University-Standard-for-Tribromoethanol.pdf</a> |               |
| Proper Controlled Substance Storage and Records; double lock  | N/A           |
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention  | Acceptable    |

## 6 PHYSICAL PLANT

|   |            |
|---|------------|
| Impervious surfaces   | Acceptable |
| General cleanliness   | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | N/A        |

## 7 SURGICAL PROCEDURES: General Considerations

|   |     |
|---|-----|
| Location minimizes traffic/contamination (survival surgery) | N/A |
|---|-----|



|   |     |
|---|-----|
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
| Interior surfaces smooth and impervious to moisture   | N/A |
| Fixed equipment is sanitizable  | N/A |
| <b>8. SURGICAL PROCEDURES: Anesthesia</b>   |     |
| Adequate records of anesthesia and preoperative care  | N/A |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)  | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)  | N/A |
| Proper anesthetics, doses, routes of anesthesia (records maintained)  | N/A |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>  |     |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure   | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible)                                    | N/A |
| Use of effective aseptic procedures for survival surgery  | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)  | N/A |
| Use of sterile gloves and drapes  | N/A |
| Preparation of sterile incision site and surrounding area   | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue  | N/A |
| Proper recovery monitoring  | N/A |
| Records of postoperative care including analgesia agents (all species)  | N/A |
| <b>10. SATELLITE FACILITIES</b>   |     |
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)  | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU  | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply   | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)   | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)   | N/A |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?  | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained  | N/A |
| Veterinary contact info visably posted  | N/A |
| <b>11. AQUATIC FACILITIES</b>   |     |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing   | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering  | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status   | N/A |
| Tank allows for undisturbed observation, enrichment present   | N/A |
| Personnel trained in H2O quality, animal health monitoring  | N/A |
| How is MS222 prepared for use?  | N/A |





**PI:** **Inspection Date:** 05/15/2019  
**PI PID** **Inspectors**  
**Inspection ID** 1335  
**Inspection Type** Informational  
**Lab Coordinators**

### 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable

Inspectors spoke with the PI during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

### 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

This informational inspection fulfills the institutional goal that we visit each lab performing any animal work at least every two years, or annually if survival surgeries are conducted by the lab. If you should need any assistance from the IACUC or Office of Animal Care and Use between inspections, please don't hesitate to contact us or check our website for information (<https://research.unc.edu/iacuc/>). If the lab begins performing surgeries or other more invasive procedures within the lab space, we must be contacted so that we can visit the space semiannually.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page:  
<https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

### 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry (i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

### 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) N/A

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

### 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock N/A

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

### 6. PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

### 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) N/A

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide N/A

Interior surfaces smooth and impervious to moisture N/A

Fixed equipment is sanitizable N/A

### 8. SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care N/A

Proper monitoring for depth of surgical anesthesia (toe pinch documented?) N/A

Obtained by Rise for Animals. Uploaded 07/05/2020





|  |     |
|--|-----|
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | N/A |
| <b>9 SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>  |     |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |
| <b>10 SATELLITE FACILITIES</b>   |     |
| Daily feed/water/observation-records maintained  | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?                                     | N/A |
| Pest control (frequency, effectiveness)  | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A |
| Veterinary contact info visably posted   | N/A |
| <b>11 AQUATIC FACILITIES</b>   |     |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A |
| Temperature/humidity values recorded   | N/A |
| Equipment properly sanitized, separation based on health status  | N/A |
| Tank allows for undisturbed observation, enrichment present  | N/A |
| Personnel trained in H2O quality, animal health monitoring   | N/A |
| How is MS222 prepared for use?   | N/A |



|                                      |                                    |
|--------------------------------------|------------------------------------|
| <b>PI:</b>                           | <b>Inspection Date:</b> 06/21/2019 |
| <b>PI PID</b>                        | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 2397            |                                    |
| <b>Inspection Type</b> Informational |                                    |
| <b>Lab Coordinators</b>              |                                    |
| <b>Deficiency Count:</b> 0           | <b>Inspection Comments:</b> 2      |

## 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|   |            |
|---|------------|
| Summary Conducted   | Acceptable |
| This Informational Inspection fulfills the institutional goal that we visit each lab performing any animal work at least every two years, or annually if survival surgeries are conducted by the lab. If you should need any assistance from the IACUC or Office of Animal Care and Use between inspections, please don't hesitate to contact us or check our website for information ( <a href="https://research.unc.edu/iacuc/">https://research.unc.edu/iacuc/</a> ). If the lab begins performing surgeries or other more invasive procedures within the lab space, we must be contacted so that we can visit the space semiannually. |            |

## 2. DOCUMENTATIONS and POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area   | Acceptable |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted   | Acceptable |
| The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <a href="https://research.unc.edu/iacuc/">https://research.unc.edu/iacuc/</a> |            |

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page:  
<https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

|   |            |
|---|------------|
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research | Acceptable |
|---|------------|

## 3. HEALTH AND SAFETY

|   |            |
|---|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place                                | Acceptable |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight                       | N/A        |
| Proper sharps disposal, hazardous waste disposal  | N/A        |
| Current copy of Needle Safety in Animal Studies posted  | N/A        |
| Proper carcass disposal (especially hazard contaminated)  | Acceptable |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL)            | Acceptable |
| Cage side chemical hazard identification training   | Acceptable |
| Review of chemical hazard forms by laboratory personnel before initial use                            | Acceptable |

## 4. ANIMAL CARE

|  |            |
|--|------------|
| Report animal health issues to Division of Comparative Medicine          | Acceptable |
| Clinical records for individual animals (covered species)                | N/A        |
| Analgesia/anesthesia use as described in approved ACAP                   | N/A        |
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
| Means to track animal usage/Euthanasia log                               | Acceptable |
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc)              | Acceptable |
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP)                  | N/A        |

## 5. AGENTS ADMINISTERED

|   |            |
|---|------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)                                | N/A        |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?           | N/A        |
| Proper Controlled Substance Storage and Records; double lock  | N/A        |
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention            | N/A        |

## 6. PHYSICAL PLANT

|   |            |
|---|------------|
| Impervious surfaces   | Acceptable |
| General cleanliness   | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | N/A        |

## 7. SURGICAL PROCEDURES: General Considerations

|   |     |
|---|-----|
| Location minimizes traffic/contamination (survival surgery)   | N/A |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
| Interior surfaces smooth and impervious to moisture   | N/A |
| Fixed equipment is sanitizable  | N/A |

## 8. SURGICAL PROCEDURES: Anesthesia

|  |     |
|--|-----|
| Adequate records of anesthesia and preoperative care                       | N/A |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |
| Proper anesthetics, doses, routes of anesthesia (records maintained)       | N/A |

## 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

**Obtained by Rise for Animals. Uploaded 07/05/2020**



|  |     |
|--|-----|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |

#### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?                    | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visably posted  | N/A |

#### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



|                               |                             |
|-------------------------------|-----------------------------|
| PI:                           | Inspection Date: 04/25/2019 |
| PI PID                        | Inspectors                  |
| Inspection ID 9753            |                             |
| Inspection Type Informational |                             |
| Lab Coordinators              |                             |

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable

Inspectors spoke with \_\_\_\_\_, the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

This Informational inspection fulfills the institutional goal that we visit each lab performing any animal work at least every two years, or annually if survival surgeries are conducted by the lab. If you should need any assistance from the IACUC or Office of Animal Care and Use between inspections, please don't hesitate to contact us or check our website for information (<https://research.unc.edu/iacuc/>). If the lab begins performing surgeries or other more invasive procedures within the lab space, we must be contacted so that we can visit the space semiannually.

## 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training N/A

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

## 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) N/A

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) Acceptable

## 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock N/A

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention N/A

## 6 PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning N/A

## 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) N/A

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide N/A

Interior surfaces smooth and impervious to moisture N/A

Fixed equipment is sanitizable N/A

## 8 SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care N/A



|  |     |
|--|-----|
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                                       | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | N/A |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |     |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |
| <b>10. SATELLITE FACILITIES</b>  |     |
| Daily feed/water/observation-records maintained  | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A |
| Pest control (frequency, effectiveness)  | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A |
| Veterinary contact info visibly posted   | N/A |
| <b>11. AQUATIC FACILITIES</b>  |     |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A |
| Temperature/humidity values recorded   | N/A |
| Equipment properly sanitized, separation based on health status  | N/A |
| Tank allows for undisturbed observation, enrichment present  | N/A |
| Personnel trained in H2O quality, animal health monitoring   | N/A |
| How is MS222 prepared for use?   | N/A |





|                               |                             |
|-------------------------------|-----------------------------|
| PI:                           | Inspection Date: 04/22/2019 |
| PI PID                        | Inspectors                  |
| Inspection ID 9756            |                             |
| Inspection Type Informational |                             |
| Lab Coordinators              |                             |

### 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|   |            |
|---|------------|
| Summary Conducted   | Acceptable |
| Inspectors spoke with _____, the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years. |            |
| Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.   |            |

### 2. DOCUMENTATIONS and POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area   | Acceptable |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted   | Acceptable |
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA   | Acceptable |
| The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <a href="https://research.unc.edu/iacuc/">https://research.unc.edu/iacuc/</a> |            |
| All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <a href="https://research.unc.edu/iacuc/policies-procedures/">https://research.unc.edu/iacuc/policies-procedures/</a>  |            |

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

|   |            |
|---|------------|
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research | Acceptable |
|---|------------|

### 3. HEALTH AND SAFETY

|   |            |
|---|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place                                | Acceptable |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight                       | Acceptable |
| Proper sharps disposal, hazardous waste disposal  | Acceptable |
| Current copy of Needle Safety in Animal Studies posted  | Acceptable |
| Proper carcass disposal (especially hazard contaminated)  | Acceptable |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL)            | Acceptable |
| Cage side chemical hazard identification training   | Acceptable |
| Review of chemical hazard forms by laboratory personnel before initial use                            | Acceptable |

### 4. ANIMAL CARE

|  |            |
|--|------------|
| Report animal health issues to Division of Comparative Medicine          | Acceptable |
| Clinical records for individual animals (covered species)                | N/A        |
| Analgesia/anesthesia use as described in approved ACAP                   | Acceptable |
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
| Means to track animal usage/Euthanasia log                               | Acceptable |
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc)              | Acceptable |
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP)                  | N/A        |

### 5. AGENTS ADMINISTERED

|   |            |
|---|------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)                                | Acceptable |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?           | Acceptable |
| Proper Controlled Substance Storage and Records; double lock  | Acceptable |
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention            | Acceptable |

### 6. PHYSICAL PLANT

|   |            |
|---|------------|
| Impervious surfaces   | Acceptable |
| General cleanliness   | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | N/A        |

### 7. SURGICAL PROCEDURES: General Considerations

|   |            |
|---|------------|
| Location minimizes traffic/contamination (survival surgery)   | Acceptable |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | Acceptable |
| Interior surfaces smooth and impervious to moisture   | Acceptable |
| Fixed equipment is sanitizable  | Acceptable |

### 8. SURGICAL PROCEDURES: Anesthesia

|  |            |
|--|------------|
| Adequate records of anesthesia and preoperative care                       | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |
| Proper anesthetics, doses, routes of anesthesia (records maintained)       | Acceptable |





#### 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|  |            |
|--|------------|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | Acceptable |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
| Use of effective aseptic procedures for survival surgery   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | Acceptable |
| Use of sterile gloves and drapes   | Acceptable |
| Preparation of sterile incision site and surrounding area  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)   | Acceptable |

#### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                   | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visibly posted  | N/A |

#### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



|                                      |                                    |
|--------------------------------------|------------------------------------|
| <b>PI:</b>                           | <b>Inspection Date:</b> 04/25/2019 |
| <b>PI PID</b>                        | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 9757            |                                    |
| <b>Inspection Type</b> Informational |                                    |
| <b>Lab Coordinators</b>              |                                    |

## 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|   |            |
|---|------------|
| Summary Conducted   | Acceptable |
| Inspectors spoke with _____, the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years. |            |
| Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.   |            |

## 2. DOCUMENTATIONS and POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area   | Acceptable |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted   | Acceptable |
| The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <a href="https://research.unc.edu/iacuc/">https://research.unc.edu/iacuc/</a> |            |
| All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <a href="https://research.unc.edu/iacuc/policies-procedures/">https://research.unc.edu/iacuc/policies-procedures/</a>  |            |

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

|   |            |
|---|------------|
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA | Acceptable |
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research                                     | Acceptable |

## 3. HEALTH AND SAFETY

|   |            |
|---|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place                                | Acceptable |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight                       | Acceptable |
| Proper sharps disposal, hazardous waste disposal  | Acceptable |
| Current copy of Needle Safety in Animal Studies posted  | Acceptable |
| Proper carcass disposal (especially hazard contaminated)  | Acceptable |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL)            | Acceptable |
| Cage side chemical hazard identification training   | N/A        |
| Review of chemical hazard forms by laboratory personnel before initial use                            | Acceptable |

## 4. ANIMAL CARE

|  |            |
|--|------------|
| Report animal health issues to Division of Comparative Medicine          | Acceptable |
| Clinical records for individual animals (covered species)                | N/A        |
| Analgesia/anesthesia use as described in approved ACAP                   | Acceptable |
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
| Means to track animal usage/Euthanasia log                               | Acceptable |
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc)              | N/A        |
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP)                  | N/A        |

## 5. AGENTS ADMINISTERED

|   |            |
|---|------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)                                | Acceptable |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?           | N/A        |
| Proper Controlled Substance Storage and Records; double lock  | Acceptable |
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention            | Acceptable |

## 6. PHYSICAL PLANT

|   |            |
|---|------------|
| Impervious surfaces   | Acceptable |
| General cleanliness   | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | Acceptable |

## 7. SURGICAL PROCEDURES: General Considerations

|   |     |
|---|-----|
| Location minimizes traffic/contamination (survival surgery)   | N/A |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
| Interior surfaces smooth and impervious to moisture   | N/A |
| Fixed equipment is sanitizable  | N/A |

## 8. SURGICAL PROCEDURES: Anesthesia

|  |     |
|--|-----|
| Adequate records of anesthesia and preoperative care                       | N/A |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |
| Proper anesthetics, doses, routes of anesthesia (records maintained)       | N/A |



#### 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|  |     |
|--|-----|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |

#### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?                    | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visably posted  | N/A |

#### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



PI:  
 PI PID  
**Inspection ID** 10798  
**Inspection Type** Informational  
**Lab Coordinators**

**Inspection Date:** 05/21/2019  
**Inspectors**

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable  
 Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

## 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place N/A

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training Acceptable

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

## 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A

## 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock Acceptable

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

## 6 PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning N/A

## 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable

## 8 SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care Acceptable

Proper monitoring for depth of surgical anesthesia (toe pinch documented?) Acceptable



|  |            |
|--|------------|
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | Acceptable |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
| Use of effective aseptic procedures for survival surgery   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | Acceptable |
| Use of sterile gloves and drapes   | Acceptable |
| Preparation of sterile incision site and surrounding area  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)   | Acceptable |
| <b>10. SATELLITE FACILITIES</b>  |            |
| Daily feed/water/observation-records maintained  | N/A        |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A        |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A        |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A        |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A        |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A        |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A        |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A        |
| Pest control (frequency, effectiveness)  | N/A        |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A        |
| Veterinary contact info visibly posted   | N/A        |
| <b>11. AQUATIC FACILITIES</b>  |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A        |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A        |
| Temperature/humidity values recorded   | N/A        |
| Equipment properly sanitized, separation based on health status  | N/A        |
| Tank allows for undisturbed observation, enrichment present  | N/A        |
| Personnel trained in H2O quality, animal health monitoring   | N/A        |
| How is MS222 prepared for use?   | N/A        |





|                                      |                                    |
|--------------------------------------|------------------------------------|
| <b>PI:</b>                           | <b>Inspection Date:</b> 06/12/2019 |
| <b>PI PID</b>                        | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 10826           |                                    |
| <b>Inspection Type</b> Informational |                                    |
| <b>Lab Coordinators</b>              |                                    |

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|   |            |
|---|------------|
| <b>Summary Conducted</b>  | Acceptable |
| This Informational Inspection fulfills the institutional goal that we visit each lab performing any animal work at least every two years, or annually if survival surgeries are conducted by the lab. If you should need any assistance from the IACUC or Office of Animal Care and Use between inspections, please don't hesitate to contact us or check our website for information ( <a href="https://research.unc.edu/iacuc/">https://research.unc.edu/iacuc/</a> ). If the lab begins performing surgeries or other more invasive procedures within the lab space, we must be contacted so that we can visit the space semiannually. |            |

## 2 DOCUMENTATIONS and POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area   | Acceptable |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted   | Acceptable |
| The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <a href="https://research.unc.edu/iacuc/">https://research.unc.edu/iacuc/</a> |            |
| All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page:<br><a href="https://research.unc.edu/iacuc/policies-procedures/">https://research.unc.edu/iacuc/policies-procedures/</a>   |            |

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

|   |            |
|---|------------|
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA | Acceptable |
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research                                     | Acceptable |

## 3 HEALTH AND SAFETY

|   |            |
|---|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place                                | Acceptable |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight                       | N/A        |
| Proper sharps disposal, hazardous waste disposal  | Acceptable |
| Current copy of Needle Safety in Animal Studies posted  | Acceptable |
| Proper carcass disposal (especially hazard contaminated)  | Acceptable |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL)            | Acceptable |
| Cage side chemical hazard identification training   | Acceptable |
| Review of chemical hazard forms by laboratory personnel before initial use                            | Acceptable |

## 4 ANIMAL CARE

|  |            |
|--|------------|
| Report animal health issues to Division of Comparative Medicine          | Acceptable |
| Clinical records for individual animals (covered species)                | N/A        |
| Analgesia/anesthesia use as described in approved ACAP                   | N/A        |
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
| Means to track animal usage/Euthanasia log                               | Acceptable |
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc)              | Acceptable |
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP)                  | Acceptable |

## 5 AGENTS ADMINISTERED

|   |            |
|---|------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)                                | Acceptable |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?           | N/A        |
| Proper Controlled Substance Storage and Records; double lock  | N/A        |
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention            | N/A        |

## 6 PHYSICAL PLANT

|   |            |
|---|------------|
| Impervious surfaces   | Acceptable |
| General cleanliness   | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | Acceptable |

## 7 SURGICAL PROCEDURES: General Considerations

|   |     |
|---|-----|
| Location minimizes traffic/contamination (survival surgery)   | N/A |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
| Interior surfaces smooth and impervious to moisture   | N/A |
| Fixed equipment is sanitizable  | N/A |

## 8 SURGICAL PROCEDURES: Anesthesia

|  |     |
|--|-----|
| Adequate records of anesthesia and preoperative care                       | N/A |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |
| Proper anesthetics, doses, routes of anesthesia (records maintained)       | N/A |

## 9 SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures





|  |     |
|--|-----|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |

#### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?                    | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visably posted  | N/A |

#### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



**PI:**  
**PI PID**  
**Inspection ID** 11867  
**Inspection Type** Informational  
**Lab Coordinators**

**Inspection Date:** 07/09/2019  
**Inspectors**

**Deficiency Count:** 0

**Inspection Comments:** 8

## 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable  
 Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

## 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

This informational inspection fulfills the institutional goal that we visit each lab performing any animal work at least every two years, or annually if survival surgeries are conducted by the lab. If you should need any assistance from the IACUC or Office of Animal Care and Use between inspections, please don't hesitate to contact us or check our website for information (<https://research.unc.edu/iacuc/>). If the lab begins performing surgeries or other more invasive procedures within the lab space, we must be contacted so that we can visit the space semiannually.

## 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place N/A

Procedures for using/scavenging volatile anesthetics; check for Fair can weight N/A  
 Isoflurane is used in the DCM procedure space with DCM vaporizer. Isoflurane is used for the retro-orbital bleeding, not for the surgical procedure.

Proper sharps disposal, hazardous waste disposal N/A

Current copy of Needle Safety in Animal Studies posted N/A

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry (i.e., radiation, biohazard, chemicals, ABSL) N/A

Cage side chemical hazard identification training N/A  
 Biological agents (BSL2) are used at this time with proper cage side identification.

Review of chemical hazard forms by laboratory personnel before initial use N/A

## 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable  
 A spreadsheet for breeding numbers and the number of weaned mice and euthanized animals is maintained.

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) N/A  
 Ear notch and ear punch are used for identification. No genotyping is done.

## 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? Acceptable

Proper Controlled Substance Storage and Records; double lock N/A

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

## 6. PHYSICAL PLANT

Impervious surfaces N/A  
 All procedures are performed in the DCM facilities.

General cleanliness N/A

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning N/A

## 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) N/A  
 All surgical procedures (non-survival) are performed in the DCM Genetics Medicine procedural space.

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide N/A

Interior surfaces smooth and impervious to moisture N/A

Fixed equipment is sanitizable N/A

Obtained by Rise for Animals. Uploaded 07/05/2020

**8. SURGICAL PROCEDURES: Anesthesia**

|  |            |
|--|------------|
| Adequate records of anesthesia and preoperative care                       | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A        |
| Proper anesthetics, doses, routes of anesthesia (records maintained)       | Acceptable |

**9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures**

|  |     |
|--|-----|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |

**10. SATELLITE FACILITIES**

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                   | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visibly posted  | N/A |

**11. AQUATIC FACILITIES**

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



|                          |               |                             |            |
|--------------------------|---------------|-----------------------------|------------|
| <b>PI:</b>               |               | <b>Inspection Date:</b>     | 09/05/2019 |
| <b>PI PID</b>            |               | <b>Inspectors</b>           |            |
| <b>Inspection ID</b>     | 11913         |                             |            |
| <b>Inspection Type</b>   | Informational |                             |            |
| <b>Lab Coordinators</b>  |               |                             |            |
| <b>Deficiency Count:</b> | 0             | <b>Inspection Comments:</b> | 2          |

### 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|   |            |
|---|------------|
| Summary Conducted   | Acceptable |
| <p>Inspectors spoke with _____, the Principal Investigator (PI), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.</p> <p>Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.</p> |            |

### 2 DOCUMENTATIONS and IACUC POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area   | Acceptable |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted   | Acceptable |
| All personnel handling animals in the lab trained/certified and on application  | Acceptable |
| How are approved applications and amendments available to and reviewed by laboratory personnel?   | Acceptable |
| Other   | N/A        |
| <p>The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <a href="https://research.unc.edu/iacuc/">https://research.unc.edu/iacuc/</a></p> <p>All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <a href="https://research.unc.edu/iacuc/policies-procedures/">https://research.unc.edu/iacuc/policies-procedures/</a></p> <p>Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.</p> |            |

### 3 HEALTH AND SAFETY

|   |            |
|---|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place                                | Acceptable |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight                       | N/A        |
| Proper sharps disposal; Current copy of Needle Safety in Animal Studies posted                        | Acceptable |
| Proper carcass disposal/hazardous waste disposal (especially hazard contaminated)                     | Acceptable |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
| Warning signs visible upon laboratory entry (i.e.; radiation, biohazard, chemicals, ABSL)             | Acceptable |
| If chemical/biological hazards in animal facility, using appropriate cage cards to identify hazards?  | Acceptable |
| Review of chemical hazard forms by laboratory personnel before initial use                            | Acceptable |
| Other   | N/A        |

### 4 ANIMAL CARE

|  |            |
|--|------------|
| Does the lab know how to report animal health issues to DCM?   | Acceptable |
| If USDA regulated species, are there clinical records for individual animals?  | N/A        |
| Analgesia/anesthesia use as described in approved ACAP   | Acceptable |
| If euthanizing in lab space is euthanasia performed as described in approved protocol; secondary method tools sharp/adequate | Acceptable |
| Means to track animal usage  | Acceptable |
| Experimental Monitoring Documentation (weight loss, tumor size, etc.)  | N/A        |
| Toe Clip Discussion (max day 10, max 4 toes, 2 toes per foot (not the dewclaw), approved in ACAP)                            | Acceptable |
| Other  | N/A        |

### 5 AGENTS ADMINISTERED

|  |            |
|--|------------|
| Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade)                          | Acceptable |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?        | N/A        |
| Proper records maintained for agents used for anesthesia, analgesia, euthanasia, and acute intervention                      | N/A        |
| Proper Controlled Substance Storage and Records; double lock, running balance  | N/A        |
| Is the lab ensuring drugs and biological agents are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
| Other  | N/A        |

### 6 PHYSICAL PLANT- Lab Space

|  |            |
|--|------------|
| Impervious surfaces  | Acceptable |
| General cleanliness  | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning; Are they on the DCM biological monitoring schedule? | N/A        |
| Other  | N/A        |

### 7 SURGICAL PROCEDURES: General Considerations

|   |     |
|---|-----|
| Location minimizes traffic/contamination (survival surgery)   | N/A |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure   | N/A |
| Interior surfaces smooth and impervious to moisture   | N/A |



|                                |     |
|--------------------------------|-----|
| Fixed equipment is sanitizable | N/A |
| Other                          | N/A |

**8. SURGICAL PROCEDURES: Anesthesia**

|  |     |
|--|-----|
| Adequate surgical records of anesthesia and preoperative care                                      | N/A |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                         | N/A |
| Proper recovery monitoring; Records of postoperative care including analgesia agents (all species) | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)                           | N/A |
| Other  | N/A |

**9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures**

|   |     |
|---|-----|
| Autoclave Sterilization procedures are appropriate (e.g.: storage, use of autoclave tape, expiration date visible)  | N/A |
| Use of effective aseptic procedures for survival surgery; Preparation of sterile incision site and surrounding area | N/A |
| Cold Sterilization procedures are appropriate (e.g.: manufacturer recommended exposure time)                        | N/A |
| Use of sterile gloves and drapes (for surgeries where glove exposure to the animal occurs)                          | N/A |
| Closure method  | N/A |
| Other   | N/A |



|                     |               |                        |            |
|---------------------|---------------|------------------------|------------|
| PI:                 |               | Inspection Date:       | 09/26/2019 |
| PI PID              |               | Inspectors             |            |
| Inspection ID       | 11926         |                        |            |
| Inspection Type     | Informational |                        |            |
| Lab Coordinators    |               |                        |            |
| Deficiency Count: 0 |               | Inspection Comments: 7 |            |

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable

Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

This Informational inspection fulfills the institutional goal that we visit each lab performing any animal work at least every two years, or annually if survival surgeries are conducted by the lab. If you should need any assistance from the IACUC or Office of Animal Care and Use between inspections, please don't hesitate to contact us or check our website for information (<https://research.unc.edu/iacuc/>). If the lab begins performing surgeries or other more invasive procedures within the lab space, we must be contacted so that we can visit the space semiannually.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

## 2 DOCUMENTATIONS and IACUC POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

All personnel handling animals in the lab trained/certified and on application Acceptable

How are approved applications and amendments available to and reviewed by laboratory personnel? Acceptable

Other N/A

## 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Eye wash stations were tested monthly and documented by lab personnel. Inspectors observed that the dust cap was deteriorated. This may result in insufficient prevention of dust accumulation on the eye wash. Please consult with Cathy Brennan at EHS to determine if a replacement cap is recommended.

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal; Current copy of Needle Safety in Animal Studies posted No Deficiency

Inspectors did not observe a Needle Safety in Animal Studies posting in TB 3017, which contained a sharps container. A copy of the posting was left with the LAC. Should you need additional copies of lab postings, you can access the most recent version of the required postings from our website: <http://research.unc.edu/iacuc/compliance/>

For the most recently approved/updated policies/standards please refer to the IACUC homepage: <https://research.unc.edu/iacuc/> under Important Notices. Items are posted here as they are revised or approved each month.

All other guidance documents may be found here: <https://research.unc.edu/iacuc/policies-procedures/>

Proper carcass disposal/hazardous waste disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry (i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

If chemical/biological hazards in animal facility, using appropriate cage cards to identify hazards? N/A

Review of chemical hazard forms by laboratory personnel before initial use N/A

Other N/A

## 4 ANIMAL CARE

Does the lab know how to report animal health issues to DCM? Acceptable

If USDA regulated species, are there clinical records for individual animals? N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

If euthanizing in lab space is euthanasia performed as described in approved protocol; secondary method tools sharp/adequate Acceptable

Means to track animal usage Acceptable

Experimental Monitoring Documentation (weight loss, tumor size, etc.) Acceptable

Toe Clip Discussion (max day 10, max 4 toes, 2 toes per foot (not the dewclaw), approved in ACAP) N/A

Other N/A

## 5 AGENTS ADMINISTERED

Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade) No Deficiency

Inspectors were informed that nonpharmaceutical grade Pentobarbital was prepared as an anesthetic for nonsurvival surgeries without using sterile filtration. Inspectors emailed the LAC a copy of the University Standard for Preparation Storage and Use of Tribromoethanol as a guide to using sterile filtration techniques when preparing nonpharmaceutical grade Pentobarbital. The standard can also be found at: <https://research.unc.edu/files/2018/05/University-Standard-for-Tribromoethanol.pdf>.

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper records maintained for agents used for anesthesia, analgesia, euthanasia, and acute intervention Acceptable

Proper Controlled Substance Storage and Records; double lock, running balance N/A

Is the lab ensuring drugs and biological agents are within expiration date (expired drugs separated or marked appropriately) No Deficiency

The LAC was uncertain if drugs in the surgical suite were past their expiration dates. Inspectors recommended having a regular routine in place to check expiration dates, and reminded the LAC to ensure that drugs and biological agents are in date prior to use.

Other N/A

## 6 PHYSICAL PLANT- Lab Space

Impervious surfaces Acceptable





|  |            |
|--|------------|
| General cleanliness  | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning; Are they on the DCM biological monitoring schedule?   | Acceptable |
| Other  | N/A        |
| <b>7. SURGICAL PROCEDURES: General Considerations</b>  |            |
| Location minimizes traffic/contamination (survival surgery)  | Acceptable |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide  | Acceptable |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure  | Acceptable |
| Interior surfaces smooth and impervious to moisture  | Acceptable |
| Fixed equipment is sanitizable   | Acceptable |
| Other  | N/A        |
| <b>8. SURGICAL PROCEDURES: Anesthesia</b>  |            |
| Adequate surgical records of anesthesia and preoperative care  | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)<br><small>inspectors observed that the surgical records indicated that a "tail pinch" was used to check for depth of surgical anesthesia. There were also several entries in which the box for "tail pinch" was not checked. The LAC explained that reference to "tail pinch" was a typographical error and the sheet should have indicated "toe pinch" as that was the method they used. Inspectors asked for future surgical logs to include this correction.</small> | Acceptable |
| Proper recovery monitoring; Records of postoperative care including analgesia agents (all species)   | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |
| Other  | N/A        |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |            |
| Autoclave Sterilization procedures are appropriate (e.g.: storage, use of autoclave tape, expiration date visible)   | Acceptable |
| Use of effective aseptic procedures for survival surgery; Preparation of sterile incision site and surrounding area  | Acceptable |
| Cold Sterilization procedures are appropriate (e.g.: manufacturer recommended exposure time)   | N/A        |
| Use of sterile gloves and drapes (for surgeries where glove exposure to the animal occurs)<br><small>inspectors reminded the LAC that a hair bonnet, mask, sterile gloves, and lab coat are required for all survival surgeries.</small>   | Acceptable |
| Closure method   | Acceptable |
| Other  | N/A        |



|   |   |
|---|---|
| <b>PI:</b><br>PI PID<br><b>Inspection ID</b> 11946<br><b>Inspection Type</b> Informational<br><b>Lab Coordinators</b><br> | <b>Inspection Date:</b> 04/29/2019<br><b>Inspectors</b> |
|---|---|

# 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|  |            |
|--|------------|
| Summary Conducted<br>Inspectors spoke with _____, the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years. | Acceptable |
|--|------------|

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

# 2 DOCUMENTATIONS and POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area   | Acceptable |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted   | Acceptable |
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA   | Acceptable |
| The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <a href="https://research.unc.edu/iacuc/">https://research.unc.edu/iacuc/</a><br><br>All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <a href="https://research.unc.edu/iacuc/policies-procedures/">https://research.unc.edu/iacuc/policies-procedures/</a> |            |

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

|   |            |
|---|------------|
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research | Acceptable |
|---|------------|

# 3 HEALTH AND SAFETY

|   |            |
|---|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place                                | N/A        |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight                       | N/A        |
| Proper sharps disposal, hazardous waste disposal  | N/A        |
| Current copy of Needle Safety in Animal Studies posted  | N/A        |
| Proper carcass disposal (especially hazard contaminated)  | Acceptable |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL)            | N/A        |
| Cage side chemical hazard identification training   | N/A        |
| Review of chemical hazard forms by laboratory personnel before initial use                            | Acceptable |

# 4 ANIMAL CARE

|  |            |
|--|------------|
| Report animal health issues to Division of Comparative Medicine          | Acceptable |
| Clinical records for individual animals (covered species)                | N/A        |
| Analgesia/anesthesia use as described in approved ACAP                   | Acceptable |
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
| Means to track animal usage/Euthanasia log                               | Acceptable |
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc)              | N/A        |
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP)                  | N/A        |

# 5 AGENTS ADMINISTERED

|   |            |
|---|------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)                                | Acceptable |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?           | N/A        |
| Proper Controlled Substance Storage and Records; double lock  | N/A        |
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention            | Acceptable |

# 6 PHYSICAL PLANT

|   |            |
|---|------------|
| Impervious surfaces   | Acceptable |
| General cleanliness   | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | N/A        |

# 7 SURGICAL PROCEDURES: General Considerations

|   |     |
|---|-----|
| Location minimizes traffic/contamination (survival surgery)   | N/A |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
| Interior surfaces smooth and impervious to moisture   | N/A |
| Fixed equipment is sanitizable  | N/A |

# 8 SURGICAL PROCEDURES: Anesthesia

|  |     |
|--|-----|
| Adequate records of anesthesia and preoperative care                       | N/A |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |



|  |     |
|--|-----|
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | N/A |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |     |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |
| <b>10. SATELLITE FACILITIES</b>  |     |
| Daily feed/water/observation-records maintained  | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A |
| Pest control (frequency, effectiveness)  | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A |
| Veterinary contact info visibly posted   | N/A |
| <b>11. AQUATIC FACILITIES</b>  |     |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A |
| Temperature/humidity values recorded   | N/A |
| Equipment properly sanitized, separation based on health status  | N/A |
| Tank allows for undisturbed observation, enrichment present  | N/A |
| Personnel trained in H2O quality, animal health monitoring   | N/A |
| How is MS222 prepared for use?   | N/A |



|                                      |                                    |
|--------------------------------------|------------------------------------|
| <b>PI:</b>                           | <b>Inspection Date:</b> 04/18/2019 |
| <b>PI PID</b>                        | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 11952           |                                    |
| <b>Inspection Type</b> Informational |                                    |
| <b>Lab Coordinators</b>              |                                    |

# 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|   |            |
|---|------------|
| Summary Conducted   | Acceptable |
| Based on conversation with _____ today, we learned that the only animal procedures conducted in your lab space (outside of DCM space) are non-survival tissue harvests after euthanasia. This procedure doesn't actually warrant a semiannual inspection of your lab space so we are changing you over to an Informational Inspection schedule instead. This informational inspection fulfills the institutional goal that we visit each lab performing any animal work at least every two years. If you should need any assistance from the IACUC or Office of Animal Care and Use between inspections, please don't hesitate to contact us or check our website for information ( <a href="http://research.unc.edu/offices/iacuc/index.htm">http://research.unc.edu/offices/iacuc/index.htm</a> ). If the lab begins performing surgeries or other more invasive procedures within the lab space, we must be contacted so that we can visit the space semiannually. |            |

# 2 DOCUMENTATIONS and POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area   | Acceptable |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted   | Acceptable |
| The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <a href="https://research.unc.edu/iacuc/">https://research.unc.edu/iacuc/</a> |            |
| All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <a href="https://research.unc.edu/iacuc/policies-procedures/">https://research.unc.edu/iacuc/policies-procedures/</a>  |            |

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

|   |            |
|---|------------|
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA | Acceptable |
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research                                     | Acceptable |

# 3 HEALTH AND SAFETY

|   |            |
|---|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place                                | Acceptable |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight                       | N/A        |
| Proper sharps disposal, hazardous waste disposal  | Acceptable |
| Current copy of Needle Safety in Animal Studies posted  | Acceptable |
| Proper carcass disposal (especially hazard contaminated)  | Acceptable |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL)            | Acceptable |
| Cage side chemical hazard identification training   | Acceptable |
| Review of chemical hazard forms by laboratory personnel before initial use                            | Acceptable |

# 4 ANIMAL CARE

|  |            |
|--|------------|
| Report animal health issues to Division of Comparative Medicine          | Acceptable |
| Clinical records for individual animals (covered species)                | N/A        |
| Analgesia/anesthesia use as described in approved ACAP                   | Acceptable |
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
| Means to track animal usage/Euthanasia log                               | Acceptable |
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc)              | Acceptable |
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP)                  | N/A        |

# 5 AGENTS ADMINISTERED

|   |            |
|---|------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)                                | Acceptable |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?           | N/A        |
| Proper Controlled Substance Storage and Records; double lock  | N/A        |
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention            | N/A        |

# 6 PHYSICAL PLANT

|   |            |
|---|------------|
| Impervious surfaces   | Acceptable |
| General cleanliness   | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | N/A        |

# 7 SURGICAL PROCEDURES: General Considerations

|   |     |
|---|-----|
| Location minimizes traffic/contamination (survival surgery)   | N/A |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
| Interior surfaces smooth and impervious to moisture   | N/A |
| Fixed equipment is sanitizable  | N/A |

# 8 SURGICAL PROCEDURES: Anesthesia

|  |     |
|--|-----|
| Adequate records of anesthesia and preoperative care                       | N/A |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |
| Proper anesthetics, doses, routes of anesthesia (records maintained)       | N/A |



### 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|  |     |
|--|-----|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |

### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?                    | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visably posted  | N/A |

### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |





**PI:** \_\_\_\_\_ **Inspection Date:** 05/09/2019  
**PI PID** \_\_\_\_\_ **Inspectors** \_\_\_\_\_  
**Inspection ID** 11985  
**Inspection Type** Informational  
**Lab Coordinators** \_\_\_\_\_

## 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** \_\_\_\_\_ **Acceptable**  
 Inspectors spoke with \_\_\_\_\_, the surgeon, during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

## 2. DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area **Acceptable**

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted **Acceptable**

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA **Acceptable**

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research **Acceptable**

## 3. HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place **Acceptable**

Procedures for using/scavenging volatile anesthetics; check for Fair can weight **N/A**

Proper sharps disposal, hazardous waste disposal **Acceptable**

Current copy of Needle Safety in Animal Studies posted **Acceptable**

Proper carcass disposal (especially hazard contaminated) **Acceptable**

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 **Acceptable**

Warning signs visible upon laboratory entry (i.e.; radiation, biohazard, chemicals, ABSL) **Acceptable**

Cage side chemical hazard identification training **No Deficiency**

DCM has a card system in place that requires researchers that treat their animals with hazards that could pose any health risk to DCM to mark those cages for a period of time after dosing. Please contact the Facility Manager where your animals are housed and dosed so they can train your lab in the use of this card system, as practices may have changed.

Review of chemical hazard forms by laboratory personnel before initial use **Acceptable**

## 4. ANIMAL CARE

Report animal health issues to Division of Comparative Medicine **Acceptable**

Clinical records for individual animals (covered species) **N/A**

Analgesia/anesthesia use as described in approved ACAP **Acceptable**

Euthanasia performed as described in approved ACAP; tools sharp/adequate **Acceptable**

Means to track animal usage/Euthanasia log **Acceptable**

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) **Acceptable**

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) **N/A**

## 5. AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) **No Deficiency**  
 Inspectors reminded the surgeon that expired pharmaceuticals may not be used for anesthesia, analgesia, euthanasia, or acute intervention.

Additionally, medical materials (e.g., suture, saline, betadine) used during survival procedures may not be expired. All pharmaceuticals used for anesthesia, analgesia, euthanasia, or acute intervention in animals must be discarded after the expiration date or labeled, "Expired-do not Use" or "For Acute Use Only" to avoid accidental use in animals.

Please label secondary containers for betadine/povidone.

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) **No Deficiency**

The inspector explained that all products used within live animals must be pharmaceutical or veterinary grade, unless otherwise approved onto a protocol. This includes the tetracaine/proparacaine and erythromycin ointment. Please ensure these products are in place prior to the next surgery.

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? **N/A**

Proper Controlled Substance Storage and Records; double lock **Acceptable**

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention **Acceptable**

## 6. PHYSICAL PLANT

Impervious surfaces **Acceptable**

General cleanliness **Acceptable**

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning **N/A**

## 7. SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) **No Deficiency**

You must add NRB 4135 to the protocol via amendment prior to conducting any surgery in the space. Currently you are only approved for this procedure in Taylor 405.





|   |            |
|---|------------|
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | Acceptable |
| Interior surfaces smooth and impervious to moisture   | Acceptable |
| Fixed equipment is sanitizable  | Acceptable |

#### 8. SURGICAL PROCEDURES: Anesthesia

|  |            |
|--|------------|
| Adequate records of anesthesia and preoperative care                       | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |
| Proper anesthetics, doses, routes of anesthesia (records maintained)       | Acceptable |

#### 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures

|  |               |
|--|---------------|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | Acceptable    |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | No Deficiency |

Please ensure that each of the following are reviewed by the surgeon:

University Standard for Rodent Survival Surgery: <https://research.unc.edu/files/2012/11/Guidelines-for-Aseptic-Technique-for-Rodent-Survival-Surgeries.pdf>

\* All instruments must be sterilized according to this document, or an amendment must be submitted to indicate current practice/preference.

IACUC Anesthetized Procedure SOP for Rats and Mice – For all researchers performing survival and non-survival procedures: <https://research.unc.edu/files/2017/02/IACUC-Anesthetized-Procedure-SOP-for-Rats-and-Mice.pdf>

|  |            |
|--|------------|
| Use of effective aseptic procedures for survival surgery                                   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time) | N/A        |
| Use of sterile gloves and drapes   | N/A        |
| Preparation of sterile incision site and surrounding area                                  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue                                     | N/A        |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)                     | Acceptable |

The IACUC has instituted new guidelines in for post-operative monitoring at the cage side level. Use of the new pink Post-Procedure Monitoring and Analgesia Card has been implemented and is required for all cages receiving analgesia and/or post-operative monitoring. The cards are available in the DCM facilities. This does not take the place of post-operative monitoring records that should be readily available to the IACUC during laboratory inspections.

<https://research.unc.edu/files/2017/02/Informational-Memo-March-2017.pdf>

<https://research.unc.edu/files/2017/02/Post-Procedure-Monitoring-card-FINAL-2017.pdf>

This replaces the purple card being used by the surgeon now.

#### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                   | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visibly posted  | N/A |

#### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |



|  |  |
|--|--|
| <b>PI:</b><br><b>PI PID</b><br><b>Inspection ID</b> 12042<br><b>Inspection Type</b> Informational<br><b>Lab Coordinators</b><br><b>Deficiency Count:</b> 0 | <b>Inspection Date:</b> 07/12/2019<br><b>Inspectors</b><br><br><b>Inspection Comments:</b> 2 |
|--|--|

### 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|  |            |
|--|------------|
| Summary Conducted<br>Inspectors spoke with _____, the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years. | Acceptable |
|--|------------|

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

### 2 DOCUMENTATIONS and POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted | Acceptable |
|---|------------|

|   |            |
|---|------------|
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA | Acceptable |
|---|------------|

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

|   |            |
|---|------------|
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research | Acceptable |
|---|------------|

### 3 HEALTH AND SAFETY

|  |            |
|--|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place | Acceptable |
|--|------------|

|   |     |
|---|-----|
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight | N/A |
|---|-----|

|  |            |
|--|------------|
| Proper sharps disposal, hazardous waste disposal | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Current copy of Needle Safety in Animal Studies posted | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Proper carcass disposal (especially hazard contaminated) | Acceptable |
|--|------------|

|   |            |
|---|------------|
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) | Acceptable |
|--|------------|

|   |     |
|---|-----|
| Cage side chemical hazard identification training | N/A |
|---|-----|

|  |            |
|--|------------|
| Review of chemical hazard forms by laboratory personnel before initial use | Acceptable |
|--|------------|

### 4 ANIMAL CARE

|   |            |
|---|------------|
| Report animal health issues to Division of Comparative Medicine | Acceptable |
|---|------------|

|   |     |
|---|-----|
| Clinical records for individual animals (covered species) | N/A |
|---|-----|

|  |     |
|--|-----|
| Analgesia/anesthesia use as described in approved ACAP | N/A |
|--|-----|

|  |            |
|--|------------|
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Means to track animal usage/Euthanasia log | Acceptable |
|--|------------|

|   |     |
|---|-----|
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc) | N/A |
|---|-----|

|   |     |
|---|-----|
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP) | N/A |
|---|-----|

### 5 AGENTS ADMINISTERED

|   |     |
|---|-----|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | N/A |
|---|-----|

|   |            |
|---|------------|
| Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade) | Acceptable |
|---|------------|

|   |     |
|---|-----|
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? | N/A |
|---|-----|

|  |     |
|--|-----|
| Proper Controlled Substance Storage and Records; double lock | N/A |
|--|-----|

|  |     |
|--|-----|
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention | N/A |
|--|-----|

### 6 PHYSICAL PLANT

|                     |            |
|---------------------|------------|
| Impervious surfaces | Acceptable |
|---------------------|------------|

|                     |            |
|---------------------|------------|
| General cleanliness | Acceptable |
|---------------------|------------|

|   |     |
|---|-----|
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | N/A |
|---|-----|

### 7 SURGICAL PROCEDURES: General Considerations

|   |     |
|---|-----|
| Location minimizes traffic/contamination (survival surgery) | N/A |
|---|-----|

|   |     |
|---|-----|
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
|---|-----|

|   |     |
|---|-----|
| Interior surfaces smooth and impervious to moisture | N/A |
|---|-----|

|                                |     |
|--------------------------------|-----|
| Fixed equipment is sanitizable | N/A |
|--------------------------------|-----|

### 8 SURGICAL PROCEDURES: Anesthesia

|  |     |
|--|-----|
| Adequate records of anesthesia and preoperative care | N/A |
|--|-----|

|  |     |
|--|-----|
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | N/A |
|--|-----|



|  |     |
|--|-----|
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | N/A |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |     |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |
| <b>10. SATELLITE FACILITIES</b>  |     |
| Daily feed/water/observation-records maintained  | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A |
| Pest control (frequency, effectiveness)  | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A |
| Veterinary contact info visibly posted   | N/A |
| <b>11. AQUATIC FACILITIES</b>  |     |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A |
| Temperature/humidity values recorded   | N/A |
| Equipment properly sanitized, separation based on health status  | N/A |
| Tank allows for undisturbed observation, enrichment present  | N/A |
| Personnel trained in H2O quality, animal health monitoring   | N/A |
| How is MS222 prepared for use?   | N/A |



|                                      |                                    |
|--------------------------------------|------------------------------------|
| <b>PI:</b>                           | <b>Inspection Date:</b> 05/31/2019 |
| PI PID                               | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12067           |                                    |
| <b>Inspection Type</b> Informational |                                    |
| <b>Lab Coordinators</b>              |                                    |

### 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|   |            |
|---|------------|
| Summary Conducted   | Acceptable |
| This informational inspection fulfills the institutional goal that we visit each lab performing any animal work at least every two years, or annually if survival surgeries are conducted by the lab. If you should need any assistance from the IACUC or Office of Animal Care and Use between inspections, please don't hesitate to contact us or check our website for information ( <a href="https://research.unc.edu/iacuc/">https://research.unc.edu/iacuc/</a> ). If the lab begins performing surgeries or other more invasive procedures within the lab space, we must be contacted so that we can visit the space semiannually. |            |

### 2. DOCUMENTATIONS and POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area   | Acceptable |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted   | Acceptable |
| The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'important Notices' for approximately six months: <a href="https://research.unc.edu/iacuc/">https://research.unc.edu/iacuc/</a> |            |
| All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <a href="https://research.unc.edu/iacuc/policies-procedures/">https://research.unc.edu/iacuc/policies-procedures/</a>  |            |

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

|   |            |
|---|------------|
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA | Acceptable |
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research                                     | Acceptable |

### 3. HEALTH AND SAFETY

|  |            |
|--|------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place   | Acceptable |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight  | Acceptable |
| Proper sharps disposal, hazardous waste disposal   | N/A        |
| Current copy of Needle Safety in Animal Studies posted   | N/A        |
| Proper carcass disposal (especially hazard contaminated)   | Acceptable |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119  | Acceptable |
| Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL)   | Acceptable |
| An editable PDF can be found on the "Room Use" page of the lab's online EH&S lab safety plan. Please update information and signage for new MEJ space. |            |
| Cage side chemical hazard identification training  | N/A        |
| Review of chemical hazard forms by laboratory personnel before initial use   | Acceptable |

### 4. ANIMAL CARE

|  |            |
|--|------------|
| Report animal health issues to Division of Comparative Medicine          | Acceptable |
| Clinical records for individual animals (covered species)                | N/A        |
| Analgesia/anesthesia use as described in approved ACAP                   | Acceptable |
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
| Means to track animal usage/Euthanasia log                               | Acceptable |
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc)              | Acceptable |
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP)                  | N/A        |

### 5. AGENTS ADMINISTERED

|   |            |
|---|------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | Acceptable |
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)                                | Acceptable |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?           | N/A        |
| Proper Controlled Substance Storage and Records; double lock  | N/A        |
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention            | Acceptable |

### 6. PHYSICAL PLANT

|   |            |
|---|------------|
| Impervious surfaces   | Acceptable |
| General cleanliness   | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | N/A        |

### 7. SURGICAL PROCEDURES: General Considerations

|   |            |
|---|------------|
| Location minimizes traffic/contamination (survival surgery)   | N/A        |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A        |
| Interior surfaces smooth and impervious to moisture   | Acceptable |
| Fixed equipment is sanitizable  | Acceptable |

### 8. SURGICAL PROCEDURES: Anesthesia

|  |            |
|--|------------|
| Adequate records of anesthesia and preoperative care                       | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A        |
| Proper anesthetics, doses, routes of anesthesia (records maintained)       | N/A        |

### 9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures



|  |     |
|--|-----|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |

#### 10. SATELLITE FACILITIES

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?                    | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visably posted  | N/A |

#### 11. AQUATIC FACILITIES

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |





|                               |                             |
|-------------------------------|-----------------------------|
| PI:                           | Inspection Date: 05/03/2019 |
| PI PID                        | Inspectors                  |
| Inspection ID 12112           |                             |
| Inspection Type Informational |                             |
| Lab Coordinators              |                             |

### 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

|   |            |
|---|------------|
| Summary Conducted   | Acceptable |
| This informational inspection fulfills the institutional goal that we visit each lab performing any animal work at least every two years, or annually if survival surgeries are conducted by the lab. If you should need any assistance from the IACUC or Office of Animal Care and Use between inspections, please don't hesitate to contact us or check our website for information ( <a href="https://research.unc.edu/iacuc/">https://research.unc.edu/iacuc/</a> ). If the lab begins performing surgeries or other more invasive procedures within the lab space, we must be contacted so that we can visit the space semiannually. |            |

### 2. DOCUMENTATIONS and POSTINGS

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area   | Acceptable |
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted   | Acceptable |
| The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'important Notices' for approximately six months: <a href="https://research.unc.edu/iacuc/">https://research.unc.edu/iacuc/</a> |            |
| All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <a href="https://research.unc.edu/iacuc/policies-procedures/">https://research.unc.edu/iacuc/policies-procedures/</a>  |            |

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

|   |            |
|---|------------|
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA | Acceptable |
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research                                     | Acceptable |

### 3. HEALTH AND SAFETY

|  |               |
|--|---------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place   | No Deficiency |
| The eyewash must be checked and flushed monthly. The laboratory is responsible for maintaining documentation for these monthly checks. |               |
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight  | Acceptable    |
| Proper sharps disposal, hazardous waste disposal   | Acceptable    |
| Current copy of Needle Safety in Animal Studies posted   | N/A           |
| Proper carcass disposal (especially hazard contaminated)   | Acceptable    |
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119                                  | Acceptable    |
| Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL)   | Acceptable    |
| Cage side chemical hazard identification training  | N/A           |
| Review of chemical hazard forms by laboratory personnel before initial use   | Acceptable    |

### 4. ANIMAL CARE

|  |            |
|--|------------|
| Report animal health issues to Division of Comparative Medicine          | Acceptable |
| Clinical records for individual animals (covered species)                | N/A        |
| Analgesia/anesthesia use as described in approved ACAP                   | Acceptable |
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
| Means to track animal usage/Euthanasia log                               | Acceptable |
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc)              | Acceptable |
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP)                  | N/A        |

### 5. AGENTS ADMINISTERED

|  |            |
|--|------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately)  | Acceptable |
| Inspectors reminded the lab member that expired pharmaceuticals may not be used for anesthesia, analgesia, euthanasia, or acute intervention. Additionally, medical materials (e.g., suture, saline) used during survival procedures may not be expired. All pharmaceuticals used for anesthesia, analgesia, euthanasia, or acute intervention in animals must be discarded after the expiration date or labeled, "Expired-do not Use" or "For Acute Use Only" to avoid accidental use in animals. |            |
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)   | Acceptable |
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?  | N/A        |
| Proper Controlled Substance Storage and Records; double lock   | Acceptable |
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention   | Acceptable |

### 6. PHYSICAL PLANT

|   |            |
|---|------------|
| Impervious surfaces   | Acceptable |
| General cleanliness   | Acceptable |
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning | Acceptable |

### 7. SURGICAL PROCEDURES: General Considerations

|   |     |
|---|-----|
| Location minimizes traffic/contamination (survival surgery)   | N/A |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
| Interior surfaces smooth and impervious to moisture   | N/A |
| Fixed equipment is sanitizable  | N/A |

### 8. SURGICAL PROCEDURES: Anesthesia

|  |     |
|--|-----|
| Adequate records of anesthesia and preoperative care                       | N/A |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A |





|  |     |
|--|-----|
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | N/A |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |     |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A |
| Use of effective aseptic procedures for survival surgery   | N/A |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A |
| Use of sterile gloves and drapes   | N/A |
| Preparation of sterile incision site and surrounding area  | N/A |
| Sterile Sutures, Wound Clips, Staples and/or Skin Glue   | N/A |
| Proper recovery monitoring   | N/A |
| Records of postoperative care including analgesia agents (all species)   | N/A |
| <b>10. SATELLITE FACILITIES</b>  |     |
| Daily feed/water/observation-records maintained  | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A |
| Pest control (frequency, effectiveness)  | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A |
| Veterinary contact info visibly posted   | N/A |
| <b>11. AQUATIC FACILITIES</b>  |     |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A |
| Temperature/humidity values recorded   | N/A |
| Equipment properly sanitized, separation based on health status  | N/A |
| Tank allows for undisturbed observation, enrichment present  | N/A |
| Personnel trained in H2O quality, animal health monitoring   | N/A |
| How is MS222 prepared for use?   | N/A |



**PI:**  
**PI PID**  
**Inspection ID** 12276  
**Inspection Type** Informational  
**Lab Coordinators**

**Inspection Date:** 09/17/2019  
**Inspectors**

**Deficiency Count:** 0

**Inspection Comments:** 1

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** Acceptable  
 Inspectors spoke with the Laboratory Animal Coordinator (LAC), during the inspection. was very organized and thorough in her responses. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.  
 Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.  
 Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to iacuc@med.unc.edu with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

## 2 DOCUMENTATIONS and IACUC POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable  
 Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable  
 All personnel handling animals in the lab trained/certified and on application Acceptable  
 How are approved applications and amendments available to and reviewed by laboratory personnel? Acceptable  
 Other N/A

## 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable  
 Procedures for using/scavenging volatile anesthetics; check for Fair can weight N/A  
 Proper sharps disposal; Current copy of Needle Safety in Animal Studies posted Acceptable  
 Proper carcass disposal/hazardous waste disposal (especially hazard contaminated) Acceptable  
 Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable  
 Warning signs visible upon laboratory entry (i.e.; radiation, biohazard, chemicals, ABSL) Acceptable  
 If chemical/biological hazards in animal facility, using appropriate cage cards to identify hazards? N/A  
 Review of chemical hazard forms by laboratory personnel before initial use N/A  
 Other N/A

## 4 ANIMAL CARE

Does the lab know how to report animal health issues to DCM? Acceptable  
 If USDA regulated species, are there clinical records for individual animals? N/A  
 Analgesia/anesthesia use as described in approved ACAP Acceptable  
 If euthanizing in lab space is euthanasia performed as described in approved protocol; secondary method tools sharp/adequate Acceptable  
 Means to track animal usage Acceptable  
 Experimental Monitoring Documentation (weight loss, tumor size, etc.) Acceptable  
 Toe Clip Discussion (max day 10, max 4 toes, 2 toes per foot (not the dewclaw), approved in ACAP) N/A  
 Other N/A

## 5 AGENTS ADMINISTERED

Pharmaceutical or veterinary grade agents used (Section 11.3 required for Non-pharmaceutical grade) Acceptable  
 Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A  
 Proper records maintained for agents used for anesthesia, analgesia, euthanasia, and acute intervention Acceptable  
 Proper Controlled Substance Storage and Records; double lock, running balance N/A  
 Is the lab ensuring drugs and biological agents are within expiration date (expired drugs separated or marked appropriately) Acceptable  
 Other N/A

## 6 PHYSICAL PLANT- Lab Space

Impervious surfaces Acceptable  
 General cleanliness Acceptable  
 Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning; Are they on the DCM biological monitoring schedule? N/A  
 Other N/A

## 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) N/A  
 Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide N/A  
 Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure N/A  
 Interior surfaces smooth and impervious to moisture N/A  
 Fixed equipment is sanitizable N/A  
 Other N/A

**8. SURGICAL PROCEDURES: Anesthesia**

|  |     |
|--|-----|
| Adequate surgical records of anesthesia and preoperative care                                      | N/A |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                         | N/A |
| Proper recovery monitoring; Records of postoperative care including analgesia agents (all species) | N/A |
| Procedures for administering and monitoring analgesia (survival surgery)                           | N/A |
| Other  | N/A |

**9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures**

|   |     |
|---|-----|
| Autoclave Sterilization procedures are appropriate (e.g.: storage, use of autoclave tape, expiration date visible)  | N/A |
| Use of effective aseptic procedures for survival surgery; Preparation of sterile incision site and surrounding area | N/A |
| Cold Sterilization procedures are appropriate (e.g.: manufacturer recommended exposure time)                        | N/A |
| Use of sterile gloves and drapes (for surgeries where glove exposure to the animal occurs)                          | N/A |
| Closure method  | N/A |
| Other   | N/A |



**PI:**  
**PI PID**  
**Inspection ID** 9742  
**Inspection Type** Informational with Procedural  
**Lab Coordinators**

**Inspection Date:** 04/25/2019  
**Inspectors**

## 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

Summary Conducted Acceptable

This inspection report serves as both the Informational and Procedural Observation report. During the observation, was very knowledgeable and able to describe survival destabilization of the medial meniscus (DMM) surgery as described in protocol # 17-013, without the use of a live animal. The inspectors did not find any deficiencies to report. The next procedural observation will not be required from the laboratory for three years or when the person we observed leaves the laboratory whichever happens first.

This Informational inspection fulfills the institutional goal that we visit each lab performing any animal work at least every two years, or annually if survival surgeries are conducted by the lab. If you should need any assistance from the IACUC or Office of Animal Care and Use between inspections, please don't hesitate to contact us or check our website for information (<https://research.unc.edu/iacuc/>). If the lab begins performing surgeries or other more invasive procedures within the lab space, we must be contacted so that we can visit the space semiannually.

## 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable

Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA Acceptable

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

## 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable

Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable

Proper sharps disposal, hazardous waste disposal Acceptable

Current copy of Needle Safety in Animal Studies posted Acceptable

Proper carcass disposal (especially hazard contaminated) Acceptable

Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable

Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable

Cage side chemical hazard identification training Acceptable

Review of chemical hazard forms by laboratory personnel before initial use Acceptable

## 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable

Clinical records for individual animals (covered species) N/A

Analgesia/anesthesia use as described in approved ACAP Acceptable

Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable

Means to track animal usage/Euthanasia log Acceptable

MONITORING DOCUMENTATION (weight, drugs, post op care, etc) Acceptable

Toe Clip Discussion (max P10, 2 toes, approved in ACAP) Acceptable

## 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable

Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable

Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A

Proper Controlled Substance Storage and Records; double lock Acceptable

Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable

## 6 PHYSICAL PLANT

Impervious surfaces Acceptable

General cleanliness Acceptable

Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning Acceptable

## 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable

Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable

Interior surfaces smooth and impervious to moisture Acceptable

Fixed equipment is sanitizable Acceptable

## 8 SURGICAL PROCEDURES: Anesthesia

Adequate records of anesthesia and preoperative care Acceptable

Proper monitoring for depth of surgical anesthesia (toe pinch documented?) Acceptable



|  |            |
|--|------------|
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | Acceptable |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
| Use of effective aseptic procedures for survival surgery   | Acceptable |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A        |
| Use of sterile gloves and drapes   | Acceptable |
| Preparation of sterile incision site and surrounding area  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)   | Acceptable |
| <b>10. SATELLITE FACILITIES</b>  |            |
| Daily feed/water/observation-records maintained  | N/A        |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A        |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A        |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A        |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A        |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A        |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A        |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A        |
| Pest control (frequency, effectiveness)  | N/A        |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A        |
| Veterinary contact info visibly posted   | N/A        |
| <b>11. AQUATIC FACILITIES</b>  |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A        |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A        |
| Temperature/humidity values recorded   | N/A        |
| Equipment properly sanitized, separation based on health status  | N/A        |
| Tank allows for undisturbed observation, enrichment present  | N/A        |
| Personnel trained in H2O quality, animal health monitoring   | N/A        |
| How is MS222 prepared for use?   | N/A        |



**PI:** \_\_\_\_\_ **Inspection Date:** 05/15/2019  
**PI PID** \_\_\_\_\_ **Inspectors** \_\_\_\_\_  
**Inspection ID** 10804  
**Inspection Type** Informational with  
 Procedural  
**Lab Coordinators** \_\_\_\_\_

# 1 BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** Acceptable  
 Inspectors spoke with the PI during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.  
 Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

# 2 DOCUMENTATIONS and POSTINGS

Emergency, weekend, and holiday contact information visibly posted in animal housing area Acceptable  
 Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted Acceptable  
 All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd Acceptable  
 unless USDA or DoD/VA  
 The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>  
 All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>  
 Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research Acceptable

# 3 HEALTH AND SAFETY

Gas cylinders immobilized; Eyewash check documented/dust caps in place Acceptable  
 Procedures for using/scavenging volatile anesthetics; check for Fair can weight Acceptable  
 Proper sharps disposal, hazardous waste disposal Acceptable  
 Current copy of Needle Safety in Animal Studies posted Acceptable  
 Proper carcass disposal (especially hazard contaminated) Acceptable  
 Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 Acceptable  
 Warning signs visible upon laboratory entry ( i.e.; radiation, biohazard, chemicals, ABSL) Acceptable  
 Cage side chemical hazard identification training Acceptable  
 Review of chemical hazard forms by laboratory personnel before initial use Acceptable

# 4 ANIMAL CARE

Report animal health issues to Division of Comparative Medicine Acceptable  
 Clinical records for individual animals (covered species) N/A  
 Analgesia/anesthesia use as described in approved ACAP No Deficiency  
 Please ensure that Isoflurane is described in all sections of the protocol where you intend to utilize it (including the non-survival section for perfusion).  
 Currently, only Avertin is approved for perfusion, and isoflurane is described for other procedures. This must be amended to the protocol immediately if you intend to utilize Isoflurane for perfusion.  
 Euthanasia performed as described in approved ACAP; tools sharp/adequate Acceptable  
 Means to track animal usage/Euthanasia log Acceptable  
 MONITORING DOCUMENTATION (weight, drugs, post op care, etc) N/A  
 Toe Clip Discussion (max P10, 2 toes, approved in ACAP) Acceptable

# 5 AGENTS ADMINISTERED

Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) Acceptable  
 Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) Acceptable  
 Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? N/A  
 Proper Controlled Substance Storage and Records; double lock N/A  
 Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention Acceptable  
 Logs documenting use of isoflurane (including drop method) must be available to IACUC personnel.  
 Templates can be found here:  
<https://research.unc.edu/files/2012/11/Isoflurane-Drop-Method-Log-Template.pdf>

# 6 PHYSICAL PLANT

Impervious surfaces Acceptable  
 General cleanliness Acceptable  
 Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning N/A

# 7 SURGICAL PROCEDURES: General Considerations

Location minimizes traffic/contamination (survival surgery) Acceptable  
 Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide Acceptable  
 Interior surfaces smooth and impervious to moisture Acceptable  
 Fixed equipment is sanitizable Acceptable

# 8 SURGICAL PROCEDURES: Anesthesia

Obtained by Rise for Animals. Uploaded 07/05/2020





|  |            |
|--|------------|
| Adequate records of anesthesia and preoperative care   | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                                       | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A        |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | N/A        |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A        |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A        |
| Use of effective aseptic procedures for survival surgery   | N/A        |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A        |
| Use of sterile gloves and drapes   | N/A        |
| Preparation of sterile incision site and surrounding area  | N/A        |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A        |
| Proper recovery monitoring   | N/A        |
| Records of postoperative care including analgesia agents (all species)   | N/A        |
| <b>10. SATELLITE FACILITIES</b>  |            |
| Daily feed/water/observation-records maintained  | N/A        |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A        |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A        |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A        |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A        |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A        |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A        |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A        |
| Pest control (frequency, effectiveness)  | N/A        |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A        |
| Veterinary contact info visibly posted   | N/A        |
| <b>11. AQUATIC FACILITIES</b>  |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A        |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A        |
| Temperature/humidity values recorded   | N/A        |
| Equipment properly sanitized, separation based on health status  | N/A        |
| Tank allows for undisturbed observation, enrichment present  | N/A        |
| Personnel trained in H2O quality, animal health monitoring   | N/A        |
| How is MS222 prepared for use?   | N/A        |



**PI:** \_\_\_\_\_ **Inspection Date:** 06/05/2019  
**PI PID** \_\_\_\_\_ **Inspectors** \_\_\_\_\_  
**Inspection ID** 11976  
**Inspection Type** Informational with  
 Procedural  
**Lab Coordinators** \_\_\_\_\_

### 1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY

**Summary Conducted** \_\_\_\_\_ **Acceptable**

This inspection report serves as both the Semiannual and Procedural Observation report. During the observation, \_\_\_\_\_ was very knowledgeable and able to describe non-survival exsanguination as described in protocol #18-179 without the use of a live animal. The inspectors did not find any deficiencies to report. The next procedural observation will not be required from the laboratory for three years or when the person we observed leaves the laboratory whichever happens first.

Based on conversation with \_\_\_\_\_ today, we learned that the only animal procedures conducted in your lab space (outside of DCM space) are non-survival exsanguination and tissue harvest. This Informational Inspection fulfills the institutional goal that we visit each lab performing any animal work at least every two years. If you should need any assistance from the IACUC or Office of Animal Care and Use between inspections, please don't hesitate to contact us or check our website for information (<http://research.unc.edu/offices/iacuc/index.htm>). If the lab begins performing surgeries or other more invasive procedures within the lab space, we must be contacted so that we can visit the space semiannually.

### 2. DOCUMENTATIONS and POSTINGS

**Emergency, weekend, and holiday contact information visibly posted in animal housing area** \_\_\_\_\_ **Acceptable**

The IACUC creates, reviews and/or revises current Standards and Policies on a monthly basis. As these documents are approved, they are posted to the main IACUC webpage under 'Important Notices' for approximately six months: <https://research.unc.edu/iacuc/>

All IACUC guidance documents can be found under the relevant heading on the IACUC Policy, Standards and Guidance page: <https://research.unc.edu/iacuc/policies-procedures/>

Please ensure that your laboratory references the most recent versions of these documents on our website, and if you have some printed in the lab, that they are updated on a regular basis. We recommend checking the website at least semiannually to update revised policies maintained in hard copy by the lab.

**Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted** \_\_\_\_\_ **Acceptable**

**All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA** \_\_\_\_\_ **Acceptable**

**Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research** \_\_\_\_\_ **No Deficiency**

Please submit and amendment to add MIB 7224 to the protocol as soon as possible. This must be done prior to further animal activity in these spaces.

### 3. HEALTH AND SAFETY

**Gas cylinders immobilized; Eyewash check documented/dust caps in place** \_\_\_\_\_ **Acceptable**

**Procedures for using/scavenging volatile anesthetics; check for Fair can weight** \_\_\_\_\_ **N/A**

**Proper sharps disposal, hazardous waste disposal** \_\_\_\_\_ **Acceptable**

**Current copy of Needle Safety in Animal Studies posted** \_\_\_\_\_ **Acceptable**

**Proper carcass disposal (especially hazard contaminated)** \_\_\_\_\_ **Acceptable**

**Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119** \_\_\_\_\_ **Acceptable**

**Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL)** \_\_\_\_\_ **Acceptable**

**Cage side chemical hazard identification training** \_\_\_\_\_ **Acceptable**

**Review of chemical hazard forms by laboratory personnel before initial use** \_\_\_\_\_ **Acceptable**

### 4. ANIMAL CARE

**Report animal health issues to Division of Comparative Medicine** \_\_\_\_\_ **Acceptable**

**Clinical records for individual animals (covered species)** \_\_\_\_\_ **N/A**

**Analgesia/anesthesia use as described in approved ACAP** \_\_\_\_\_ **Acceptable**

**Euthanasia performed as described in approved ACAP; tools sharp/adequate** \_\_\_\_\_ **Acceptable**

**Means to track animal usage/Euthanasia log** \_\_\_\_\_ **Acceptable**

**MONITORING DOCUMENTATION (weight, drugs, post op care, etc)** \_\_\_\_\_ **Acceptable**

**Toe Clip Discussion (max P10, 2 toes, approved in ACAP)** \_\_\_\_\_ **Acceptable**

### 5. AGENTS ADMINISTERED

**Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately)** \_\_\_\_\_ **Acceptable**

**Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade)** \_\_\_\_\_ **Acceptable**

**Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard?** \_\_\_\_\_ **Acceptable**

**Proper Controlled Substance Storage and Records; double lock** \_\_\_\_\_ **N/A**

**Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention** \_\_\_\_\_ **Acceptable**

### 6. PHYSICAL PLANT

**Impervious surfaces** \_\_\_\_\_ **Acceptable**

**General cleanliness** \_\_\_\_\_ **Acceptable**

**Behavior studies: condition of behavioral boxes/secondary enclosures, method and agents used for cleaning** \_\_\_\_\_ **N/A**

### 7. SURGICAL PROCEDURES: General Considerations

**Location minimizes traffic/contamination (survival surgery)** \_\_\_\_\_ **N/A**

**Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide** \_\_\_\_\_ **Acceptable**

**Interior surfaces smooth and impervious to moisture** \_\_\_\_\_ **Acceptable**

**Fixed equipment is sanitizable** \_\_\_\_\_ **Acceptable**

### 8. SURGICAL PROCEDURES: Anesthesia

**Adequate records of anesthesia and preoperative care** \_\_\_\_\_ **Acceptable**



|  |            |
|--|------------|
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?)                                       | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)   | N/A        |
| Proper anesthetics, doses, routes of anesthesia (records maintained)   | Acceptable |
| <b>9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures</b>   |            |
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A        |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | N/A        |
| Use of effective aseptic procedures for survival surgery   | N/A        |
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time)                       | N/A        |
| Use of sterile gloves and drapes   | N/A        |
| Preparation of sterile incision site and surrounding area  | N/A        |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue   | N/A        |
| Proper recovery monitoring   | N/A        |
| Records of postoperative care including analgesia agents (all species)   | N/A        |
| <b>10. SATELLITE FACILITIES</b>  |            |
| Daily feed/water/observation-records maintained  | N/A        |
| Animal identification posted (PI, ACAP ID #, species, source)  | N/A        |
| Changes in environment since last inspection (noise, illumination, vibration, etc)                               | N/A        |
| Disaster plan in place, annual review, updates since last provided to OACU                                       | N/A        |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply                  | N/A        |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)                            | N/A        |
| HVAC adequate and non-recirculating (suggest monitoring annually)  | N/A        |
| Maintaining electronic census/ Acquired new animals? Source? Permits on file?                                    | N/A        |
| Pest control (frequency, effectiveness)  | N/A        |
| Sanitation schedule (daily/weekly/monthly/annually) maintained   | N/A        |
| Veterinary contact info visibly posted   | N/A        |
| <b>11. AQUATIC FACILITIES</b>  |            |
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing                                      | N/A        |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering   | N/A        |
| Temperature/humidity values recorded   | N/A        |
| Equipment properly sanitized, separation based on health status  | N/A        |
| Tank allows for undisturbed observation, enrichment present  | N/A        |
| Personnel trained in H2O quality, animal health monitoring   | N/A        |
| How is MS222 prepared for use?   | N/A        |



|                             |                                    |
|-----------------------------|------------------------------------|
| <b>PI:</b>                  | <b>Inspection Date:</b> 07/01/2019 |
| <b>PI PID</b>               | <b>Inspectors</b>                  |
| <b>Inspection ID</b> 12062  |                                    |
| Informational               |                                    |
| <b>Inspection Type</b> with |                                    |
| Procedural                  |                                    |
| <b>Lab Coordinators</b>     |                                    |
| <b>Deficiency Count:</b> 0  | <b>Inspection Comments:</b> 6      |

**1. BRIEF SUMMARY OF WORK CONDUCTED IN THE LABORATORY**

|                   |            |
|-------------------|------------|
| Summary Conducted | Acceptable |
|-------------------|------------|

The inspector met with the Laboratory Animal Coordinator (LAC), during the inspection. All animal handlers and others exposed to animals in the lab should update the Animal Handler form annually. The IACUC Orientation is now required to be completed only once, while the DCM orientation must be renewed every 3 years.

Email reminders are now only sent as new and continuing protocols are submitted so PIs and/or LACs must check the Personnel tab in ACAP regularly to ensure all animal handlers are up to date on all three certifications. Red check marks indicate the person is due for recertification.

Please ensure that all new animal spaces are added to the protocol as soon as possible by sending an email to [iacuc@med.unc.edu](mailto:iacuc@med.unc.edu) with all applicable protocol numbers and spaces to be added. Please indicate only spaces that you will take live animals. This must be done prior to further animal activity in these spaces.

This Informational Inspection fulfills the institutional goal that we visit each lab performing any animal work at least every two years, or annually if survival surgeries are conducted by the lab. If you should need any assistance from the IACUC or Office of Animal Care and Use between inspections, please don't hesitate to contact us or check our website for information (<https://research.unc.edu/iacuc/>). If the lab begins performing surgeries or other more invasive procedures within the lab space, we must be contacted so that we can visit the space semiannually.

**2. DOCUMENTATIONS and POSTINGS**

|   |            |
|---|------------|
| Emergency, weekend, and holiday contact information visibly posted in animal housing area | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Current copy of Reporting an Animal Concern, CO2 Euthanasia Policy and Emergency Telephone Numbers posted | Acceptable |
|---|------------|

Emergency phone numbers and needle posting were available. No animals are brought to this space and CO2 is not performed in the area. So, these postings did not apply.

|   |            |
|---|------------|
| All personnel handling animals in the lab trained, certified and on application; Annual Renewals & Lit Searches no longer req'd unless USDA or DoD/VA | Acceptable |
|---|------------|

|   |            |
|---|------------|
| Approved applications and amendments available to and reviewed by laboratory personnel conducting animal research | Acceptable |
|---|------------|

**3. HEALTH AND SAFETY**

|  |               |
|--|---------------|
| Gas cylinders immobilized; Eyewash check documented/dust caps in place | No Deficiency |
|--|---------------|

The eyewash must be checked and flushed monthly. The laboratory is responsible for maintaining documentation for these monthly checks.

Inspectors noted an eyewash in which the protective caps were not covering the eyewash. Please make sure that eyewashes are clean and covers are in place so that debris does not build up and the eyewash can be used in case of emergency.

|   |     |
|---|-----|
| Procedures for using/scavenging volatile anesthetics; check for Fair can weight | N/A |
|---|-----|

|  |            |
|--|------------|
| Proper sharps disposal, hazardous waste disposal | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Current copy of Needle Safety in Animal Studies posted | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Proper carcass disposal (especially hazard contaminated) | Acceptable |
|--|------------|

|   |            |
|---|------------|
| Animal handlers registered with University Employee Occupational Health Clinic-UEOHC phone # 966-9119 | Acceptable |
|---|------------|

|  |     |
|--|-----|
| Warning signs visible upon laboratory entry ( i.e., radiation, biohazard, chemicals, ABSL) | N/A |
|--|-----|

|   |            |
|---|------------|
| Cage side chemical hazard identification training | Acceptable |
|---|------------|

|  |            |
|--|------------|
| Review of chemical hazard forms by laboratory personnel before initial use | Acceptable |
|--|------------|

**4. ANIMAL CARE**

|   |            |
|---|------------|
| Report animal health issues to Division of Comparative Medicine | Acceptable |
|---|------------|

|   |     |
|---|-----|
| Clinical records for individual animals (covered species) | N/A |
|---|-----|

|  |            |
|--|------------|
| Analgesia/anesthesia use as described in approved ACAP | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Euthanasia performed as described in approved ACAP; tools sharp/adequate | Acceptable |
|--|------------|

|  |            |
|--|------------|
| Means to track animal usage/Euthanasia log | Acceptable |
|--|------------|

|   |            |
|---|------------|
| MONITORING DOCUMENTATION (weight, drugs, post op care, etc) | Acceptable |
|---|------------|

|   |     |
|---|-----|
| Toe Clip Discussion (max P10, 2 toes, approved in ACAP) | N/A |
|---|-----|

**5. AGENTS ADMINISTERED**

|   |               |
|---|---------------|
| Procedures exist for ensuring drugs and biological are within expiration date (expired drugs separated or marked appropriately) | No Deficiency |
|---|---------------|

At the time of the inspection, there were two unopened bottles labeled USP Reference Standard -- Bupivacaine and Meloxicam. The bottles did not contain expiration date information on the label. Outdated drugs used in research animals may adversely affect the animals' health and welfare or may confound research results. Expired pharmaceuticals may not be used for anesthesia, analgesia, euthanasia, or acute intervention.

Because it is important to determine a 'use by' or expiration date for these products, please consult with the manufacturer to determine how to assess the Expiration Dating of USP Reference Standards. If the manufacturer provides information pertaining to these two drugs, please maintain the information with the drugs. If the manufacturer provides relevant 'use' dates, please indicate pertinent dates on the bottle label and indicate whether it is a 'use by' date or an 'opened' date.

|  |            |
|--|------------|
| Pharmaceutical or veterinary grade agents used (exception required for Non-pharmaceutical grade) | Acceptable |
|--|------------|

|   |     |
|---|-----|
| Tribromoethanol (Avertin): preparation (including sterilization), storage, and proper maintenance- aware of Standard? | N/A |
|---|-----|

|  |     |
|--|-----|
| Proper Controlled Substance Storage and Records; double lock | N/A |
|--|-----|

|  |            |
|--|------------|
| Proper logs maintained for agents used to administer anesthesia, analgesia and for euthanasia and acute intervention | Acceptable |
|--|------------|

**6. PHYSICAL PLANT**

|                     |     |
|---------------------|-----|
| Impervious surfaces | N/A |
|---------------------|-----|

Animal procedures are not conducted in this space. Surgeries are done in the BRIC or DCM facilities.

|                     |     |
|---------------------|-----|
| General cleanliness | N/A |
|---------------------|-----|

|  |     |
|--|-----|
| Behavior studies: condition of behavioral boxes/secondary enclosures, method and agent used for sedation | N/A |
|--|-----|

Obtained by Rise for Animals. Uploaded 07/05/2020

**7. SURGICAL PROCEDURES: General Considerations**

|   |     |
|---|-----|
| Location minimizes traffic/contamination (survival surgery)   | N/A |
| Functional components (animal preparation, operating room, post-op recovery designed and separated (physically or otherwise) according to the Guide | N/A |
| Interior surfaces smooth and impervious to moisture   | N/A |
| Fixed equipment is sanitizable  | N/A |

**8. SURGICAL PROCEDURES: Anesthesia**

|  |            |
|--|------------|
| Adequate records of anesthesia and preoperative care                       | Acceptable |
| Proper monitoring for depth of surgical anesthesia (toe pinch documented?) | Acceptable |
| Procedures for administering and monitoring analgesia (survival surgery)   | Acceptable |
| Proper anesthetics, doses, routes of anesthesia (records maintained)       | Acceptable |

**9. SURGICAL PROCEDURES: Aseptic Technique for Survival Procedures**

|  |            |
|--|------------|
| Rodent survival surgery clean and uncluttered; not used for anything else during the surgical procedure          | N/A        |
| Autoclave Sterilization procedures are appropriate (eg: storage, use of autoclave tape, expiration date visible) | Acceptable |
| Use of effective aseptic procedures for survival surgery   | Acceptable |

The lab is currently performing up to 10 surgeries using the same autoclaved instrument pack. Organic debris is wiped off instruments after each surgery and instruments are placed in a glass bead sterilizer before the next animal. The inspector feels that 10 surgeries is a large number of surgeries for the same autoclaved pack. However, in reviewing the current standard, there does not appear to be a limit to the number of serial survival surgeries using the same autoclaved pack.

<https://research.unc.edu/files/2012/11/Guidelines-for-Aseptic-Technique-for-Rodent-Survival-Surgeries.pdf>

Please check the IACUC web site over the next 6 months to ensure you are working under the current Rodent Survival Surgery Standard in the event it is revised.

|  |            |
|--|------------|
| Cold Sterilization procedures are appropriate (eg: manufacturer recommended exposure time) | N/A        |
| Use of sterile gloves and drapes   | Acceptable |
| Preparation of sterile incision site and surrounding area                                  | Acceptable |
| Sterile Sutures; Wound Clips, Staples and/or Skin Glue                                     | Acceptable |
| Proper recovery monitoring   | Acceptable |
| Records of postoperative care including analgesia agents (all species)                     | Acceptable |

**10. SATELLITE FACILITIES**

|   |     |
|---|-----|
| Daily feed/water/observation-records maintained   | N/A |
| Animal identification posted (PI, ACAP ID #, species, source)                                   | N/A |
| Changes in environment since last inspection (noise, illumination, vibration, etc)              | N/A |
| Disaster plan in place, annual review, updates since last provided to OACU                      | N/A |
| Food stored in sealed container with date of expiration/milling/plan for interruption to supply | N/A |
| Health/mortality records/reports to Vet Svcs (i.e. multiple, removed from population)           | N/A |
| HVAC adequate and non-recirculating (suggest monitoring annually)                               | N/A |
| Maintaining electronic census/ Aquired new animals? Source? Permits on file?                    | N/A |
| Pest control (frequency, effectiveness)   | N/A |
| Sanitation schedule (daily/weekly/monthly/annually) maintained                                  | N/A |
| Veterinary contact info visably posted  | N/A |

**11. AQUATIC FACILITIES**

|   |     |
|---|-----|
| Chlorine/chloramine/chemicals removed or neutralized, water quality testing | N/A |
| Nitrate/nitrite/ammonia levels measured to confirm proper biofiltering      | N/A |
| Temperature/humidity values recorded  | N/A |
| Equipment properly sanitized, separation based on health status             | N/A |
| Tank allows for undisturbed observation, enrichment present                 | N/A |
| Personnel trained in H2O quality, animal health monitoring                  | N/A |
| How is MS222 prepared for use?  | N/A |

# IACUC Records and Reporting



### Category E Protocols

April 2019 - October 2019

| IACUC ID | Last Name | First Name | TITLE  | SPECIES | Cat E Adults |
|----------|-----------|------------|--|---------|--------------|
| 18-207.0 |           |            | Phase Variation of Clostridium difficile virulence factors-Hamster                     | Hamster | 636          |
| 19-058.0 |           |            | Evaluation of Protein based therapeutics for treating autoimmune disease               | Mouse   | 372          |
| 19-065.0 |           |            | Efficacy of Lidocaine-PLGA-Chitosan NP on oral mucositis                               | Mouse   | 8            |
| 19-066.0 |           |            | Cardiovascular Differences Between Males and Females                                   | Mouse   | 192          |
| 19-079.0 |           |            | All-optical closed loop studies for next generation neural prostheses                  | Mouse   | 670          |
| 19-084.0 |           |            | Prebiotics, gut homeostasis and health   | Mouse   | 96           |
| 19-089.0 |           |            | Opioids and Animal Models of PTSD  | Rat     | 1884         |
| 19-095.0 |           |            | Vaccines for Influenza and Cancer  | Mouse   | 3600         |
| 19-097.0 |           |            | Intestinal inflammation, fibrosis, and genotoxicity of the colonic-adherent microbiota | Mouse   | 2000         |
| 19-105.0 |           |            | Understanding alpha-gal red meat allergy   | Mouse   | 660          |
| 19-110.0 |           |            | Genetically Engineered Models of Mammary Cancer Continued Therapeutic Testing          | Mouse   | 16           |
| 19-114.0 |           |            | Host factors controlling pathogenesis of neuroinvasive flaviviruses                    | Mouse   | 4280         |
| 19-117.0 |           |            | Improving the Delivery of Therapeutic Microbes   | Mouse   | 165          |
| 19-122.0 |           |            | Mouse MRI protocol development   | Mouse   | 180          |
| 19-123.0 |           |            | Innate Immunity, Pathogens, Vaccines   | Mouse   | 13690        |
| 19-142.0 |           |            | Toga Virus Tropism for Bones, Joints, and CNS  | Mouse   | 6348         |

|          |  |   |       |       |
|----------|--|---|-------|-------|
| 19-151.0 |  | Mouse Models of Inflammation  | Mouse | 2160  |
| 19-156.0 |  | Genetic Manipulation of Intestinal Epithelial Stem Cells to study intestinal epithelial maintenance and differentiation | Mouse | 360   |
| 19-161.0 |  | Development of Intravenous AAV Vectors for Intractable Epilepsy   | Rat   | 116   |
| 19-168.0 |  | Understanding the Risk of Bat Coronavirus Emergence   | Mouse | 2160  |
| 19-169.0 |  | Mouse Behavior Core   | Mouse | 635   |
| 19-176.0 |  | Mechanistic analysis of ARID mutations in hepatocellular carcinoma  | Mouse | 244   |
| 19-182.0 |  | Phenotypic Analyses of Mutant Mice and Strains  | Mouse | 30    |
| 19-185.0 |  | Viral and host determinants of flavivirus tissue tropism and pathogenesis   | Mouse | 4650  |
| 19-186.0 |  | Neural Mechanisms of Alcohol Reinforcement and Self-administration in Mice  | Mouse | 192   |
| 19-189.0 |  | Mouse inhibitory circuitry in alcohol and drugs of abuse  | Mouse | 400   |
| 19-190.0 |  | Inhibitory signaling in a rat model of acute and chronic ethanol or drug exposure                                       | Rat   | 400   |
| 19-193.0 |  | Adeno-associated virus (AAV) based Passive Immunization to Protect MERS-CoV and SARS-CoV Infection                      | Mouse | 144   |
| 19-194.0 |  | Innate Immunity in Bullous Pemphigoid   | Mouse | 50    |
| 19-206.0 |  | MERS-CoV Mouse Model for Vaccine and Therapeutic Testing - 2019   | Mouse | 11180 |
| 19-207.0 |  | Efficacy of Coronavirus Vaccines and Monoclonal Antibodies in Mouse Models  | Mouse | 1815  |
| 19-209.0 |  | Molecular physiology of ankyrins and spectrins  | Mouse | 624   |
| 19-213.0 |  | How best to clear bacteria from CF lungs?   | Mouse | 72    |
| 19-221.0 |  | Mirroring anorexia nervosa-like caloric restriction in mice   | Mouse | 320   |

|          |  |  |       |      |
|----------|--|--|-------|------|
| 19-225.0 |  | Circuitry study of adult neurogenesis regulation and function                          | Mouse | 100  |
| 19-238.0 |  | Tissue factor(TF) and protease-activated receptors(PARs) in autoimmune disease in mice | Mouse | 1170 |

**Exception Report**  
**April 2019 - October 2019**

| <b>IACUC ID</b> | <b>PI NAME</b> | <b>SPECIES</b>   | <b>EXCEPTION TITLE</b>   |
|-----------------|----------------|------------------|--|
| 16-304.0        |                | Mouse            | Delayed weaning of animals   |
| 17-013.0        |                | Mouse            | Delayed weaning of animals   |
| 17-090.0        |                | Rat              | Exception from the cage density policy   |
| 17-119.0        |                | Fish             | Minimum Tank Volume  |
| 17-128.0        |                | Mouse            | Delayed weaning of animals   |
| 17-136.0        |                | Mouse            | Exception for more than 20 percent body weight/change in days                                |
| 17-136.0        |                | Mouse            | Exception to Administered Agent Standard   |
| 17-167.0        |                | Mouse            | Delayed weaning of animals   |
| 18-002.0        |                | Mouse            | Delayed weaning of animals   |
| 18-129.0        |                | Mouse            | Delayed weaning of animals   |
| 18-168.0        |                | Rat              | Exception from the Guide requirements for housing of animals                                 |
| 18-174.0        |                | Mouse            | Delayed weaning of animals   |
| 18-212.0        |                | Mouse            | Delayed weaning of animals   |
| 18-239.0        |                | Mouse            | Delayed weaning of animals   |
| 18-243.0        |                | Mouse            | Exception from the Guide requirements for housing of animals                                 |
| 19-007.0        |                | Mouse            | Delayed weaning of animals   |
| 19-016.0        |                | Rat              | Elimination of environmental enrichment from animal cages                                    |
| 19-083.0        |                | Multiple Species | Use of a provisional housing area (classroom)  |
| 19-088.0        |                | Fish             | Enzymatic digestion of embryos into a cell suspension as the secondary method of euthanasia. |
| 19-089.0        |                | Rat              | Allow food on the floor of cage  |
| 19-089.0        |                | Rat              | Euthanasia of rats over 200 g via physical method of euthanasia without anesthesia           |
| 19-090.0        |                | Rat              | Allow food on the floor of cage  |
| 19-090.0        |                | Rat              | Euthanasia of rats over 200 g via physical method of euthanasia without anesthesia           |
| 19-096.0        |                | Ferret           | Survival surgery performed in lab space/APSE   |

|          |  |                  |   |
|----------|--|------------------|---|
| 19-106.0 |  | Mouse            | Delayed weaning of animals  |
| 19-114.0 |  | Mouse            | Delayed weaning of animals  |
| 19-121.0 |  | Mouse            | Delayed weaning of animals  |
| 19-123.0 |  | Mouse            | Delayed weaning of animals  |
| 19-123.0 |  | Mouse            | Exception to allow animals to lose more than 20% body weight  |
| 19-132.0 |  | Fish             | Animal Procedural Space Exception (Housing/Holding of animals outside of a DCM animal facility for greater than 12 hours) |
| 19-132.0 |  | Fish             | AVMA guidelines for fish euthanasia   |
| 19-132.0 |  | Fish             | Exceed tank density requirements  |
| 19-137.0 |  | Multiple Species | Rapid cooling then deep freezing method of euthanasia   |
| 19-148.0 |  | Mouse            | Exception from the tumor policy (Increase in tumor size or allowing of tumors to become ulcerated or necrotic)            |
| 19-151.0 |  | Mouse            | Exception from the cage density policy  |
| 19-153.0 |  | Mouse            | Exception from the tumor policy (Increase in tumor size or allowing of tumors to become ulcerated or necrotic)            |
| 19-156.0 |  | Mouse            | Food/Water restriction  |
| 19-164.0 |  | Fish             | Rapid cooling then deep freezing method of euthanasia   |
| 19-168.0 |  | Mouse            | Exception to allow animals to lose more than 20% body weight  |
| 19-185.0 |  | Mouse            | Exception to allow animals to lose more than 20% body weight  |
| 19-186.0 |  | Mouse            | Elimination of environmental enrichment from animal cages   |
| 19-193.0 |  | Mouse            | Exception to allow animals to lose more than 20% body weight  |
| 19-198.0 |  | Guinea Pig       | Single housing of animals   |
| 19-199.0 |  | Guinea Pig       | Single housing of animals   |
| 19-200.0 |  | Mouse            | Delayed weaning of animals  |
| 19-206.0 |  | Mouse            | Exception to allow animals to lose more than 20% body weight  |
| 19-207.0 |  | Mouse            | Exception to allow animals to lose more than 20% body weight  |
| 19-209.0 |  | Mouse            | Delayed weaning of animals  |
| 19-221.0 |  | Mouse            | Exception to allow animals to lose more than 20% body weight  |
| 19-221.0 |  | Mouse            | Exception to orally gavage fecal slurries into mice   |

|          |  |       |  |
|----------|--|-------|--|
| 19-230.0 |  | Mouse | 30% food restriction   |
| 19-230.0 |  | Mouse | Exception to allow animals to lose more than 20% body weight |



**USDA Approval Report**  
**April 2019 - October 2019**

| IACUC ID | FIRST NAME | LAST NAME | SPECIES    | TITLE  | APPROVAL DATE |
|----------|------------|-----------|------------|--|---------------|
| 18-135.0 |            |           | Pig        | Anatomic optical coherence tomography for quantitative bronchoscopy                                    | 4/5/2019      |
| 18-060.0 |            |           | Guinea Pig | Isolation of primary peritoneal and alveolar macrophages from guinea pigs                              | 4/29/2019     |
| 18-156.0 |            |           | Dog        | ARFI imaging for real-time, in vivo monitoring of Syvek Patch-induced hemostasis in arterial punctures | 5/3/2019      |
| 18-146.0 |            |           | Sheep      | Large animal model of steroid induced glaucoma   | 5/3/2019      |
| 19-101.0 |            |           | Pig        | Stationary Digital Tomosynthesis for Transbronchial Biopsy Guidance                                    | 05/09/19      |
| 16-189.0 |            |           | Pig        | A Novel Therapy to Treat Atherosclerosis   | 5/16/2019     |
| 19-124.0 |            |           | Gerbil     | Measurements of Cochlear Synaptopathy Using Electrocochleography                                       | 5/23/19       |
| 17-163.0 |            |           | Pig        | The Carolina's Pediatric Airway Course   | 6/7/19        |
| 17-182.0 |            |           | Ferret     | Establishing Network Targets during Development for Non-Invasive Brain Stimulation                     | 6/7/2019      |
| 18-169.0 |            |           | Guinea Pig | Aerosol Delivery of CPZEN-45 for Treatment of non-tuberculous mycobacterial (NTMs) infections          | 6/7/2019      |
| 18-222.0 |            |           | Hamster    | Respiratory Virus Infection of Hamster Airways   | 7/12/2019     |
| 18-207.0 |            |           | Hamster    | Phase Variation of Clostridium difficile virulence factors-Hamster                                     | 7/12/2019     |

|          |  |                   |   |           |
|----------|--|-------------------|---|-----------|
| 18-238.0 |  | Pig               | VisR Ultrasound for Noninvasively Monitoring Renal Allograft Health   | 7/12/2019 |
| 19-120.0 |  | Pig               | Pig models for dialysis vascular access improvement   | 7/16/2019 |
| 19-165.0 |  | Pig               | A Novel Therapy to Treat Atherosclerosis  | 7/30/2019 |
| 17-211.0 |  | Guinea Pig        | Advanced Guinea Pig Techniques  | 8/2/2019  |
| 19-198.0 |  | Guinea Pig        | The Relationship between Pyrazinamide Pharmacokinetics, Tuberculosis Disease, and Host Immune Responses in M. tuberculosis infected animals | 8/12/2019 |
| 16-242.0 |  | Non-human Primate | PET imaging with neuronal receptor imaging agents on non-human primate model  | 8/22/2019 |
| 19-096.0 |  | Ferret            | Two-photon imaging of cerebellar associative learning in awake behaving ferrets   | 8/23/2019 |
| 19-199.0 |  | Guinea Pig        | The Relationship between Pyrazinamide Pharmacokinetics, Tuberculosis Disease, and Host Immune Responses                                     | 8/26/2019 |
| 17-135.0 |  | Pig               | Bronchoscopic Steerable Needles for Transparenchymal Access to Lung Nodules   | 8/28/2019 |
| 18-047.0 |  | Ferret            | A Control Systems Approach to Understanding Brain and Behavior  | 9/6/2019  |
| 17-223.0 |  | Pig               | Orbital and central cerebrospinal fluid pressure dynamics: A comprehensive investigation of retrobulbar pressure                            | 9/6/2019  |
| 18-274.0 |  | Gerbil            | Intraoperative physiological monitoring during cochlear implantation  | 9/6/2019  |

|          |  |            |  |            |
|----------|--|------------|--|------------|
| 17-230.0 |  | Pig        | An Academic Industrial Partnership for the Development of High Frame-Rate Transcranial Super Resolution Ultrasound Imaging | 9/6/2019   |
| 17-134.0 |  | Pig        | Insulin Resistant Pigs   | 9/10/2019  |
| 16-282.0 |  | Rabbit     | Role of integrins/ECM ligands in controlling IGF actions   | 9/10/2019  |
| 18-192.0 |  | Pig        | Role of diabetes and nitric oxide release duration on analytical performance of in vivo glucose biosensors                 | 9/11/2019  |
| 19-228.0 |  | Guinea Pig | Bioengineering Catalytically Active Grafts for Vascular Surgery  | 9/19/2019  |
| 18-247.0 |  | Rabbit     | Investigation of CF Rabbit Model   | 9/30/2019  |
| 17-268.0 |  | Ferret     | Airway Clearance in neonatal Ferrets continued   | 10/4/2019  |
| 18-297.0 |  | Deer Mouse | Collateral genetics  | 10/9/2019  |
| 17-087.0 |  | Dog        | Maintenance of Animal Models of Human Hemophilia and vWD   | 10/10/2019 |

**Protocols, Annual Renewals and Title Funding Changes**

**May 2019 - October 2019**

| <b>IACUC Meeting Month</b> | <b>FULL</b> | <b>ANNUAL</b> |  | <b>TOTAL</b> |  | <b>T/F</b> |
|----------------------------|-------------|---------------|--|--------------|--|------------|
| May-19                     | 25          | 3             |  | 28           |  | 10         |
| June-19                    | 27          | 4             |  | 31           |  | 6          |
| July-19                    | 17          | 3             |  | 20           |  | 9          |
| Aug-19                     | 26          | 4             |  | 30           |  | 8          |
| Sept-19                    | 38          | 3             |  | 41           |  | 7          |
| Oct-19                     | 22          | 2             |  | 24           |  | 6          |
| Totals                     | 155         | 19            |  | 174          |  | 46         |

## Amendment Totals May 2019-Oct 2019

| Month    | Amendments | Designated<br>Member Review | Personnel | Full Committee | Veterinary Verification |
|----------|------------|-----------------------------|-----------|----------------|-------------------------|
| May - 19 | 96         | 42                          | 46        | 5              | 8                       |
| June-19  | 148        | 47                          | 91        | 5              | 11                      |
| July-19  | 136        | 48                          | 76        | 2              | 12                      |
| Aug-19   | 126        | 27                          | 91        | 3              | 8                       |
| Sept-19  | 107        | 34                          | 69        | 3              | 4                       |
| Oct-19   | 137        | 39                          | 90        | 5              | 8                       |
|          |            |                             |           |                |                         |
| TOTAL    | 750        | 237                         | 463       | 23             | 51                      |

# Reports to the United States Department of Agriculture (USDA)



# IACUC Training Reports

## IACUC Training: # individuals trained in each type of training offered

| #<br>Trainees                       | April<br>2015 | Oct<br>2015 | April<br>2016 | Oct<br>2016 | April<br>2017 | Oct<br>2017 | April<br>2018 | Oct<br>2018 | April<br>2019 | Oct<br>2019 | % Change<br>October 2018 :<br>October 2019     |
|-------------------------------------|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|---------------|-------------|--|
| Mouse                               | 97            | 122         | 133           | 143         | 115           | 134         | 123           | 152         | 121           | 149         | ↓2%  |
| Rat                                 | 17            | 26          | 35            | 45          | 36            | 42          | 34            | 43          | 28            | 32          | ↓25%   |
| Aseptic                             | 35            | 59          | 38            | 50          | 52            | 56          | 34            | 46          | 52            | 63          | ↑40%   |
| LAC<br>lecture                      | 21            | 28          | 30            | 47          | 23            | 37          | 35            | 32          | 25            | 30          | ↓6%  |
| Mouse<br>Cage<br>Density<br>Lecture | 58            | 68          | 56            | 86          | 51            | 76          | 45            | 53          | 43            | 79          | ↑49%   |
| Colony<br>Mgmt.<br>Lecture          | 2             | 7           | 8             | 14          | 10            | 0           | 13            | 0           | 0             | 0           | Optional- none<br>requested, so not<br>offered |
| One on<br>Ones                      | 106           | 115         | 103           | 100         | 56            | 78          | 67            | 98          | 75            | 115         | ↑17%   |

**One on One Training (Hands On and Lecture)    Total: 115**

| Date      | Medium   | Subject/Class | Trainer(s) | Trainee | PI Laboratory | Proficiency Rating |
|-----------|----------|---------------|------------|---------|---------------|--------------------|
| 4/17/2019 | Hands-on | One-on-One    |            |         |               | 2                  |
| 4/17/2019 | Hands-on | One-on-One    |            |         |               | 1-LAC              |
| 4/17/2019 | Hands-on | One-on-One    |            |         |               | 2-LAC              |
| 4/17/2019 | Hands-on | One-on-One    |            |         |               | 2                  |
| 4/17/2019 | Hands-on | One-on-One    |            |         |               | 1-LAC              |
| 4/17/2019 | Hands-on | One-on-One    |            |         |               | 2                  |
| 4/22/2019 | Hands-on | One-on-One    |            |         |               | 2                  |
| 4/22/2019 | Hands-on | One-on-One    |            |         |               | 2                  |
| 5/1/2019  | Hands-on | One-on-One    |            |         |               | 2                  |
| 5/7/2019  | Hands-on | One-on-One    |            |         |               | 1                  |
| 5/7/2019  | Hands-on | One-on-One    |            |         |               | 1-LAC              |
| 5/17/2019 | Hands-on | One-on-One    |            |         |               | 2-LAC              |
| 5/17/2019 | Hands-on | One-on-One    |            |         |               | 2-LAC              |
| 5/17/2019 | Hands-on | One-on-One    |            |         |               | 2                  |
| 5/17/2019 | Hands-on | One-on-One    |            |         |               | 2                  |
| 5/17/2019 | Hands-on | One-on-One    |            |         |               | 2                  |
| 5/17/2019 | Hands-on | One-on-One    |            |         |               | 1-LAC              |
| 5/20/2019 | Hands-on | One-on-One    |            |         |               | 1                  |
| 5/20/2019 | Hands-on | One-on-One    |            |         |               | 2                  |
| 5/20/2019 | Hands-on | One-on-One    |            |         |               | 2                  |
| 5/28/2019 | Hands-on | One-on-One    |            |         |               | 2-RAT              |
| 5/28/2019 | Hands-on | One-on-One    |            |         |               | 2-LAC (RAT)        |
| 5/28/2019 | Hands-on | One-on-One    |            |         |               | 2                  |
| 5/28/2019 | Hands-on | One-on-One    |            |         |               | 2                  |
| 5/28/2019 | Hands-on | One-on-One    |            |         |               | 1-LAC (RAT)        |
| 6/11/2019 | Hands-on | One-on-One    |            |         |               | 3                  |

|           |          |            |  |           |
|-----------|----------|------------|--|-----------|
| 6/11/2019 | Hands-on | One-on-One |  | 2         |
| 6/11/2019 | Hands-on | One-on-One |  | 2-LAC     |
| 6/14/2019 | Hands-on | One-on-One |  | 1-LAC     |
| 6/14/2019 | Hands-on | One-on-One |  | 2         |
| 6/14/2019 | Hands-on | One-on-One |  | 2         |
| 6/14/2019 | Hands-on | One-on-One |  | 2         |
| 6/14/2019 | Hands-on | One-on-One |  | 2         |
| 6/14/2019 | Hands-on | One-on-One |  | 2         |
| 6/17/2019 | Hands-on | One-on-One |  | 1         |
| 6/17/2019 | Hands-on | One-on-One |  | 2         |
| 6/17/2019 | Hands-on | One-on-One |  | 2         |
| 6/28/2019 | Hands-on | One-on-One |  | 2         |
| 6/28/2019 | Hands-on | One-on-One |  | 1         |
| 6/28/2019 | Hands-on | One-on-One |  | 2         |
| 6/28/2019 | Hands-on | One-on-One |  | 2-LAC     |
| 6/28/2019 | Hands-on | One-on-One |  | 2         |
| 6/28/2019 | Hands-on | One-on-One |  | 2         |
| 6/28/2019 | Hands-on | One-on-One |  | 2         |
| 6/28/2019 | Hands-on | One-on-One |  | 2         |
| 6/28/2019 | Hands-on | One-on-One |  | 2         |
| 7/1/2019  | Hands-on | One-on-One |  | 2         |
| 7/9/2019  | Hands-on | One-on-One |  | 1-LAC     |
| 7/9/2019  | Hands-on | One-on-One |  | 1         |
| 7/9/2019  | Hands-on | One-on-One |  | 2-LAC     |
| 7/9/2019  | Hands-on | One-on-One |  | 1-LAC     |
| 7/9/2019  | Hands-on | One-on-One |  | 2         |
| 7/9/2019  | Hands-on | One-on-One |  | 2         |
| 7/9/2019  | Hands-on | One-on-One |  | 3-(RAT)   |
| 7/19/2019 | Hands-on | One-on-One |  | 1 & 2-LAC |

|           |          |            |  |                |
|-----------|----------|------------|--|----------------|
| 7/19/2019 | Hands-on | One-on-One |  | 2              |
| 7/19/2019 | Hands-on | One-on-One |  | 1-LAC          |
| 7/19/2019 | Hands-on | One-on-One |  | 1 & 2          |
| 7/19/2019 | Hands-on | One-on-One |  | 2              |
| 7/23/2019 | Hands-on | One-on-One |  | 1-LAC          |
| 7/23/2019 | Hands-on | One-on-One |  | 2              |
| 7/23/2019 | Hands-on | One-on-One |  | 1-LAC          |
| 7/23/2019 | Hands-on | One-on-One |  | 2              |
| 7/23/2019 | Hands-on | One-on-One |  | 2-LAC          |
| 7/29/2019 | Hands-on | One-on-One |  | 2              |
| 7/29/2019 | Hands-on | One-on-One |  | 2              |
| 8/9/2019  | Hands-on | One-on-One |  | 1              |
| 8/9/2019  | Hands-on | One-on-One |  | 1              |
| 8/9/2019  | Hands-on | One-on-One |  | 1-LAC          |
| 8/9/2019  | Hands-on | One-on-One |  | 1-LAC          |
| 8/9/2019  | Hands-on | One-on-One |  | 2-LAC          |
| 8/9/2019  | Hands-on | One-on-One |  | 2--MOUSE & RAT |
| 8/16/2019 | Hands-on | One-on-One |  | 1-LAC          |
| 8/16/2019 | Hands-on | One-on-One |  | 1-LAC          |
| 8/16/2019 | Hands-on | One-on-One |  | 1-LAC          |
| 8/16/2019 | Hands-on | One-on-One |  | 1              |
| 8/16/2019 | Hands-on | One-on-One |  | 3              |
| 8/16/2019 | Hands-on | One-on-One |  | 1              |
| 8/16/2019 | Hands-on | One-on-One |  | 1              |
| 8/16/2019 | Hands-on | One-on-One |  | 1              |
| 8/22/2019 | Hands-on | One-on-One |  | 3              |
| 8/22/2019 | Hands-on | One-on-One |  | 3              |
| 8/22/2019 | Hands-on | One-on-One |  | 3              |

|           |          |            |  |       |
|-----------|----------|------------|--|-------|
| 8/26/2019 | Hands-on | One-on-One |  | 1-LAC |
| 8/26/2019 | Hands-on | One-on-One |  | 1-LAC |
| 8/26/2019 | Hands-on | One-on-One |  | 1-LAC |
| 8/26/2019 | Hands-on | One-on-One |  | 2     |
| 8/26/2019 | Hands-on | One-on-One |  | 2     |
| 8/28/2019 | Hands-on | One-on-One |  | 2     |
| 8/28/2019 | Hands-on | One-on-One |  | 1     |
| 8/28/2019 | Hands-on | One-on-One |  | 2     |
| 8/28/2019 | Hands-on | One-on-One |  | 2     |
| 9/5/2019  | Hands-on | One-on-One |  | 2     |
| 9/5/2019  | Hands-on | One-on-One |  | 2     |
| 9/5/2019  | Hands-on | One-on-One |  | 2     |
| 9/5/2019  | Hands-on | One-on-One |  | 1-LAC |
| 9/5/2019  | Hands-on | One-on-One |  | 2     |
| 9/4/2019  | Hands-on | One-on-One |  | 2     |
| 9/4/2019  | Hands-on | One-on-One |  | 2     |
| 9/16/2019 | Lecture  | One-on-One |  |       |
| 9/19/2019 | Hands-on | One-on-One |  | 1     |
| 9/19/2019 | Hands-on | One-on-One |  | 1-LAC |
| 9/19/2019 | Hands-on | One-on-One |  | 1-LAC |
| 9/19/2019 | Hands-on | One-on-One |  | 1     |
| 9/19/2019 | Hands-on | One-on-One |  | 2     |
| 9/23/2019 | Hands-on | One-on-One |  | 1     |
| 9/23/2019 | Hands-on | One-on-One |  | 1     |
| 9/23/2019 | Hands-on | One-on-One |  | 2     |
| 9/23/2019 | Hands-on | One-on-One |  | 2-LAC |
| 9/23/2019 | Hands-on | One-on-One |  | 2-LAC |
| 9/23/2019 | Hands-on | One-on-One |  | 2     |



|           |          |            |  |            |
|-----------|----------|------------|--|------------|
| 9/23/2019 | Hands-on | One-on-One |  | 2-LAC      |
| 10/2/2019 | Hands-on | One-on-One |  | 1-LAC      |
| 10/2/2019 | Hands-on | One-on-One |  | 1-LAC(RAT) |
| 10/2/2019 | Hands-on | One-on-One |  | 1-LAC      |
| 10/2/2019 | Hands-on | One-on-One |  | 1          |

**Laboratory Animal Coordinator Lecture    Total: 30**

[illegible]

**Mouse Cage Density Policy Lecture    Total: 79**

[illegible]

[illegible]

[illegible]

**Mouse Handling and Techniques Class    Total:149**

| Date      | Medium   | Subject/Class        | Trainer(s) | Trainee | PI Laboratory | Proficiency Rating |
|-----------|----------|----------------------|------------|---------|---------------|--------------------|
| 4/16/2019 | Hands-on | Mouse Handling Class |            |         |               | 2                  |
| 4/16/2019 | Hands-on | Mouse Handling Class |            |         |               | 2-LAC              |
| 4/16/2019 | Hands-on | Mouse Handling Class |            |         |               | 2                  |
| 4/16/2019 | Hands-on | Mouse Handling Class |            |         |               | 1                  |
| 4/16/2019 | Hands-on | Mouse Handling Class |            |         |               | 2                  |
| 4/16/2019 | Hands-on | Mouse Handling Class |            |         |               | 2                  |
| 4/16/2019 | Hands-on | Mouse Handling Class |            |         |               | 2                  |
| 4/16/2019 | Hands-on | Mouse Handling Class |            |         |               | 2                  |
| 4/24/2019 | Hands-on | Mouse Handling Class |            |         |               | 2                  |
| 5/2/2019  | Hands-on | Mouse Handling Class |            |         |               | 2                  |
| 5/2/2019  | Hands-on | Mouse Handling Class |            |         |               | 2                  |
| 5/2/2019  | Hands-on | Mouse Handling Class |            |         |               | 2                  |
| 5/2/2019  | Hands-on | Mouse Handling Class |            |         |               | 2                  |
| 5/2/2019  | Hands-on | Mouse Handling Class |            |         |               | 3-LAC              |
| 5/2/2019  | Hands-on | Mouse Handling Class |            |         |               | 2                  |
| 5/2/2019  | Hands-on | Mouse Handling Class |            |         |               | 3                  |
| 5/8/2019  | Hands-on | Mouse Handling Class |            |         |               | 2                  |
| 5/8/2019  | Hands-on | Mouse Handling Class |            |         |               | 3                  |
| 5/8/2019  | Hands-on | Mouse Handling Class |            |         |               | 2                  |
| 5/8/2019  | Hands-on | Mouse Handling Class |            |         |               | 3                  |
| 5/8/2019  | Hands-on | Mouse Handling Class |            |         |               | 2                  |
| 5/8/2019  | Hands-on | Mouse Handling Class |            |         |               | 2                  |
| 5/8/2019  | Hands-on | Mouse Handling Class |            |         |               | 2                  |
| 5/8/2019  | Hands-on | Mouse Handling Class |            |         |               | 2                  |
| 5/16/2019 | Hands-on | Mouse Handling Class |            |         |               | 2                  |
| 5/16/2019 | Hands-on | Mouse Handling Class |            |         |               | 1-LAC              |
| 5/16/2019 | Hands-on | Mouse Handling Class |            |         |               | 3                  |
| 5/16/2019 | Hands-on | Mouse Handling Class |            |         |               | 2                  |
| 5/16/2019 | Hands-on | Mouse Handling Class |            |         |               | 2                  |
| 5/16/2019 | Hands-on | Mouse Handling Class |            |         |               | 3-LAC              |
| 5/16/2019 | Hands-on | Mouse Handling Class |            |         |               | 2                  |
| 5/29/2019 | Hands-on | Mouse Handling Class |            |         |               | 1                  |



|           |          |                      |  |                    |
|-----------|----------|----------------------|--|--------------------|
| 5/29/2019 | Hands-on | Mouse Handling Class |  | 2                  |
| 5/29/2019 | Hands-on | Mouse Handling Class |  | 3                  |
| 5/29/2019 | Hands-on | Mouse Handling Class |  | 1-LAC              |
| 5/29/2019 | Hands-on | Mouse Handling Class |  | 1                  |
| 5/29/2019 | Hands-on | Mouse Handling Class |  | 2                  |
| 6/5/2019  | Hands-on | Mouse Handling Class |  | 3                  |
| 6/5/2019  | Hands-on | Mouse Handling Class |  | 2                  |
| 6/5/2019  | Hands-on | Mouse Handling Class |  | 2                  |
| 6/5/2019  | Hands-on | Mouse Handling Class |  | 2                  |
| 6/5/2019  | Hands-on | Mouse Handling Class |  | 2                  |
| 6/5/2019  | Hands-on | Mouse Handling Class |  | 3                  |
| 6/5/2019  | Hands-on | Mouse Handling Class |  | 2                  |
| 6/18/2019 | Hands-on | Mouse Handling Class |  | 2                  |
| 6/18/2019 | Hands-on | Mouse Handling Class |  | 2                  |
| 6/18/2019 | Hands-on | Mouse Handling Class |  | 3                  |
| 6/18/2019 | Hands-on | Mouse Handling Class |  | 3                  |
| 6/18/2019 | Hands-on | Mouse Handling Class |  | 3                  |
| 6/18/2019 | Hands-on | Mouse Handling Class |  | 2-LAC              |
| 6/18/2019 | Hands-on | Mouse Handling Class |  | 2-LAC              |
| 6/18/2019 | Hands-on | Mouse Handling Class |  | 1 & 2 (IM, IV)–LAC |
| 6/27/2019 | Hands-on | Mouse Handling Class |  | 3                  |
| 6/27/2019 | Hands-on | Mouse Handling Class |  | 3                  |
| 6/27/2019 | Hands-on | Mouse Handling Class |  | 3                  |
| 6/27/2019 | Hands-on | Mouse Handling Class |  | 2-LAC              |
| 6/27/2019 | Hands-on | Mouse Handling Class |  | 2                  |
| 6/27/2019 | Hands-on | Mouse Handling Class |  | 2                  |
| 6/27/2019 | Hands-on | Mouse Handling Class |  | 1-LAC              |
| 7/10/2019 | Hands-on | Mouse Handling Class |  | 2                  |

[illegible]

|           |          |                      |  |       |
|-----------|----------|----------------------|--|-------|
| 8/1/2019  | Hands-on | Mouse Handling Class |  | 3     |
| 8/1/2019  | Hands-on | Mouse Handling Class |  | 3     |
| 8/1/2019  | Hands-on | Mouse Handling Class |  | 2     |
| 8/1/2019  | Hands-on | Mouse Handling Class |  | 2     |
| 8/1/2019  | Hands-on | Mouse Handling Class |  | 3     |
| 8/1/2019  | Hands-on | Mouse Handling Class |  | 2     |
| 8/1/2019  | Hands-on | Mouse Handling Class |  | 2-LAC |
| 8/1/2019  | Hands-on | Mouse Handling Class |  | 2     |
| 8/7/2019  | Hands-on | Mouse Handling Class |  | 3     |
| 8/7/2019  | Hands-on | Mouse Handling Class |  | 3     |
| 8/7/2019  | Hands-on | Mouse Handling Class |  | 2     |
| 8/7/2019  | Hands-on | Mouse Handling Class |  | 2     |
| 8/7/2019  | Hands-on | Mouse Handling Class |  | 2     |
| 8/7/2019  | Hands-on | Mouse Handling Class |  | 1     |
| 8/13/2019 | Hands-on | Mouse Handling Class |  | 2     |
| 8/13/2019 | Hands-on | Mouse Handling Class |  | 2     |
| 8/13/2019 | Hands-on | Mouse Handling Class |  | 1     |
| 8/13/2019 | Hands-on | Mouse Handling Class |  | 2     |
| 8/13/2019 | Hands-on | Mouse Handling Class |  | 3     |
| 8/13/2019 | Hands-on | Mouse Handling Class |  | 1     |
| 8/28/2019 | Hands-on | Mouse Handling Class |  | 2     |
| 8/28/2019 | Hands-on | Mouse Handling Class |  | 2     |
| 8/28/2019 | Hands-on | Mouse Handling Class |  | 2     |
| 8/28/2019 | Hands-on | Mouse Handling Class |  | 2     |
| 8/28/2019 | Hands-on | Mouse Handling Class |  | 1     |
| 8/28/2019 | Hands-on | Mouse Handling Class |  | 2     |
| 9/4/2019  | Hands-on | Mouse Handling Class |  | 3     |
| 9/4/2019  | Hands-on | Mouse Handling Class |  | 2     |
| 9/4/2019  | Hands-on | Mouse Handling Class |  | 3     |
| 9/4/2019  | Hands-on | Mouse Handling Class |  | 3     |
| 9/4/2019  | Hands-on | Mouse Handling Class |  | 2     |
| 9/4/2019  | Hands-on | Mouse Handling Class |  | 2     |
| 9/11/2019 | Hands-on | Mouse Handling Class |  | 2     |

|           |          |                      |  |     |
|-----------|----------|----------------------|--|-----|
| 9/11/2019 | Hands-on | Mouse Handling Class |  | 2   |
| 9/11/2019 | Hands-on | Mouse Handling Class |  | 2   |
| 9/11/2019 | Hands-on | Moue Handling Class  |  | 2   |
| 9/11/2019 | Hands-on | Mouse Handling Class |  | 2   |
| 9/11/2019 | Hands-on | Mouse Handling Class |  | 2   |
| 9/11/2019 | Hands-on | Mouse Handling Class |  | 3   |
| 9/11/2019 | Hands-on | Mouse Handling Class |  | n/a |
| 9/19/2019 | Hands-on | Mouse Handling Class |  | 1   |
| 9/19/2019 | Hands-on | Mouse Handling Class |  | 1   |
| 9/19/2019 | Hands-on | Mouse Handling Class |  | 1   |
| 9/19/2019 | Hands-on | Mouse Handling Class |  | 2   |
| 9/19/2019 | Hands-on | Mouse Handling Class |  | 2   |
| 9/19/2019 | Hands-on | Mouse Handling Class |  | 2   |
| 9/19/2019 | Hands-on | Mouse Handling Class |  | 2   |
| 9/19/2019 | Hands-on | Mouse Handling Class |  | 3   |
| 9/19/2019 | Hands-on | Mouse Handling Class |  | 3   |
| 9/27/2019 | Hands-on | Mouse Handling Class |  | 2   |
| 9/27/2019 | Hands-on | Mouse Handling Class |  | 2   |
| 9/27/2019 | Hands-on | Mouse Handling Class |  | 2   |
| 9/27/2019 | Hands-on | Mouse Handling Class |  | 3   |
| 9/27/2019 | Hands-on | Mouse Handling Class |  | 2   |
| 9/27/2019 | Hands-on | Mouse Handling Class |  | 2   |
| 9/27/2019 | Hands-on | Mouse Handling Class |  | 1   |
| 9/27/2019 | Hands-on | Mouse Handling Class |  | 2   |

|           |          |                            |  |   |
|-----------|----------|----------------------------|--|---|
| 9/27/2019 | Hands-on | Mouse Handling Class       |  | 3 |
| 9/27/2019 | Hands-on | Mouse Handling Class       |  | 2 |
| 10/4/2019 | Hands-on | Extra Mouse Handling Class |  | 2 |
| 10/4/2019 | Hands-on | Extra Mouse Handling Class |  | 2 |
| 10/4/2019 | Hands-on | Extra Mouse Handling Class |  | 3 |
| 10/4/2019 | Hands-on | Extra Mouse Handling Class |  | 3 |
| 10/4/2019 | Hands-on | Extra Mouse Handling Class |  | 3 |
| 10/4/2019 | Hands-on | Extra Mouse Handling Class |  | 3 |
| 10/4/2019 | Hands-on | Extra Mouse Handling Class |  | 3 |

**Rat Handling and Techniques Class Total: 32**

| Date      | Medium   | Subject/Class           | Trainer(s) | Trainee | PI Laboratory | Proficiency Rating |
|-----------|----------|-------------------------|------------|---------|---------------|--------------------|
| 5/14/2019 | Hands-on | Rat Handling Techniques |            |         |               | 3                  |
| 5/14/2019 | Hands-on | Rat Handling Techniques |            |         |               | 3                  |
| 5/14/2019 | Hands-on | Rat Handling Techniques |            |         |               | 2                  |
| 5/14/2019 | Hands-on | Rat Handling Techniques |            |         |               | 2                  |
| 6/20/2019 | Hands-on | Rat Handling Techniques |            |         |               | 2                  |
| 6/20/2019 | Hands-on | Rat Handling Techniques |            |         |               | 3                  |
| 6/20/2019 | Hands-on | Rat Handling Techniques |            |         |               | 2                  |
| 6/20/2019 | Hands-on | Rat Handling Techniques |            |         |               | 2-LAC              |
| 6/20/2019 | Hands-on | Rat Handling Techniques |            |         |               | 2-LAC              |
| 6/20/2019 | Hands-on | Rat Handling Techniques |            |         |               | 2                  |
| 6/20/2019 | Hands-on | Rat Handling Techniques |            |         |               | 3                  |
| 6/20/2019 | Hands-on | Rat Handling Techniques |            |         |               | 3                  |
| 6/20/2019 | Hands-on | Rat Handling Techniques |            |         |               | 3                  |
| 6/20/2019 | Hands-on | Rat Handling Techniques |            |         |               | 3                  |
| 6/20/2019 | Hands-on | Rat Handling Techniques |            |         |               | 3                  |
| 7/18/2019 | Hands-on | Rat Handling Techniques |            |         |               | 2                  |
| 7/18/2019 | Hands-on | Rat Handling Techniques |            |         |               | 2-LAC              |
| 7/18/2019 | Hands-on | Rat Handling Techniques |            |         |               | 3                  |
| 7/18/2019 | Hands-on | Rat Handling Techniques |            |         |               | 2-LAC              |
| 8/14/2019 | Hands-on | Rat Handling Techniques |            |         |               | 2                  |
| 8/14/2019 | Hands-on | Rat Handling Techniques |            |         |               | 1-LAC              |
| 8/14/2019 | Hands-on | Rat Handling Techniques |            |         |               | 2                  |
| 8/14/2019 | Hands-on | Rat Handling Techniques |            |         |               | 3                  |
| 8/14/2019 | Hands-on | Rat Handling Techniques |            |         |               | 2-LAC              |
| 8/14/2019 | Hands-on | Rat Handling Techniques |            |         |               | 2                  |
| 9/17/2019 | Hands-on | Rat Handling Techniques |            |         |               | 1                  |
| 9/17/2019 | Hands-on | Rat Handling Techniques |            |         |               | 1                  |
| 9/17/2019 | Hands-on | Rat Handling Techniques |            |         |               | 1                  |
| 9/17/2019 | Hands-on | Rat Handling Techniques |            |         |               | 2                  |
| 9/17/2019 | Hands-on | Rat Handling Techniques |            |         |               | 2                  |
| 9/17/2019 | Hands-on | Rat Handling Techniques |            |         |               | 2                  |
| 9/17/2019 | Hands-on | Rat Handling Techniques |            |         |               | 2-LAC              |
| 9/17/2019 | Hands-on | Rat Handling Techniques |            |         |               | 3                  |



**Aseptic Techniques Class    Total: 63**

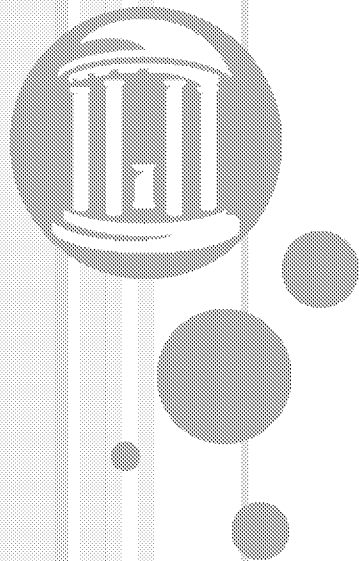
| Date      | Medium   | Subject/Class            | Trainer(s) | Trainee | PI Laboratory | Proficiency Rating |
|-----------|----------|--------------------------|------------|---------|---------------|--------------------|
| 4/23/2019 | Hands-on | Aseptic Techniques       |            |         |               | 3                  |
| 4/23/2019 | Hands-on | Aseptic Techniques       |            |         |               | 3-LAC              |
| 4/23/2019 | Hands-on | Aseptic Techniques       |            |         |               | 3                  |
| 4/23/2019 | Hands-on | Aseptic Techniques       |            |         |               | 2                  |
| 4/23/2019 | Hands-on | Aseptic Techniques       |            |         |               | 2                  |
| 4/23/2019 | Hands-on | Aseptic Techniques       |            |         |               | 2                  |
| 4/23/2019 | Hands-on | Aseptic Techniques       |            |         |               | 1-LAC              |
| 5/22/2019 | Hands-on | Aseptic Techniques       |            |         |               | 3                  |
| 5/22/2019 | Hands-on | Aseptic Techniques       |            |         |               | 2                  |
| 5/22/2019 | Hands-on | Aseptic Techniques       |            |         |               | 3                  |
| 5/22/2019 | Hands-on | Aseptic Techniques       |            |         |               | 3                  |
| 5/22/2019 | Hands-on | Aseptic Techniques       |            |         |               | 2                  |
| 5/22/2019 | Hands-on | Aseptic Techniques       |            |         |               | 1                  |
| 5/22/2019 | Hands-on | Aseptic Techniques       |            |         |               | 1                  |
| 5/22/2019 | Hands-on | Aseptic Techniques       |            |         |               | 2-LAC              |
| 5/22/2019 | Hands-on | Aseptic Techniques       |            |         |               | 1                  |
| 6/25/2019 | Hands-on | Aseptic Techniques       |            |         |               | 2                  |
| 6/25/2019 | Hands-on | Aseptic Techniques       |            |         |               | 2-LAC              |
| 6/25/2019 | Hands-on | Aseptic Techniques       |            |         |               | 2                  |
| 6/25/2019 | Hands-on | Aseptic Techniques       |            |         |               | 3                  |
| 6/25/2019 | Hands-on | Aseptic Techniques       |            |         |               | 2                  |
| 6/25/2019 | Hands-on | Aseptic Techniques       |            |         |               | 2                  |
| 6/25/2019 | Hands-on | Aseptic Techniques       |            |         |               | 3                  |
| 7/25/2019 | Hands-on | Aseptic Techniques       |            |         |               | 2-LAC              |
| 7/25/2019 | Hands-on | Aseptic Techniques       |            |         |               | 3                  |
| 7/25/2019 | Hands-on | Aseptic Techniques       |            |         |               | 2                  |
| 7/25/2019 | Hands-on | Aseptic Techniques       |            |         |               | 2                  |
| 7/25/2019 | Hands-on | Aseptic Techniques       |            |         |               | 3                  |
| 7/25/2019 | Hands-on | Aseptic Techniques       |            |         |               | 2                  |
| 7/25/2019 | Hands-on | Aseptic Techniques       |            |         |               | 1                  |
| 8/20/2019 | Hands-on | Extra Aseptic Tech Class |            |         |               | 1                  |
| 8/22/2019 | Hands-on | Aseptic Techniques       |            |         |               | 1                  |

|           |          |                          |       |
|-----------|----------|--------------------------|-------|
| 8/22/2019 | Hands-on | Aseptic Techniques       | 1     |
| 8/22/2019 | Hands-on | Aseptic Techniques       | 2     |
| 8/22/2019 | Hands-on | Aseptic Techniques       | 2     |
| 8/22/2019 | Hands-on | Aseptic Techniques       | 2     |
| 8/22/2019 | Hands-on | Aseptic Techniques       | 3     |
| 8/22/2019 | Hands-on | Aseptic Techniques       | 2-LAC |
| 8/22/2019 | Hands-on | Aseptic Techniques       | 2     |
| 8/22/2019 | Hands-on | Aseptic Techniques       | 2     |
| 9/10/2019 | Hands-on | Extra Aseptic Techniques | 1     |
| 9/10/2019 | Hands-on | Extra Aseptic Techniques | 1-LAC |
| 9/10/2019 | Hands-on | Extra Aseptic Techniques | 1     |
| 9/10/2019 | Hands-on | Extra Aseptic Techniques | 2     |
| 9/10/2019 | Hands-on | Extra Aseptic Techniques | 2     |
| 9/10/2019 | Hands-on | Extra Aseptic Techniques | 2     |
| 9/10/2019 | Hands-on | Extra Aseptic Techniques | 2     |
| 9/10/2019 | Hands-on | Extra Aseptic Techniques | 3     |
| 9/24/2019 | Hands-on | Aseptic Techniques       | 1     |
| 9/24/2019 | Hands-on | Aseptic Techniques       | 2     |
| 9/24/2019 | Hands-on | Aseptic Techniques       | 2     |
| 9/24/2019 | Hands-on | Aseptic Techniques       | 2     |
| 9/24/2019 | Hands-on | Aseptic Techniques       | 3     |
| 9/24/2019 | Hands-on | Aseptic Techniques       | 1-LAC |
| 10/7/2019 | Hands-on | Aseptic Techniques       | 1     |
| 10/7/2019 | Hands-on | Aseptic Techniques       | 1     |
| 10/7/2019 | Hands-on | Aseptic Techniques       | 1     |
| 10/7/2019 | Hands-on | Aseptic Techniques       | 1     |
| 10/7/2019 | Hands-on | Aseptic Techniques       | 2     |
| 10/7/2019 | Hands-on | Aseptic Techniques       | 2     |
| 10/7/2019 | Hands-on | Aseptic Techniques       | 3     |
| 10/7/2019 | Hands-on | Aseptic Techniques       | 2     |
| 10/7/2019 | Hands-on | Aseptic Techniques       | 2     |

# Occupational Health and Safety of Personnel

# IACUC – SEMI ANNUAL REVIEW

## OCTOBER 23<sup>RD</sup>, 2019

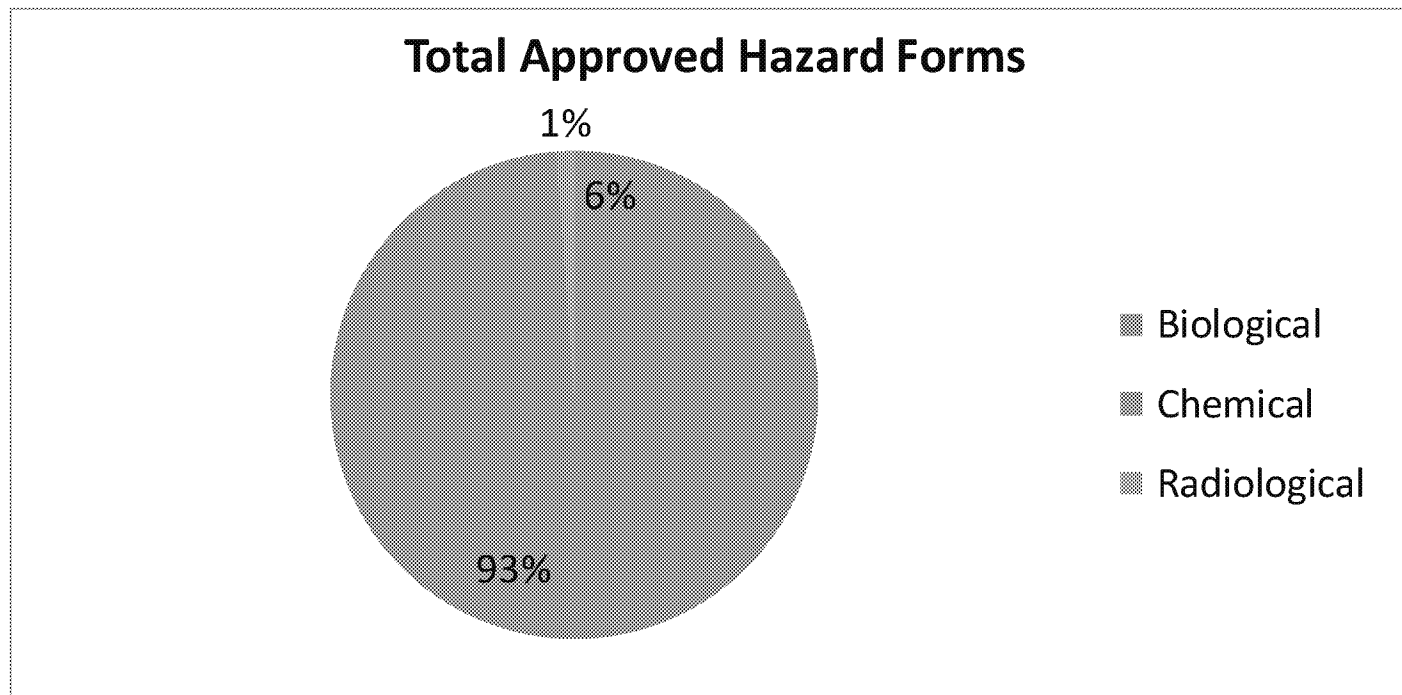


Environment, Health & Safety

University of North Carolina at Chapel Hill

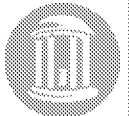
# HAZARDOUS AGENTS

- Continue to review and approve hazard forms (total since last semi-annual review)
  - Biological – **220** (3328 lifetime)
  - Chemical – **482** (9506 lifetime)
  - Radiological – **6** (266 lifetime)



# OVERVIEW OF EHS PROGRAM

- Compliance report (training and medical surveillance) sent weekly to DCM Training Coordinators
  - Report run on 09/30/19 showed 10.17% employees (18) as non-compliant
- Investigated and completed reports for 13 DCM injuries
  - Animal Bite (3)
  - Fainting
  - Needlestick
  - Knee Pain
  - Wrist Pain
  - Shoulder Strain
  - Thumb Pain (2)
  - Fall
  - Hand Contusion (2)





# 2018 NIH/CDC REPORTABLE INCIDENTS

7 Total Reportable Incidents

2 incidents involving animals reported to NIH

1 incident not involving animals required reporting to CDC

| Biosafety Level | # of Incidents Involving Animals |
|-----------------|----------------------------------|
| 2               | 2                                |
| 3               | 0                                |

## Notes on Incidents Involving Animals

- One incident involving a low-risk for exposure to personnel performing endotracheal inoculation on rabbit at                      using a BSC that was not turned on.
- One incident involving a mouse bite on the index finger by a transgenic mouse.



# 2019 NIH/CDC REPORTABLE INCIDENTS (AS OF 10/01/2019)

3 Total Reportable Incidents

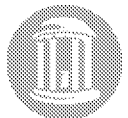
1 incident involving animals reported to NIH

0 incidents involving animals reported to CDC

| Biosafety Level | # of Incidents Involving Animals |
|-----------------|----------------------------------|
| 2               | 1                                |
| 3               | 0                                |

## Notes on Incidents Involving Animals

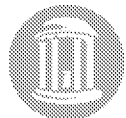
- One incident involving a Researcher injecting mice with adenocarcinoma cells transduced with retroviral vector expressing fluorescent/luminescent markers



# MOUSE ESCAPES VS TOTAL INCIDENTS REPORTED TO NIH/CDC (AS OF 10/1/19)

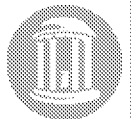
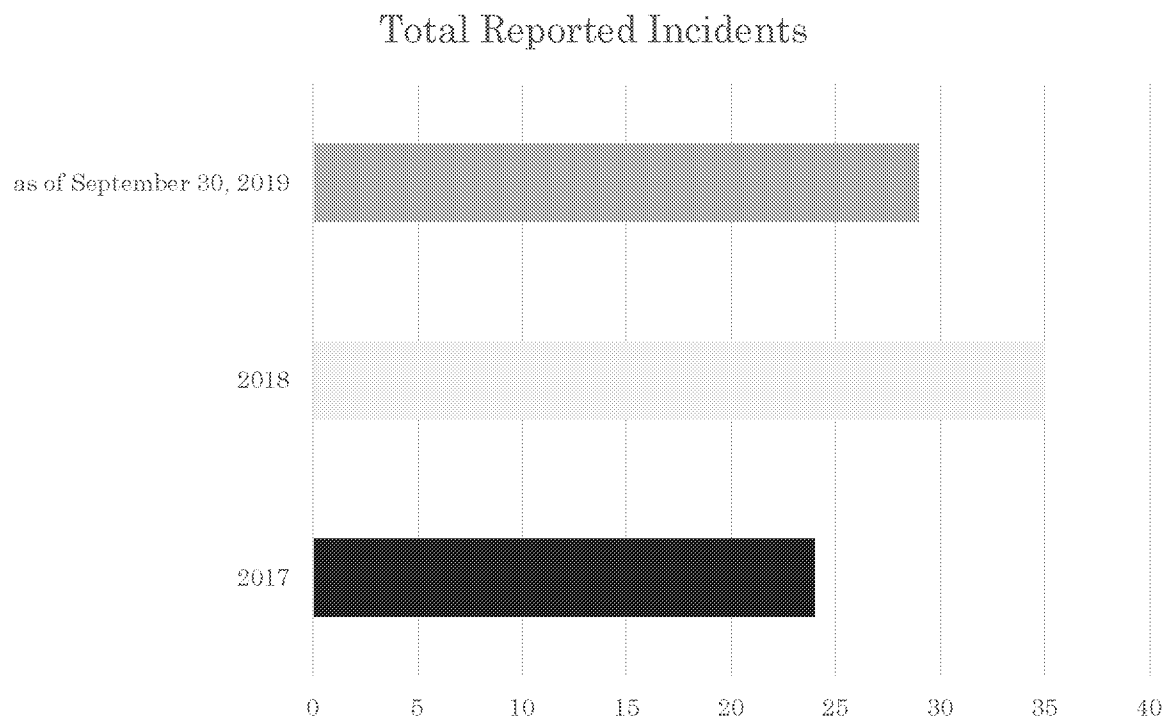
| Year  | Mouse Escapes | Reportable Incidents | % of total Incidents |
|-------|---------------|----------------------|----------------------|
| 2013  | 4             | 10                   | 40%                  |
| 2014  | 4             | 6                    | 66%                  |
| 2015  | 4             | 10                   | 40%                  |
| 2016  | 0             | 4                    | 0%                   |
| 2017  | 0             | 4                    | 0%                   |
| 2018  | 0             | 7                    | 0%                   |
| 2019  | 0             | 3                    | 0%                   |
| TOTAL | 12            | 44                   | 29%                  |

- 10 of the 12 primary containment escapes involved CC mice.
- No animals escaped from the laboratory.
- No lab acquired infections resulted from the escapes.



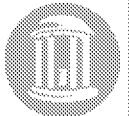
# 2019 INJURIES/ILLNESSES/NEAR MISSES REPORTED TO EHS

- DCM accounts for approximately 6.99% of the total claims reported to the University (as of 09/30/2019)



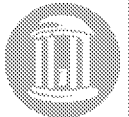
# SERIOUS WORKPLACE INCIDENTS ONLY

- Lost time of six or more lost days is categorized as a serious workplace injury
  - 2016 – 0
  - 2017 – 0 (2LT cases resulting in 6 lost time days)
  - 2018 – 1 (3 LT cases resulting in 12 lost time days)
  - 2019 – 0 (3 LT cases resulting in 10 lost time days as of 09/30/2019)



# ANNUAL ANIMAL REVIEW

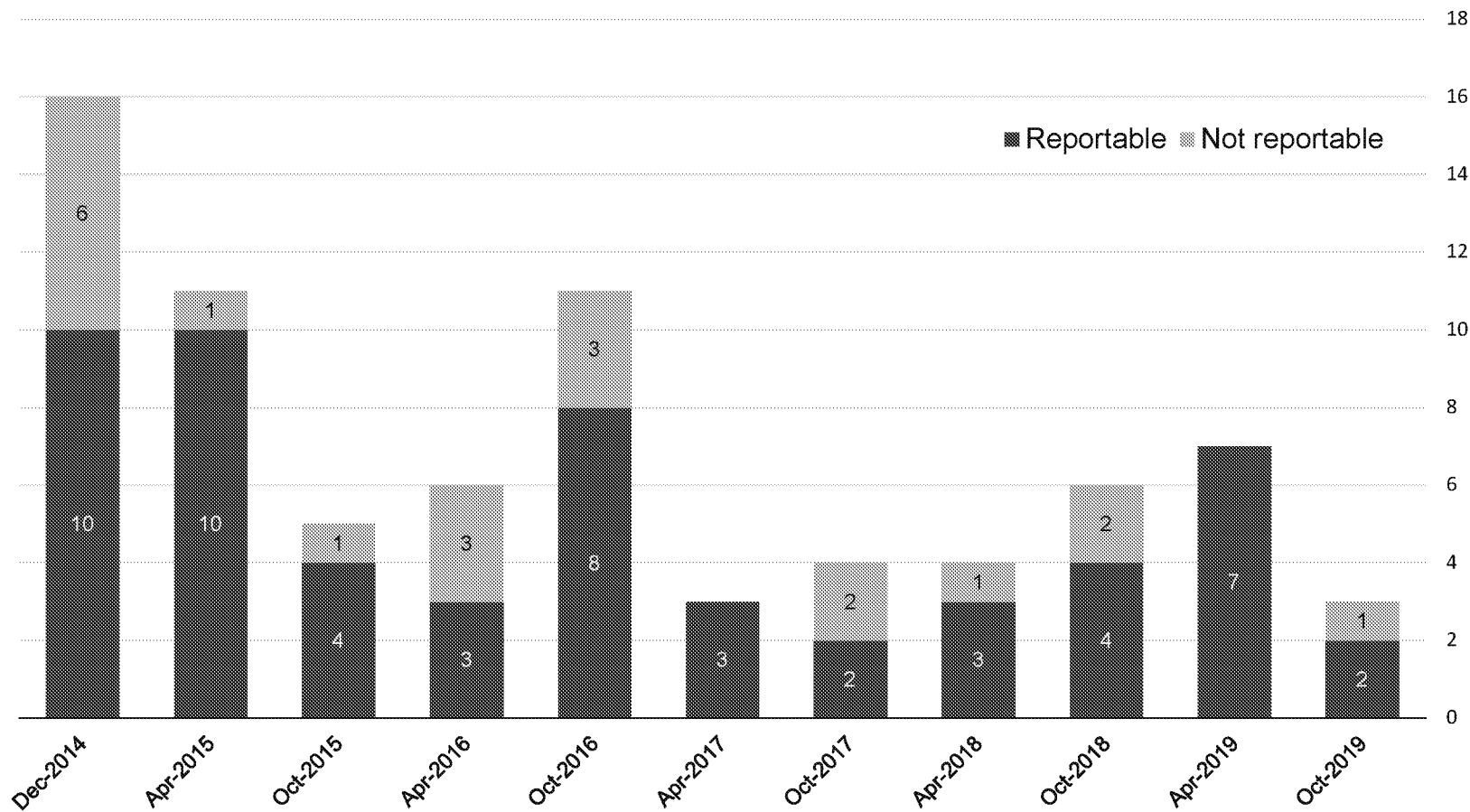
- 1,356 Active Researchers working with Animals on campus
- 1,155 (85%) have completed the annual review (as of 09/30/2019)
- Two required further evaluation at the UEOHC.





# Investigating and Reporting Animal Welfare Concerns

## ACRs per Program Review Period



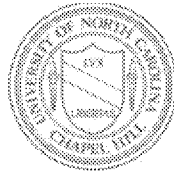
### October 2019

- 2 reportable to OLAW
  - 1 repeat (humane endpoint)
- 5 “other” reports to IACUC
  - e.g. expired drugs

# Veterinary Care

# Policies, Guidelines and SOPs

# Environmental Enrichment



## ***Canine Environmental Enhancement Plan***

***University of North Carolina- Chapel Hill***

***Origination Date: April 14<sup>th</sup>, 2014***

---

**Introduction:** The *Guide for the Care and Use of Laboratory Animals* (NRC, 2011) states that, "The primary aim of environmental enrichment is to enhance animal well-being by providing animals with sensory and motor stimulation, through structures and resources that facilitate the expression of species-typical behaviors and promote psychological well-being through physical exercise, manipulative activities, and cognitive challenges according to species-specific characteristics."

The *Guide* further states that, "Well-conceived enrichment provides animals with choices and a degree of control over their environment, which allows them to better cope with environmental stressors."

1. **Purpose:** The objective of this document is to describe a proper and inclusive environmental enrichment program for canines in our care.
2. **Responsibility:** Facility managers/supervisors, husbandry and veterinary staff, and principal investigators/laboratory animal coordinators.
3. **Procedures:** The purpose of environmental enrichment is to enhance the overall well-being of the animals. Exhibiting normal species-specific behaviors in association with environmental enrichment strategies is an indication of well-being. In addition, displaying a balanced temperament, with no evidence of maladaptive behaviors or clinical signs of chronic distress is indicative of the animals' ability to cope with the stressors associated with their social and physical environment (NRC, ILAR, 1998).
  - a. **Social Enhancement:**
    - i. Dogs are pair housed in their enclosures.
    - ii. In some cases, a dog may be singly housed. Examples include:
      1. Incompatibility.
      2. Documented health concerns.
      3. An approved exception described in the IACUC protocol or by veterinary recommendation.
      4. If females are in heat.
    - iii. Caging design allows singly housed dogs to receive visual, olfactory, and auditory cues from their conspecifics.
    - iv. Dogs may be brought out of their enclosure for supervised play. Playtime allows the animal(s) to have socialization with staff and the opportunity to play with interactive toys, as well as encourages physical activity. Care should be taken to not put females in heat and intact males together during playtime!



1. Our goal is for dogs in long term housing to have at least one hour of yard time OR 15 minutes of walk time each week – inclement weather or other factors may prevent this at times. Dogs in short term housing facilities may be brought to a designated play room for supervised play for at least 15 minutes per week. When a dog is placed in the yard or taken outside to walk, the temperature at that time will be recorded as well as the amount of time the dog was outside. Exceptions may be made for extreme temperatures (below 32°F and above 95°F) and/or inclement weather. During extreme weather, time outside should be limited to no more than 15 minutes.
  - a. Yard Time
    - i. Dogs will be allowed access to an outdoor play yard regularly – our goal is at least one hour per week. The only dogs that are allowed in the outside pen together are those that are housed together. Toys will be provided, as well as shade, a resting platform, and clean water for drinking.
  - b. Walk Time
    - i. Dogs may be walked in place of, or in addition to, play yard time. When walking is utilized in place of play yard time, it will be for at least 15 minutes per week. An appropriate harness or leash will be used, and the handler will be careful to keep the dog under control while out of the pen. When simultaneously walking dogs outside that are not housed together, contact between the non-paired dogs should be avoided.
2. Dog Play Area Guidelines: When dogs are brought out of their pens into a designated area for playtime, these guidelines should be followed:
  - a. Transport to play area from housing room
    - i. Only dogs that are housed in a run together may be brought out together for playtime.
    - ii. Hallways (if applicable) should be checked for non-DCM staff before bringing a dog into the hall.
    - iii. While in the hallway, dogs must remain under control of the handler.
  - b. Supervision of Play
    - i. Dogs in short term housing which are taken to a designated play room should be supervised within the play area.
    - ii. The play area may contain approved toys that are not appropriate for use in home pens (e.g. soft toys, tennis balls, etc.). Close supervision must be maintained for these toys, and they should be discarded if they show any signs of excessive wear.
    - iii. Interaction between the DCM staff and dogs during playtime is strongly encouraged. Positive reinforcement training may also occur during the

- playtime.
      - iv. Dogs should be carefully watched for any signs of aggression, toy guarding, etc. A spray bottle with water and/or “pig board” may be used to discourage aggressive behaviors.
    - c. Cleaning and sanitization of play room (if applicable)
      - i. The play area should be cleaned after each use, if applicable. The floor and walls should be sprayed to remove any urine or feces, and feces should be collected and discarded appropriately. Toys should be placed back in their bins within the room if unsoiled; if soiled they should be sanitized via cage wash or laundry as appropriate.
      - ii. All toys should be sanitized as appropriate, at least weekly.
      - iii. The play area will be sanitized once per month, if applicable, according to the DCM “Care of Dogs” SOP.
    - v. Periodically, dogs may be exposed to novel stimuli (i.e. unfamiliar persons entering the room). This will happen at irregular intervals to acclimate dogs to the types of infrequent, irregular interactions that occur during regulatory inspections, building maintenance/repair, etc.
  - b. **Non-Social Enhancement:** Studies have demonstrated that animals have reduced stress if they are provided with the opportunity to have control of their environment (Stewart 2004).
    - i. Pens may have an elevated resting place or bed, giving the dogs an element of choice and adding complexity to their environment.
    - ii. “Chewing is a natural canine behavior and is a rewarding experience for dogs” (LA, IJLAS, 2004). A different toy should be rotated into the pen every week (e.g. Kong®, Stuff-A-Ball®, Goodie Bone®, etc.) to help preserve the items novelty as well as provide different opportunities for dogs to engage in species-specific behaviors.
    - iii. NOTE: Individual animals may not be able to receive beds or certain toys due to chewing hazards. This will be noted at the cage level. Refer to the “Guidelines for Dog Toy Usage” SOP for further instructions.
    - iv. **Sensory Enrichment:** Playing classical music to kennel dogs may help alleviate the inherent stress in a shelter or laboratory environment (Kogan 2012).
      - 1. Dogs receive at least 30 minutes of radio/music time every week. The music that is played is especially composed for domestic species (the Mind, Body, Soul series®) or something similar, such as light classical music.
  - c. **Documentation:**
    - i. Toy rotation, radio time, and exposure to novel stimuli are documented weekly on the Canine Enrichment Log. It is typically located near the entrance of the animal holding room.
    - ii. Playtime (yard time or walk time) will be documented on the Canine Exercise Log. It is typically located near the entrance of the animal holding room.

- iii. If yard/walk time was not able to be completed during a calendar week, document the reason for missed yard/walk time on the Canine Exercise Log.
- iv. Enrichment logs will be collected monthly and maintained in a central location by enrichment staff.
- v. All human social interaction with dogs should be documented on the Canine Enrichment Log.

#### **References**

- 1) National Research Council, Institute of Laboratory Animal Research, Guide for the Care and Use of Laboratory Animals. Washington: National Academy Press, 2011.
- 2) National Research Council, Institute of Laboratory Animal Research, The Psychological Well-Being of Nonhuman Primates. Washington: National Academy Press, 1998.
- 3) Stewart, KL and K. Bayne. Environmental Enrichment for Laboratory Animals. In: JD Reuter and MA Suckows (eds). Laboratory Animal Medicine and Management. IVIS, 2004.
- 4) Beaver, BV. Environmental Enrichment for Laboratory Animals. ILAR News 1989; 31(2):5-11.
- 5) Laboratory Animals, The International Journal of Laboratory Animal Science and Welfare, Refining Dog Husbandry and Care. Royal Society of Medicine Press Ltd., 2004.
- 6) Kogan, LR, Schoenfeld-Tacher, R, and Simon, AA. Behavioral effects of auditory stimulation on kennelled dogs. Journal of Veterinary Behavior 2012; 7: 268-275.

#### **Appendices**

- 1) Example of Canine Environmental Enrichment Log
- 2) Example of Canine Exercise Log
- 3) Examples of dog appropriate toys
- 4) Example of "No Bed" cage card

#### **Changes to Version Dated 07-20-16**

- Added yard time and walk time guidelines and the use of a Canine Exercise Log
- Added dog play area guidelines
- Added novel stimulus as social enhancement option; included column on Enrichment Log
- Added labels to appendices
- Updated Example of Canine Enrichment Log
- Updated Example of Acceptable Toys


## Appendix 1: Example of Canine Enrichment Log

| FOBRL Canine Enrichment Log |        |   |         |   |           |   |          |   |        |   | Room: <u>South</u>         |  |
|-----------------------------|--------|---|---------|---|-----------|---|----------|---|--------|---|----------------------------|--|
| December 2017               | Monday |   | Tuesday |   | Wednesday |   | Thursday |   | Friday |   | Exposure to Novel Stimuli? |  |
|                             | TR     | R | TR      | R | TR        | R | TR       | R | TR     | R |                            |  |
| <b>Week 1 (4-8)</b>         |        |   |         |   |           |   |          |   |        |   |                            |  |
| Notes/ Animal IDs           |        |   |         |   |           |   |          |   |        |   |                            |  |
| <b>Week 2 (11-15)</b>       |        |   |         |   |           |   |          |   |        |   |                            |  |
| Notes/ Animal IDs           |        |   |         |   |           |   |          |   |        |   |                            |  |
| <b>Week 3 (18-22)</b>       |        |   |         |   |           |   |          |   |        |   |                            |  |
| Notes/ Animal IDs           |        |   |         |   |           |   |          |   |        |   |                            |  |
| <b>Week 4 (25-29)</b>       |        |   |         |   |           |   |          |   |        |   |                            |  |
| Notes/ Animal IDs           |        |   |         |   |           |   |          |   |        |   |                            |  |


**TR= Toy Rotation** Record toy rotation as it occurs once a week. (*initial box when toy rotation is completed*)

**R= Radio/CD music per week.** Animals are given a min. 30min per week. (Time can be recorded or initial box if full 30 min was given on one day.)


**Exposure to Novel Stimuli.** Persons unfamiliar to the dogs walk through the room for socialization purposes. Initial and date if completed.




Week 1



Week 2





Week 3



Week 4

Weekly Toy Rotation





Reviewed [weekly] by (supervisor or designee): \_\_\_\_\_

**Appendix 2: Example of Canine Exercise Log**

| Canine Exercise Log    |          |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------------------------|----------|---|---|-------|---|---|---|---|---|---|-------|----|----|----|----|----|----|-------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Month:                 |          |   |   | Year: |   |   |   |   |   |   | Bldg: |    |    |    |    |    |    | Room: |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Animal ID              |          | 1 | 2 | 3     | 4 | 5 | 6 | 7 | 8 | 9 | 10    | 11 | 12 | 13 | 14 | 15 | 16 | 17    | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|                        | Temp.    |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                        | Time     |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                        | Initials |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Yard/Walk (Circle one) |          | Y | W | Y     | W | Y | W | Y | W | Y | W     | Y  | W  | Y  | W  | Y  | W  | Y     | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  |
|                        | Temp.    |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                        | Time     |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                        | Initials |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Yard/Walk (Circle one) |          | Y | W | Y     | W | Y | W | Y | W | Y | W     | Y  | W  | Y  | W  | Y  | W  | Y     | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  |
|                        | Temp.    |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                        | Time     |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                        | Initials |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Yard/Walk (Circle one) |          | Y | W | Y     | W | Y | W | Y | W | Y | W     | Y  | W  | Y  | W  | Y  | W  | Y     | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  |
|                        | Temp.    |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                        | Time     |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                        | Initials |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Yard/Walk (Circle one) |          | Y | W | Y     | W | Y | W | Y | W | Y | W     | Y  | W  | Y  | W  | Y  | W  | Y     | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  |
|                        | Temp.    |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                        | Time     |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                        | Initials |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Yard/Walk (Circle one) |          | Y | W | Y     | W | Y | W | Y | W | Y | W     | Y  | W  | Y  | W  | Y  | W  | Y     | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  |
|                        | Temp.    |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                        | Time     |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                        | Initials |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Yard/Walk (Circle one) |          | Y | W | Y     | W | Y | W | Y | W | Y | W     | Y  | W  | Y  | W  | Y  | W  | Y     | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  |
|                        | Temp.    |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                        | Time     |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                        | Initials |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Yard/Walk (Circle one) |          | Y | W | Y     | W | Y | W | Y | W | Y | W     | Y  | W  | Y  | W  | Y  | W  | Y     | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  |
|                        | Temp.    |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                        | Time     |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                        | Initials |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Yard/Walk (Circle one) |          | Y | W | Y     | W | Y | W | Y | W | Y | W     | Y  | W  | Y  | W  | Y  | W  | Y     | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  |
|                        | Temp.    |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                        | Time     |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                        | Initials |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Yard/Walk (Circle one) |          | Y | W | Y     | W | Y | W | Y | W | Y | W     | Y  | W  | Y  | W  | Y  | W  | Y     | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  |
|                        | Temp.    |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                        | Time     |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|                        | Initials |   |   |       |   |   |   |   |   |   |       |    |    |    |    |    |    |       |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Yard/Walk (Circle one) |          | Y | W | Y     | W | Y | W | Y | W | Y | W     | Y  | W  | Y  | W  | Y  | W  | Y     | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  | W  | Y  |

reviewed weekly by supervisor or designee

Initials & Date

Initials & Date

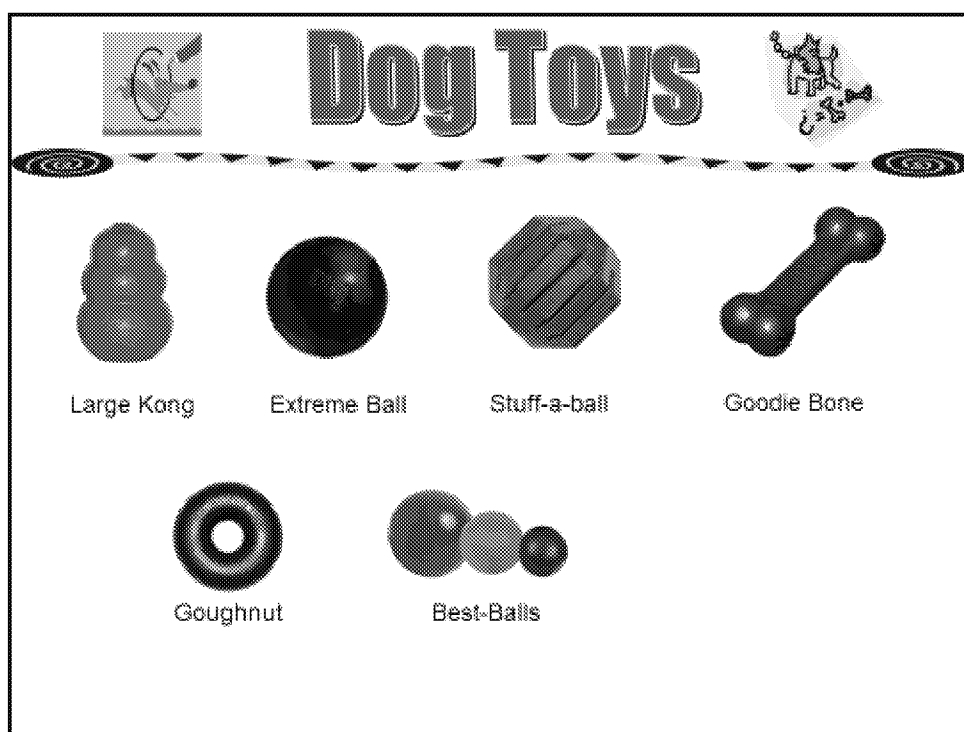
Initials & Date

Initials & Date

12/21/2017

### Appendix 3: Example of Acceptable Toys

(Not meant to be an all-inclusive list of approved toys)





Appendix 4: Example of “No Bed” Cage Card

# No Bed

Reason:

- ☐ Incompatibility/Soiling
- ☐ Veterinary/Health concern
- ☐ Other \_\_\_\_\_



## ***Ferret Environmental Enhancement Plan***

***University of North Carolina- Chapel Hill***

***Origination Date: October 12<sup>th</sup>, 2015***

---

**Introduction:** The *Guide for the Care and Use of Laboratory Animals* (NRC, 2011) states that, "The primary aim of environmental enrichment is to enhance animal well-being by providing animals with sensory and motor stimulation, through structures and resources that facilitate the expression of species-typical behaviors and promote psychological well-being through physical exercise, manipulative activities, and cognitive challenges according to species-specific characteristics."

The *Guide* further states that, "Well-conceived enrichment provides animals with choices and a degree of control over their environment, which allows them to better cope with environmental stressors."

1. **Purpose:** The objective of this document is to describe a proper and inclusive environmental enrichment program for ferrets in our care.
2. **Responsibility:** Facility managers/supervisors, husbandry and veterinary staff, and principal investigators/laboratory animal coordinators.
3. **Procedures:** The purpose of environmental enrichment is to enhance the overall well-being of the animals. Exhibiting normal species-specific behaviors in association with environmental enrichment strategies is an indication of well-being. In addition, displaying a balanced temperament, with no evidence of maladaptive behaviors or clinical signs of chronic distress is indicative of the animals' ability to cope with the stressors associated with their social and physical environment (NRC, ILAR, 1998).
  - a. **Social Enhancement:**
    - i. Ferrets are paired or group housed in their enclosures.
    - ii. In some cases, a Ferret may be singly housed. Examples include:
      1. Incompatibility.
      2. Health concerns.
      3. An approved exception described in the IACUC protocol.
    - iii. Every week, each ferret may be brought out of its enclosure for at least 10-15 minutes of supervised play, provided it is not contraindicated by research goals. Playtime allows the animal(s) to have socialization with staff and the opportunity to play with interactive toys, as well as encourages physical activity.
      1. Pregnant and nursing ferrets will not receive playtime.
      2. Ferrets that have had surgery will not have playtime for at least 5 days post-op.

3. Quarantined ferrets will not receive playtime. They may receive playtime after they are released from quarantine.
- b. **Non-Social Enhancement:** Studies demonstrate that animals have reduced stress if they are provided with the opportunity to have control of their environment (Stewart 2004).
- i. A different toy should be rotated into the enclosures at least weekly, ideally 2-4 times per week unless it contraindicates research goals (e.g. Kong®, Flexi-Keys®, Dumbbell, Cyclone Chew) to help preserve the items novelty as well as provide different opportunities for ferrets to engage in species-specific behaviors.
  - ii. Ferrets are provided with a hammock or soft bedding (e.g. Fleece Cozy®) and may also have a tunneling device (e.g. PVC elbow) unless it is contraindicated by research goals.
    1. Ferrets with head caps will have a nest box with Wypalls® provided, unless contraindicated by research goals.
      - i. Ferrets that have head caps will not have a hammock, soft bedding, or tunneling device. An exception for soft bedding is made for nursing kits with head caps because the soft bedding is required for warmth.
    2. Pregnant and nursing ferrets are provided a nesting box with soft bedding. They will not have toys, hammock, or tunneling device due to these items being a hazard for kits.
- c. **Documentation:**
- i. Toy rotation and playtime are all documented on the monthly ferret enrichment logs (attached). These are located on the door of the animal holding rooms.
  - ii. Provision of toys, soft bedding/hammock and any other environmental enrichment provided to quarantined ferrets is documented on the Quarantine Ferret Enrichment log. It is located on the door of the animal holding room.

### **References**

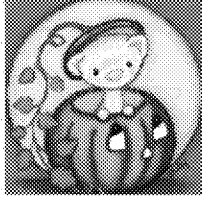
- 1) National Research Council, Institute of Laboratory Animal Research, Guide for the Care and Use of Laboratory Animals. Washington: National Academy Press, 2011.
- 2) Stewart, KL and K. Bayne. Environmental Enrichment for Laboratory Animals. In: JD Reuter and MA Suckows (eds). Laboratory Animal Medicine and Management. IVIS, 2004.
- 3) Beaver, BV. Environmental Enrichment for Laboratory Animals. ILAR News 1989; 31(2):5-11.

### **Changes to Version Dated 08-23-17**

- Added that toys might not be rotated if it contraindicates research goals
- Updated examples of toys based on current availability
- Added exception for nursing kits with head caps to receive soft bedding due to needed warmth
- Updated examples of enrichment log and ferret toy signs

## Example of Ferret Enrichment Log

| Ferret Enrichment Log |        |    |         |    |           | Room: <u>SB17A</u> |          |    |        |    |  |
|-----------------------|--------|----|---------|----|-----------|--------------------|----------|----|--------|----|--|
| Oct-17                | Monday |    | Tuesday |    | Wednesday |                    | Thursday |    | Friday |    |  |
|                       | TR     | PT | TR      | PT | TR        | PT                 | TR       | PT | TR     | PT |  |
| <b>Week 1 (2-6)</b>   |        |    |         |    |           |                    |          |    |        |    |  |
| Notes/ Animal IDs     |        |    |         |    |           |                    |          |    |        |    |  |
| <b>Week 2 (9-13)</b>  |        |    |         |    |           |                    |          |    |        |    |  |
| Notes/ Animal IDs     |        |    |         |    |           |                    |          |    |        |    |  |
| <b>Week 3 (16-20)</b> |        |    |         |    |           |                    |          |    |        |    |  |
| Notes/ Animal IDs     |        |    |         |    |           |                    |          |    |        |    |  |
| <b>Week 4 (23-27)</b> |        |    |         |    |           |                    |          |    |        |    |  |
| Notes/ Animal IDs     |        |    |         |    |           |                    |          |    |        |    |  |



**TR (Toy Rotation):** Record toy rotation as it occurs *at least* once a week (*initial box when toy rotation is completed*)

**PT (Play Time):** Animals have access to area larger than home cage to play for 10-15 min per week with other conspecifics as appropriate

**ANIMALS ON WATER DEPRIVATION DO NOT GET PLAYTIME!**

Time/minutes can be recorded, or initial box if full time was given. List Ferret ID's for those taken out for PT, indicate in the notes section if animals were at lab that day. Ferrets that have had surgery should not have playtime for 5 days post-op, after which limit to small toys only in playpen.





Animals that have had surgery should not have a fleece square or tunneling device in their enclosure.

Wype-alls may be used in place of fleece.

Lab will remove any toys deemed inappropriate after surgery and indicate when it is okay to replace them in pens.


Soft bedding/hammock or tunneling device are always in cages unless indicated by lab or after surgery

Pregnant/nursing ferrets will be provided with a nest box and soft bedding.

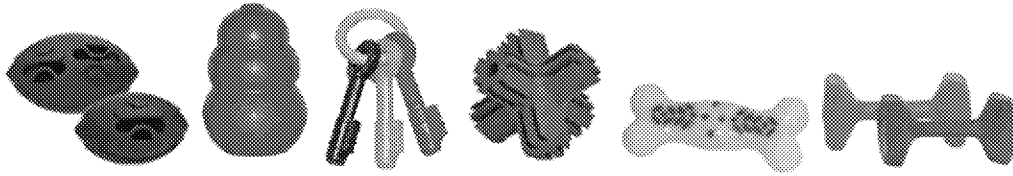
Week 1
Week 2
Week 3
Week 4

**Weekly Toy Rotation**

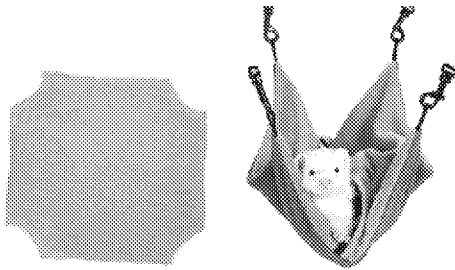


### **Example of Quarantine Ferret Enrichment Log**

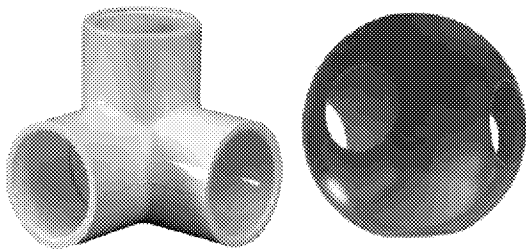
Ferrets must have any of the following toys while in quarantine:



They should have soft bedding or a hammock:



They may also have a tunneling device:



*Ferrets in Quarantine are exempt from playtime.*

**Please initial to indicate ferrets were given enrichment:**

Week of arrival \_\_\_\_\_ Initials \_\_\_\_\_

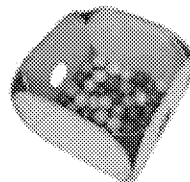
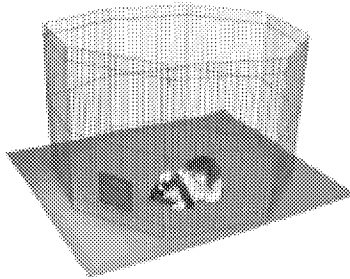
If the quarantine period extends past one week, please initial below to indicate enrichment was rotated.

Week 2 \_\_\_\_\_ Week 3 \_\_\_\_\_ Week 4 \_\_\_\_\_

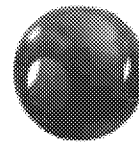
## Examples of Approved Ferret Toys



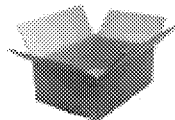
### Playtime toys:



Pop-N-Play



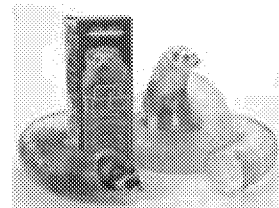
Ferret Ball



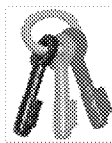
Boxes



Assorted  
small cat  
toys/fuzzy  
mice, etc.



Super Thru-way



Flexi-Keys



Small Kong



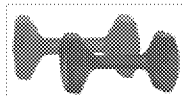
Jump 'n  
Jack



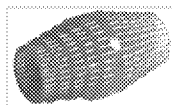
Busy Buddy  
Football



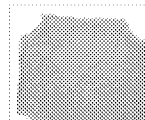
Small  
Durachew



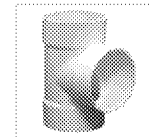
Dumbbell



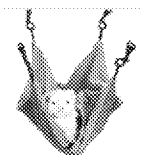
Cyclone Chew



Fleece Cozy



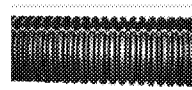
PVC Elbow



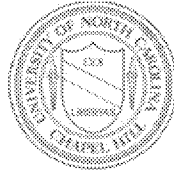
Hammock



Nylon Bone



Tunneling Device



## ***Fish Environmental Enhancement Plan***

***University of North Carolina-Chapel Hill***

***Origination Date: November 16, 2016***

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**Introduction:** The *Guide for the Care and Use of Laboratory Animals* (NRC, 2011)<sup>1</sup> states that, "The primary aim of environmental enrichment is to enhance animal well-being by providing animals with sensory and motor stimulation, through structures and resources that facilitate the expression of species-typical behaviors and promote psychological well-being through physical exercise, manipulative activities, and cognitive challenges according to species-specific characteristics."

The *Guide* further states that, "Well-conceived enrichment provides animals with choices and a degree of control over their environment, which allows them to better cope with environmental stressors."<sup>1</sup>

1. **Purpose:** The objective of this document is to describe a proper and inclusive environmental enrichment program for all fish in our care.
2. **Responsibility:** Facility managers/supervisors, husbandry and veterinary staff, and principal investigators/laboratory animal coordinators.
3. **Procedures:** The purpose of environmental enrichment is to enhance the overall well-being of the animals. Exhibiting normal species-specific behaviors in association with environmental enrichment strategies is an indication of well-being. In addition, displaying a balanced temperament, with no evidence of maladaptive behaviors or clinical signs of chronic distress is indicative of the animals' ability to cope with the stressors associated with their social and physical environment (NRC, ILAR, 1998).<sup>2</sup> All fish should be provided with at least one form of the following enrichment:
  - a. **Social Enhancement:** Many fish species, including zebrafish, are very social animals, preferring to be with other fish especially during shoaling and spawning (Spence and Smith 2007, as cited by Reed and Jennings 2010). Thus, the social behavioral of each particular species should be evaluated when devising a social enhancement plan.
    - i. Members of social species should be housed in groups
    - ii. In certain instances, a fish may be singly housed. Examples include:
      1. Incompatibility with tank mates.
      2. Health concerns
      3. An approved exception described in the IACUC protocol.
      4. Non-social fish species.
    - iii. If a fish must be singly housed, visual contact with other fish may be



provided, as long as they are a social species.

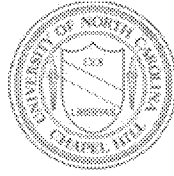
- b. **Non-Social Enhancement:** Studies have demonstrated that animals have reduced stress if they are provided with the opportunity to have control of their environment (Stewart 2004).<sup>3</sup>
  - i. Fish may be provided a place to take cover, to be used as hiding places and to reduce aggression. Such hiding places may include:
    - 1. Plastic or live plants
    - 2. Floating items to provide cover from above (e.g. lily pad or driftwood)
    - 3. Rocks, flower pots, PVC pipes, synthetic caves
  - ii. Fish may be provided with substrate in spawning tanks or housing tanks (e.g. marbles, synthetic yarn, gravel)

**\*\*\*All enrichment added to the tank must be made of a substance that will not leach toxins into the water\*\*\***

- c. **Dietary Enrichment:** Zebrafish larvae chase and catch prey, while adults feed on small crustaceans, insect larvae, and algae (Reed and Jennings 2010).
  - i. Live feed such as rotifers may be fed to larvae and juvenile zebrafish to allow them to express their hunting instinct.
  - ii. Cichlids and pupfish may be provided live feed such as baby brine shrimp.
- d. **Documentation:** If fish do not receive any form of the above enrichment, the lab staff is responsible for proper documentation of the lack of enrichment including a description of the animals excluded and the reason for their exclusion. Reasons for exclusions of small populations include health issues or incompatibility. If a larger group is to be exempted from an enrichment plan a valid reason for the exception will be described in the approved animal use protocol.

## References

- National Research Council, Institute of Laboratory Animal Research. (2011). *Guide for the Care and Use of Laboratory Animals*. Washington, DC: National Academy Press.
- Reed, B., & Jennings, M. (2010). *Guidance on the Housing and Care of Zebrafish (Danio rerio)*. Research Animals Department- RSPCA.
- Stewart, K., & Bayne, K. (2004). Environmental Enrichment for Laboratory Animals. In J. Reuter, & M. Suckows, *Laboratory Animal Medicine and Management*. IVIS.



## ***Guidelines for Rabbit Social Housing***

***University of North Carolina-Chapel Hill***

***Origination Date: February 16, 2017***

**Purpose:** Rabbits at UNC are to be socially housed whenever possible, unless there is an IACUC exception listed in the protocol. Post-weaning males may be pair housed, with increased monitoring as they approach sexual maturity (10-20 weeks). Adult males and females should not be housed together, but can briefly be placed together in the same cage for breeding purposes.

### **Guidelines:**

- a. Researchers are encouraged to purchase socially housed, young animals whenever possible. If possible, they should work with the vendor to keep pairs together post-weaning.
- b. For young rabbits no older than 15 weeks and weighing no more than 2-3 kg, social pairing attempts will be made upon arrival into the animal facility to take advantage of shipping stress.
  - i. Rabbits will be housed in adjoining cages with divider panels removed.
  - ii. If animals were not pre-paired from the vendor, urine from a male rabbit should be used to scent-mark both rabbits to be paired.
    1. The same male rabbit should be used for all animals in a room to avoid competing scents.
    2. Using a soaked gauze pad, spread urine generously on the forehead of each rabbit.
  - iii. Animals should be observed for a minimum of 30 minutes without aggressive action immediately after pairing.
    1. Aggressive behavior is most likely to occur within the first hour.
  - iv. Animals should be observed at least two more times the first day at a reasonable interval, for at least 10 minutes each time.
  - v. If any negative behaviors are observed, a spray bottle with water can be used to discourage these behaviors.
  - vi. **Immediately separate if there are lesions to the genitals or eyes, or if there are actively bleeding lesions.**
  - vii. Separate pairs showing negative behaviors not discouraged by spray bottle, only temporarily discouraged, or requiring excessive spraying. Retry next day.
  - viii. If no negative behaviors are observed, animals may be kept together overnight. Monitoring should be continued at least twice daily for the next week.
  - ix. Pairing is considered unsuccessful if it cannot be completed within 2 weeks, or if serious or repeated wounding occurs.
- c. If a pair is determined unsuccessful, up to two more attempts may be made with different animals if available.
  - i. The above steps will be repeated after moving the animals to clean adjoining cages.

- ii. If all other pairs are stable, it is more harmful to possibly disrupt stable pairs, therefore the two additional attempts may be omitted.
- iii. If no compatible pairs are found after the third attempt, the individual animal may be labeled for single housing for reason of incompatibility.
- d. All observations of social interactions will be recorded in RAMS under each animal's Social Housing tab, which is part of the animal's medical record.
- e. Animals that are found incompatible for social housing will have a Single Housing cage card placed on the cage.
- f. For animals born in-house, pairs will be formed at weaning. Observations for these pairs will be completed as described below under "Maintaining Pairs" once they approach sexual maturity (i.e. 10 weeks of age).

#### **Maintaining Pairs**

- a. Observe pairs once per week for 5-10 minutes.
- b. Track the ages of the animals. As sexual maturity occurs at 12-17 weeks of age, increase monitoring of pairs at 10-20 weeks of age to at least twice per week.
- c. If any negative behaviors are observed, such as those described above, increase monitoring as determined by DCM management, and increase destructible enrichment to 3 times per week (Monday, Wednesday, Friday). If behaviors do not improve, increase destructible enrichment to daily.

#### **Singly Housed Rabbits**

- a. Dividers with perforated holes may be used for protected contact.
- b. May use additional enrichment, such as autoclaved cardboard; hay in a ball or cardboard tube, box, or paper bag; frozen produce; lavender essential oil on corner of pan liner (NEVER on rabbit).
- c. Protected contact playtime, as described in Rabbit Environmental Enhancement Plan.

#### **Normal Dominant Behaviors (Not Negative/Aggressive)**

- a. One rabbit mounting the other
- b. One rabbit chasing the other
- c. One rabbit pinning and grooming the other

#### **Behaviors to watch for when social housing:**

| <b>Affiliative (Positive)</b> | <b>Neutral</b>                      | <b>Aggressive (Negative)</b>      |
|-------------------------------|-------------------------------------|-----------------------------------|
| Clear dominant animal         | Not interacting (separate quarters) | Mutual chasing                    |
| Sharing feeder/enrichment     |                                     | Difficulty establishing dominance |
| Grooming each other/self      |                                     | Fighting                          |
| Interacting with enrichment   |                                     |                                   |

#### **References**

University of Michigan Animal Care and Use Program. (2016). Strategies for Social Housing of Rabbits. Webinar.

#### **Changes to Version Dated 06-05-17**

- Removed distinction for socially housing male versus female rabbits
- Removed "familial" from post-weaning male pair housing
- Clarified that adult males and females will only be placed in the same cage briefly for breeding purposes



## ***Guinea Pig Environmental Enhancement Plan***

***University of North Carolina- Chapel Hill***

***Origination Date: August 15<sup>th</sup>, 2013***

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**Introduction:** The *Guide for the Care and Use of Laboratory Animals* (NRC, 2011) states that, "The primary aim of environmental enrichment is to enhance animal well-being by providing animals with sensory and motor stimulation, through structures and resources that facilitate the expression of species-typical behaviors and promote psychological well-being through physical exercise, manipulative activities, and cognitive challenges according to species-specific characteristics."

The *Guide* further states that, "Well-conceived enrichment provides animals with choices and a degree of control over their environment, which allows them to better cope with environmental stressors."

1. **Purpose:** The objective of this document is to describe a proper and inclusive environmental enrichment program for guinea pigs in our care.
2. **Responsibility:** Facility managers/supervisors, husbandry and veterinary staff, and principal investigators/laboratory animal coordinators.
3. **Procedures:** The purpose of environmental enrichment is to enhance the overall wellbeing of the animals. Exhibiting normal species-specific behaviors in association with environmental enrichment strategies is an indication of well-being. In addition, displaying a balanced temperament, with no evidence of maladaptive behaviors or clinical signs of chronic distress is indicative of the animals' ability to cope with the stressors associated with their social and physical environment (NRC, ILAR, 2011).
  - a. **Social Enhancement:**
    - i. Guinea pigs are paired or group housed in their enclosures.
    - ii. In some cases, a guinea pig may be singly housed. Examples include:
      1. Incompatibility.
      2. Documented health concerns.
      3. An approved exception described in the IACUC protocol.
  - b. **Non-Social Enhancement:** Studies have demonstrated that animals have reduced stress if they are provided with the opportunity to have control of their environment (Stewart 2004).

- i. Each enclosure is provided with Enviro-Dri® which allows guinea pigs to satisfy the instinct to burrow. If space within the enclosure allows, a shelter should also be used.
  - ii. Each enclosure is provided a toy or gnawing object, such as the BioServ® Certified Dumbbell or wooden gnawing block.
  - iii. Guinea pigs are housed on solid-bottom cages with contact bedding, unless there is an approved exception described in the IACUC protocol.
- c. **Nutritional Enhancement:** “It has been demonstrated that providing foraging opportunities enhances the well-being of the animals by allowing the animals’ additional control over their environment” (Stewart 2004).
  - i. In order to help improve and maintain gut motility, guinea pigs are offered autoclaved Timothy hay at least once a week.
  - ii. In addition to hay, guinea pigs should receive a novel fruit or vegetable from the following list, at least once a week.
    - 1. Nutritional Enhancement List: apple, carrot, celery, kale, bell pepper with seeds removed, cucumber, and others as approved by a DCM Veterinarian. Fruits should be limited to once weekly feeding.
    - 2. These items shall be prepared according to the DCM “Washing Fruits and Vegetables” SOP.
- d. **Documentation:**
  - i. Weekly hay distribution and weekly sanitization of toys is documented on the Guinea Pig Enrichment Log. It is located in the binder near the door of the animal holding room.

### References

- 1) National Research Council, Institute of Laboratory Animal Research, Guide for the Care and Use of Laboratory Animals. Washington: National Academy Press, 2011.
- 2) National Research Council, Institute of Laboratory Animal Research, The Psychological Well-Being of Nonhuman Primates. Washington: National Academy Press, 1998.
- 3) Stewart, KL and K. Bayne. Environmental Enrichment for Laboratory Animals. In: JD Reuter and MA Suckows (eds). Laboratory Animal Medicine and Management. IVIS, 2004.
- 4) Beaver, BV. Environmental Enrichment for Laboratory Animals. ILAR News 1989; 31(2):5-11.

### **Changes to Version Dated 06-17-16**

- Replaced ‘hidebox may’ with ‘shelter should’
- Added at least once weekly fruit and vegetable to Nutritional Enhancement
- Created Nutritional Enhancement List and Enrichment/Enhancement log for GPs in standard and BSL3 housing
- Added example of guinea pig enrichment log as Appendix 1

## Appendix 1: Example of Guinea Pig Enrichment Log

| Guinea Pig Enrichment Log |        |     |     |         |     |     |           |     |     |          |     |     |        | Room: _____ |     |     |     |
|---------------------------|--------|-----|-----|---------|-----|-----|-----------|-----|-----|----------|-----|-----|--------|-------------|-----|-----|-----|
| Mar-18                    | Monday |     |     | Tuesday |     |     | Wednesday |     |     | Thursday |     |     | Friday |             |     | Sat | Sun |
|                           | TR     | NE* | H** | TR      | NE* | H** | TR        | NE* | H** | TR       | NE* | H** | TR     | NE*         | H** | H** | H** |
| Wk 1 (5-11)               |        |     |     |         |     |     |           |     |     |          |     |     |        |             |     |     |     |
| Fruit/Veg                 |        |     |     |         |     |     |           |     |     |          |     |     |        |             |     |     |     |
| Notes/ Animal IDs         |        |     |     |         |     |     |           |     |     |          |     |     |        |             |     |     |     |
| Wk 2 (12-18)              |        |     |     |         |     |     |           |     |     |          |     |     |        |             |     |     |     |
| Fruit/Veg                 |        |     |     |         |     |     |           |     |     |          |     |     |        |             |     |     |     |
| Notes/ Animal IDs         |        |     |     |         |     |     |           |     |     |          |     |     |        |             |     |     |     |
| Wk 3 (19-25)              |        |     |     |         |     |     |           |     |     |          |     |     |        |             |     |     |     |
| Fruit/Veg                 |        |     |     |         |     |     |           |     |     |          |     |     |        |             |     |     |     |
| Notes/ Animal IDs         |        |     |     |         |     |     |           |     |     |          |     |     |        |             |     |     |     |
| Wk 4 (3/26-4/1)           |        |     |     |         |     |     |           |     |     |          |     |     |        |             |     |     |     |
| Fruit/Veg                 |        |     |     |         |     |     |           |     |     |          |     |     |        |             |     |     |     |
| Notes/ Animal IDs         |        |     |     |         |     |     |           |     |     |          |     |     |        |             |     |     |     |

**TR=Toy Rotation.** Initial when toy and/or nesting material is changed out. (i.e. during regular cage change)


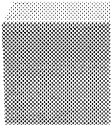
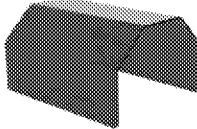
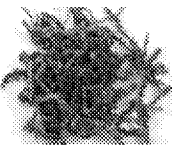
**Fruit/Veg.** Indicate food item given; alternate type of fruit given weekly. DO NOT GIVE FRUIT MORE THAN ONCE A WEEK.

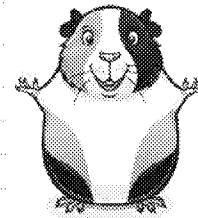
**NE=Nutritional Enhancement.** Initial box for each day given, in addition to filling out Fruit/Veg box.

**\*(Give NE 3X/week when possible, but at least once weekly)**

**H=Timothy Hay.** Initial box for each day given. Hay should be given at least once per week.

**\*\* (Give hay daily when possible, but at least once weekly)**

| Examples of rotational toys   | Examples of ever-present enrichment  |
|---|--|
|   |   |



Reviewed [wkly] by (sup/designee):



## ***New World Non-Human Primate Environmental Enhancement Plan***

***University of North Carolina- Chapel Hill***

***Origination Date: March 13, 2014***

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**Introduction:** The *Guide for the Care and Use of Laboratory Animals* (NRC, 2011) states that, "The primary aim of environmental enrichment is to enhance animal well-being by providing animals with sensory and motor stimulation, through structures and resources that facilitate the expression of species-typical behaviors and promote psychological well-being through physical exercise, manipulative activities, and cognitive challenges according to species-specific characteristics."

The *Guide* further states that, "Well-conceived enrichment provides animals with choices and a degree of control over their environment, which allows them to better cope with environmental stressors."

1. **Purpose:** The objective of this document is to describe a proper and inclusive environmental enrichment program for New World Non-Human Primates (NHPs) in our care.
2. **Responsibility:** Facility managers/supervisors, husbandry and veterinary staff, and principal investigators/laboratory animal coordinators.
3. **Procedures:** The purpose of environmental enrichment is to enhance the overall wellbeing of the animals. Exhibiting normal species-specific behaviors in association with environmental enrichment strategies is an indication of well-being. In addition, displaying a balanced temperament, with no evidence of maladaptive behaviors or clinical signs of chronic distress is indicative of the animals' ability to cope with the stressors associated with their social and physical environment (NRC, ILAR, 1998).

**a. Social Enhancement:**

- i. NHPs are paired or grouped housed in their enclosures.
- ii. In some cases, an NHP may be singly housed. Examples include:
  1. Incompatibility.
  2. Documented health concerns.



3. An approved exception described in the IACUC protocol, or by veterinary recommendation.
- iii. When social housing is not feasible, interaction with conspecifics will be provided through the use of other non-contact techniques which may include, but are not limited to, the following:
  1. Arrangement of caging within rooms to allow for auditory, olfactory and visual contact between compatible animals.
  2. Use of mirrors in rooms where cage arrangement prevents direct visual contact between animals.
  3. Use of movable socialization panels between cages, which allow the animal's visual and limited tactile contact, but preclude full physical contact.
  4. Extra positive interaction with human caretakers if a single NHP must be housed alone in a room without visual, olfactory, tactile, any auditory contact with conspecifics.
- a. **Non-Social Enhancement:** Studies have demonstrated that animals have reduced stress if they are provided with the opportunity to have control of their environment (Stewart 2004).
  - i. Enclosures have various resting boards/perches or swings. Additionally, hiding places provide areas to "flee" from perceived threats or displays of aggression from conspecifics.
  - ii. Each pen is provided with species appropriate hanging toys (i.e. Kong® toys, mirrors, tires, stainless steel rattles, various puzzle feeders, etc.).
  - iii. A different toy should be rotated into the pen weekly or at time of sanitation (e.g. Kong®, Busy Buddy Football®, Flexi-keys®) to help preserve the items' novelty as well as provide different opportunities for NHPs to engage in species-specific behaviors. Additionally, suspended toys may be rearranged within the enclosure.
  - iv. **Sensory Enrichment:** Sensory Enrichment is a way to provide NHPs with opportunities to experience naturalistic stimulation of all five senses (Abee 2012).
    1. NHPs receive at least 30 minutes of radio/music time every week. The music that is played is especially composed for animals (the Mind, Body, Soul series®) or something similar, such as light classical music.
    2. NHPs also receive TV time once a week. DVDs, usually cartoons, are played in their entirety.
- b. **Nutritional Enhancement:**
  - i. NHPs are also on a rotating schedule of approved fresh fruits and vegetables (see Nutritional Enhancement List). They should receive these items daily with the exception of puzzle feeder days. Fruit treats should be limited and not exceed 2-4 times per week.

- ii. NHPs receive **occupational enrichment** (i.e. Foraging board, puzzle feeder, or frozen Kong® treat) twice a week (this may be in lieu of fresh fruits or vegetables). This provides novel and stimulating foraging opportunities for the animals.

c. **Documentation:**

- i. Toy rotation, nutritional enhancement, radio and TV time are all documented weekly on the NHP Enrichment Log. It is typically located on the door of the animal holding room.

**References**

- 1) National Research Council, Institute of Laboratory Animal Research, Guide for the Care and Use of Laboratory Animals. Washington: National Academy Press, 2011.
- 2) National Research Council, Institute of Laboratory Animal Research, The Psychological Well-Being of Nonhuman Primates. Washington: National Academy Press, 1998.
- 3) Stewart, KL and K. Bayne. Environmental Enrichment for Laboratory Animals. In: JD Reuter and MA Suckows (eds). Laboratory Animal Medicine and Management. IVIS, 2004.
- 4) Beaver, BV. Environmental Enrichment for Laboratory Animals. ILAR News 1989; 31(2):5-11.
- 5) Abee, Christian R, et al, eds. *Nonhuman Primates in Biomedical Research: Biology and Management*. 2<sup>nd</sup> ed. Vol. 1. Elsevier. 2012.

**Appendices**

- 1) Example of Primate Enrichment Log
- 2) Examples of NHP appropriate toys
- 3) Nutritional Enhancement List

**Changes to Version Dated 05-12-16**

- Changed approved single housing wording to say “Documented” health concerns
- Added veterinary recommendation as approved reason for single housing
- Added non-contact technique when only one single New World NHP remains (no pair housing possible)
- Updated Nutritional Enhancement List
- Added Appendix headings

## Appendix 1: Example of Primate Enrichment Log

### New World Primate Enrichment Log

Building\_\_\_\_\_

Room\_\_\_\_\_

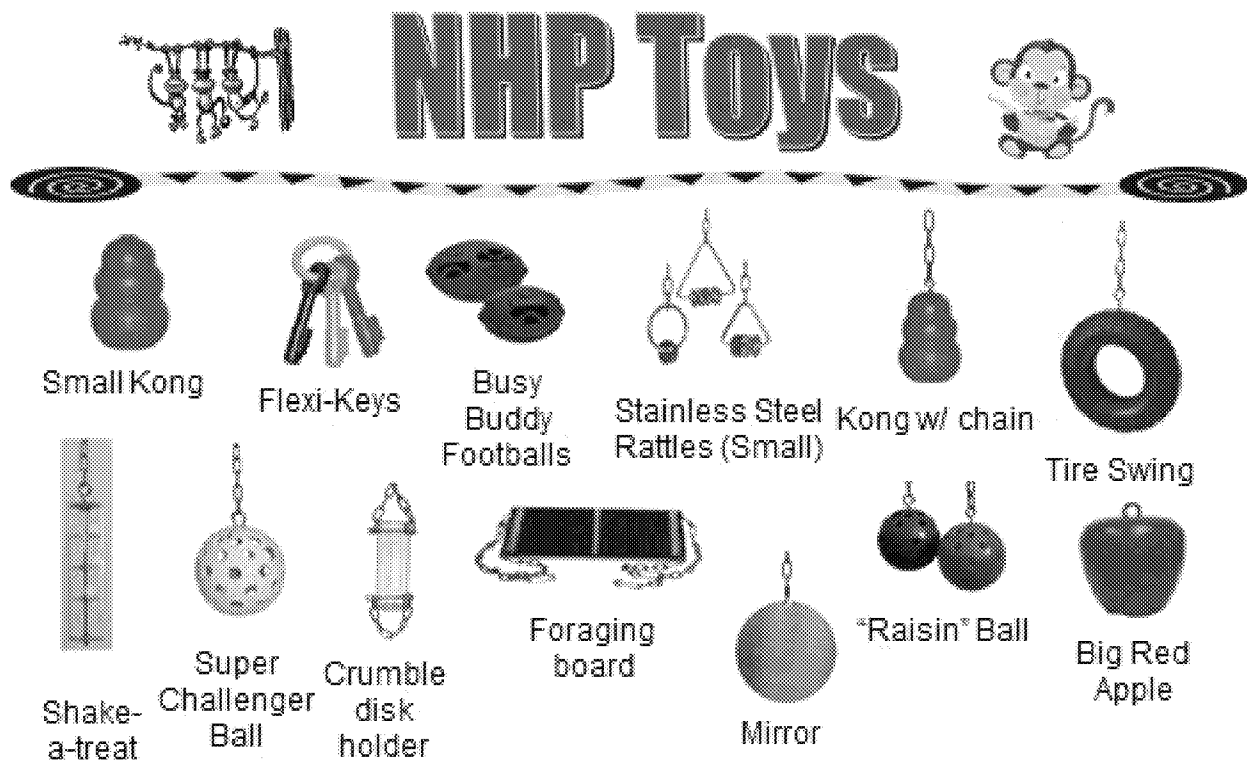
PI\_\_\_\_\_

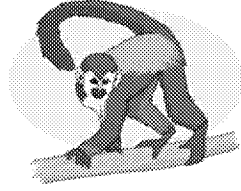
| Week of:<br>_____   | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |
|---|--------|---------|-----------|----------|--------|----------|--------|
| Fruit/Veg<br>Given*<br>(Note type)  |        |         |           |          |        |          |        |
| Other Food<br>Treats (note<br>type)<br><i>**Lab note<br/>training treats<br/>here.</i>  |        |         |           |          |        |          |        |
| Occupational<br>/Nutritional<br>Enrichment-<br>Note type<br>(At least<br>2x/week)       |        |         |           |          |        |          |        |
| # Hrs TV<br>(≥30min/wk)   |        |         |           |          |        |          |        |
| # Hrs radio<br>(≥30min/wk)  |        |         |           |          |        |          |        |
| Weekly Toy<br>Rotation?<br>(Initials)   |        |         |           |          |        |          |        |
| Any Abnormal<br>Behaviors (i.e.<br>hair pulling, self-<br>biting, etc)-<br>Indicate ID# |        |         |           |          |        |          |        |
| General<br>Comments   |        |         |           |          |        |          |        |

\*Fruits should only be given by DCM 2-4 times a week.

\*All Animals Group Housed, unless an approved exception or for veterinary concerns.

## Appendix 2: Examples of Acceptable NHP Toys





### Squirrel Monkey Nutritional Enhancement List

#### **Fruits\*\***

Apples\*  
Bananas  
Blueberries  
Grapes  
Kiwi  
Melon  
Oranges  
Pears  
Raisins  
Strawberries  
Tomatoes

**\*\*Any other item approved by veterinarian  
prior to use\*\***

#### **Vegetables**

Bell Peppers  
Carrots  
Celery  
Green Beans (organic)  
Sweet Potatoes

#### **Other**

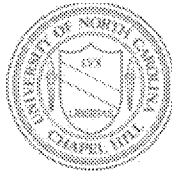
Peanuts  
Popcorn  
Marshmallows  
Yogurt  
Jell-O  
Mealworms  
Hard Boiled Eggs  
Foraging Mix

\*Apples have shown some evidence of association with bloat, so should be limited.

\*\*Please try to avoid giving too much fruit in a week (more veggies than fruit).

**All fruits and vegetables are to be prepared according to the DCM SOP "Washing Fruits and Vegetables"**

Updated 9/2/15



***Old World Non-Human Primate Environmental  
Enhancement Plan***

***University of North Carolina- Chapel Hill***

***Origination Date: May 12, 2016***

---

**Introduction:** The *Guide for the Care and Use of Laboratory Animals* (NRC, 2011) states that, "The primary aim of environmental enrichment is to enhance animal well-being by providing animals with sensory and motor stimulation, through structures and resources that facilitate the expression of species-typical behaviors and promote psychological well-being through physical exercise, manipulative activities, and cognitive challenges according to species-specific characteristics."

The *Guide* further states that, "Well-conceived enrichment provides animals with choices and a degree of control over their environment, which allows them to better cope with environmental stressors."

1. **Purpose:** The objective of this document is to describe a proper and inclusive environmental enrichment program for Old World Non-Human Primates (NHPs) in our care.
2. **Responsibility:** Facility managers/supervisors, husbandry and veterinary staff, and principal investigators/laboratory animal coordinators.
3. **Procedures:** The purpose of environmental enrichment is to enhance the overall well-being of the animals. Exhibiting normal species-specific behaviors in association with environmental enrichment strategies is an indication of well-being. In addition, displaying a balanced temperament, with no evidence of maladaptive behaviors or clinical signs of chronic distress is indicative of the animals' ability to cope with the stressors associated with their social and physical environment (NRC, ILAR, 1998).
  - a. **Social Enhancement:**
    - i. NHPs are paired or grouped housed in their enclosures.
    - ii. In some cases, an NHP may be singly housed. Examples include:
      1. Incompatibility.
      2. Health concerns.
      3. An approved exception described in the IACUC protocol.

- iii. There are varying degrees of social housing. The type of appropriate housing will vary based on individual history, research needs, and level of compatibility.
    - 1. **Full contact housing**- two or more NHPs live together in an enclosure full time.
    - 2. **Intermittent social housing**- two or more NHPs are housed together some of the time, but separated at other times.
    - 3. **Limited or protected contact**- animals are housed separately, but may have some contact with each other via grooming panels. These panels may allow them to groom each other but not pass through into each other's areas.
  - iv. When social housing is not feasible, interaction with conspecifics will be provided through the use of other non-contact techniques which may include, but are not limited to, the following:
    - 1. Arrangement of caging within rooms to allow for auditory, olfactory and visual contact between compatible animals.
    - 2. Use of mirrors in rooms where cage arrangement prevents direct visual contact between animals.
    - 3. Use of movable socialization panels between cages, which allow the animal's visual and limited tactile contact, but preclude full physical contact.
  - v. "Friendly contact with humans provides high-quality environmental enrichment by promoting and fostering mutual trust relationships between human and nonhuman primates" (Liss, et al 2015). Animals may receive positive human interaction outside of husbandry, research, or veterinary procedures. This may be given in the form of Positive Reinforcement Training. Training time should be recorded in a journal.
- b. **Non-Social Enhancement:** Studies have demonstrated that animals have reduced stress if they are provided with the opportunity to have control of their environment (Stewart 2004).
- i. Enclosures may have resting boards/perches or swings. Additionally, visual barriers provide areas to "flee" from perceived threats or displays of aggression from conspecifics.
  - ii. Each enclosure is provided with species appropriate hanging toys (i.e. Kong® toys, mirrors, tires, stainless steel rattles, various puzzle feeders, etc.). These are hung outside of the cage and are changed at least weekly.
  - iii. Two different toys should be rotated into the pen weekly, at time of sanitation (e.g. Kong®, Busy Buddy Football®, Flexi-keys®) to help preserve the items' novelty as well as provide different opportunities for NHPs to engage in species-specific behaviors. Additionally, suspended toys may be rearranged within the enclosure at the time of cage change.



- iv. **Sensory Enrichment:** Sensory Enrichment is a way to provide NHPs with opportunities to experience naturalistic stimulation of all five senses (Abee 2012).
  - 1. NHPs receive at least 30 minutes of radio/music time every week. The music that is played is especially composed for animals (the Mind, Body, Soul series®) or something similar, such as light classical music.
  - 2. NHPs also receive TV time a minimum of once a week. DVDs, usually cartoons, are played in their entirety. Care is taken that the DVD shown does not contain potentially frightening images for the animals (e.g. natural predators).
  - 3. NHPs may receive scent enrichment (e.g. herbs, spices, aromatherapy). If given, this should be recorded on the enrichment log along with amount of exposure time.

c. **Nutritional Enhancement:**

- i. NHPs are also on a rotating schedule of approved fresh fruits and vegetables. They should receive these items daily with the exception of puzzle feeder days. These items may be given whole (e.g. corn on the cob in husk) to provide additional occupational enhancement.
- ii. NHPs receive **occupational enrichment** (i.e. Foraging board, puzzle feeder, or frozen Kong® treat, etc.) twice a week (this may be in lieu of fresh fruits or vegetables). This provides novel and stimulating foraging opportunities for the animals.

d. **Behavioral Management and Special Considerations:**

- i. **Behavioral Monitoring:** Nonhuman Primates in our care will be monitored closely for any signs of stereotypical or self-injurious behaviors, as well as withdrawal and excessive fearful behaviors.
  - 1. DCM staff will observe animals daily and report any abnormal behaviors immediately to Vet Services. Examples of abnormal behaviors are posted on the door of the animal room for reference.
  - 2. If abnormal behaviors are reported, a veterinarian will assess the animal and, upon confirmation of the behavior, will work with the environmental enrichment staff to determine a Special Enrichment Plan (SEP) for management of the behavior.
- ii. **Special Considerations:**
  - 1. **Infants and Juveniles:** There are no breeding programs for NHPs at UNC-CH. Refer to the “Standard Operating Procedure for Non-Human Primate Environmental Enrichment to Promote Psychological Wellbeing”.
  - 2. **Individually Housed NHPs:** If an NHP must be individually

housed, caging should be arranged in a way that the NHP will receive visual, olfactory, and auditory cues from conspecifics.

iii. **Special Enrichment Plan (SEP):** NHPs on a Special Enrichment Plan (SEP) will receive special enrichment in addition to the normal enrichment detailed above. Only NHPs enrolled in a SEP will be given special enrichment.

1. Special enrichment will be given at least twice weekly, not on consecutive days.
2. Special enrichment will consist of nonstandard food treats, indestructible enrichment, and foraging devices reserved only for the SEP. Special enrichment may also include cognitive training (positive reinforcement training).
3. The animal will be evaluated monthly, and the SEP will be modified as necessary. Evaluation and change to the SEP will be documented in the animal's medical record.

**e. Documentation:**

- i. Toy rotation, nutritional enhancement, radio and TV time are all documented as provided on the NHP Enrichment Log. It is located on the door of the animal holding room.
- ii. If positive reinforcement training is done, it is documented in the training journal, located outside the animal room.
- iii. Veterinary assessment and enrollment in a Special Enrichment Plan will be documented in the animal's individual medical record. All SEP interventions are recorded on a separate Special Enrichment Log.

### References

- 1) National Research Council, Institute of Laboratory Animal Research, Guide for the Care and Use of Laboratory Animals. Washington: National Academy Press, 2011.
- 2) National Research Council, Institute of Laboratory Animal Research, The Psychological Well-Being of Nonhuman Primates. Washington: National Academy Press, 1998.
- 3) Stewart, KL and K. Bayne. Environmental Enrichment for Laboratory Animals. In: JD Reuter and MA Suckows (eds). Laboratory Animal Medicine and Management. IVIS, 2004.
- 4) Beaver, BV. Environmental Enrichment for Laboratory Animals. ILAR News 1989; 31(2):5-11.
- 5) Abee, Christian R, et al, eds. *Nonhuman Primates in Biomedical Research: Biology and Management*. 2<sup>nd</sup> ed. Vol. 1. Elsevier. 2012.
- 6) Liss, Cathy, et al, eds. *Comfortable Quarters for Laboratory Animals*. Tenth ed. 2015.

## **Appendices**

- 1) Example of Primate Enrichment Log
- 2) Examples of NHP appropriate toys
- 3) Nutritional Enhancement List
- 4) Example of NHP Training Log
- 5) Example of NHP Special Enrichment Log

### **Changes to Version Dated 05-12-16**

- Revised frequency of hanging toy change to weekly
- Added that two different toys should be rotated weekly
- Added "Behavioral Management and Special Considerations" section
- Replaced "Primate Enrichment Log" with revised version
- Replaced "Nutritional Enhancement List" with revised version
- Added example of NHP Special Enrichment Log
- Removed that fruit treats should be limited to 2-4 times per week
- Updated to reflect Division name change on 07-11-17. Didn't change revision date.

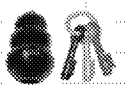



## Example of Primate Enrichment Log

| Old World NHP Enrichment Log  |        |         |             |          |                               |          |        |
|---|--------|---------|-------------|----------|-------------------------------|----------|--------|
| Bldg  | Room   | PI      | Animal Tech | Week Of  | SEP Reference? (Check if Yes) |          |        |
| (Check if Special Enrichment Plan is in effect. SEP Log is separate.) |        |         |             |          |                               |          |        |
| Activity  | Monday | Tuesday | Wednesday   | Thursday | Friday                        | Saturday | Sunday |
| Fruit/Veg<br>(Note type)*   |        |         |             |          |                               |          |        |
| Occupational/<br>Nutritional<br>Enrichment<br>(≥2x/wk; Note<br>Type)  |        |         |             |          |                               |          |        |
| # Hrs TV<br>(≥30min/wk)**   |        |         |             |          |                               |          |        |
| Hrs Radio<br>(≥30min/wk)**  |        |         |             |          |                               |          |        |
| Toy Rotation<br>(Initial)***  |        |         |             |          |                               |          |        |
| Abnormal<br>Behaviors? (Y/N,<br>ID#)                                  |        |         |             |          |                               |          |        |
| General<br>Comments   |        |         |             |          |                               |          |        |

\***Fruit/Veg:** Refer to Old World NHP Nutritional Enhancement List for approved items. Avoid giving same item more than 1x/wk.

\*\***TV and radio** should each be given a minimum of 30 mins per week, ideally more.

\*\*\***Toy rotation.** At least two types of toys should be present, one of each type per animal. These should be **rotated weekly**.  
One hanging toy per animal should be present on the outside of the cage, rotated **weekly**.

|   |   |   |  |                         |
|---|---|---|--|-------------------------|
| <br>Week 1 | <br>Week 2 | <br>Week 3 | <br>Week 4 | Toy Rotation Week _____ |
|---|---|---|--|-------------------------|

All Animals Group Housed, unless an approved exception or veterinary concerns

### Examples of Acceptable NHP Toys





## Old World NHP Nutritional Enhancement List

### Fruits

Apples\*  
Apricots  
Bananas\*  
Berries (blueberries, raspberries, strawberries)\*  
Clementines  
Coconuts

Frozen mixed fruit – great for blending “smoothies” to hide meds in!  
Grapes\*  
Kiwi  
Lemons  
Limes  
Nectarines

Oranges\*  
Pineapple  
Plums  
Pomegranates  
Raisins  
Tangerines  
Tomatoes  
Watermelon

### Vegetables

Asparagus  
Beets  
Broccoli  
Cabbage\*  
Carrots\*  
Cauliflower  
Celery\*  
Corn on the cob  
Cucumbers

Frozen vegetables  
Green peppers\*  
Kale  
Leeks  
Lettuce  
Lima beans  
Mushrooms  
Pickles  
Potatoes  
Pumpkin

Radishes  
Red potatoes  
Scallions  
Snow peas  
String beans  
Squash  
Turnips  
Yams

### Other

Acacia Gum  
Eggs (hard-boiled)  
Jellies (sugar free)  
Mustard  
Oatmeal

Pasta  
Peanuts\*  
Peanut butter\*  
Popcorn- may also be popped in room\*

Rice cakes  
Sugar Cane  
Sunflower Seeds

### Sugary items – should be given sparingly

Lemonade  
Pudding (vanilla)  
Raisin Bread

Sherbet (lemon, raspberry)  
Cereal (Cheerios, Fruit Loops, Kix, puffed wheat, Raisin Bran, shredded wheat, etc)  
Honey

Ketchup  
Marshmallow Fluff  
Marshmallows\*  
Marshmallow Peeps  
Syrups

\*\*Any other item approved by veterinarian prior to use

**All fruits and vegetables will be washed according to the DCM SOP “Washing Fruits and Vegetables”**

\*Most commonly used items

**Example of NHP Training Log**

| <b><u>NHP Training Log</u></b> |       |          |                   |          |
|--------------------------------|-------|----------|-------------------|----------|
| DATE                           | ID(s) | ACTIVITY | LENGTH<br>OF TIME | INITIALS |
|                                |       |          |                   |          |
|                                |       |          |                   |          |
|                                |       |          |                   |          |
|                                |       |          |                   |          |
|                                |       |          |                   |          |
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|                                |       |          |                   |          |
|                                |       |          |                   |          |
|                                |       |          |                   |          |
|                                |       |          |                   |          |

\*Record any notes on back



Example of NHP Special Enrichment Log

**NHP Special Enrichment Log**

|  |
|--|
| Animal ID: _____ PI: _____ Month/Year: _____ |
| Special Enrichment Plan details:             |
| _____  |
| _____  |
| _____  |

| Date: | Special Enrichment Given (Note type): | Initials: |
|-------|---------------------------------------|-----------|
|       |                                       |           |
|       |                                       |           |
|       |                                       |           |
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|       |                                       |           |
|       |                                       |           |

Special Enrichment Plan is reviewed monthly by veterinarian and modified as needed.

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UNC Environmental Enrichment Committee 06/20/2017



## ***Poultry Environmental Enhancement Plan***

***University of North Carolina- Chapel Hill***

***Origination Date: October 12, 2015***

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**Introduction:** The *Guide for the Care and Use of Laboratory Animals* (NRC, 2011) states that, "The primary aim of environmental enrichment is to enhance animal well-being by providing animals with sensory and motor stimulation, through structures and resources that facilitate the expression of species-typical behaviors and promote psychological well-being through physical exercise, manipulative activities, and cognitive challenges according to species-specific characteristics."

The *Guide* further states that, "Well-conceived enrichment provides animals with choices and a degree of control over their environment, which allows them to better cope with environmental stressors."

1. **Purpose:** The objective of this document is to describe a proper and inclusive environmental enrichment program for poultry in our care.
2. **Responsibility:** Facility managers/supervisors, husbandry and veterinary staff, and principal investigators/laboratory animal coordinators.
3. **Procedures:** The purpose of environmental enrichment is to enhance the overall well-being of the animals. Exhibiting normal species-specific behaviors in association with environmental enrichment strategies is an indication of well-being. In addition, displaying a balanced temperament, with no evidence of maladaptive behaviors or clinical signs of chronic distress is indicative of the animals' ability to cope with the stressors associated with their social and physical environment (NRC, ILAR, 2011).
  - a. **Social Enhancement:** According to the Ag Guide (2010), socialized chickens have shown a reduction in stress response and have even demonstrated some disease resistance compared with non-socialized chickens.
    - i. Poultry are grouped housed in their enclosures. According to Reinhardt and Reinhardt (2002), group housing should be the default.
    - ii. In some cases, poultry may be singly housed. Examples include:
      1. Incompatibility.
      2. Health concerns.
      3. An approved exception described in the IACUC protocol.

- iii. Poultry should have positive human interaction to reduce the bird's natural fear response. "Regular gently interactions with chickens reduces fear and facilitates easier, i.e. less stressful handling during procedures." (Reinhardt and Reinhardt 2002).

b. **Non-Social Enhancement:** Studies have demonstrated that animals have reduced stress if they are provided with the opportunity to have control of their environment (Stewart 2004).

- i. According to the Ag Guide, providing appropriate substrate provides poultry with much-needed foraging opportunities and reduces abnormal behaviors such as feather plucking and cannibalism. Additionally, poultry must have enough space for walking, running, flying, and wing-flapping (Reinhardt and Reinhardt 2002). Animals have full access to a room, and are housed on a 3-6 inch layer of pine shavings (or other approved substrate), which have been documented as species-appropriate bedding.
- ii. According to the Ag Guide, laying hens must be provided with nesting boxes with nesting material that can be manipulated, such as straw.
  - 1. **Sensory Enrichment:** Playing a radio with human voices may be beneficial for chicks, but care should be taken in introducing to older birds as it can increase their fear response (FASS 2010). Animals may receive at least 30 minutes of radio time every week. Selections should feature human voices, such as talk radio or audiobooks. Extreme care should be taken when introducing radio to broiler chickens, as they are particularly neophobic. (FASS 2010).
  - 2. **Nutritional & Occupational Enhancement:** According to Reinhardt and Reinhardt, "if they do not spend a major portion of the day engaged in foraging activities, chickens tend to peck, pull, and tear at objects or conspecifics, and often develop feather plucking behavior."
    - i. Pine shavings or other approved substrate are provided on the floor of the animal room. Food pellets should be scattered throughout the bedding daily to provide foraging opportunities.
    - ii. "A primary method for promoting exercise in poultry is the provision of perches or other elevated areas that encourage the use of vertical space in the enclosure." (FASS 2010). Per DCM SOP "Care of Chickens", perches should be half buried in shavings or other approved substrate to prevent tipping over.
    - iii. A box with sand may be provided for poultry to engage in dustbathing, which is important for keeping their feathers in good condition (Reinhardt and Reinhardt 2002).

**Documentation:**

- a. Nutritional enhancement, radio, and food treats are all documented weekly on the Poultry Enrichment Log. It is located on the door of the animal holding room.

**References**

- 1) National Research Council, Institute of Laboratory Animal Research, Guide for the Care and Use of Laboratory Animals. Washington: National Academy Press, 2011.
- 2) Stewart, KL and Bayne, K. Environmental Enrichment for Laboratory Animals. In: JD Reuter and MA Suckows (eds). Laboratory Animal Medicine and Management. IVIS, 2004.
- 3) Reinhardt, V and Reinhardt, A., eds. Comfortable Quarters for Laboratory Animals. Animal Welfare Institute. Ninth edition, 2002.
- 4) Federation of Animal Science Societies. The Guide for the Care and Use of Agricultural Animals in Research and Teaching. Third edition, 2010.

**Appendices**

- 1) Poultry Enrichment Log Example

**Changes to Version Dated 10-12-15**

- Added that group housing should be the default for chickens
- Changed name of Activity Sheet to Enrichment Log and replaced with revised version
- Minor wording changes referring to pine shavings or "other approved substrate"
- Updated to reflect Division name change on 07-11-17. Didn't change revision date.

## Poultry Enrichment Log

Building\_\_\_\_\_

Room\_\_\_\_\_

PI\_\_\_\_\_

Animal Technician\_\_\_\_\_

| Week of:<br>_____   | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |
|---|--------|---------|-----------|----------|--------|----------|--------|
| Food Treats<br>(note type)<br><b>**Lab note<br/>training<br/>treats here.</b> |        |         |           |          |        |          |        |
| Feed<br>pellets/Meal<br>worms**<br>scattered in<br>bedding?<br>(Daily)        |        |         |           |          |        |          |        |
| Nesting box<br>with nesting<br>material<br>provided?<br>(Daily)               |        |         |           |          |        |          |        |
| Dust bath<br>provided?  |        |         |           |          |        |          |        |
| # Hours of<br>Radio   |        |         |           |          |        |          |        |
| General<br>Comments   |        |         |           |          |        |          |        |

**\*All Animals Group Housed, unless an approved exception or for veterinary concerns.**

**\*\*Meal worms should NOT be given to broiler chickens housed long term due to weight concerns**





## ***Rabbit Environmental Enhancement Plan***

***University of North Carolina- Chapel Hill***

***Origination Date: October 12<sup>th</sup>, 2015***

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**Introduction:** The *Guide for the Care and Use of Laboratory Animals* (NRC, 2011) states that, "The primary aim of environmental enrichment is to enhance animal well-being by providing animals with sensory and motor stimulation, through structures and resources that facilitate the expression of species-typical behaviors and promote psychological well-being through physical exercise, manipulative activities, and cognitive challenges according to species-specific characteristics."

The *Guide* further states that, "Well-conceived enrichment provides animals with choices and a degree of control over their environment, which allows them to better cope with environmental stressors."

1. **Purpose:** The objective of this document is to describe a proper and inclusive environmental enrichment program for rabbits in our care.
2. **Responsibility:** Facility managers/supervisors, husbandry and veterinary staff, and principal investigators/laboratory animal coordinators.
3. **Procedures:** The purpose of environmental enrichment is to enhance the overall well-being of the animals. Exhibiting normal species-specific behaviors in association with environmental enrichment strategies is an indication of well-being. In addition, displaying a balanced temperament, with no evidence of maladaptive behaviors or clinical signs of chronic distress is indicative of the animals' ability to cope with the stressors associated with their social and physical environment (NRC, ILAR, 1998).
  - a. **Social Enhancement:**
    - i. Rabbits may be pair or group housed in their enclosures. Age and social history will be taken into account when considering pairing.
    - ii. In some cases, a rabbit may be singly housed. Examples include:
      1. Incompatibility.
      2. Health concerns.
      3. An approved exception described in the IACUC protocol.
    - iii. Caging design should allow singly housed rabbits to receive visual, olfactory, and auditory cues from their conspecifics.



1. If a rabbit must be housed alone in a room, a mirror may be suspended on the outside of the front of the cage.
- iv. Every week, each rabbit may be brought out of its enclosure for at least 15 minutes of supervised play. Rabbits will not receive playtime if diagnosed with contagious disease, or if it contraindicates research goals. Playtime allows the animal(s) to have socialization with staff and the opportunity to play with interactive toys, as well as encourages physical activity.
  1. Pair housed animals may be brought out together for playtime. Singly-housed animals may have protected contact playtime within individual adjacent playpens.
  2. Pregnant rabbits may receive playtime until Day 24 of gestation.
  3. Nursing rabbits may receive playtime without their kits once the kits are 7 days old.
  4. Kits may receive playtime with their mother at 4 weeks of age.
- b. **Non-Social Enhancement:** Studies demonstrate that animals have reduced stress if they are provided with the opportunity to have control of their environment (Stewart 2004).
  - i. A different toy should be rotated into the enclosures every week (e.g. Dumbbell, Best Ball®, Manzanita wood, Jingle Ball®) to help preserve the item's novelty as well as provide different opportunities for rabbits to engage in species-specific behaviors.
  - ii. Rabbits should always have a cage front toy (e.g. Triangle rattle®)
  - iii. Rabbits may be given destructible enrichment (e.g. cardboard tube with hay) with veterinary approval.
- c. **Sensory Enrichment:**
  - i. Rabbits receive at least 30 minutes of radio/music time every week. Any auditory enrichment provided will not exceed normal conversational volume level (approximately 60 dB). Music with strong beats or talk radio with loud voices (screaming, arguing) should be avoided ("Environmental Enrichment Guidelines" 2018).
- d. **Nutritional Enhancement:**
  - i. In order to help improve and maintain gut motility, Rabbits are offered autoclaved Timothy Hay 7 days per week.
  - ii. Rabbits are also on a rotating schedule of approved fresh fruits and vegetables (see attached Rabbit Nutritional Enhancement List). They should receive these items 3 times per week, preferably on Monday, Wednesday, and Friday.
- e. **Documentation:**
  - i. Toy rotation, playtime, nutritional enhancement, and/or radio time are all documented on the monthly rabbit enrichment log (attached). This is located on the door of the animal holding room.

### **References**

- 1) National Research Council, Institute of Laboratory Animal Research, Guide for the Care and Use of Laboratory Animals. Washington: National Academy Press, 2011.
- 2) Stewart, KL and K. Bayne. Environmental Enrichment for Laboratory Animals. In: JD Reuter and MA Suckows (eds). Laboratory Animal Medicine and Management. IVIS, 2004.
- 3) Beaver, BV. Environmental Enrichment for Laboratory Animals. ILAR News 1989; 31(2):5-11.
- 4) "Environmental Enrichment Guidelines." Environmental Enrichment Guidelines, University of California, Berkeley. Animal Care and Use Program, 14 Mar. 2018, [acuc.berkeley.edu/guidelines/environmental\\_enrichment.pdf](http://acuc.berkeley.edu/guidelines/environmental_enrichment.pdf).

### **Changes to Version Dated 06-11-18**

- Removed range of time for play outside enclosure (now says 15 minutes)
- Updated sensory enrichment statement to be consistent with other EE plans in regards to decibel level and type of music/radio allowed
- Removed range of days to give hay (should give 7 days a week) and fruits/veggies (should give 3 times per week)
- Added that nutritional enhancement is documented on the enrichment log
- Updated reference list
- Updated rabbit enrichment log and rabbit nutritional enhancement list

## Example of Rabbit Enrichment Log







**Rabbit Enrichment Log**      Room: Taylor B22

| Feb-19            | Monday  |   |   | Tuesday |   |   | Wednesday    |   |   | Thursday |   |   | Friday |   |   | Sat | Sun |
|-------------------|---------|---|---|---------|---|---|--------------|---|---|----------|---|---|--------|---|---|-----|-----|
|                   | TR      | R | H | TR      | R | H | TR           | R | H | TR       | R | H | TR     | R | H | H   | H   |
| Week 1 (4-10)     |         |   |   |         |   |   |              |   |   |          |   |   |        |   |   |     |     |
| Fruit/Veg         | Parsley |   |   |         |   |   | Bell Pepper  |   |   |          |   |   | Pears  |   |   |     |     |
| Notes/ Animal IDs |         |   |   |         |   |   |              |   |   |          |   |   |        |   |   |     |     |
| Week 2 (11-17)    |         |   |   |         |   |   |              |   |   |          |   |   |        |   |   |     |     |
| Fruit/Veg         | Kale    |   |   |         |   |   | Carrots      |   |   |          |   |   | Apples |   |   |     |     |
| Notes/ Animal IDs |         |   |   |         |   |   |              |   |   |          |   |   |        |   |   |     |     |
| Week 3 (18-24)    |         |   |   |         |   |   |              |   |   |          |   |   |        |   |   |     |     |
| Fruit/Veg         | Squash  |   |   |         |   |   | Bell Peppers |   |   |          |   |   | Grapes |   |   |     |     |
| Notes/ Animal IDs |         |   |   |         |   |   |              |   |   |          |   |   |        |   |   |     |     |
| Week 4 (25-3/3)   |         |   |   |         |   |   |              |   |   |          |   |   |        |   |   |     |     |
| Fruit/Veg         | Endive  |   |   |         |   |   | Carrots      |   |   |          |   |   | Apples |   |   |     |     |
| Notes/ Animal IDs |         |   |   |         |   |   |              |   |   |          |   |   |        |   |   |     |     |

**Toy Rotation (TR):** Record toy rotation as it occurs or *at least* once a week (initial box when toy rotation is completed)

**Radio/Music (R):** Animals are given 30 minutes *minimum* per week. Time can be recorded or initial box if full time was given on one day

**Timothy Hay (H):** Record for each day given. Hay should be given daily.

|                     |  |  |  |  |  |  |
|---------------------|---|---|---|---|--|---|
| Weekly Toy Rotation | Week 1  | Week 2  | Week 3  | Week 4  |  |   |



A cage front toy should always be present (e.g. Triangle)

Weekly review by supervisor or designee: \_\_\_\_\_

### Rabbit Nutritional Enhancement List

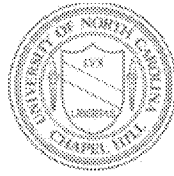
|                              |                                    |   |
|------------------------------|------------------------------------|---|
| Apples*                      | Watercress                         | Papaya, fresh or dried  |
| Pears*                       | Timothy Hay Cubes                  | Peanut, unsalted with or without shell                                  |
| Seedless Grapes              | Veggie Chips (Bio-Serv)            | Pineapple   |
| Cabbage                      | Alfalfa, hay or cubes              | Popcorn   |
| Kale**                       | Arugula                            | Pumpkin   |
| Romaine                      | Banana, fresh or chips             | Pumpkin Seeds   |
| Squashes                     | Brussels Sprouts                   | Raisins   |
| Bell Peppers (seeds removed) | Corn                               | Sunflower Seeds, with or without shells                                 |
| Carrots                      | Cranberry                          | Sweet Potato  |
| Celery                       | Crumble Disk (Bio-Serv)            | Taro  |
| Cucumbers                    | Escarole                           | Veggie Bites (Bio-Serv)   |
| Mint                         | PrimaTreat (Bio-Serv)              | Any other nutritional enhancement approved by veterinarian prior to use |
| Parsley                      | FruitTopia treat (Bio-Serv)        |   |
| Cilantro                     | Green Beans                        |   |
| Basil                        | Kiwi                               |   |
| Endive                       | Mardi Gras Foraging Mix (Bio-Serv) |   |
| Swiss chard                  | Nutra Block (Bio-Serv)             |   |

Please try to avoid giving fruit more than once a week (on a MWF schedule).

\*Please cut into smaller pieces (i.e. 1/6th of an apple per rabbit), and remove seeds.

\*\*Do not give Kale more than once a week.

**All fruits and vegetables are to be prepared according to the DCM SOP "Washing Fruits and Vegetables"**



## ***Rodent Environmental Enhancement Plan***

### ***University of North Carolina-Chapel Hill***

***Origination Date: August 23<sup>rd</sup>, 2013***

**Introduction:** The *Guide for the Care and Use of Laboratory Animals* (NRC, 2011)<sup>1</sup> states that, "The primary aim of environmental enrichment is to enhance animal well-being by providing animals with sensory and motor stimulation, through structures and resources that facilitate the expression of species-typical behaviors and promote psychological well-being through physical exercise, manipulative activities, and cognitive challenges according to species-specific characteristics."

The *Guide* further states that, "Well-conceived enrichment provides animals with choices and a degree of control over their environment, which allows them to better cope with environmental stressors."<sup>1</sup>

1. **Purpose:** The objective of this document is to describe a proper and inclusive environmental enrichment program for all rodents in our care. This includes mice, rats, hamsters and gerbils.
2. **Responsibility:** Facility managers/supervisors, husbandry and veterinary staff, and principal investigators/laboratory animal coordinators.
3. **Procedures:** The purpose of environmental enrichment is to enhance the overall well-being of the animals. Exhibiting normal species-specific behaviors in association with environmental enrichment strategies is an indication of well-being. In addition, displaying a balanced temperament, with no evidence of maladaptive behaviors or clinical signs of chronic distress is indicative of the animals' ability to cope with the stressors associated with their social and physical environment (NRC, ILAR, 1998).<sup>2</sup>
  - a. **Social Enhancement:**
    - i. Rodents are paired or grouped housed in their enclosures.
    - ii. In certain instances, a rodent may be singly housed. Examples include:
      1. Incompatibility with cage mates.
      2. Breeding paradigm.
      3. Health concerns.
      4. An approved housing variation as described in the Animal Care Application (ACAP) section 6.05.
  - b. **Non-Social Enhancement:** Studies have demonstrated that animals have reduced stress if they are provided with the opportunity to have control of their environment (Stewart 2004).<sup>3</sup> Additionally, nesting material allows rodents to construct suitable microenvironments for resting and breeding (Baumans 2005)<sup>4</sup>. Rats, hamsters, and gerbils should have at least one form of either nesting material or shelter. Mice should have one type of nesting material and, when possible, adding another form of dissimilar enrichment is preferred.

Options include, but are not limited to:

- i. Mouse:
    1. Nesting material\* (e.g. Nestlets® or brown crinkled paper) –
      - Nesting material should be provided unless it contraindicates research goals and has an IACUC exception.
      - Nesting material is required for breeding cages.
      - Note: Nude mice cannot have Nestlets® but may have brown crinkled paper
    2. Hut or other approved shelter
    3. Gnawing Device (e.g. Manzanita wood)
  - ii. Rat:
    1. Nesting material\* (e.g. loose or prepackaged brown crinkled paper)
    2. Rat tube or other approved shelter
    3. Gnawing Device (e.g. Durachew®, Manzanita wood)
  - iii. Hamster and Gerbil:
    1. Nesting material\* (e.g. loose or prepackaged brown crinkled paper)
    2. Rat tube or other approved shelter
  - iv. Rodent species may be given gnawing enrichment, such as Nylabones®, Durachews®, Manzanita wood, or other items upon request by researchers as determined by Vet Services.
- \* When using nesting material, use an amount appropriate for the species (i.e. a pinch for mouse cages, or prepackaged amount for larger rodent species) to allow them to build a nest but not prevent adequate animal observations.
- c. **Dietary Enrichment:**
- i. Rodents may be given novel food enrichment by researchers (e.g. irradiated sunflower seeds).
- d. **Documentation:**
- i. Documentation will only be necessary if all enrichment is intermittent or not present due to protocol exceptions.
    1. Refer to the IACUC Exception Policy for details on properly documenting exceptions.

**References**

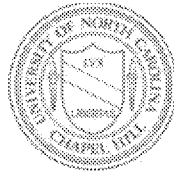
1. National Research Council, Institute of Laboratory Animal Research, *Guide for the Care and Use of Laboratory Animals*. Washington: National Academy Press, 2011.
2. National Research Council, Institute of Laboratory Animal Research, *The Psychological Well-Being of Nonhuman Primates*. Washington: National Academy Press, 1998.

**Additional Resources**

1. Stewart, KL and K. Bayne. *Environmental Enrichment for Laboratory Animals*. In: JD Reuter and MA Suckows (eds). *Laboratory Animal Medicine and Management*. IVIS, 2004.
2. Baumans, Vera. 2005. *Environmental Enrichment for Laboratory Rodents and Rabbits: Requirements of Rodents, Rabbits, and Research*. In: ILAR Journal. 46:162-170.

**Changes to Version Dated 11-30-17**

- Clarified single housing example of approved housing variation by including ACAP section number
- Added that absence of nesting materials is accompanied by IACUC exception
- Added that gnawing devices requested by researchers will be determined by Vet Services
- Documentation is only necessary if all enrichment is intermittent/not present



## ***Sea Turtle Environmental Enhancement Plan***

***University of North Carolina-Chapel Hill***

***Origination Date: February 8, 2017***

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**Introduction:** The *Guide for the Care and Use of Laboratory Animals* (NRC, 2011)<sup>1</sup> states that, "The primary aim of environmental enrichment is to enhance animal well-being by providing animals with sensory and motor stimulation, through structures and resources that facilitate the expression of species-typical behaviors and promote psychological well-being through physical exercise, manipulative activities, and cognitive challenges according to species-specific characteristics."

The *Guide* further states that, "Well-conceived enrichment provides animals with choices and a degree of control over their environment, which allows them to better cope with environmental stressors."<sup>1</sup>

1. **Purpose:** The objective of this document is to describe a proper and inclusive environmental enrichment program for all sea turtles in our care.
2. **Responsibility:** Facility managers/supervisors, husbandry and veterinary staff, and principal investigators/laboratory animal coordinators.
3. **Procedures:** The purpose of environmental enrichment is to enhance the overall well-being of the animals. Exhibiting normal species-specific behaviors in association with environmental enrichment strategies is an indication of well-being. In addition, displaying a balanced temperament, with no evidence of maladaptive behaviors or clinical signs of chronic distress is indicative of the animals' ability to cope with the stressors associated with their social and physical environment (NRC, ILAR, 1998).<sup>2</sup>
  - a. **Social Enhancement:**
    - i. Sea turtles are not considered a social species. In the wild they are solitary animals except during migration. Social housing is therefore not imperative for this species.
  - b. **Non-Social Enhancement:** Studies have demonstrated that animals have reduced stress if they are provided with the opportunity to have control of their environment (Stewart 2004).<sup>3</sup>
    - i. "Hiding places are essential for sea turtles" (Bluvias and Eckert 2010). Turtles may be provided with a shelter at the bottom of the holding tank, such as a "rest hop." Additionally, they may use the standpipe in the tank for hiding and resting.



- ii. Sea turtles may be provided with a device (e.g. Super Saucer or Bio-Serv rabbit hut) for resting at the surface of the tank or while submerged.
- iii. Sea turtles may be provided with novel objects to engage in species-typical behaviors.
- iv. Enrichment provided to the sea turtles may not contain food, magnets, or ferrous metals, per the Lohmann Lab.
- c. **Dietary Enrichment**
  - i. Sea turtles are provided with a nutritionally balanced diet as appropriate for the species. The composition of the food allows it to sink to the bottom of the tank, which encourages natural diving and foraging behaviors.
- d. **Documentation:**
  - i. Documentation will only be necessary if enrichment is intermittent or not present due to protocol exceptions.
    - 1. Refer to the IACUC Exception Policy for details on properly documenting exceptions.

### **References**

- 1) Bluvias, JessieE. and Karen L. Eckert. 2010. Marine Turtle Trauma Response Procedures: A Husbandry Manual. Wider Caribbean Sea Turtle Conservation Network (WIDECAST) Technical Report No. 10. Ballwin, Missouri. 100pp.
- 2) National Research Council, Institute of Laboratory Animal Research, Guide for the Care and Use of Laboratory Animals. Washington: National Academy Press, 2011.
- 3) Stewart, KL and K. Bayne. Environmental Enrichment for Laboratory Animals. In: JD Reuter and MA Suckows (eds). Laboratory Animal Medicine and Management. IVIS, 2004.

### **Changes to Version Dated 05-23-17**

- Added example of using Bio-Serv rabbit hut in tank
- Updated terminology to include use of “novel objects to engage in species-typical behaviors”
- Added stipulations for enrichment per Lohmann Lab



## ***Sheep Environmental Enhancement Plan***

***University of North Carolina- Chapel Hill***

***Origination Date: June 19, 2014***

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**Introduction:** The *Guide for the Care and Use of Laboratory Animals* (NRC, 2011) states that, "The primary aim of environmental enrichment is to enhance animal well-being by providing animals with sensory and motor stimulation, through structures and resources that facilitate the expression of species-typical behaviors and promote psychological well-being through physical exercise, manipulative activities, and cognitive challenges according to species-specific characteristics."

The *Guide* further states that, "Well-conceived enrichment provides animals with choices and a degree of control over their environment, which allows them to better cope with environmental stressors."

1. **Purpose:** The objective of this document is to describe a proper and inclusive environmental enrichment program for sheep in our care.
2. **Responsibility:** Facility managers/supervisors, husbandry and veterinary staff, and principal investigators/laboratory animal coordinators.
3. **Procedures:** The purpose of environmental enrichment is to enhance the overall well-being of the animals. Exhibiting normal species-specific behaviors in association with environmental enrichment strategies is an indication of well-being. In addition, displaying a balanced temperament, with no evidence of maladaptive behaviors or clinical signs of chronic distress is indicative of the animals' ability to cope with the stressors associated with their social and physical environment (NRC, ILAR, 2011).
  - a. **Social Enhancement:** "A Sheep needs to be with other sheep... Sheep always try to maintain uninterrupted visual contact with at least one other sheep..." (Reinhardt and Reinhardt 2002).
    - i. Sheep are paired or grouped housed in their enclosures.
    - ii. In some cases, a sheep may be singly housed. Examples include:
      1. Health concerns.
      2. An approved exception described in the IACUC protocol.
    - iii. When social housing is not feasible, non-contact techniques which may include, but are not limited to, the following:

1. Use of mirror panels in rooms. "The use of mirror panels during isolation can reduce the magnitude to this psychologically distressing situation" (Reinhardt and Reinhardt 2002).
2. Use of a deer decoy or "dummy" within room.
3. Housing in a manner that allows singly housed sheep to receive visual, olfactory, and auditory cues from their conspecifics. They should also be allowed to have limited tactile contact (i.e. able to touch snouts).
4. Extra positive interaction with human caretakers. Sheep should always have positive interaction with their caretakers, but additional time should be given to single housed sheep. (Liss, et al 2015). If a single sheep must be housed alone in a room without visual, olfactory, and auditory contact with conspecifics, use of a mirror or decoy and a minimum of 15 minutes social interaction with human caretakers is required daily.

- b. **Non-Social Enhancement:** Studies have demonstrated that animals have reduced stress if they are provided with the opportunity to have control of their environment (Stewart 2004).
- i. Sheep have full access to a room, and are housed on shavings (or other approved substrate), which have been documented as species-appropriate bedding.
  - ii. A different toy should be rotated into the enclosures every week (e.g. ball, Kong®, etc) to help preserve the items' novelty as well as to provide different opportunities for sheep to engage in species specific behaviors.
  - iii. The *Guide for the Care and Use of Agricultural Animals in Research and Teaching* states that, "Wool biting seems to be a redirected behavior of confined sheep. Strategies that have been used to prevent or stop wool biting include hanging chains above the surface of the pen, adding objects to the pen (e.g., basketballs, plastic bottles, or chewing bars), playing music, and altering the diet."
    1. **Sensory Enrichment:** Sheep receive at least 30 minutes of radio/music time every week. Any auditory enrichment provided will not exceed normal conversational volume level (approximately 60 dB). Music with strong beats or talk radio with loud voices (screaming, arguing) should be avoided ("Environmental Enrichment Guidelines" 2018).
    2. **Nutritional & Occupational Enhancement:** The *Ag Guide* also states that, "Devices that provide feed supplements when manipulated by licking or pushing with the head may occupy the animals' attention." Sheep can spend approximately 8 hours a day grazing and travel several kilometers (Reinhardt 2002).
      - i. A Buster Ball®, or similar device, may be suspended from the ceiling and filled with Likit® flavors in an effort to simulate foraging.

- ii Additionally, a device such as a large 10" diameter ball with three, 3" holes (Ferret Ball®) may be stuffed with hay to allow the sheep an opportunity to push it around and "work" for it. A hay bag may also be used.
- iii Food treats like raisins and Fig Newtons, or other nutritional enhancement approved by veterinarian prior to use, may also be provided as a positive reinforcement reward by DCM staff and research staff.
- iv Salt and/or mineral blocks may be used if not contraindicated by research objectives. NOTE: Copper levels of 0.01mg/g (10ppm) are TOXIC. Check copper content of feeds and minerals before giving.

#### 4. Documentation:

- a. Nutritional enhancement, radio, and food treats are all documented on the weekly Sheep Enrichment Log. It is located on the door of the animal holding room.

### References

- 1) National Research Council, Institute of Laboratory Animal Research, Guide for the Care and Use of Laboratory Animals. Washington: National Academy Press, 2011.
- 2) "Environmental Enrichment Guidelines." Environmental Enrichment Guidelines, University of California, Berkeley. Animal Care and Use Program, 14 Mar. 2018, [acuc.berkeley.edu/guidelines/environmental\\_enrichment.pdf](http://acuc.berkeley.edu/guidelines/environmental_enrichment.pdf).
- 3) Stewart, KL and Bayne, K. Environmental Enrichment for Laboratory Animals. In: JD Reuter and MA Suckows, eds. Laboratory Animal Medicine and Management. IVIS, 2004.
- 4) Reinhardt, V and Reinhardt, A., eds. Comfortable Quarters for Laboratory Animals. Animal Welfare Institute. Ninth edition, 2002.
- 5) Liss, C., Litwak, K., Tilford, D., and Reinhardt, V., eds. Comfortable Quarters for Laboratory Animals. Animal Welfare Institute. Tenth edition, 2015.
- 6) Reinhardt, V. and Reinhardt, A., eds. Comfortable Quarters for Laboratory Animals. Animal Welfare Institute. Tenth Edition, 2015.
- 7) Federation of Animal Science Societies. The Guide for the Care and Use of Agricultural Animals in Research and Teaching. Third edition, 2010.

### Appendices

- 1) Example Sheep Enrichment Log
- 2) Examples of Sheep Appropriate Toys
- 3) Sheep Nutritional Enhancement List

### Changes to Version Dated 04-20-17





- Added two non-contact techniques of housing to allow for "visual, olfactory, and auditory cues from conspecifics" and "extra positive interaction with human caretakers"
- Added use of toy rotation every week
- Removed statement of sheep being neophobic, negating the need for a toy rotation

- Updated sensory enrichment statement to be consistent with other EE plans in regards to decibel level and type of music/radio allowed
- Added note to check copper level of salt/mineral blocks before giving to sheep to avoid toxicity
- Updated reference list
- Updated example of sheep enrichment log
- Added 2 appendices, "Example of Sheep Appropriate Toys" and "Sheep Nutritional Enhancement List"

### Example Sheep Enrichment Log

| Sheep Enrichment Log |        | Building: _____ |   |   |         |   |   |   |           |   |   |   |          |   |   |   |        |   |   |   |     | Room: _____ |  |
|----------------------|--------|-----------------|---|---|---------|---|---|---|-----------|---|---|---|----------|---|---|---|--------|---|---|---|-----|-------------|--|
| Jan-19               | Monday |                 |   |   | Tuesday |   |   |   | Wednesday |   |   |   | Thursday |   |   |   | Friday |   |   |   | Sat | Sun         |  |
|                      | TR     | S               | R | H | TR      | S | R | H | TR        | S | R | H | TR       | S | R | H | TR     | S | R | H |     |             |  |
| Week 1 (6-13)        |        |                 |   |   |         |   |   |   |           |   |   |   |          |   |   |   |        |   |   |   |     |             |  |
| Buster Ball given:   |        |                 |   |   |         |   |   |   |           |   |   |   |          |   |   |   |        |   |   |   |     |             |  |
| Fruit/Veg:           |        |                 |   |   |         |   |   |   |           |   |   |   |          |   |   |   |        |   |   |   |     |             |  |
| Notes/ Animal IDs    |        |                 |   |   |         |   |   |   |           |   |   |   |          |   |   |   |        |   |   |   |     |             |  |
| Week 1 (14-20)       |        |                 |   |   |         |   |   |   |           |   |   |   |          |   |   |   |        |   |   |   |     |             |  |
| Buster Ball given:   |        |                 |   |   |         |   |   |   |           |   |   |   |          |   |   |   |        |   |   |   |     |             |  |
| Fruit/Veg:           |        |                 |   |   |         |   |   |   |           |   |   |   |          |   |   |   |        |   |   |   |     |             |  |
| Notes/ Animal IDs    |        |                 |   |   |         |   |   |   |           |   |   |   |          |   |   |   |        |   |   |   |     |             |  |
| Week 1 (21-27)       |        |                 |   |   |         |   |   |   |           |   |   |   |          |   |   |   |        |   |   |   |     |             |  |
| Buster Ball given:   |        |                 |   |   |         |   |   |   |           |   |   |   |          |   |   |   |        |   |   |   |     |             |  |
| Fruit/Veg:           |        |                 |   |   |         |   |   |   |           |   |   |   |          |   |   |   |        |   |   |   |     |             |  |
| Notes/ Animal IDs    |        |                 |   |   |         |   |   |   |           |   |   |   |          |   |   |   |        |   |   |   |     |             |  |
| Week 1 (28-1/3)      |        |                 |   |   |         |   |   |   |           |   |   |   |          |   |   |   |        |   |   |   |     |             |  |
| Buster Ball given:   |        |                 |   |   |         |   |   |   |           |   |   |   |          |   |   |   |        |   |   |   |     |             |  |
| Fruit/Veg:           |        |                 |   |   |         |   |   |   |           |   |   |   |          |   |   |   |        |   |   |   |     |             |  |
| Notes/ Animal IDs    |        |                 |   |   |         |   |   |   |           |   |   |   |          |   |   |   |        |   |   |   |     |             |  |

**Toy Rotation (TR):** Record toy rotation as it occurs at *least* once a week (initial box when completed)  
**Socialization (S):** If a sheep is housed singly in the room, provide 15 minutes of human social interaction daily.  
**Radio/CD (R):** Animals are given 30 minutes *minimum* per week. Time can be recorded or initial box if full time was given on one day.  
**Timothy Hay (H):** Hay given daily. Stuff hay into foraging toy.  
**Buster Ball Given:** Buster ball with edible Lik-it insert given daily  
**Fruit/Veg:** Write novel food item given, 1-3x per week. Additional treats should be noted here.

|   |   |   |   |
|---|---|---|---|
|  |  |  |  |
| Week 1  | Week 2  | Week 3  | Week 4  |

Weekly Toy Rotation

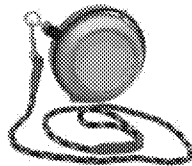
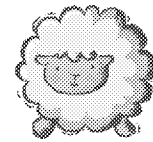
Mirror panel or decoy provided for single sheep in room (initial and date) \_\_\_\_\_

Weekly review by supervisor or designee: \_\_\_\_\_

## Examples of Sheep Appropriate Toys



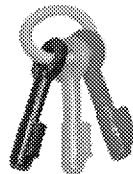
# Sheep Toys



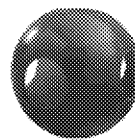
Boredom Buster



Likit refills



Large Flexi-keys



Large "Ferret Ball"



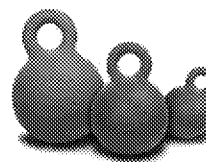
Large Kong



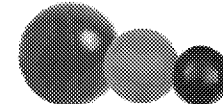
DNA Flexer



Big Red Apple



Soft Flex Ball



Best-Balls



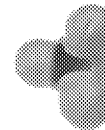
Bionic Bone



Dumbbells

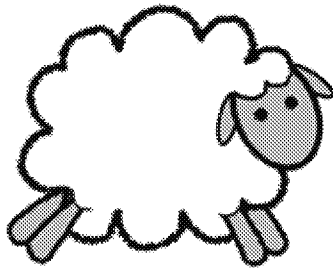


Goodie Bone



Tux

## Sheep Nutritional Enhancement List



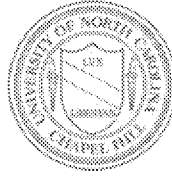
### Sheep Nutritional Enhancement List

|                |  |
|----------------|--|
| Apple          | Mardi Gras Foraging Mix                          |
| Banana Chips   | Mint   |
| Basil          | Papaya   |
| Bell pepper    | Parsley  |
| Cabbage        | Pear   |
| Carrot         | Popcorn  |
| Celery         | Pumpkin  |
| Cilantro       | Raisin   |
| Cranberry      | Romaine  |
| Cucumber       | Squash   |
| Endive/Chicory | Sweet Potato                                     |
| Escarole       | Swiss Chard                                      |
| Fig Newton     | Timothy Hay Cubes                                |
| Grapes         | Veggie Bites, Bio-Serv                           |
| Kale           | Veggie Chips, Bio-Serv                           |
| Likit          | **Any item approved by veterinarian prior to use |

All fruits and vegetables are to be prepared according to the DCM SOP "Washing Fruits and Vegetables"

Created 4/24/18 Updated 1/4/19





## ***Swine in Long-Term Housing Environmental Enhancement Plan***

***University of North Carolina - Chapel Hill***

***Origination Date: October 2, 2015***

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**Introduction:** The *Guide for the Care and Use of Laboratory Animals* (NRC, 2011) states that, "The primary aim of environmental enrichment is to enhance animal well-being by providing animals with sensory and motor stimulation, through structures and resources that facilitate the expression of species-typical behaviors and promote psychological well-being through physical exercise, manipulative activities, and cognitive challenges according to species-specific characteristics."

The *Guide* further states that, "Well-conceived enrichment provides animals with choices and a degree of control over their environment, which allows them to better cope with environmental stressors."

1. **Purpose:** The objective of this document is to describe a proper and inclusive environmental enrichment program for swine housed for longer than 6 months in our care.
2. **Responsibility:** Facility managers/supervisors, husbandry and veterinary staff, and principal investigators/laboratory animal coordinators.
3. **Procedures:** The purpose of environmental enrichment is to enhance the overall wellbeing of the animals. Exhibiting normal species-specific behaviors in association with environmental enrichment strategies is an indication of well-being. In addition, displaying a balanced temperament, with no evidence of maladaptive behaviors or clinical signs of chronic distress is indicative of the animals' ability to cope with the stressors associated with their social and physical environment (NRC, ILAR, 1998).
  - a. **Social Enhancement:** "Pigs are highly social animals prone to living in stable groupings of sows and their piglets or young bachelor boars. Only older boars tend to live alone in the wild (Ellegaard et al, 2010, as cited by (Croney, 2014)).
    - i. Pigs are paired or grouped housed in their enclosures.
    - ii. In some cases, a pig may be singly housed. Examples include:
      1. Incompatibility.
      2. Health concerns.
      3. An approved exception described in the IACUC protocol.

- iii. Pigs receive “scratch time” from caretakers each week, using handheld brooms or gloved hands. This may be omitted for individual animals that do not like scratch time, as determined by the facility manager/supervisor. Amount of scratch time is recorded on the enrichment log. “Caretakers can develop positive social contact with pigs by... stroking or scratching pigs that approach.” (FASS, 2010).
- iv. Pigs may be brought out of their pens for walking exercise. Amount of time out of pen is recorded on the enrichment log.
- v. Yucatan pigs should have cocoa butter or baby oil applied to their skin at least once per week, or as needed, to prevent dry skin.
- vi. When social housing is not feasible, other techniques will be provided which may include, but are not limited to, the following:
  - 1. Housing in a manner that allows singly housed pigs to receive visual, olfactory, and auditory cues from their conspecifics. They should also be allowed to have limited tactile contact (i.e. able to touch snouts).
  - 2. Extra positive interaction with human caretakers. Pigs should always have positive interaction with their caretakers, but additional time should be given to singly housed pigs. (Reinhardt and Reinhardt 2002).
  - 3. Use of mirror panels in pens (Croney 2014), if a single pig must be housed alone in a room without visual, olfactory, tactile, and auditory contact with conspecifics.

**b. Non-Social Enhancement:** Studies have demonstrated that animals have reduced stress if they are provided with the opportunity to have control of their environment (Stewart 2004).

**i. Toys**

- 1. A different toy should be rotated into the enclosures every week (e.g. ball, Kong®, etc) to help preserve the items’ novelty as well as to provide different opportunities for pigs to engage in species specific behaviors.
- 2. A cage-front toy and a suspended toy may be provided (e.g. Big Red Apple®, chew chain, triangle rattle, Jolly Ball®) unless contraindicated by research goals.

**ii. Sensory Enrichment**

- 1. Pigs receive at least 30 minutes of radio/music time every week, except during times at the Frances Owen Blood Research Lab when the radio cannot be heard due to the noise of fans in the animal room (i.e. warmer months). Radio time may be in the form of music or talk radio. The music that is played is especially composed for animals (the Mind, Body, Soul series®) or something similar, such as light classical music.

- iii. **Nutritional & Occupational Enhancement:** Enrichment that stimulates foraging and exploratory behaviors is important for pigs (Van de Weerd et al., 2003).
  1. A large Kong® toy may be filled with approved food treats listed on the Swine Nutritional Enhancement List, or commercially available food treats specifically for swine.
  2. Pigs may receive fresh fruits and vegetables or other approved food treats, provided this does not contraindicate research goals.

#### 4. Documentation:

- a. Nutritional enhancement, radio, scratch time, walk time, cocoa butter, and food treats are all documented weekly on the Swine Enrichment Log. It is located on the door of the animal holding room.
- b. Treats given must be documented on the enrichment log. DCM staff should refer to the log so as to avoid giving too much of one type of treat.
- c. Individual animals may not like certain aspects of the enhancement plan. Individual preferences should be taken into account.

#### References

- 1) National Research Council, Institute of Laboratory Animal Research, Guide for the Care and Use of Laboratory Animals. Washington: National Academy Press, 2011.
- 2) Croney, C. (2014, Spring). Let's Stay Together: Implications of Social Housing for Laboratory Pig Welfare and Management. *The Enrichment Record*, pp. 14-19.
- 3) Federation of Animal Science Societies. The Guide for the Care and Use of Agricultural Animals in Research and Teaching. Third Edition, 2010.
- 4) Stewart, KL and Bayne, K. Environmental Enrichment for Laboratory Animals. In: JD Reuter and MA Suckows (eds). Laboratory Animal Medicine and Management. IVIS, 2004.
- 5) Reinhardt, V. and Reinhardt, A., eds. Comfortable Quarters for Laboratory Animals. Animal Welfare Institute. Ninth Edition, 2002.
- 6) Van de Weerd, HA and Day, JE. (2009). A review of environmental enrichment for pigs housed in intensive housing systems. *Applied Animal Behaviour Science*, 1-20.
- 7) Van de Weerd, HA, Docking, CM, Day, JE, Avery, PJ, and Edwards, SA. (2003). A systematic approach towards developing environmental enrichment for pigs. *Applied Animal Behaviour Science*, 101-118.

#### Appendices

1. Swine Enrichment Log Example
2. Examples of Swine Appropriate Toys
3. Swine Nutritional Enhancement List

#### Changes to Version Dated 09-16-16

- Revised the use of cocoa butter or baby oil for Yucatan pigs from twice to once weekly
- Update to reflect Division name change on 07-11-17. Didn't change revision date.

## Example of Swine Enrichment Log

| Swine Enrichment Log |        |    |    |   |         |    |    |   |           |    |    |   |          |    |    |   |        |    |    | Room: _____ |  |
|----------------------|--------|----|----|---|---------|----|----|---|-----------|----|----|---|----------|----|----|---|--------|----|----|-------------|--|
| Feb-15               | Monday |    |    |   | Tuesday |    |    |   | Wednesday |    |    |   | Thursday |    |    |   | Friday |    |    |             |  |
|                      | ST     | TR | WT | R | ST      | TR | WT | R | ST        | TR | WT | R | ST       | TR | WT | R | ST     | TR | WT | R           |  |
| <b>Week 1</b>        |        |    |    |   |         |    |    |   |           |    |    |   |          |    |    |   |        |    |    |             |  |
| Treats Given:        |        |    |    |   |         |    |    |   |           |    |    |   |          |    |    |   |        |    |    |             |  |
| Notes/ Animal IDs    |        |    |    |   |         |    |    |   |           |    |    |   |          |    |    |   |        |    |    |             |  |
| <b>Week 2</b>        |        |    |    |   |         |    |    |   |           |    |    |   |          |    |    |   |        |    |    |             |  |
| Treats Given:        |        |    |    |   |         |    |    |   |           |    |    |   |          |    |    |   |        |    |    |             |  |
| Notes/ Animal IDs    |        |    |    |   |         |    |    |   |           |    |    |   |          |    |    |   |        |    |    |             |  |
| <b>Week 3</b>        |        |    |    |   |         |    |    |   |           |    |    |   |          |    |    |   |        |    |    |             |  |
| Treats Given:        |        |    |    |   |         |    |    |   |           |    |    |   |          |    |    |   |        |    |    |             |  |
| Notes/ Animal IDs    |        |    |    |   |         |    |    |   |           |    |    |   |          |    |    |   |        |    |    |             |  |
| <b>Week 4</b>        |        |    |    |   |         |    |    |   |           |    |    |   |          |    |    |   |        |    |    |             |  |
| Treats Given:        |        |    |    |   |         |    |    |   |           |    |    |   |          |    |    |   |        |    |    |             |  |
| Notes/ Animal IDs    |        |    |    |   |         |    |    |   |           |    |    |   |          |    |    |   |        |    |    |             |  |

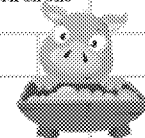
ST= Scratch time per week. Please record amount of scratch time provided weekly and note animal IDs in the Notes/Animal IDs field. Initial box when completed.

TR= Toy Rotation Record toy rotation as it occurs once a week. (initial box when toy rotation is completed)

WT= Walk time per week. If pigs are brought out of pens to walk, please record the amount of time and animal ID in the Notes/Animal IDs field and initial box when completed.

R= Radio/CD music per week. Animals are given a min. 30min per week. (Time per day can be recorded or initial box if full 30 min was given on one day.

Treats Given: Please note any treats given in this space.



## Examples of Acceptable Toys



## Swine Nutritional Enhancement List

|                                      |   |
|--------------------------------------|---|
| Apples                               | Melon   |
| Artichoke                            | Peas  |
| Arugula                              | Pears   |
| Asparagus                            | Popcorn                                       |
| Avocado (without skin/pit)           | Pumpkin                                       |
| Bananas                              | Radish  |
| Bean sprouts                         | Seedless Grapes                               |
| Beet                                 | Spinach                                       |
| Belgian endive                       | Squash  |
| Bell pepper                          | Swiss chard                                   |
| Berries                              | Sweet potatoes                                |
| Broccoli                             | Tomato  |
| Brussels sprouts                     | Veggie Chips (Bio-Serv)                       |
| Cabbage                              | Veggie Bites (Bio-Serv)                       |
| Carrot                               | Watercress                                    |
| Cauliflower                          | Yogurt  |
| Corn (without cob)                   | Cookies*                                      |
| Cucumber                             | Pudding*                                      |
| Eggplant                             | Marshmallows*                                 |
| Green beans                          | Twinkies*                                     |
| Greens (collard, kale, mustard, etc) | Karo Syrup*                                   |
| Jell-O                               | Any other nutritional enhancement approved by |
| Lettuce                              | veterinarian prior to use                     |

**\*Should be given in moderation**

**All fruits and vegetables are to be prepared according to the DCM "Washing Fruits and Vegetables" SOP**



## ***Swine in Short-Term Housing Environmental Enhancement Plan***

***University of North Carolina - Chapel Hill***

***Origination Date: October 2, 2015***

---

**Introduction:** The *Guide for the Care and Use of Laboratory Animals* (NRC, 2011) states that, "The primary aim of environmental enrichment is to enhance animal well-being by providing animals with sensory and motor stimulation, through structures and resources that facilitate the expression of species-typical behaviors and promote psychological well-being through physical exercise, manipulative activities, and cognitive challenges according to species-specific characteristics."

The *Guide* further states that, "Well-conceived enrichment provides animals with choices and a degree of control over their environment, which allows them to better cope with environmental stressors."

1. **Purpose:** The objective of this document is to describe a proper and inclusive environmental enrichment program for swine housed for fewer than 6 months in our care.
2. **Responsibility:** Facility managers/supervisors, husbandry and veterinary staff, and principal investigators/laboratory animal coordinators.
3. **Procedures:** The purpose of environmental enrichment is to enhance the overall wellbeing of the animals. Exhibiting normal species-specific behaviors in association with environmental enrichment strategies is an indication of well-being. In addition, displaying a balanced temperament, with no evidence of maladaptive behaviors or clinical signs of chronic distress is indicative of the animals' ability to cope with the stressors associated with their social and physical environment (NRC, ILAR, 1998).
  - a. **Social Enhancement:** "Pigs are highly social animals prone to living in stable groupings of sows and their piglets or young bachelor boars. Only older boars tend to live alone in the wild (Ellegaard et al, 2010, as cited by (Croney, 2014)).
    - i. Pigs are paired or grouped housed in their enclosures.
    - ii. In some cases, a pig may be singly housed. Examples include:
      1. Incompatibility.
      2. Health concerns.



3. An approved exception described in the IACUC protocol.
- iii. When social housing is not feasible, other techniques will be provided which may include, but are not limited to, the following:
  1. Housing in a manner that allows singly housed pigs to receive visual, olfactory, and auditory cues from their conspecifics. They should also be allowed to have limited tactile contact (i.e. able to touch snouts).
  2. Extra positive interaction with human caretakers. Pigs should always have positive interaction with their caretakers, but additional time should be given to singly housed pigs. (Reinhardt and Reinhardt 2002).
  3. If a single pig must be housed alone in a room without visual, olfactory, tactile, and auditory contact with conspecifics, use of mirror panels in pens (Croney 2014) and minimum 15 minutes social interaction with human caretakers is required daily.

b. **Non-Social Enhancement:** Studies have demonstrated that animals have reduced stress if they are provided with the opportunity to have control of their environment (Stewart 2004).

- i. A different toy should be rotated into the enclosures every week (e.g. ball, Kong®, etc) to help preserve the items' novelty as well as to provide different opportunities for pigs to engage in species specific behaviors.
- ii. A cage-front toy and a suspended toy may be provided (e.g. Big Red Apple®, chew chain, triangle rattle, Jolly Ball®) unless contraindicated by research goals.

iii. **Sensory Enrichment:**

1. Pigs receive at least 30 minutes of radio/music time every week. Any auditory enrichment provided will not exceed normal conversational volume level (approximately 60 dB). Music with strong beats or talk radio with loud voices (screaming, arguing) should be avoided ("Environmental Enrichment Guidelines" 2018).

iv. **Nutritional & Occupational Enhancement:** Enrichment that stimulates foraging and exploratory behaviors is important for pigs (Van de Weerd et al., 2003).

1. A large foraging toy (such as a Kong® toy) may be filled with dispensable approved food treats listed on the Swine Nutritional Enhancement List, or commercially available food treats specifically for swine, to encourage rooting behavior.
2. Pigs are also on a rotating schedule of approved fresh fruits and vegetables. They should receive these items every Monday, Wednesday, and Friday.

4. **Documentation:**

- a. Nutritional enhancement, radio, and food treats are all documented weekly on the Swine Enrichment Log. It is located on the door of the animal holding room.

## References

- 1) National Research Council, Institute of Laboratory Animal Research, Guide for the Care and Use of Laboratory Animals. Washington: National Academy Press, 2011.
- 2) Croney, C. (2014, Spring). Let's Stay Together: Implications of Social Housing for Laboratory Pig Welfare and Management. *The Enrichment Record*, pp. 14-19.
- 3) "Environmental Enrichment Guidelines." Environmental Enrichment Guidelines, University of California, Berkeley. Animal Care and Use Program, 14 Mar. 2018, [acuc.berkeley.edu/guidelines/environmental\\_enrichment.pdf](http://acuc.berkeley.edu/guidelines/environmental_enrichment.pdf).
- 4) Federation of Animal Science Societies. The Guide for the Care and Use of Agricultural Animals in Research and Teaching. Third Edition, 2010.
- 5) Stewart, KL and Bayne, K. Environmental Enrichment for Laboratory Animals. In: JD Reuter and MA Suckows (eds). Laboratory Animal Medicine and Management. IVIS, 2004.
- 6) Reinhardt, V. and Reinhardt, A., eds. Comfortable Quarters for Laboratory Animals. Animal Welfare Institute. Ninth Edition, 2002.
- 7) Van de Weerd, HA and Day, JE. (2009). A review of environmental enrichment for pigs housed in intensive housing systems. *Applied Animal Behaviour Science*, 1-20.
- 8) Van de Weerd, HA, Docking, CM, Day, JE, Avery, PJ, and Edwards, SA. (2003). A systematic approach towards developing environmental enrichment for pigs. *Applied Animal Behaviour Science*, 101-118.

## Appendices

1. Swine Enrichment Log Example
2. Examples of Swine Appropriate Toys
3. Swine Nutritional Enhancement List

### **Changes to Version Dated 04-04-17**

- Added requirement for pig housed alone in a room to have a minimum of 15 minutes of social interaction per day
- Added guidelines for auditory enrichment (levels/types of enrichment)
- Updated stipulation for foraging toy to be filled with dispensable enrichment to encourage rooting behavior
- Added new reference for "Environmental Enrichment Guidelines"
- Updated example of swine enrichment log





## Example of Swine Enrichment Log

| Swine Enrichment Log |         |   | Bldg: <u>Berryhill</u> |         |   | Room: <u>SB-12</u> |              |   |   |          |   |   |         |   |   |     |     |
|----------------------|---------|---|------------------------|---------|---|--------------------|--------------|---|---|----------|---|---|---------|---|---|-----|-----|
| Sep-18               | Monday  |   |                        | Tuesday |   |                    | Wednesday    |   |   | Thursday |   |   | Friday  |   |   | Sat | Sun |
|                      | TR      | S | R                      | TR      | S | R                  | TR           | S | R | TR       | S | R | TR      | S | R | S   | S   |
| Week 1 (3-7)         |         |   |                        |         |   |                    |              |   |   |          |   |   |         |   |   |     |     |
| Fruit/Veg            | Pear    |   |                        |         |   |                    | Carrots      |   |   |          |   |   | Cookies |   |   |     |     |
| Notes/ Animal IDs    |         |   |                        |         |   |                    |              |   |   |          |   |   |         |   |   |     |     |
| Week 2 (10-14)       |         |   |                        |         |   |                    |              |   |   |          |   |   |         |   |   |     |     |
| Fruit/Veg            | Jell-O  |   |                        |         |   |                    | Veggie Chips |   |   |          |   |   | Grapes  |   |   |     |     |
| Notes/ Animal IDs    |         |   |                        |         |   |                    |              |   |   |          |   |   |         |   |   |     |     |
| Week 3 (17-21)       |         |   |                        |         |   |                    |              |   |   |          |   |   |         |   |   |     |     |
| Fruit/Veg            | Carrots |   |                        |         |   |                    | Romaine      |   |   |          |   |   | Berries |   |   |     |     |
| Notes/ Animal IDs    |         |   |                        |         |   |                    |              |   |   |          |   |   |         |   |   |     |     |
| Week 4 (24-28)       |         |   |                        |         |   |                    |              |   |   |          |   |   |         |   |   |     |     |
| Fruit/Veg            | Pudding |   |                        |         |   |                    | Carrots      |   |   |          |   |   | Apples  |   |   |     |     |
| Notes/ Animal IDs    |         |   |                        |         |   |                    |              |   |   |          |   |   |         |   |   |     |     |

**Toy Rotation (TR):** Record toy rotation as it occurs once a week (initial box when toy rotation is completed)

**Radio/Music (R):** Animals are given 30min *minimum* per week. Time can be recorded or initial box if full time was given on one day

**Socialization (S):** If a pig is housed singly in the room, provide 15 minutes of human social interaction daily.

| Weekly Toy Rotation | Week 1  | Week 2  | Week 3  | Week 4  |
|---------------------|---|---|---|---|
|                     |  |  |  |  |

A cage front toy (e.g. Triangle) and a suspended toy should always be present.

Mirror panel provided for single pig in room (initial and date) \_\_\_\_\_

Weekly review by supervisor or designee: \_\_\_\_\_

## Examples of Acceptable Toys

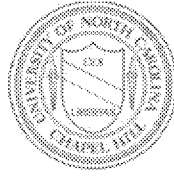


## Swine Nutritional Enhancement List

|                                      |   |
|--------------------------------------|---|
| Apples                               | Melon   |
| Artichoke                            | Peas  |
| Arugula                              | Pears   |
| Asparagus                            | Popcorn   |
| Avocado (without skin/pit)           | Pumpkin   |
| Bananas                              | Radish  |
| Bean sprouts                         | Seedless Grapes   |
| Beet                                 | Spinach   |
| Belgian endive                       | Squash  |
| Bell pepper                          | Swiss chard   |
| Berries                              | Sweet potatoes  |
| Broccoli                             | Timothy Hay   |
| Brussels sprouts                     | Tomato  |
| Cabbage                              | Veggie Chips (Bio-Serv)   |
| Carrot                               | Veggie Bites (Bio-Serv)   |
| Cauliflower                          | Watercress  |
| Corn (without cob)                   | Yogurt  |
| Cucumber                             | Cookies*  |
| Eggplant                             | Pudding*  |
| Green beans                          | Marshmallows*   |
| Greens (collard, kale, mustard, etc) | Twinkies*   |
| Jell-O                               | Karo Syrup*   |
| Lettuce                              | Any other nutritional enhancement approved by veterinarian prior to use |

**\*Should be given in moderation**

**All fruits and vegetables are to be prepared according to the DCM "Washing Fruits and Vegetables" SOP**



## ***Xenopus Environmental Enhancement Plan***

***University of North Carolina-Chapel Hill***

***Origination Date: November 11, 2016***

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**Introduction:** The *Guide for the Care and Use of Laboratory Animals* (NRC, 2011)<sup>1</sup> states that, "The primary aim of environmental enrichment is to enhance animal well-being by providing animals with sensory and motor stimulation, through structures and resources that facilitate the expression of species-typical behaviors and promote psychological well-being through physical exercise, manipulative activities, and cognitive challenges according to species-specific characteristics."

The *Guide* further states that, "Well-conceived enrichment provides animals with choices and a degree of control over their environment, which allows them to better cope with environmental stressors."<sup>1</sup>

1. **Purpose:** The objective of this document is to describe a proper and inclusive environmental enrichment program for all *Xenopus spp.* in our care.
2. **Responsibility:** Facility managers/supervisors, husbandry and veterinary staff, and principal investigators/laboratory animal coordinators.
3. **Procedures:** The purpose of environmental enrichment is to enhance the overall well-being of the animals. Exhibiting normal species-specific behaviors in association with environmental enrichment strategies is an indication of well-being. In addition, displaying a balanced temperament, with no evidence of maladaptive behaviors or clinical signs of chronic distress is indicative of the animals' ability to cope with the stressors associated with their social and physical environment (NRC, ILAR, 1998).<sup>2</sup> All *Xenopus* should be provided with at least one form of the following enrichment:
  - a. **Social Enhancement:** *Xenopus* should be housed in groups because "efficient group feeding in this species involves feeding frenzies that are not as prevalent when only very small numbers are kept together." (Reed, 2005)
    - i. *Xenopus* should be housed in groups large enough to promote efficient feeding, but not so large as to cause fighting and cannibalism. Frogs housed together should be of similar size. Generally a minimum of 5 to 6 frogs per tank is advisable (Reed, 2005). Frog size should be taken into consideration when group housing.
    - ii. In certain instances, a *Xenopus* may be singly housed. Examples include:
      1. Incompatibility with tank mates.

2. Health concerns
  3. An approved exception described in the IACUC protocol.
- b. **Non-Social Enhancement:** Studies have demonstrated that animals have reduced stress if they are provided with the opportunity to have control of their environment (Stewart 2004).<sup>3</sup>
- i. *Xenopus* may be provided a place to take cover. Larger frogs have been known to chase and fight smaller cohorts when no cover is available, and healthy frogs “seek cover when unexpected vibrations occur in the tank” (Chum, et al., 2013). They appear to prefer having places to hide (Harr, et al., 2015). Such hiding places may include:
    1. Plastic plants
    2. Floating items to provide cover from above (e.g. lily pad)
    3. Tanks are tinted to reduce light, and to prevent startling the frogs from activity outside the tank.
- c. **Documentation:** If frogs do not receive any form of the above enrichment, the lab staff is responsible for documenting the reason.
- i. The lab can file for an exception if no enrichment is routine for their colony or subset of a colony.

## References

- National Research Council, Institute of Laboratory Animal Research. (2011). *Guide for the Care and Use of Laboratory Animals*. Washington, DC: National Academy Press.
- Chum, H., Felt, S., Garner, J., & Green, S. (2013). Biology, behavior, and environmental enrichment for the captive African clawed frog (*Xenopus* spp). *Applied Animal Behaviour Science*, 150-156.
- Harr, J., Coyne, L., Chaudry, A., & Halliwell, R. F. (2015, July 27). *A Study of the Impact of Environmental Enrichment on Xenopus Laevis Oocytes*. Retrieved from Animal Welfare Institute: <http://awionline.org/>
- Reed, B. T. (2005). *Guidance on the Housing and Care of the African Clawed Frog (Xenopus laevis)*. Research Animals Department- RSPCA.
- Stewart, K., & Bayne, K. (2004). Environmental Enrichment for Laboratory Animals. In J. Reuter, & M. Suckows, *Laboratory Animal Medicine and Management*. IVIS.



# Performance Based Items and Guide Exceptions

# Division of Comparative Medicine (DCM) Facilities and Management

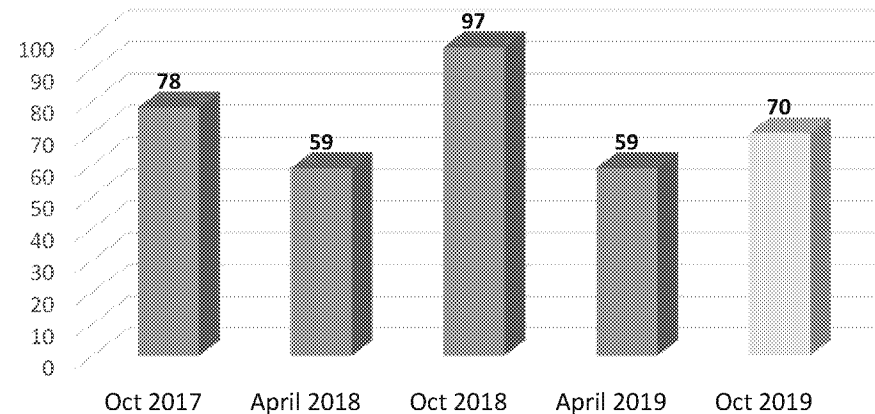
# Grant Congruency

## Total Congruency Reviews conducted

Oct 2017 - Oct 2019

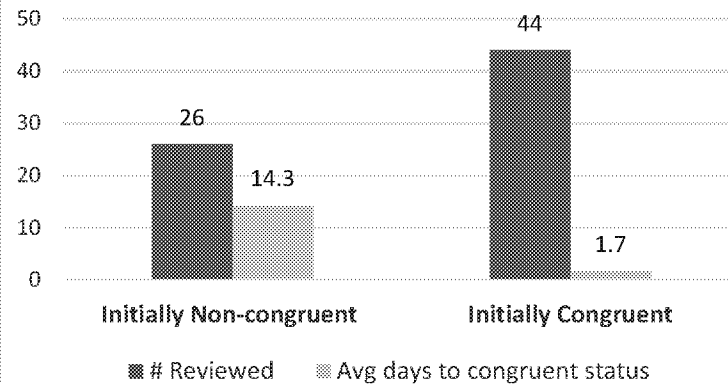
| Oct 2017 | April 2018 | Oct 2018 | April 2019 | Oct 2019 |
|----------|------------|----------|------------|----------|
| 78       | 59         | 97       | 59         | 70       |

**Congruency reviews conducted over time**



|                              | Initially Non-congruent | Initially Congruent | Total Resolved | Total Reviewed |
|------------------------------|-------------------------|---------------------|----------------|----------------|
| # Reviewed                   | 26                      | 44                  | 70             | 70             |
| Avg days to congruent status | 14.3                    | 1.7                 |                |                |

**This period: Total grants per category - Time to congruency status established**

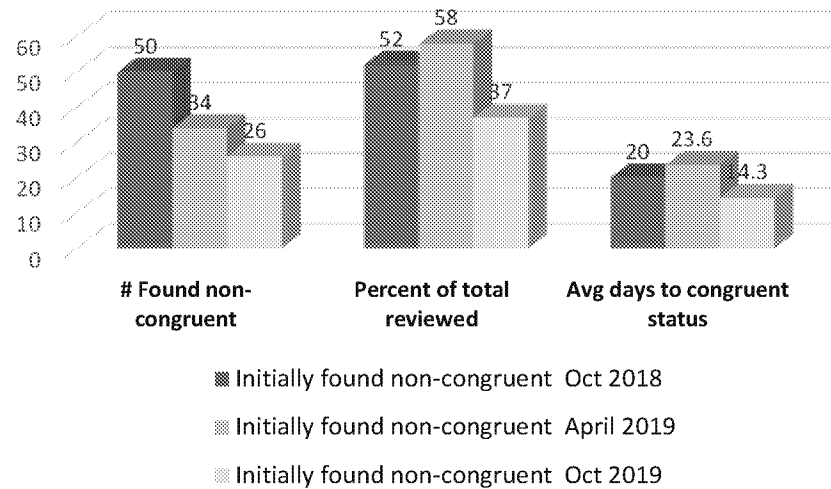


#### Percent of non congruent reviews over time

| Program review period | Number found non-congruent | Percent of total | Days to congruent |
|-----------------------|----------------------------|------------------|-------------------|
| 17-Apr                | 16 of 40                   | 40               | 16.8              |
| 17-Oct                | 36 of 78                   | 46               | 16.3              |
| 18-Apr                | 26 of 58                   | 45               | 30                |
| 18-Oct                | 50 of 97                   | 52               | 20                |
| 19-Apr                | 34 of 59                   | 58               | 23.6              |
| 19-Oct                | 26 of 70                   | 37               | 14.3              |

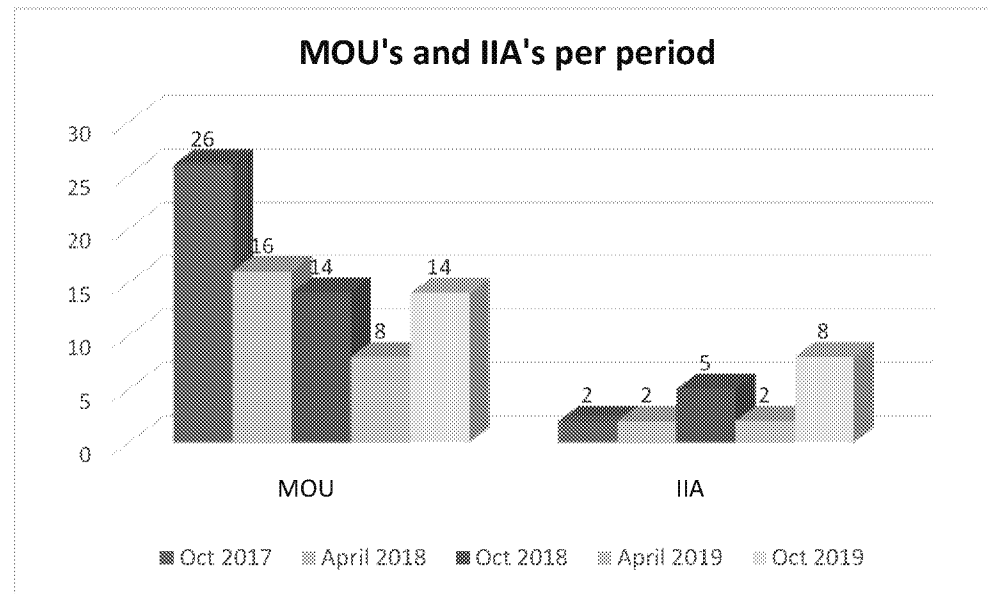
|                              | Initially found non-congruent |            |          |
|------------------------------|-------------------------------|------------|----------|
|                              | Oct 2018                      | April 2019 | Oct 2019 |
| # Found non-congruent        | 50                            | 34         | 26       |
| Percent of total reviewed    | 52                            | 58         | 37       |
| Avg days to congruent status | 20                            | 23.6       | 14.3     |

#### Progress with non-congruent reviews



# Periods Oct 2017 - Oct 2019

|     | Oct 2017 | April 2018 | Oct 2018 | April 2019 | Oct 2019 |
|-----|----------|------------|----------|------------|----------|
| MOU | 26       | 16         | 14       | 8          | 14       |
| IIA | 2        | 2          | 5        | 2          | 8        |



# DCM/IACUC Meeting Summaries



# General Updates

# OLAW Semi-Annual Program Review Checklist/Assurance Statement

# Semiannual Program Review and Facility Inspection Checklist

## About the checklist

The Semiannual Program Review and Facility Inspection Checklist is provided to assist institutions in conducting their semiannual reviews of programs and facilities for the care and use of animals. The Public Health Service (PHS) Policy on Humane Care and Use of Laboratory Animals ([Policy](#)), section [IV.B.1.-2.](#), requires the Institutional Animal Care and Use Committee (IACUC) to review the institution's program for humane care and use of animals and inspect all of the institution's animal facilities at least once every 6 months using the *Guide for the Care and Use of Laboratory Animals: Eighth Edition* ([Guide](#)) as a basis for evaluation.

## How to use the checklist

This checklist is a tool to assist IACUCs in conducting thorough semiannual reviews. IACUCs are not required to use this checklist but are encouraged to amend it as necessary to reflect institutional programs and needs, or to develop their own checklist. If the checklist is modified, periodic review of the checklist is recommended to ensure relevant topics are considered as the animal care and use program changes.

The checklist covers the major topics of the *Guide* and the requirements of the PHS Policy. The checklist does not replace the *Guide*, but should be utilized in conjunction with the *Guide*. The *Guide* provides the standards, recommendations, and descriptions of desired outcomes necessary to evaluate and inspect an animal care and use program. Relevant references for the *Guide* and the PHS Policy are noted. Endnotes are included to reference specific U.S. Department of Agriculture (USDA) regulatory requirements that differ from the PHS Policy. Topics that are new to this version of the checklist or identified as a "must" in the *Guide* are highlighted. A column to identify changes that have occurred in the institution's program for animal care and use (PHS Policy [IV.A.1.a.-i.](#)) since the last review is also a new feature.

The checklist consists of the following sections:

- I. Semiannual Program Review Checklist
  - Institutional Policies and Responsibilities
  - Veterinary Care
- II. Semiannual Facility Inspection Checklist
  - Terrestrial Animal Housing and Support Areas
  - Aquatic Animal Housing and Support Areas
  - Cagewash
  - Special Facilities: Aseptic Surgery
  - Special Facilities: Procedure Areas, Non-survival Surgeries, Laboratories, Rodent Surgeries, Imaging, Whole Body Irradiation, Hazardous Agent Containment, Behavioral Studies
- III. Semiannual Program Review and Facility Inspection Report
- IV. Endnotes

It is recommended that the Program Review section be completed during an IACUC meeting. Because physical aspects of a program require visual observation to evaluate, it is recommended that the Facility Inspection section be completed during an inspection of the facilities, including satellite facilities.

A table is provided, "Semiannual Program Review and Facility Inspection Report," as a format for the IACUC to organize and track information regarding deficiencies, and plans and schedules for correction. IACUCs may choose to attach the table to the Semiannual Report to the Institutional Official.

## Questions or comments?

Suggestions or comments about this checklist should be e-mailed to: [olawdpe@mail.nih.gov](mailto:olawdpe@mail.nih.gov).

# I. Semiannual Program Review Checklist <sup>i</sup>

## Institutional Policies and Responsibilities

Date:

| 1. Animal Care and Use Program <sup>NEW</sup>   |  | A* | M | S | C | NA |
|---|--|----|---|---|---|----|
| <ul style="list-style-type: none"> <li>Responsibility for animal well-being is assumed by all members of the program (<i>Guide</i>, p 1) [must]</li> </ul>  |  |    |   |   |   |    |
| <ul style="list-style-type: none"> <li>IO has authority to allocate needed resources (<i>Guide</i>, p 13)</li> </ul>  |  |    |   |   |   |    |
| <ul style="list-style-type: none"> <li>Resources necessary to manage program of veterinary care are provided (<i>Guide</i>, p 14) [must]</li> </ul>   |  |    |   |   |   |    |
| <ul style="list-style-type: none"> <li>Sufficient resources are available to manage the program, including training of personnel in accord with regulations and the <i>Guide</i> (<i>Guide</i>, pp 11, 15)</li> </ul>   |  |    |   |   |   |    |
| <ul style="list-style-type: none"> <li>Program needs are regularly communicated to IO by AV and/or IACUC (<i>Guide</i>, p 13)</li> </ul>  |  |    |   |   |   |    |
| <ul style="list-style-type: none"> <li>Responsibilities for daily animal care and facility management are assigned to specific individual(s) when a full-time veterinarian is not available on site (<i>Guide</i>, p 14) [must]</li> </ul>  |  |    |   |   |   |    |
| <ul style="list-style-type: none"> <li>Inter-institutional collaborations are described in formal written agreements (<i>Guide</i>, p 15)</li> </ul>  |  |    |   |   |   |    |
| <ul style="list-style-type: none"> <li>Written agreements address responsibilities, animal ownership, and IACUC oversight (<i>Guide</i>, p 15)</li> </ul>   |  |    |   |   |   |    |
| 2. Disaster Planning and Emergency Preparedness <sup>NEW</sup>  |  | A* | M | S | C | NA |
| <ul style="list-style-type: none"> <li>Disaster plans for each facility to include satellite locations are in place (<i>Guide</i>, p 35, p 75) [must]</li> </ul>  |  |    |   |   |   |    |
| <ul style="list-style-type: none"> <li>Plans include provisions for euthanasia (<i>Guide</i>, p 35) [must]</li> </ul>   |  |    |   |   |   |    |
| <ul style="list-style-type: none"> <li>Plans include triage plans to meet institutional and investigators' needs (<i>Guide</i>, p 35)</li> </ul>  |  |    |   |   |   |    |
| <ul style="list-style-type: none"> <li>Plans define actions to prevent animal injury or death due to HVAC or other failures (<i>Guide</i>, p 35)</li> </ul>   |  |    |   |   |   |    |
| <ul style="list-style-type: none"> <li>Plans describe preservation of critical or irreplaceable animals (<i>Guide</i>, p 35)</li> </ul>   |  |    |   |   |   |    |
| <ul style="list-style-type: none"> <li>Plans include essential personnel and their training (<i>Guide</i>, p 35)</li> </ul>   |  |    |   |   |   |    |
| <ul style="list-style-type: none"> <li>Animal facility plans are approved by the institution and incorporated into overall response plan (<i>Guide</i>, p 35)</li> </ul>  |  |    |   |   |   |    |
| <ul style="list-style-type: none"> <li>Law enforcement and emergency personnel are provided a copy and integration with overall plan is in place (<i>Guide</i>, p 35)</li> </ul>  |  |    |   |   |   |    |
| 3. IACUC <sup>NEW</sup>   |  | A* | M | S | C | NA |
| <ul style="list-style-type: none"> <li>Meets as necessary to fulfill responsibilities (<i>Guide</i>, p 25) [must]</li> </ul>  |  |    |   |   |   |    |
| <ul style="list-style-type: none"> <li>IACUC Members named in protocols or with conflicts recuse themselves from protocol decisions (<i>Guide</i>, p 26) [must]</li> </ul>  |  |    |   |   |   |    |
| <ul style="list-style-type: none"> <li>Continuing IACUC oversight after initial protocol approval is in place (<i>Guide</i>, p 33)</li> </ul>   |  |    |   |   |   |    |
| <ul style="list-style-type: none"> <li>IACUC evaluates the effectiveness of training programs (<i>Guide</i>, p 15)</li> </ul>   |  |    |   |   |   |    |
| 4. IACUC Protocol Review - Special Considerations   |  | A* | M | S | C | NA |
| <ul style="list-style-type: none"> <li>Humane endpoints are established for studies that involve tumor models, infectious diseases, vaccine challenge, pain modeling, trauma, production of monoclonal antibodies, assessment of toxicologic effects, organ or system failure, and models of cardiovascular shock (<i>Guide</i>, p 27)</li> </ul> |  |    |   |   |   |    |
| <ul style="list-style-type: none"> <li>For pilot studies, a system to communicate with the IACUC is in place (<i>Guide</i>, p 28)</li> </ul>  |  |    |   |   |   |    |
| <ul style="list-style-type: none"> <li>For genetically modified animals, enhanced monitoring and reporting is in place (<i>Guide</i>, p 28)</li> </ul>  |  |    |   |   |   |    |
| <ul style="list-style-type: none"> <li>Restraint devices are justified in the animal use protocols (<i>Guide</i>, p 29) [must]</li> </ul>   |  |    |   |   |   |    |
| <ul style="list-style-type: none"> <li>Alternatives to physical restraint are considered (<i>Guide</i>, p 29)</li> </ul>  |  |    |   |   |   |    |
| <ul style="list-style-type: none"> <li>Period of restraint is the minimum to meet scientific objectives (<i>Guide</i>, p 29)</li> </ul>   |  |    |   |   |   |    |
| <ul style="list-style-type: none"> <li>Training of animals to adapt to restraint is provided (<i>Guide</i>, p 29)</li> </ul>  |  |    |   |   |   |    |
| <ul style="list-style-type: none"> <li>Animals that fail to adapt are removed from study (<i>Guide</i>, p 29)</li> </ul>  |  |    |   |   |   |    |
| <ul style="list-style-type: none"> <li>Appropriate observation intervals of restrained animals are provided (<i>Guide</i>, p 29)</li> </ul>   |  |    |   |   |   |    |
| <ul style="list-style-type: none"> <li>Veterinary care is provided if lesions or illness result from restraint (<i>Guide</i>, p 30) [must]</li> </ul>   |  |    |   |   |   |    |

|  |  |  |  |  |  |
|--|--|--|--|--|--|
| • Explanations of purpose and duration of restraint are provided to study personnel ( <i>Guide</i> , p 30)   |  |  |  |  |  |
| • Multiple surgical procedures on a single animal are justified and outcomes evaluated ( <i>Guide</i> , p 30)  |  |  |  |  |  |
| • Major versus minor surgical procedures are evaluated on a case-by-case basis ( <i>Guide</i> , p 30)  |  |  |  |  |  |
| • Multiple survival procedure justifications in non-regulated species conform to regulated species standards ( <i>Guide</i> , p 30)                  |  |  |  |  |  |
| • Animals on food/fluid restriction are monitored to ensure nutritional needs are met ( <i>Guide</i> , p 31)   |  |  |  |  |  |
| • Body weights for food/fluid restricted animals are recorded at least weekly ( <i>Guide</i> , p 31)   |  |  |  |  |  |
| • Daily written records are maintained for food/fluid restricted animals ( <i>Guide</i> , p 31)  |  |  |  |  |  |
| • Pharmaceutical grade chemicals are used , when available, for animal-related procedures ( <i>Guide</i> , p 31)                                     |  |  |  |  |  |
| • Non-pharmaceutical grade chemicals are described, justified, and approved by IACUC ( <i>Guide</i> , p 31)  |  |  |  |  |  |
| • Investigators conducting field studies know zoonotic diseases, safety issues, laws and regulations applicable in study area ( <i>Guide</i> , p 32) |  |  |  |  |  |
| • Disposition plans are considered for species removed from the wild ( <i>Guide</i> , p 32)  |  |  |  |  |  |
| • Toe-clipping only used when no alternative, performed aseptically and with pain relief ( <i>Guide</i> , p 75)                                      |  |  |  |  |  |

## 5. IACUC Membership and Functions

**A\* M S C NA**

|  |  |  |  |  |  |
|--|--|--|--|--|--|
| • IACUC is comprised of at least 5 members, appointed by CEO (PHS Policy, <i>IV.A.3.</i> )   |  |  |  |  |  |
| • Members include a veterinarian, a scientist, a nonscientist, and a nonaffiliated non-lab animal user ( <i>Guide</i> , p 24) <sup>ii</sup>  |  |  |  |  |  |
| • IACUC authority and resources for oversight and evaluation of institution's program are provided ( <i>Guide</i> , p 14)  |  |  |  |  |  |
| • IACUC conducts semiannual evaluations of institutional animal care and use program (PHS Policy, <i>IV.B.</i> )   |  |  |  |  |  |
| • Conducts semiannual inspections of institutional animal facilities (PHS Policy, <i>IV.B.</i> )   |  |  |  |  |  |
| • IACUC organizationally reports to the Institutional Official (PHS Policy, <i>IV.A.1.b.</i> )   |  |  |  |  |  |
| • Methods for reporting and investigating animal welfare concerns are in place ( <i>Guide</i> , p 23) <b>[must]</b>  |  |  |  |  |  |
| • Reviews and investigates concerns about animal care and use at institution <sup>iii</sup> (PHS Policy, <i>IV.B.</i> )  |  |  |  |  |  |
| • Procedures are in place for review, approval, and suspension of animal activities <sup>iv</sup> (PHS Policy, <i>IV.B.</i> )  |  |  |  |  |  |
| • Procedures are in place for review and approval of significant changes to approved activities (PHS Policy, <i>IV.B.</i> )  |  |  |  |  |  |
| • Policies are in place for special procedures (e.g., genetically modified animals, restraint, multiple survival surgery, food and fluid regulation, field investigations, agricultural animals) ( <i>Guide</i> , p 27-32) |  |  |  |  |  |
| • Requests for exemptions from major survival surgical procedure restrictions are made to USDA/APHIS <sup>v</sup> ( <i>Guide</i> , p 30) <b>[must]</b>   |  |  |  |  |  |

## 6. IACUC Training NEW

**A\* M S C NA**

|  |  |  |  |  |  |
|--|--|--|--|--|--|
| • All IACUC members should receive:  |  |  |  |  |  |
| ◦ Formal orientation to institution's program ( <i>Guide</i> , p 17)                                       |  |  |  |  |  |
| ◦ Training on legislation, regulations, guidelines, and policies ( <i>Guide</i> , p 17)                    |  |  |  |  |  |
| ◦ Training on how to inspect facilities and labs where animal use or housing occurs ( <i>Guide</i> , p 17) |  |  |  |  |  |
| ◦ Training on how to review protocols as well as evaluate the program ( <i>Guide</i> , p 17)               |  |  |  |  |  |
| ◦ Ongoing training/education ( <i>Guide</i> , p 17)  |  |  |  |  |  |

## 7. IACUC Records and Reporting Requirements<sup>vi</sup>

**A\* M S C NA**

|  |  |  |  |  |  |
|--|--|--|--|--|--|
| • Semiannual report to the IO (PHS Policy, <i>IV.B.</i> )                          |  |  |  |  |  |
| ◦ Submitted to IO every 6 months   |  |  |  |  |  |
| ◦ Compiles program review and facility inspection(s) results (includes all program |  |  |  |  |  |

|   |  |  |  |  |  |
|---|--|--|--|--|--|
| and facility deficiencies)  |  |  |  |  |  |
| o Includes minority IACUC views   |  |  |  |  |  |
| o Describes IACUC-approved departures from the <i>Guide</i> or PHS Policy and the reasons for each departure <sup>vii</sup>                         |  |  |  |  |  |
| o Distinguishes significant from minor deficiencies   |  |  |  |  |  |
| o Includes a plan and schedule for correction for each deficiency identified <sup>viii</sup>  |  |  |  |  |  |
| • Reports to OLAW (PHS Policy, IV.F.)   |  |  |  |  |  |
| o Annual report to OLAW documents program changes, dates of the semiannual program reviews and facility inspections and includes any minority views |  |  |  |  |  |
| o Promptly advises OLAW of serious/ongoing <i>Guide</i> deviations or PHS Policy noncompliance (NOT-OD-05-034)                                      |  |  |  |  |  |
| o Institute must promptly advise OLAW of any suspension of an animal activity by the IACUC (NOT-OD-05-034)  |  |  |  |  |  |
| • Reports to U.S. Department of Agriculture (USDA) or Federal funding agency <sup>ix</sup>  |  |  |  |  |  |
| o Annual report to USDA contains required information including all exceptions/exemptions   |  |  |  |  |  |
| o Reporting mechanism to USDA is in place for IACUC-approved exceptions to the regulations and standards  |  |  |  |  |  |
| o Reports are filed within 15 days for failures to adhere to timetable for correction of significant deficiencies                                   |  |  |  |  |  |
| o Promptly reports suspensions of activities by the IACUC to USDA and any Federal funding agency  |  |  |  |  |  |
| • Records (PHS Policy, IV.E.)   |  |  |  |  |  |
| o IACUC meeting minutes and semiannual reports to the IO are maintained for 3 years   |  |  |  |  |  |
| o Records of IACUC reviews of animal activities include all required information <sup>x</sup>   |  |  |  |  |  |
| o Records of IACUC reviews are maintained for 3 years after the completion of the study   |  |  |  |  |  |

## 8. Veterinary Care (See also next section - Veterinary Care)

A\* M S C NA

|  |  |  |  |  |  |
|--|--|--|--|--|--|
| • An arrangement for veterinarian(s) with training or experience in lab animal medicine is in place including backup veterinary care <sup>xi</sup> |  |  |  |  |  |
| • Veterinary access to all animals is provided ( <i>Guide</i> , p 14) [must]   |  |  |  |  |  |
| • Direct or delegated authority is given to the veterinarian to oversee all aspects of animal care and use ( <i>Guide</i> , p 14) [must]           |  |  |  |  |  |
| • Veterinarian provides consultation when pain and distress exceeds anticipated level in protocol ( <i>Guide</i> , p 5) [must]                     |  |  |  |  |  |
| • Veterinarian provides consultation when interventional control is not possible ( <i>Guide</i> , p 5) [must]                                      |  |  |  |  |  |
| • If part time /consulting veterinarian, visits meet programmatic needs ( <i>Guide</i> , p 14)   |  |  |  |  |  |
| • Regular communication occurs between veterinarian and IACUC ( <i>Guide</i> , p 14)   |  |  |  |  |  |
| • Veterinarian(s) have experience and training in species used ( <i>Guide</i> , p 15) [must]   |  |  |  |  |  |
| • Veterinarian(s) have experience in facility administration/management ( <i>Guide</i> , p 15)   |  |  |  |  |  |

## 9. Personnel Qualifications and Training

A\* M S C NA

|   |  |  |  |  |  |
|---|--|--|--|--|--|
| • All personnel are adequately educated, trained, and/or qualified in basic principles of laboratory animal science. Personnel included: [must] |  |  |  |  |  |
| o Veterinary/other professional staff ( <i>Guide</i> , p 15-16)   |  |  |  |  |  |
| o IACUC members ( <i>Guide</i> , p 17)  |  |  |  |  |  |
| o Animal care personnel ( <i>Guide</i> , p 16)  |  |  |  |  |  |
| o Research investigators, instructors, technicians, trainees, and students ( <i>Guide</i> , pp 16-17)   |  |  |  |  |  |
| • Continuing education for program and research staff provided to ensure high quality care and reinforce training ( <i>Guide</i> , pp 16-17)    |  |  |  |  |  |
| • Training is available prior to starting animal activity ( <i>Guide</i> , p 17)  |  |  |  |  |  |
| • Training is documented ( <i>Guide</i> , p 15)   |  |  |  |  |  |
| • Training program content includes: ( <i>Guide</i> , p 17)   |  |  |  |  |  |
| o Methods for reporting concerns ( <i>Guide</i> , p 17)   |  |  |  |  |  |
| o Humane practices of animal care (e.g., housing, husbandry, handling) <sup>xii</sup>   |  |  |  |  |  |
| o Humane practices of animal use (e.g., research procedures, use of anesthesia,   |  |  |  |  |  |



|   |  |  |  |  |  |
|---|--|--|--|--|--|
| pre- and post-operative care, aseptic surgical techniques and euthanasia ( <i>Guide</i> , p 17) <sup>xiii</sup>     |  |  |  |  |  |
| o Research/testing methods that minimize numbers necessary to obtain valid results (PHS Policy, IV.A.1.g.)          |  |  |  |  |  |
| o Research/testing methods that minimize animal pain or distress (PHS Policy, IV.A.1.g.)                            |  |  |  |  |  |
| o Use of hazardous agents, including access to OSHA chemical hazard notices where applicable ( <i>Guide</i> , p 20) |  |  |  |  |  |
| o Animal care and use legislation ( <i>Guide</i> , p 17)  |  |  |  |  |  |
| o IACUC function ( <i>Guide</i> , p 17)   |  |  |  |  |  |
| o Ethics of animal use and Three R's ( <i>Guide</i> , p 17)   |  |  |  |  |  |

## 10. Occupational Health and Safety of Personnel

**A\* M S C NA**

|  |  |  |  |  |  |
|--|--|--|--|--|--|
| • Program is in place and is consistent with federal, state, and local regulations ( <i>Guide</i> , p 17) <b>[must]</b>                                  |  |  |  |  |  |
| • Program covers <i>all</i> personnel who work in laboratory animal facilities ( <i>Guide</i> , p 18)  |  |  |  |  |  |
| • Changing, washing, and showering facilities are available as appropriate ( <i>Guide</i> , p 19)  |  |  |  |  |  |
| • Hazardous facilities are separated from other areas and identified as limited access ( <i>Guide</i> , p 19)  |  |  |  |  |  |
| • Personnel training is provided based on risk (e.g., zoonoses, hazards, personal hygiene, special precautions, animal allergies) ( <i>Guide</i> , p 20) |  |  |  |  |  |
| • Personal hygiene procedures are in place (e.g., work clothing, eating/drinking/smoking policies) ( <i>Guide</i> , p 20)                                |  |  |  |  |  |
| • Procedures for use, storage, and disposal of hazardous biologic, chemical, and physical agents are in place ( <i>Guide</i> , p 21)                     |  |  |  |  |  |
| • Personal Protective Equipment for the work area is appropriate and available ( <i>Guide</i> , p 21)  |  |  |  |  |  |
| • Program for medical evaluation and preventive medicine for personnel includes:   |  |  |  |  |  |
| o Pre-employment evaluation including health history ( <i>Guide</i> , p 22)  |  |  |  |  |  |
| o Immunizations as appropriate (e.g., rabies, tetanus) and tests as appropriate ( <i>Guide</i> , p 22)   |  |  |  |  |  |
| o Zoonosis surveillance as appropriate (e.g., Q-fever, tularemia, Hantavirus, plague) ( <i>Guide</i> , p 23)   |  |  |  |  |  |
| o Procedures for reporting and treating injuries, including accidents, bites, allergies, etc. ( <i>Guide</i> , p 23)                                     |  |  |  |  |  |
| o Promotes early diagnosis of allergies including preexisting conditions ( <i>Guide</i> , p 22)  |  |  |  |  |  |
| o Considers confidentiality and other legal factors as required by federal, state and local regulations ( <i>Guide</i> , p 22) <b>[must]</b>             |  |  |  |  |  |
| o If serum samples are collected, the purpose is consistent with federal and state laws ( <i>Guide</i> , p 22) <b>[must]</b>                             |  |  |  |  |  |
| • Waste anesthetic gases are scavenged ( <i>Guide</i> , p 21)  |  |  |  |  |  |
| • Hearing protection is provided in high noise areas ( <i>Guide</i> , p 22)  |  |  |  |  |  |
| • Respiratory protection is available when performing airborne particulate work ( <i>Guide</i> , p 22)   |  |  |  |  |  |
| • Special precautions for personnel who work with nonhuman primates, their tissues or body fluids include:   |  |  |  |  |  |
| o Tuberculosis screening provided for all exposed personnel ( <i>Guide</i> , p 23)   |  |  |  |  |  |
| o Training and implementation of procedures for bites, scratches, or injuries associated with macaques ( <i>Guide</i> , p 23)                            |  |  |  |  |  |
| o PPE is provided including gloves, arm protection, face masks, face shields, or goggles ( <i>Guide</i> , p 21)  |  |  |  |  |  |
| o Injuries associated with macaques are carefully evaluated and treatment implemented ( <i>Guide</i> , p 23)   |  |  |  |  |  |
| • Occupational safety and health of field studies is reviewed by OSH committee or office ( <i>Guide</i> , p 32)  |  |  |  |  |  |

## 11. Personnel Security NEW

**A\* M S C NA**

|  |  |  |  |  |  |
|--|--|--|--|--|--|
| • Preventive measures in place include pre-employment screening, and physical and IT security ( <i>Guide</i> , p 23) |  |  |  |  |  |
|--|--|--|--|--|--|



| 12. Investigating & Reporting Animal Welfare Concerns <small>NEW</small> |   | A* | M | S | C | NA |
|--|---|----|---|---|---|----|
| •  | Methods for investigating and reporting animal welfare concerns are established ( <i>Guide</i> , p 23) <b>[must]</b>        |    |   |   |   |    |
| •  | Reported concerns and corrective actions are documented ( <i>Guide</i> , p 24)  |    |   |   |   |    |
| •  | Mechanisms for reporting concerns are posted in facility and at applicable website with instructions ( <i>Guide</i> , p 24) |    |   |   |   |    |
| ◦  | Includes multiple contacts ( <i>Guide</i> , p 24)   |    |   |   |   |    |
| ◦  | Includes anonymity, whistle blower policy, nondiscrimination and reprisal protection ( <i>Guide</i> , p 24)                 |    |   |   |   |    |

\* **A** = acceptable

**M** = minor deficiency

**S** = significant deficiency (is or may be a threat to animal health or safety)

**C** = change in program (PHS Policy IV.A.1.a.-i.) (include in semiannual report to IO and in annual report to OLAW)

**NA** = not applicable

## NOTES:

## Veterinary Care

Date:

### 1. Clinical Care and Management NEW

|   | A* | M | S | C | NA |
|---|----|---|---|---|----|
| • Veterinary program offers high quality of care and ethical standards ( <i>Guide, p 105</i> ) <b>[must]</b>  |    |   |   |   |    |
| • Veterinarian provides guidance to all personnel to ensure appropriate husbandry, handling, treatment, anesthesia, analgesia, and euthanasia ( <i>Guide, p 106</i> ) |    |   |   |   |    |
| • Veterinarian provides oversight to surgery and perioperative care ( <i>Guide, p 106</i> )   |    |   |   |   |    |
| • Veterinary care program is appropriate for program requirements ( <i>Guide, pp 113-114</i> )  |    |   |   |   |    |
| • Veterinarian(s) is familiar with species and use of animals and has access to medical and experimental treatment records ( <i>Guide, p 114</i> )                    |    |   |   |   |    |
| • Procedures to triage and prioritize incident reports are in place ( <i>Guide, p 114</i> )   |    |   |   |   |    |
| • Procedures are in place to address:   |    |   |   |   |    |
| o Problems with experiments to determine course of treatment in consultation with investigator ( <i>Guide, p 114</i> )  |    |   |   |   |    |
| o Recurrent or significant health problems with the IACUC and documentation of treatments and outcomes ( <i>Guide, p 114</i> )  |    |   |   |   |    |
| o Veterinary review and oversight of medical and animal use records ( <i>Guide, p 115</i> )   |    |   |   |   |    |
| • Procedures established for timely reporting of animal injury, illness, or disease ( <i>Guide, p 114</i> ) <b>[must]</b>   |    |   |   |   |    |
| • Procedures established for veterinary assessment, treatment, or euthanasia ( <i>Guide, p 114</i> ) <b>[must]</b>  |    |   |   |   |    |
| • Veterinarian is authorized to treat, relieve pain, and/or euthanize ( <i>Guide, p 114</i> ) <b>[must]</b>   |    |   |   |   |    |

### 2. Animal Procurement and Transportation/Preventive Medicine

|  | A* | M | S | C | NA |
|--|----|---|---|---|----|
| • Procedures for lawful animal procurement are in place ( <i>Guide, p 106</i> ) <b>[must]</b>  |    |   |   |   |    |
| • Sufficient facilities and expertise are confirmed prior to procurement ( <i>Guide, p 106</i> )   |    |   |   |   |    |
| • Procurement is linked to IACUC review and approval ( <i>Guide, p 106</i> )   |    |   |   |   |    |
| • Random source dogs and cats are inspected for identification ( <i>Guide, p 106</i> )   |    |   |   |   |    |
| • Population status of wildlife species is considered prior to procurement ( <i>Guide, p 106</i> )   |    |   |   |   |    |
| • Appropriate records are maintained on animal acquisition ( <i>Guide, p 106</i> )   |    |   |   |   |    |
| • Animal vendors are evaluated to meet program needs and quality ( <i>Guide, p 106</i> )   |    |   |   |   |    |
| • Breeding colonies are based on need and managed to minimize numbers ( <i>Guide, p 107</i> )  |    |   |   |   |    |
| • Procedures for compliance with animal transportation regulations, including international requirements, are in place ( <i>Guide, p 107</i> ) <b>[must]</b>   |    |   |   |   |    |
| • Transportation is planned to ensure safety, security and minimize risk ( <i>Guide, p 107</i> )   |    |   |   |   |    |
| • Movement of animals is planned to minimize transit time and deliveries are planned to ensure receiving personnel are available ( <i>Guide, pp 107- 108</i> ) |    |   |   |   |    |
| • Appropriate loading and unloading facilities are available ( <i>Guide, p 109</i> )   |    |   |   |   |    |
| • Environment at receiving site is appropriate ( <i>Guide, p 109</i> )   |    |   |   |   |    |
| • Policies in place on separation by species, source, and health status ( <i>Guide, pp 109, 111-112</i> )  |    |   |   |   |    |
| • Procedures in place for quarantine to include zoonoses prevention ( <i>Guide, p 110</i> )  |    |   |   |   |    |
| • Quarantined animals from different shipments are handled separately or physically separated ( <i>Guide, p 110</i> )  |    |   |   |   |    |
| • Procedures in place for stabilization/acclimation ( <i>Guide, pp 110-111</i> )   |    |   |   |   |    |
| • Policies in place for isolation of sick animals ( <i>Guide, p 112</i> )  |    |   |   |   |    |
| • Program is in place for surveillance, diagnosis, treatment and control of disease to include daily observation ( <i>Guide, p 112</i> )                       |    |   |   |   |    |
| • Diagnostic resources are available for preventive health program ( <i>Guide, p 112</i> )   |    |   |   |   |    |

### 3. Surgery

|  | A* | M | S | C | NA |
|--|----|---|---|---|----|
| • Surgical outcomes are assessed and corrective changes instituted ( <i>Guide, p 115</i> )             |    |   |   |   |    |
| • Researchers have appropriate training to ensure good technique ( <i>Guide, p 115</i> ) <b>[must]</b> |    |   |   |   |    |

|   |  |  |  |  |  |
|---|--|--|--|--|--|
| • Pre-surgical plans are developed and include veterinary input (e.g., location, supplies, anesthetic and analgesic use, peri-operative care, recordkeeping) ( <i>Guide</i> , p 116)                              |  |  |  |  |  |
| • Aseptic surgery is conducted in dedicated facilities or spaces, unless exception justified and IACUC approved ( <i>Guide</i> , p 116)   |  |  |  |  |  |
| • Surgical procedures including laparoscopic procedures are categorized as major or minor ( <i>Guide</i> , pp 117-118)  |  |  |  |  |  |
| • For nonsurvival surgery, the site is clipped, gloves are worn and instruments and area are clean ( <i>Guide</i> , p 118)  |  |  |  |  |  |
| • Aseptic technique is followed for survival surgical procedures ( <i>Guide</i> , pp 118-119)   |  |  |  |  |  |
| • Effective procedures for sterilizing instruments and monitoring expiration dates on sterile packs are in place ( <i>Guide</i> , p 119)  |  |  |  |  |  |
| • Procedures for monitoring surgical anesthesia and analgesia are in place ( <i>Guide</i> , p 119)  |  |  |  |  |  |
| • For aquatic species, skin surfaces are kept moist during surgical procedures ( <i>Guide</i> , p 119)  |  |  |  |  |  |
| • Post-operative monitoring and care are provided by trained personnel and documented (e.g., thermoregulation, physiologic function, analgesia, infection, removal of skin closures) ( <i>Guide</i> , pp 119-120) |  |  |  |  |  |

#### 4. Pain, Distress, Anesthesia and Analgesia

**A\* M S C NA**

|  |  |  |  |  |  |
|--|--|--|--|--|--|
| • Guidelines for assessment and categorization of pain, distress and animal wellbeing are provided during training ( <i>Guide</i> , p 121) |  |  |  |  |  |
| • Selection of analgesics and anesthetics is based on professional veterinary judgment ( <i>Guide</i> , p 121)                             |  |  |  |  |  |
| • Painful procedures are monitored to ensure appropriate analgesic management ( <i>Guide</i> , p 122)                                      |  |  |  |  |  |
| • Nonpharmacologic control of pain is considered as an element of postprocedural care ( <i>Guide</i> , p 122)                              |  |  |  |  |  |
| • Procedures are in place to assure antinociception before surgery begins ( <i>Guide</i> , p 122) <b>[must]</b>                            |  |  |  |  |  |
| • Guidelines for selection and use of analgesics and anesthetics are in place and regularly reviewed and updated ( <i>Guide</i> , p 122)   |  |  |  |  |  |
| • Special precautions for the use of paralytics are in place to ensure anesthesia <sup>xiv</sup> ( <i>Guide</i> , p 123)                   |  |  |  |  |  |

#### 5. Euthanasia

**A\* M S C NA**

|  |  |  |  |  |  |
|--|--|--|--|--|--|
| • Methods are consistent with AVMA Guidelines on Euthanasia unless approved by the IACUC ( <i>Guide</i> , p 123)   |  |  |  |  |  |
| • Standardized methods are developed and approved by the veterinarian and IACUC that avoid distress and consider animal age and species ( <i>Guide</i> , pp 123-124) |  |  |  |  |  |
| • Training is provided on appropriate methods for each species and considers psychological stress to personnel ( <i>Guide</i> , p 124)                               |  |  |  |  |  |
| • Procedures and training are in place to ensure death is confirmed ( <i>Guide</i> , p 124) <b>[must]</b>  |  |  |  |  |  |

#### 6. Drug Storage and Control <sup>NEW</sup>

**A\* M S C NA**

|   |  |  |  |  |  |
|---|--|--|--|--|--|
| • Program complies with federal regulations for human and veterinary drugs ( <i>Guide</i> , p 115) <b>[must]</b>                      |  |  |  |  |  |
| • Drug records and storage procedures are reviewed during facility inspections ( <i>Guide</i> , p 115)                                |  |  |  |  |  |
| • Procedures are in place to ensure analgesics and anesthetics are used within expiration date ( <i>Guide</i> , p 122) <b>[must]</b>  |  |  |  |  |  |
| • Anesthetics and analgesics are acquired, stored, and their use and disposal are recorded legally and safely ( <i>Guide</i> , p 122) |  |  |  |  |  |

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**S** = significant deficiency (is or may be a threat to animal health or safety)

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**NA** = not applicable

#### NOTES:

Semiannual Checklist

v3/8/2012

8

## II. Semiannual Facility Inspection Checklist

### Terrestrial Animal Housing and Support Areas

Date:

Location:

|   | A* | M | S | C | NA |
|---|----|---|---|---|----|
| <ul style="list-style-type: none"> <li><b>Location:</b> <ul style="list-style-type: none"> <li>animal areas separate from personnel areas (<i>Guide, p 134</i>)</li> <li>separation of species (<i>Guide, p 111</i>)</li> <li>separation by disease status (<i>Guide, p 111</i>)</li> <li>security and access control (<i>Guide, p 151</i>)</li> </ul> </li> <li><b>Construction:</b> <ul style="list-style-type: none"> <li>corridors (<i>Guide, p 136</i>)</li> <li>animal room doors (<i>Guide, p 137</i>)</li> <li>exterior windows (<i>Guide, p 137</i>)</li> <li>floors (<i>Guide, p 137</i>)</li> <li>drainage (<i>Guide, p 138</i>)</li> <li>walls and ceilings (<i>Guide, p 138</i>)</li> <li>heating ventilation and air conditioning (<i>Guide, p 139</i>)</li> <li>power and lighting (<i>Guide, p 141</i>)</li> <li>noise control (<i>Guide, p 142</i>)</li> <li>vibration control (<i>Guide, p 142</i>)</li> <li>environmental monitoring (<i>Guide, p 143</i>)</li> </ul> </li> <li><b>Room/Cage:</b> <ul style="list-style-type: none"> <li>temperature and humidity (<i>Guide, p 43</i>)</li> <li>ventilation and air quality (<i>Guide, p 45</i>)</li> <li>illumination (<i>Guide, p 47</i>)</li> <li>noise and vibration (<i>Guide, p 49</i>)</li> </ul> </li> <li><b>Primary Enclosure:</b> <ul style="list-style-type: none"> <li>space meets physiologic, behavioral<sup>xv</sup>, and social<sup>xvi</sup> needs (<i>Guide, pp 51, 55-63</i>)</li> <li>secure environment provided (<i>Guide, p 51</i>)</li> <li>durable, nontoxic materials in good repair and no risk of injury (<i>Guide, p 51</i>)</li> <li>flooring is safe and appropriate for species (<i>Guide, p 51</i>)</li> <li>adequate bedding and structures for resting, sleeping, breeding (<i>Guide, p 52</i>)</li> <li>objective assessments of housing and management are made (<i>Guide, p 52</i>)</li> <li>procedures for routine husbandry are documented (<i>Guide, p 52</i>)</li> <li>socially housed animals can escape or hide to avoid aggression (<i>Guide, p 55</i>)</li> <li>cage height provides adequate clearance (<i>Guide, p 56</i>)</li> <li>animals express natural postures, can turn around, access food and water, and rest away from urine and feces (<i>Guide, p 56</i>) [must]</li> <li>rationale<sup>xvii</sup> for <i>Guide</i>/USDA space exceptions approved by IACUC and based on performance indices (<i>Guide, p 56</i>)</li> <li>dogs and cats allowed to exercise and provided human interaction (<i>Guide, p 58</i>)</li> <li>nonhuman primates are socially housed except for scientific, veterinary or behavior reasons (<i>Guide, pp 58-59</i>)</li> <li>single housing of nonhuman primates is for shortest duration possible (<i>Guide, p 60</i>)</li> <li>opportunities for release into larger enclosures is considered for single caged nonhuman primates (<i>Guide, p 60</i>)</li> <li>agricultural animals are housed socially (<i>Guide, p 60</i>)</li> <li>food troughs and water devices for agricultural animals allow access for all animals (<i>Guide, p 60</i>)</li> </ul> </li> <li><b>Environmental Enrichment, Behavioral and Social Management:</b> <ul style="list-style-type: none"> <li>structures and resources promote species typical behavior (<i>Guide, pp 52-54</i>)</li> <li>novelty of enrichment is considered (<i>Guide, p 53</i>)</li> <li>species specific plans for housing including enrichment, behavior and activity are developed and reviewed regularly by IACUC, researchers and veterinarian</li> </ul> </li> </ul> |    |   |   |   |    |

(Guide, pp 53, 58, 60, 63)

- animal care personnel receive training to identify abnormal animal behaviors (Guide, p 53)
- stability of pairs or groups is monitored for incompatibility (Guide, p 64)
- single housing is justified for social species (Guide, p 64)
- single housing is limited to the minimum period necessary (Guide, p 64)
- additional enrichment for single housed animals is provided (Guide, p 64)
- single housing is reviewed regularly by IACUC and veterinarian (Guide, p 64)
- habituation to routine procedures is part of enrichment program (Guide, p 64)
- **Sheltered or Outdoor Housing:** (e.g., barns, corrals, pastures, islands)
  - weather protection and opportunity for retreat (Guide, p 54) [must]
  - appropriate size (Guide, p 54)
  - ventilation and sanitation of shelter (no waste/moisture build-up) (Guide, p 54)
  - animal acclimation (Guide, p 55)
  - social compatibility (Guide, p 55)
  - roundup/restraint procedures (Guide, p 55)
  - appropriate security (Guide, p 55)
- **Naturalistic Environments:**
  - animals added /removed with consideration of effect on group (Guide, p 55)
  - adequate food, fresh water, and shelter ensured (Guide, p 55)
- **Food:**
  - feeding schedule and procedures including caloric intake management (Guide, pp 65-67)
  - contamination prevention (Guide, p 65)
  - vendor quality control (Guide, p 66)
  - storage in sealed containers (Guide, p 66)
  - expiration date labeling (Guide, p 66)
  - vermin control (Guide, p 66)
  - rotation of stocks (Guide, p 66)
- **Water:**
  - ad libitum unless justified (Guide, pp 67-68)
  - QC procedures (Guide, pp 67-68)
- **Bedding and Nesting Materials:**
  - species appropriate (Guide, pp 68-69)
  - keeps animals dry (Guide, pp 68-69)
  - QC procedures (Guide, pp 68-69)
  - minimizes scientific variables (Guide, pp 68-69)
- **Sanitation:**
  - frequency of bedding/substrate change (Guide, p 70)
  - cleaning and disinfection of microenvironment (Guide, pp 70-71)
  - cleaning and disinfection of macroenvironment (Guide, p 72)
  - assessing effectiveness (Guide, p 73)
- **Waste Disposal:**
  - procedures for collection (Guide, pp 73-74)
  - procedures for storage and disposal (Guide, pp 73-74)
  - hazardous wastes are rendered safe before removal from facility (Guide, pp 73-74) [must]
  - animal carcasses (Guide, pp 73-74)
- **Pest Control:**
  - regularly scheduled (Guide, p 74)
  - documented program including control of rodent pests and insecticide use (Guide, p 74)
- **Emergency, Weekend, and Holiday Animal Care:**
  - care provided by qualified personnel every day (Guide, p 74)
  - provision for accessible contact information (Guide, p 74)
  - monitoring of backup systems (Guide, p 143)
  - veterinary care available after hours, weekends, and holidays (Guide, pp 74, 114) [must]
  - a disaster plan that takes into account both personnel and animals (Guide, p 75)

|   |  |  |  |  |  |
|---|--|--|--|--|--|
| <ul style="list-style-type: none"> <li>• <b>Identification:</b> <ul style="list-style-type: none"> <li>○ cage/rack cards contain required information (<i>Guide</i>, p 75)</li> <li>○ genotype information included and standardized nomenclature used when applicable (<i>Guide</i>, p 75)</li> </ul> </li> </ul>  |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>• <b>Recordkeeping:</b> <ul style="list-style-type: none"> <li>○ clinical records accessible and contain appropriate information (<i>Guide</i>, pp 75-76)</li> <li>○ records are provided when animals are transferred between institutions (<i>Guide</i>, p 75)</li> </ul> </li> </ul>  |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>• <b>Breeding Genetics and Nomenclature:</b> <ul style="list-style-type: none"> <li>○ appropriate genetic records, management and monitoring procedures (<i>Guide</i>, p 76)</li> <li>○ phenotypes that affect wellbeing are reported to IACUC and effectively managed (<i>Guide</i>, p 77)</li> </ul> </li> </ul>   |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>• <b>Storage:</b> <ul style="list-style-type: none"> <li>○ adequate space for equipment, supplies, food, bedding and refuse (<i>Guide</i>, p 141)</li> <li>○ bedding in vermin-free area and protected from contamination(<i>Guide</i>, p 141)</li> <li>○ food in vermin-free, temperature and humidity controlled area and protected from contamination (<i>Guide</i>, p 141)</li> <li>○ refuse storage is separate (<i>Guide</i>, p 141)</li> <li>○ carcass and animal tissue storage is separate, refrigerated below 7°C and cleanable (<i>Guide</i>, p 141)</li> </ul> </li> </ul> |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>• <b>Personnel:</b> <ul style="list-style-type: none"> <li>○ adequate space for locker rooms, administration and training (<i>Guide</i>, p 135)</li> </ul> </li> </ul>   |  |  |  |  |  |

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**M** = minor deficiency  
**S** = significant deficiency (is or may be a threat to animal health or safety)  
**C** = change in program (PHS Policy IV.A.1.a.-i.) (include in semiannual report to IO and in annual report to OLAW)  
**NA** = not applicable

## NOTES:



## Aquatic Animal Housing and Support Areas NEW

Date:

Location:

A\* M S C NA

|  |  |  |  |  |  |
|--|--|--|--|--|--|
| <ul style="list-style-type: none"> <li><b>Location:</b> <ul style="list-style-type: none"> <li>animal areas separate from personnel areas (<i>Guide, p 134</i>)</li> <li>separation of species (<i>Guide, p 111</i>)</li> <li>separation by disease status (<i>Guide, p 111</i>)</li> <li>security and access control (<i>Guide, p 151</i>)</li> </ul> </li> <li><b>Construction:</b> <ul style="list-style-type: none"> <li>corridors (<i>Guide, p 136</i>)</li> <li>animal room doors (<i>Guide, pp 137, 150</i>)</li> <li>exterior windows (<i>Guide, p 137</i>)</li> <li>floors (<i>Guide, pp 137, 150</i>)</li> <li>drainage (<i>Guide, pp 138, 150</i>)</li> <li>walls and ceilings (<i>Guide, pp 138, 150</i>)</li> <li>heating ventilation and air conditioning (<i>Guide, pp 139, 150-151</i>)</li> <li>power and lighting (<i>Guide, pp 141, 150</i>)</li> <li>noise control (<i>Guide, p 142</i>)</li> <li>vibration control (<i>Guide, p 142</i>)</li> <li>environmental monitoring (<i>Guide, p 143</i>)</li> </ul> </li> <li><b>Water Quality:</b> <ul style="list-style-type: none"> <li>standards for acceptable quality are established (<i>Guide, p 78</i>)</li> <li>chlorine, chloramines, chemical, and reactive bioproducts are removed or neutralized prior to use in aquatic systems (<i>Guide, pp 78, 86</i>) [must]</li> </ul> </li> <li><b>Life Support System:</b> <ul style="list-style-type: none"> <li>water source is based on appropriate controls and research requirements (<i>Guide, p 79</i>)</li> <li>biofilter is of sufficient size to process bioload (<i>Guide, p 80</i>) [must]</li> </ul> </li> <li><b>Temperature, Humidity and Ventilation/Illumination/Noise and Vibration:</b> <ul style="list-style-type: none"> <li>temperature and humidity (<i>Guide, pp 43, 80-81</i>)</li> <li>ventilation and air quality (<i>Guide, pp 45, 81</i>)</li> <li>illumination (<i>Guide, pp 47, 81</i>)</li> <li>noise and vibration (<i>Guide, pp 49, 81</i>)</li> </ul> </li> <li><b>Primary Enclosure:</b> <ul style="list-style-type: none"> <li>allows for normal physiological and behavioral needs (<i>Guide, p 82</i>)</li> <li>allows social interaction for social species (<i>Guide, p 82</i>)</li> <li>provides a balanced, stable environment (<i>Guide, p 82</i>)</li> <li>provides appropriate water quality and monitoring (<i>Guide, p 82</i>)</li> <li>allows access to food and waste removal (<i>Guide, p 82</i>)</li> <li>restricts escape and entrapment (<i>Guide, p 82</i>)</li> <li>allows undisturbed observation (<i>Guide, p 82</i>)</li> <li>constructed of nontoxic materials (<i>Guide, p 82</i>)</li> <li>prevents electrical hazards (<i>Guide, p 82</i>)</li> <li>space needs of species are evaluated by IACUC during program evaluations and facility inspections (<i>Guide, p 83</i>)</li> </ul> </li> <li><b>Environmental Enrichment, Social Housing, Behavioral and Social Management:</b> <ul style="list-style-type: none"> <li>enrichment elicits appropriate behaviors and is safe (<i>Guide, p 83</i>)</li> <li>semi-aquatic reptiles are provided terrestrial areas (<i>Guide, p 83</i>)</li> <li>handling is kept to a minimum and appropriate techniques are in place at facility or protocol level (<i>Guide, p 84</i>)</li> <li>nets are cleaned, disinfected and managed to avoid contamination of systems (<i>Guide, p 84</i>)</li> </ul> </li> <li><b>Food:</b> <ul style="list-style-type: none"> <li>storage to prevent contamination, preserve nutrients and prevent pests (<i>Guide, p</i></li> </ul> </li> </ul> |  |  |  |  |  |
|--|--|--|--|--|--|



|  |  |  |  |  |  |
|--|--|--|--|--|--|
| 84)  |  |  |  |  |  |
| o delivery ensures access to all , minimizing aggression and nutrient loss ( <i>Guide, p 84</i> )  |  |  |  |  |  |
| o storage times are based on manufacturer recommendations or accepted practice ( <i>Guide, p 84</i> )  |  |  |  |  |  |
| o a nutritionally complete diet is provided ( <i>Guide, p 84</i> )   |  |  |  |  |  |
| • <b>Substrate:</b>  |  |  |  |  |  |
| o amount, type and presentation of substrate is appropriate for the system and the species ( <i>Guide, p 85</i> )  |  |  |  |  |  |
| • <b>Sanitation, Cleaning and Disinfection</b>   |  |  |  |  |  |
| o frequency of tank/cage cleaning and disinfection is determined by water quality, permits adequate viewing and health monitoring ( <i>Guide, p 86</i> ) |  |  |  |  |  |
| o cleaning and disinfection of macroenvironment ( <i>Guide, p 86</i> )   |  |  |  |  |  |
| • <b>Waste Disposal:</b>   |  |  |  |  |  |
| o procedures for collection ( <i>Guide, pp 73-74</i> )   |  |  |  |  |  |
| o hazardous wastes are rendered safe before removal from facility ( <i>Guide, pp 73-74</i> ) [must]  |  |  |  |  |  |
| o animal carcasses ( <i>Guide, pp 73-74</i> )  |  |  |  |  |  |
| • <b>Pest Control:</b>   |  |  |  |  |  |
| o regularly scheduled ( <i>Guide, p 74</i> )   |  |  |  |  |  |
| o documented program including control of pests and insecticide use ( <i>Guide, p 74</i> )   |  |  |  |  |  |
| • <b>Emergency, Weekend, and Holiday Animal Care:</b>  |  |  |  |  |  |
| o care provided by qualified personnel every day ( <i>Guide, pp 74, 87</i> )   |  |  |  |  |  |
| o provision for accessible contact information ( <i>Guide, pp 74, 87</i> )   |  |  |  |  |  |
| o emergency response plans in place to address major system failures ( <i>Guide, 87</i> )  |  |  |  |  |  |
| o veterinary care available after hours, weekends, and holidays ( <i>Guide, pp 74, 114</i> ) [must]  |  |  |  |  |  |
| • <b>Identification:</b>   |  |  |  |  |  |
| o cage/tank cards contain required information ( <i>Guide, pp 75, 87</i> )   |  |  |  |  |  |
| o genotype information included and standardized nomenclature used when applicable ( <i>Guide, pp 75, 87</i> )   |  |  |  |  |  |
| • <b>Recordkeeping:</b>  |  |  |  |  |  |
| o water quality parameters and frequency of testing recorded ( <i>Guide, p 88</i> )  |  |  |  |  |  |
| o records kept on feeding, nonexpired food supplies, live cultures ( <i>Guide, p 88</i> )  |  |  |  |  |  |
| • <b>Storage:</b>  |  |  |  |  |  |
| o adequate space for equipment, supplies, food, substrate and refuse ( <i>Guide, p 141</i> )   |  |  |  |  |  |
| o substrate protected from contamination ( <i>Guide, p 141</i> )   |  |  |  |  |  |
| o food in vermin-free, temperature and humidity controlled area and protected from contamination ( <i>Guide, p 141</i> )                                 |  |  |  |  |  |
| o refuse storage is separate ( <i>Guide, p 141</i> )   |  |  |  |  |  |
| o carcass and animal tissue storage is separate, refrigerated below 7°C and cleanable ( <i>Guide, p 141</i> )  |  |  |  |  |  |
| • <b>Personnel:</b>  |  |  |  |  |  |
| o adequate space for locker rooms, administration and training ( <i>Guide, p 135</i> )   |  |  |  |  |  |

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**C** = change in program (PHS Policy IV.A.1.a.-i.) (include in semiannual report to IO and in annual report to OLAW)

**NA** = not applicable

## NOTES:

## Cagewash

Date:

Location:

A\* M S C NA

| • Construction and Operation:  |  |  |  |  |  |
|--|--|--|--|--|--|
| o dedicated central area for sanitizing cages and equipment is provided ( <i>Guide</i> , p 143)  |  |  |  |  |  |
| o cage-washing equipment meets need ( <i>Guide</i> , p 143)  |  |  |  |  |  |
| o doors, windows, floors, drainage, walls, ceilings ( <i>Guide</i> , pp 136-138)   |  |  |  |  |  |
| o convenient to animal areas/waste disposal ( <i>Guide</i> , p 143)  |  |  |  |  |  |
| o ease of access (including door size) facilitates use ( <i>Guide</i> , p 143)   |  |  |  |  |  |
| o sufficient space for staging and maneuvering ( <i>Guide</i> , p 143)   |  |  |  |  |  |
| o safety precautions/clothing/equipment used for waste disposal/prewash/acid wash (( <i>Guide</i> , p 143)   |  |  |  |  |  |
| o traffic flow clean to dirty with no contamination of clean equipment by dirty equipment and appropriate air pressurization ( <i>Guide</i> , p 143) |  |  |  |  |  |
| o insulation and/or sound attenuation present as needed ( <i>Guide</i> , p 143)  |  |  |  |  |  |
| o utilities are appropriate ( <i>Guide</i> , p 143)  |  |  |  |  |  |
| o ventilation meets heat and humidity load ( <i>Guide</i> , p 143)   |  |  |  |  |  |
| o safety features (e.g., SOPs, warning signs, eyewash stations) are in use ( <i>Guide</i> , p 143)   |  |  |  |  |  |
| o functioning safety devices to prevent entrapment in washer/sterilizers ( <i>Guide</i> , p 143)   |  |  |  |  |  |
| o cage wash temperatures are monitored and records are available ( <i>Guide</i> , p 73)  |  |  |  |  |  |
| o appropriate clean cage storage ( <i>Guide</i> , p 141)   |  |  |  |  |  |

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NA = not applicable

## NOTES:

## Special Facilities: Aseptic Surgery

Date:

Location:

A\* M S C NA

|  |  |  |  |  |  |
|--|--|--|--|--|--|
| <ul style="list-style-type: none"> <li>• <b>General Considerations:</b> <ul style="list-style-type: none"> <li>○ location minimizes traffic/contamination (<i>Guide, p 144</i>)</li> <li>○ functional components (surgical support, animal preparation, surgeon scrub, operating room, postoperative recovery) are designed and separated (physically or otherwise) (<i>Guide, p 144</i>)</li> <li>○ appropriate drug storage, control, expiration date monitoring (<i>Guide, pp 115, 122</i>)</li> <li>○ safe sharps disposal system (<i>Guide, p 74</i>)</li> <li>○ adequate records of anesthesia and perioperative care (<i>Guide, p 122</i>)</li> <li>○ aseptic procedures in use for all survival surgery (<i>Guide, pp 118-119</i>)</li> </ul> </li> <li>• <b>Operating Room:</b> <ul style="list-style-type: none"> <li>○ effective contamination control procedures (<i>Guide, p 144</i>)</li> <li>○ effective cleaning procedures/dedicated tools (<i>Guide, p 145</i>)</li> <li>○ interior surfaces smooth and impervious to moisture (<i>Guide, p 145</i>)</li> <li>○ HVAC system meets <i>Guide</i> requirements (<i>Guide, p 145</i>)</li> <li>○ lighting safe and appropriate (<i>Guide, p 145</i>)</li> <li>○ outlets safe and appropriate (<i>Guide, p 145</i>)</li> <li>○ scavenging of anesthetic gases implemented (<i>Guide, p 145</i>)</li> </ul> </li> <li>• <b>Surgical Support:</b> <ul style="list-style-type: none"> <li>○ facility for washing, sterilizing, storing instruments and supplies (<i>Guide, p 145</i>)</li> <li>○ autoclave monitoring procedures are implemented (<i>Guide, pp 119, 145</i>)</li> <li>○ storage of autoclaved materials maintains sterility (<i>Guide, p 145</i>)</li> <li>○ cold sterilization procedures are appropriate (<i>Guide, p 119</i>)</li> </ul> </li> <li>• <b>Animal Preparation:</b> contains large sink to facilitate cleaning of animal and operative site (<i>Guide, p 145</i>)</li> <li>• <b>Surgeon Scrub:</b> outside operating room, non-hand-operated sink (<i>Guide, p 145</i>)</li> <li>• <b>Postoperative Recovery:</b> allows adequate observation, easily cleaned, supports physiologic functions, minimizes risk of injury (<i>Guide, p 145</i>)</li> <li>• <b>Dressing Area:</b> place for personnel to change (<i>Guide, p 145</i>)</li> </ul> |  |  |  |  |  |
|--|--|--|--|--|--|

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NA = not applicable

### NOTES:

**Special Facilities: Procedure Areas, Non-survival Surgeries, Laboratories, Rodent Surgeries, Imaging, Whole Body Irradiation, Hazardous Agent Containment, Behavioral Studies**

Date:

Location:

**A\* M S C NA**

|   |  |  |  |  |  |
|---|--|--|--|--|--|
| <ul style="list-style-type: none"> <li><b>General Considerations:</b> <ul style="list-style-type: none"> <li>labs used to house animals only when scientifically required and limited to minimum period necessary (<i>Guide</i>, p 134)</li> <li>drug storage, control, and expiration dates (<i>Guide</i>, pp 115, 122)</li> <li>sharps disposal (<i>Guide</i>, p 74)</li> <li>anesthetic monitoring (<i>Guide</i>, p 120)</li> <li>scavenging of anesthetic gases (<i>Guide</i>, p 21)</li> <li>safety features (e.g., SOPs, safety signs, eyewash stations, secure gas cylinders) are in place (<i>Guide</i>, p 19)</li> <li>carcass disposal (<i>Guide</i>, pp 73-74)</li> </ul> </li> <li><b>Additional Concerns for Survival Surgery:</b> (rodent and minor procedures only) <ul style="list-style-type: none"> <li>rodent survival surgery clean and uncluttered, not used for anything else during surgery (<i>Guide</i>, p 144)</li> <li>records of peri-operative care (<i>Guide</i>, p 120)</li> <li>aseptic procedures (<i>Guide</i>, pp 118-119)</li> <li>autoclave monitoring procedures (<i>Guide</i>, pp 119, 145)</li> <li>storage of autoclaved materials (<i>Guide</i>, p 145)</li> <li>cold sterilization procedures are appropriate (<i>Guide</i>, p 119)</li> </ul> </li> <li><b>Imaging/Whole Body Irradiation:</b> <small>NEW</small> <ul style="list-style-type: none"> <li>location of resource limits contamination risk (<i>Guide</i>, p 147)</li> <li>appropriate transportation methods are in place (<i>Guide</i>, p 147)</li> <li>gas anesthesia provision, scavenging and monitoring are appropriate (<i>Guide</i>, p 147)</li> <li>appropriate sensors and ventilation are provided for cryogen gases (<i>Guide</i>, p 147) <b>[must]</b></li> <li>imaging console is located away from radiation source (<i>Guide</i>, p 147)</li> </ul> </li> <li><b>Hazardous Agent Containment:</b> <small>NEW</small> <ul style="list-style-type: none"> <li>facility adheres to APHIS, USDA and CDC Select Agent Regulations and other federal, state and local regulations including security measures (<i>Guide</i>, p 148) <b>[must]</b></li> </ul> </li> <li><b>Behavioral Studies:</b> <small>NEW</small> <ul style="list-style-type: none"> <li>facility minimizes airborne transmission of noise and ground-borne transmission of vibration (<i>Guide</i>, p 149)</li> <li>floor coverings reduce sound transmission (<i>Guide</i>, p 149)</li> <li>testing equipment allows for surface disinfection (<i>Guide</i>, p 150)</li> <li>components that cannot be cleaned are not in ready contact with animals and kept covered when not in use (<i>Guide</i>, p 150)</li> <li>housing areas are contiguous with testing areas when appropriate (<i>Guide</i>, p 150)</li> </ul> </li> </ul> |  |  |  |  |  |
|---|--|--|--|--|--|

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**NA** = not applicable

**NOTES:**

**Date:**  
**Members in Attendance:**

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**NA** = not applicable  
✓ Check if repeat deficiency

## IV. Endnotes

<sup>i</sup> The PHS Policy requires that Assured institutions comply with the regulations (9 CFR, Subchapter A) issued by the U.S. Department of Agriculture (USDA) under the Animal Welfare Act, as applicable. The endnotes below are specific USDA regulatory requirements that differ from or are in addition to the PHS Policy. This list is not intended to be all inclusive. For additional information please refer to 9 CFR Subchapter A - Animal Welfare.

<sup>ii</sup> Part 2 Subpart C - Research Facilities

- 2.31(b)(2) - "The Committee shall be composed of a Chairman and at least two additional members;... at least one shall not be affiliated in any way with the facility...such person will provide representation for general community interests in the proper care and treatment of animals." [PHS policy requires 5 members]

<sup>iii</sup> 2.32(c)(4) - "...No facility employee, Committee member, or laboratory personnel shall be discriminated against or be subject to any reprisal for reporting violations of any regulation or standards under the Act." [USDA requirement additional to PHS Policy]

<sup>iv</sup> 2.31(d)(5) - "...shall conduct continuing reviews of activities...not less than annually." [PHS Policy requires a complete new review every 3 years utilizing all the criteria for initial review]

<sup>v</sup> 2.31(d)(1)(x) - "...no animal will be used in more than one major operative procedure from which it is allowed to recover unless...(it is) justified for scientific reasons...(or is) required as routine veterinary procedure...or other special circumstances as determined by the Administrator on an individual basis." [this last point is an additional USDA justification for multiple survival surgeries]

<sup>vi</sup> 2.36 - "...each reporting facility shall submit an annual report to the APHIS, AC sector supervisor for the State where the facility is located on or before December 1 of each calendar year." [The USDA annual report has a list of requirements which differ from PHS annual report]

<sup>vii</sup> 2.36(b)(3) - "...exceptions to the standards and regulations be specified and explained by the principal investigator and approved by the IACUC. A summary of all such exceptions must be attached to the facility's annual report." [Refers to USDA annual report]

<sup>viii</sup> 2.31(c)(3) - "...Any failure to adhere to the plan and schedule that results in a significant deficiency remaining uncorrected shall be reported in writing within 15 business days by the IACUC, through the institutional official, to APHIS and any Federal agency funding that activity." [PHS Policy requires prompt reporting to OPRR of serious or continuing noncompliance with the PHS Policy or serious deviations from the provisions of the *Guide*]

<sup>ix</sup> 2.36 - "...each reporting facility shall submit an annual report to the APHIS, AC sector supervisor for the State where the facility is located on or before December 1 of each calendar year." [The USDA annual report has a list of requirements which differ from PHS annual report]

<sup>x</sup> In addition to PHS requirements for IACUC review/application for funding, USDA regulations require:

2.31(d)(1)(ii) - "The principal investigator (PI) consider alternatives to procedures that cause more than momentary or slight pain or distress to the animals, and has provided a written narrative description of the methods and sources...used to determine that alternatives were not available."

2.31(d)(1)(iii) - "The PI has provided written assurance that the activities do not unnecessarily duplicate previous experiments."

2.31(d)(1)(iv) - "Procedures that may cause more than momentary or slight pain or distress to the animals will:

- involve in their planning, consultation with the attending veterinarian or his or her designee; [PHS Policy does not specify veterinary consultation]
- not include paralytics without the use of anesthesia;"

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2.31(d)(1)(x) - “No animal will be used in more than one major operative procedure from which it is allowed to recover, unless justified for scientific reasons by the principal investigator, in writing...”

<sup>xi</sup> 2.33(a)(1) - “In the case of a part-time attending veterinarian or consultant arrangements, the formal arrangements shall include a written program of veterinary care and regularly scheduled visits to the research facility.” [USDA requirement additional]

<sup>xii</sup> 2.32(c) - “Humane methods of animal maintenance and experimentation, including the basic needs of each species, proper handling and care for the various species of animals used by the facility, proper pre-procedural and post-procedural care of animals, and aseptic surgical methods and procedures.”

<sup>xiii</sup> 2.32(c) - additional specifications include:

- “proper use of anesthetics, analgesics, and tranquilizers for any species of animals used by the facility”
- “methods whereby deficiencies in animal care and treatment are reported, including deficiencies in animal care and treatment reported by any employee of the facility...”
- “utilization of services (e.g., National Agricultural Library, National Library of Medicine) to provide information on appropriate animal care and use, alternatives to the use of live animals in research, that could prevent unintended and unnecessary duplication of research involving animals, and regarding the intent and requirements of the Act.” [USDA training specifications are more detailed than PHS Policy].

<sup>xiv</sup> 2.31(d)(iv)(C) - “Procedures that may cause more than momentary or slight pain or distress to the animals will...not include the use of paralytics without anesthesia.”

<sup>xv</sup> Part 3 Subpart A 3.8 - “...research facilities must develop, document, and follow an appropriate plan to provide dogs with the opportunity for exercise. In addition the plan must be approved by the attending veterinarian. The plan must provide written standard procedures...”

<sup>xvi</sup> Part 3 Subpart D 3.81 - “...research facilities must develop, document, and follow an appropriate plan for environment enhancement adequate to promote the psychological well-being of nonhuman primates.”

<sup>xvii</sup> Part 3 Subpart A 3.6(c)(1) - “Each dog housed in a primary enclosure must be provided with a minimum amount of floor space, calculated as follows:  
(length of dog in inches + 6)<sup>2</sup> / 144 = required floor space in square feet.”

- Part 3 Subpart D 3.80 (b) - “Primary enclosures [for nonhuman primates] must meet the minimum space requirements provided in this subpart.”

- In situations where the USDA regulations and the *Guide* differ with respect to space requirements, the larger of the two must be followed.