UCONN
HEALTH

MEMORANDUM

To: Wesley Byerly, Pharm.D.
Associate VP for Research Compliance / Institutional Official

From: Joseph Lorenzo, M.D.
Chair, Institutional Animal Care and Use Committee

Subject: Semi-Annual Review of Animal Care and Use Program and Inspections of Laboratory Animal Facilities and Animal Study Areas

Date: December 4, 2020

This represents the semi-annual report of the Institutional Animal Care and Use Committee (IACUC) of UConn Health's Program for Animal Care and Use, as well as the facility inspection of this institution, as required by the PHS Policy on Humane Care and Use of Laboratory Animals and as a condition of this institution's Animal Welfare Assurance (A3471-01) on file with the Office of Laboratory Animal Welfare (OLAW), and the USDA Animal Welfare Regulations, 9 CFR Chapter I, subchapter A, as applicable.

Evaluation of the Laboratory Animal Care and Use Program

The IACUC conducted its semi-annual evaluation of UConn Health's Animal Care and Use Program on December 3 2020 using the *Guide for the Care and Use of Laboratory Animals*, 2011 (NRC) and, as applicable, 9 CFR Chapter 1,2.31. The Animal Care and Use Program has been accredited by AAALAC-i since 1977. The updated standardized review form available from the OLAW website (http://grants.nih.gov/grants/olaw/sampledoc/) was used as a basis for documenting the semi-annual evaluation (see attachment #1). The IACUC also reviewed all current IACUC approved deviations to ensure that these deviations were still applicable (see attachment #5).

UCHC is participating in OLAW, AAALAC-i, and Public Responsibility in Medicine & Research (PRIM&R) webcasts for continuing education for IACUC members. Emails are sent to all IACUC members when the UCH initial signs up for a webinar and again approximately a week before a webcast is scheduled. Most webinars are in the OVPR conference room. IACUC members were encouraged to participate in these webinars.

No significant or minor deficiencies were noted in the Animal Care and Use Program.

Inspection of Animal Facilities and Animal Study Areas

The IACUC inspected the CCM animal facilities on November 13, 2020 and animal study areas (see attachment 2) from November 2, 2020 through November 12, 2020 using

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the *Guide for the Care and Use of Laboratory Animals*, 2011 (NRC) and, as applicable, 9 CFR Chapter 1, 2.31. The standardized review form available from the OLAW website (http://grants.nih.gov/grants/olaw/sampledoc/) was used as a basis for documenting the semi-annual evaluation. The IACUC evaluation of the results of the facility inspections was performed on December 3, 2020.

During the inspection of the facility, only one significant deficiency was noted in one room with regard to temperature and humidity in the CMGM. There were some minor deficiencies and all deficiencies noted have a correction plan in place approved by the IACUC. The significant deficiency is defined as having the potential to harm an animal. The minor deficiencies are not a potential or actual threat to animal health. All deficiencies noted all have a correction plan in place and approved by the IACUC.

It is the opinion of the IACUC that all deficiencies in the animal study areas and the animal facilities have been corrected or are on schedule for correction and, once corrected, all animal facilities and study areas will be consistent with PHS Policy, the *Guide*, and applicable Animal Welfare Regulations.

Minority Views

To date, there are no minority opinions with regard to this semi-annual report.

Signatures

The following IACUC members have reviewed the evaluation of the semi-annual evaluation of the animal care and use program and evaluation of the results of the inspection of the CCM facilities and required investigator laboratories.

[redacted]

[redacted]

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Pohl,Alison

From: [redacted]
Sent: Thursday, December 10, 2020 3:50 PM
To: Pohl,Alison
Subject: Dec 2020 Semi-Annual Report

*** Attention: This is an external email. Use caution responding, opening attachments or clicking on links. ***

I agree with the UCONN Health Center Semi-Annual Review of Animal Care and Use Program and Inspections of Laboratory Animal Facilities and Animal Study Areas dated December 4, 2020.

[redacted]

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I. Semiannual Program Review Checklist [1]

Institutional Policies and Responsibilities

Date: DECEMBER 3, 2020

1. Animal Care and Use Program NEW	A*	M	S	C	NA
• Responsibility for animal well-being is assumed by all members of the program (*Guide*, p 1) [must]	X				
• IO has authority to allocate needed resources (*Guide*, p 13)	X				
• Resources necessary to manage program of veterinary care are provided (*Guide*, p 14) [must]	X				
• Sufficient resources are available to manage the program, including training of personnel in accord with regulations and the *Guide* (*Guide*, pp 11, 15)	X				
• Program needs are regularly communicated to IO by AV and/or IACUC (*Guide*, p 13)	X				
• 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]					X
• Inter-institutional collaborations are described in formal written agreements (*Guide*, p 15)	X				
• Written agreements address responsibilities, animal ownership, and IACUC oversight (*Guide*, p 15)	X				

2. Disaster Planning and Emergency Preparedness NEW	A*	M	S	C	NA
• Disaster plans for each facility to include satellite locations are in place (*Guide*, p 35, p 75) [must]	X				
• Plans include provisions for euthanasia (*Guide*, p 35) [must]	X				
• Plans include triage plans to meet institutional and investigators' needs (*Guide*, p 35)	X				
• Plans define actions to prevent animal injury or death due to HVAC or other failures (*Guide*, p 35)	X				
• Plans describe preservation of critical or irreplaceable animals (*Guide*, p 35)	X				
• Plans include essential personnel and their training (*Guide*, p 35)	X				
• Animal facility plans are approved by the institution and incorporated into overall response plan (*Guide*, p 35)	X				
• Law enforcement and emergency personnel are provided a copy and integration with overall plan is in place (*Guide*, p 35)	X				

3. IACUC NEW	A*	M	S	C	NA
• Meets as necessary to fulfill responsibilities (*Guide*, p 25) [must]	X				
• IACUC Members named in protocols or with conflicts recuse themselves from protocol decisions (*Guide*, p 26) [must]	X				
• Continuing IACUC oversight after initial protocol approval is in place (*Guide*, p 33)	X				
• IACUC evaluates the effectiveness of training programs (*Guide*, p 15)	X				

4. IACUC Protocol Review - Special Considerations	A*	M	S	C	NA
• 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 (*Guide*, p 27)	X				
• For pilot studies, a system to communicate with the IACUC is in place (*Guide*, p 28)	X				
• For genetically modified animals, enhanced monitoring and reporting is in place (*Guide*, p 28)	X				
• Restraint devices are justified in the animal use protocols (*Guide*, p 29) [must]	X				
• Alternatives to physical restraint are considered (*Guide*, p 29)	X				

[1] 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.

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• Period of restraint is the minimum to meet scientific objectives (*Guide*, p 29)	X				
• Training of animals to adapt to restraint is provided (*Guide*, p 29)	X				
• Animals that fail to adapt are removed from study (*Guide*, p 29)	X				
• Appropriate observation intervals of restrained animals are provided (*Guide*, p 29)	X				
• Veterinary care is provided if lesions or illness result from restraint (*Guide*, p 30) [must]	X				
• Explanations of purpose and duration of restraint are provided to study personnel (*Guide*, p 30)	X				
• Multiple surgical procedures on a single animal are justified and outcomes evaluated (*Guide*, p 30)	X				
• Major versus minor surgical procedures are evaluated on a case-by-case basis (*Guide*, p 30)	X				
• Multiple survival procedure justifications in non-regulated species conform to regulated species standards (*Guide*, p 30)	X				
• Animals on food/fluid restriction are monitored to ensure nutritional needs are met (*Guide*, p 31)					X
• Body weights for food/fluid restricted animals are recorded at least weekly (*Guide*, p 31)					X
• Daily written records are maintained for food/fluid restricted animals (*Guide*, p 31)					X
• Pharmaceutical grade chemicals are used , when available, for animal-related procedures (*Guide*, p 31)	X				
• Non-pharmaceutical grade chemicals are described, justified, and approved by IACUC (*Guide*, p 31)	X				
• Investigators conducting field studies know zoonotic diseases, safety issues, laws and regulations applicable in study area (*Guide*, p 32)					X
• Disposition plans are considered for species removed from the wild (*Guide*, p 32)					X
• Toe-clipping only used when no alternative, performed aseptically and with pain relief (*Guide*, p 75)	X				

5. IACUC Membership and Functions	**A***	**M**	**S**	**C**	**NA**
• IACUC is comprised of at least 5 members, appointed by CEO (PHS Policy, IV.A.3.)	X				
• Members include a veterinarian, a scientist, a nonscientist, and a nonaffiliated non-lab animal user (*Guide*, p 24)[2]	X				
• IACUC authority and resources for oversight and evaluation of institution's program are provided (*Guide*, p 14)	X				
• IACUC conducts semiannual evaluations of institutional animal care and use program (PHS Policy, IV.B.)	X				
• Conducts semiannual inspections of institutional animal facilities (PHS Policy, IV.B.)	X				
• IACUC organizationally reports to the Institutional Official (PHS Policy, IV.A.1.b.)	X				
• Methods for reporting and investigating animal welfare concerns are in place (*Guide*, p 23) [must]	X				
• Reviews and investigates concerns about animal care and use at institution[3] (PHS Policy, IV.B.)	X				
• Procedures are in place for review, approval, and suspension of animal activities[4] (PHS Policy, IV.B.)	X				
•					

[2] 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]

[3] 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]

[4] 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]

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• Procedures are in place for review and approval of significant changes to approved activities (PHS Policy, IV.B.)	X				
• Policies are in place for special procedures (e.g., genetically modified animals, restraint, multiple survival surgery, food and fluid regulation, field investigations, agricultural animals) (*Guide*, p 27-32)	X				
• Requests for exemptions from major survival surgical procedure restrictions are made to USDA/APHIS[5] (*Guide*, p 32) [must]					X

6. IACUC Training NEW	**A***	**M**	**S**	**C**	**NA**
• All IACUC members should receive:					
o Formal orientation to institution's program (*Guide*, p 17)	X				
o Training on legislation, regulations, guidelines, and policies (*Guide*, p 17)	X				
o Training on how to inspect facilities and labs where animal use or housing occurs (*Guide*, p 17)	X				
o Training on how to review protocols as well as evaluate the program (*Guide*, p 17)	X				
o Ongoing training/education (*Guide*, p 17)	X				

7. IACUC Records and Reporting Requirements[6]	**A***	**M**	**S**	**C**	**NA**
• Semiannual report to the IO (PHS Policy, IV.B.)					
o Submitted to IO every 6 months	X				
o Compiles program review and facility inspection(s) results (includes all program and facility deficiencies)	X				
o Includes minority IACUC views	X				
o Describes IACUC-approved departures from the *Guide* or PHS Policy and the reasons for each departure[7]	X				
o Distinguishes significant from minor deficiencies	X				
o Includes a plan and schedule for correction for each deficiency identified[8]	X				
• 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	X				
o Promptly advises OLAW of serious/ongoing *Guide* deviations or PHS Policy noncompliance (NOT-OD-05-034)	X				
o Institute must promptly advise OLAW of any suspension of an animal activity by the IACUC (NOT-OD-05-034)	X				

[5] 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]

[6] 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]

[7] 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]

[8] 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*]

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• Reports to U.S. Department of Agriculture (USDA) or Federal funding agency[9]					
○ Annual report to USDA contains required information including all exceptions/exemptions	X				
○ Reporting mechanism to USDA is in place for IACUC-approved exceptions to the regulations and standards	X				
○ Reports are filed within 15 days for failures to adhere to timetable for correction of significant deficiencies	X				
○ Promptly reports suspensions of activities by the IACUC to USDA and any Federal funding agency	X				
• Records (PHS Policy, IV.E.)					
○ IACUC meeting minutes and semiannual reports to the IO are maintained for 3 years	X				
○ Records of IACUC reviews of animal activities include all required information[9]	X				
○ Records of IACUC reviews are maintained for 3 years after the completion of the study	X				

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[10]	X				
• Veterinary access to all animals is provided (*Guide*, p 14) [must]	X				
• Direct or delegated authority is given to the veterinarian to oversee all aspects of animal care and use (*Guide*, p 14) [must]	X				
• Veterinarian provides consultation when pain and distress exceeds anticipated level in protocol (*Guide*, p 5) [must]	X				
• Veterinarian provides consultation when interventional control is not possible (*Guide*, p 5) [must]	X				
• If part time /consulting veterinarian, visits meet programmatic needs (*Guide*, p 14)					X
• Regular communication occurs between veterinarian and IACUC (*Guide*, p 14)	X				
• Veterinarian(s) have experience and training in species used (*Guide*, p 15) [must]	X				
• Veterinarian(s) have experience in facility administration/management (*Guide*, p 15)	X				

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]					
○ Veterinary/other professional staff (*Guide*, p 15-16)	X				
○ IACUC members (*Guide*, p 17)	X				
○ Animal care personnel (*Guide*, p 16)	X				

[9] 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;"

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..."

[10] 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]

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○ Research investigators, instructors, technicians, trainees, and students (*Guide*, pp 16-17)	X				
• Continuing education for program and research staff provided to ensure high quality care and reinforce training (*Guide*, pp 16-17)	X				
• Training is available prior to starting animal activity (*Guide*, p 17)	X				
• Training is documented (*Guide*, p 15)	X				
• Training program content includes: (*Guide*, p 17)					
○ Methods for reporting concerns (*Guide*, p 17)	X				
○ Humane practices of animal care (e.g., housing, husbandry, handling) [11]	X				
○ Humane practices of animal use (e.g., research procedures, use of anesthesia, pre- and post-operative care, aseptic surgical techniques and euthanasia (*Guide*, p 17)[12]					
○ Research/testing methods that minimize numbers necessary to obtain valid results (PHS Policy, IV.A.1.g.)	X				
○ Research/testing methods that minimize animal pain or distress (PHS Policy, IV.A.1.g.)	X				
○ Use of hazardous agents, including access to OSHA chemical hazard notices where applicable (*Guide*, p 20)	X				
○ Animal care and use legislation (*Guide*, p 17)	X				
○ IACUC function (*Guide*, p 17)	X				
○ Ethics of animal use and Three R's (*Guide*, p 17)	X				

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 (*Guide*, p 17) [must]	X				
• Program covers *all* personnel who work in laboratory animal facilities (*Guide*, p 18)	X				
• Changing, washing, and showering facilities are available as appropriate (*Guide*, p 19)	X				
• Hazardous facilities are separated from other areas and identified as limited access (*Guide*, p 19)	X				
• Personnel training is provided based on risk (e.g., zoonoses, hazards, personal hygiene, special precautions, animal allergies) (*Guide*, p 20)	X				
• Personal hygiene procedures are in place (e.g., work clothing, eating/drinking/smoking policies) (*Guide*, p 20)	X				
• Procedures for use, storage, and disposal of hazardous biologic, chemical, and physical agents are in place (*Guide*, p 21)	X				
• Personal Protective Equipment for the work area is appropriate and available (*Guide*, p 21)	X				
• Program for medical evaluation and preventive medicine for personnel includes:					
○ Pre-employment evaluation including health history (*Guide*, p 22)	X				
○ Immunizations as appropriate (e.g., rabies, tetanus) and tests as appropriate (*Guide*, p 22)	X				
○ Zoonosis surveillance as appropriate (e.g., Q-fever, tularemia, Hantavirus, plague) (*Guide*, p 23)	X				
○ Procedures for reporting and treating injuries, including accidents, bites, allergies, etc. (*Guide*, p 23)	X				
○ Promotes early diagnosis of allergies including preexisting conditions (*Guide*, p 22)	X				

[11] 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."

[12] 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].

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○ Considers confidentiality and other legal factors as required by federal, state and local regulations (*Guide*, p 22) [must]	X				
○ If serum samples are collected, the purpose is consistent with federal and state laws (*Guide*, p 22) [must]	X				
• Waste anesthetic gases are scavenged (*Guide*, p 21)	X				
• Hearing protection is provided in high noise areas (*Guide*, p 22)	X				
• Respiratory protection is available when performing airborne particulate work (*Guide*, p 22)	X				
• Special precautions for personnel who work with nonhuman primates, their tissues or body fluids include:					
○ Tuberculosis screening provided for all exposed personnel (*Guide*, p 23)					X
○ Training and implementation of procedures for bites, scratches, or injuries associated with macaques (*Guide*, p 23)					X
○ PPE is provided including gloves, arm protection, face masks, face shields, or goggles (*Guide*, p 21)					X
○ Injuries associated with macaques are carefully evaluated and treatment implemented (*Guide*, p 23)					X
• Occupational safety and health of field studies is reviewed by OSH committee or office (*Guide*, p 32)					X

11. Personnel Security NEW	**A***	**M**	**S**	**C**	**NA**
• Preventive measures in place include pre-employment screening, and physical and IT security (*Guide*, p 23)	X				

12. Investigating & Reporting Animal Welfare Concerns NEW	**A***	**M**	**S**	**C**	**NA**
• Methods for investigating and reporting animal welfare concerns are established (*Guide*, p 23) [must]	X				
• Reported concerns and corrective actions are documented (*Guide*, p 24)	X				
• Mechanisms for reporting concerns are posted in facility and at applicable website with instructions (*Guide*, p 24)	X				
○ Includes multiple contacts (*Guide*, p 24)	X				
○ Includes anonymity, whistle blower policy, nondiscrimination and reprisal protection (*Guide*, p 24)	X				

* **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:

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Veterinary Care

Date: DECEMBER 3, 2020

1. Clinical Care and Management NEW	**A***	**M**	**S**	**C**	**NA**
• Veterinary program offers high quality of care and ethical standards (*Guide*, p 105) [must]					
• Veterinarian provides guidance to all personnel to ensure appropriate husbandry, handling, treatment, anesthesia, analgesia, and euthanasia (*Guide*, p 106)					
• Veterinarian provides oversight to surgery and perioperative care (*Guide*, p 106)					
• Veterinary care program is appropriate for program requirements (*Guide*, pp 113-114)					
• Veterinarian(s) is familiar with species and use of animals and has access to medical and experimental treatment records (*Guide*, p 114)					
• Procedures to triage and prioritize incident reports are in place (*Guide*, p 114)					
• Procedures are in place to address:					
○ Problems with experiments to determine course of treatment in consultation with investigator(*Guide*, p 114)					
○ Recurrent or significant health problems with the IACUC and documentation of treatments and outcomes (*Guide*, p 114)					
○ Veterinary review and oversight of medical and animal use records (*Guide*, p 115)					
• 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]					

2. Animal Procurement and Transportation/Preventive Medicine	**A***	**M**	**S**	**C**	**NA**
• Procedures for lawful animal procurement are in place (*Guide*, p 106) [must]					
• Sufficient facilities and expertise are confirmed prior to procurement (*Guide*, p 106)					
• Procurement is linked to IACUC review and approval (*Guide*, p 106)					
• Random source dogs and cats are inspected for identification (*Guide*, p 106)					X
• Population status of wildlife species is considered prior to procurement (*Guide*, p 106)					X
• Appropriate records are maintained on animal acquisition (*Guide*, p 106)					
• Animal vendors are evaluated to meet program needs and quality (*Guide*, p 106)					
• Breeding colonies are based on need and managed to minimize numbers (*Guide*, p 107)					
• Procedures for compliance with animal transportation regulations, including international requirements, are in place (*Guide*, p 107) [must]					
• Transportation is planned to ensure safety, security and minimize risk (*Guide*, p 107)					
• Movement of animals is planned to minimize transit time and deliveries are planned to ensure receiving personnel are available (*Guide*, pp 107- 108)					
• Appropriate loading and unloading facilities are available (*Guide*, p 109)					
• Environment at receiving site is appropriate (*Guide*, p 109)					
• Policies in place on separation by species, source, and health status (*Guide*, pp 109, 111-112)					
• Procedures in place for quarantine to include zoonoses prevention (*Guide*, p 110)					
• Quarantined animals from different shipments are handled separately or physically separated (*Guide*, p 110)					
• Procedures in place for stabilization/acclimation (*Guide*, pp 110-111)					
• Policies in place for isolation of sick animals (*Guide*, p 112)					
• Program is in place for surveillance, diagnosis, treatment and control of disease to include daily observation (*Guide*, p 112)					
• Diagnostic resources are available for preventive health program (*Guide*, p 112)					

3. Surgery	**A***	**M**	**S**	**C**	**NA**
• Surgical outcomes are assessed and corrective changes instituted (*Guide*, p 115)					
• Researchers have appropriate training to ensure good technique (*Guide*, p 115) [must]					
•					

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• Pre-surgical plans are developed and include veterinary input (e.g., location, supplies, anesthetic and analgesic use, peri-operative care, recordkeeping) (*Guide*, p 116)					
• Aseptic surgery is conducted in dedicated facilities or spaces, unless exception justified and IACUC approved (*Guide*, p 116)					
• Surgical procedures including laparoscopic procedures are categorized as major or minor (*Guide*, pp 117-118)					
• For nonsurvival surgery, the site is clipped, gloves are worn and instruments and area are clean (*Guide*, p 118)					
• Aseptic technique is followed for survival surgical procedures (*Guide*, pp 118-119)					
• Effective procedures for sterilizing instruments and monitoring expiration dates on sterile packs are in place (*Guide*, p 119)					
• Procedures for monitoring surgical anesthesia and analgesia are in place (*Guide*, p 119)					
• For aquatic species, skin surfaces are kept moist during surgical procedures (*Guide*, 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) (*Guide*, 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 (*Guide*, p 121)					
• Selection of analgesics and anesthetics is based on professional veterinary judgment (*Guide*, p 121)					
• Painful procedures are monitored to ensure appropriate analgesic management (*Guide*, p 122)					
• Nonpharmacologic control of pain is considered as an element of postprocedural care (*Guide*, p 122)					
• Procedures are in place to assure antinoception before surgery begins (*Guide*, p 122) [must]					
• Guidelines for selection and use of analgesics and anesthetics are in place and regularly reviewed and updated (*Guide*, p 122)					
• Special precautions for the use of paralytics are in place to ensure anesthesia[13] (*Guide*, p 123)					X

5. Euthanasia	**A***	**M**	**S**	**C**	**NA**
• Methods are consistent with AVMA Guidelines on Euthanasia unless approved by the IACUC (*Guide*, p 123)					
• Standardized methods are developed and approved by the veterinarian and IACUC that avoid distress and consider animal age and species (*Guide*, pp 123-124)					
• Training is provided on appropriate methods for each species and considers psychological stress to personnel (*Guide*, p 124)					
• Procedures and training are in place to ensure death is confirmed (*Guide*, p 124) [must]					

6. Drug Storage and Control NEW	**A***	**M**	**S**	**C**	**NA**
• Program complies with federal regulations for human and veterinary drugs(*Guide*, p 115) [must]					
• Drug records and storage procedures are reviewed during facility inspections (*Guide*, p 115)					
• Procedures are in place to ensure analgesics and anesthetics are used within expiration date (*Guide*, p 122) [must]					
• Anesthetics and analgesics are acquired, stored, and their use and disposal are recorded legally and safely (*Guide*, p 122)					

* **A** = acceptable
M = minor deficiency
S = significant deficiency (is or may be a threat to animal health or safety)

[13] 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."

Obtained by Rise for Animals.
Uploaded to Animal Research Laboratory Overview (ARLO) on 04/07/2021

CCM Facility Inspection Teams- November 2020

Attachment 2a

TEAM #1 [redacted]

Room #	Level	Contents	Code
[redacted]		Feed room	[redacted]
		Necropsy	
		Clinical laboratory	
		Rodent OR	
		Rodent OR	
		Surgical Scrub	
		Chemical storage	
		Large OR	
		Prep room	
	6	Mice	
	6.5	Quarantine	
	5	Temporary Holding Room & Test a	
		Soiled Washroom	
		Clean Washroom	
	1.2 & 8	Hyperoxia Chamber & Cold Rabbit	
		Sound proof room	
		Animal receiving	
		Bedding storage/dispensing	
		Bedding machine room	
		Loading dock	
		Supply Storage	
		Transport Vehicle	

TEAM #2 [redacted]

Room #	Level	Contents	Code
[redacted]		GTTF Mouse room	[redacted]
	0	GTTF Gowning room	
	0	GTTF Procedure room	
	0	GTTF Procedure room	
	0	GTTF Mouse room	
	0	Spy's Lab	
	0	GTTF Mouse room	
	0	GTTF Mouse room	
	0	GTTF lab	
	0	Cryo lab	
	0	GTTF lab	
		Sterile cage storage	
	0.5	Mice	
		Jax Lab	
	1	Mice	
	1	Mice	
	1	Mice	
	1	Mice	
	1.2	Mice	
	1.2	Mice	
		Procedure room	
		Procedure room	
		Rack staging	
		Janitor closet	

12/4/2020

Obtained by Rise for Animals.
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TEAM #3 [redacted]

Room #	Level	Contents	Code
[redacted]	1	Mice	[redacted]
	1.2	Mice	
	1	Mice	
	1.2	Mice	
	1.2	Mice	
	1.2	Mice	
		Procedure room	
		Procedure room	
		Rack staging	
		Janitor closet	
	1.2	Mice	
	1.2	Mice	
	4	Chem holding room	
	4	Chem hazard procedure room	
		Storage	
		Aquatic room	
		Procedure room	
		Procedure room	
		Rack staging	
		Janitor closet	
	8	Rabbit	
	8	Rabbit	
	8	Rat	
	3	Rat	
	8	Rabbit	
	7	Guinea pig	
		Necropsy	
		Rack staging	
		Janitor closet	

TEAM #4 [redacted]

Room #	Level	Contents	Code
[redacted]	1.2	Mice	[redacted]
	1.2	Mice	
	1.2	Mice	
	1	Mice	
	1	Mice	
	1	Mice	
	1	Mice	
	1	Mice	
	1	Mice	
	1.2	Mice	
	1	Mice	
		Procedure room	
		Procedure room	
		Imaging anteroom	
		Imaging suite	
		Rack storge	
		Janitor closet	
	4	ABSL-2 anteroom	
	4	ABSL-2 procedure room	
	4	ABSL-2 Mice & Rats	
	4	ABSL-2 Mice	
		Procedure room	
		Procedure room	
		Rack storge	
		Janitor closet	
		Behavior suite anteroom	
		Perfusion lab	
		Behavioral lab	
		Behavioral lab	
		Behavioral lab	
		Rack storage	
		Janitor closet	

Obtained by Rise for Animals.
Uploaded to Animal Research Laboratory Overview (ARLO) on 04/07/2021

	November 2020			
		Confirmed	Available	
Primary Investigator	Room Number	Date	Time	IACUC
[redacted]	[redacted]	11/2/2020	9:00 AM	[redacted]
		11/2/2020	9:20 AM	
		11/2/2020	9:40 AM	
		11/2/2020	10:00 AM	
		11/2/2020	10:20 AM	
		11/2/2020	10:40 AM	
		11/2/2020	11:00 AM	
		11/2/2020	11:20 AM	
		11/2/2020	11:40 AM	
[redacted]	[redacted]	11/2/2020	9:00 AM	[redacted]
		11/2/2020	9:20 AM	
		11/2/2020	9:40 AM	
		11/2/2020	10:00 AM	
		11/2/2020	10:20 AM	
		11/2/2020	10:40 AM	
		11/2/2020	11:00 AM	
		11/2/2020	11:20 AM	
		11/2/2020	11:40 AM	
	[redacted]		12:00	
OPEN		11/3/2020	9:00 AM	[redacted]
[redacted]	[redacted]	11/3/2020	9:20 AM	
		11/3/2020	9:40 AM	
		11/3/2020	10:00 AM	
		11/3/2020	10:20 AM	
		11/3/2020	10:40 AM	
		11/3/2020	11:00 AM	
		11/3/2020	11:20 AM	
		11/3/2020	11:40 AM	
OPEN	[redacted]	11/3/2020	9:00 AM	[redacted]
[redacted]		11/3/2020	9:20 AM	
		11/3/2020	9:40 AM	
		11/3/2020	10:00 AM	
		11/3/2020	10:20 AM	
		11/3/2020	10:40 AM	
		11/3/2020	11:00 AM	
		11/3/2020	11:20 AM	
		11/3/2020	11:40 AM	
OPEN	[redacted]	11/4/2020	9:00 AM	[redacted]
[redacted]		11/4/2020	9:20 AM	
		11/4/2020	9:40 AM	
		11/4/2020	10:00 AM	
		11/4/2020	10:20 AM	
		11/4/2020	10:40 AM	
		11/4/2020	11:00 AM	
		11/4/2020	11:20 AM	
		11/4/2020	11:40 AM	
		11/4/2020	12:00 PM	

Obtained by Rise for Animals.
Uploaded to Animal Research Laboratory Overview (ARLO) on 04/07/2021

	November 2020			
		Confirmed	Available	
Primary Investigator	Room Number	Date	Time	IACUC
[redacted]	[redacted]	11/4/2020	9:00 AM	[redacted]
		11/4/2020	9:20 AM	
		11/4/2020	9:40 AM	
		11/4/2020	10:00 AM	
		11/4/2020	10:20 AM	
		11/4/2020	10:40 AM	
		11/4/2020	11:00 AM	
		11/4/2020	11:20 AM	
		11/4/2020	11:40 AM	
[redacted]	[redacted]	11/5/2020	9:00 AM	[redacted]
		11/5/2020	9:20 AM	
		11/5/2020	9:40 AM	
		11/5/2020	10:00 AM	
		11/5/2020	10:20 AM	
		11/5/2020	10:40 AM	
		11/5/2020	11:00 AM	
		11/5/2020	11:20 AM	
		11/5/2020	12:00 PM	
[redacted]	[redacted]	11/5/2020	9:00 AM	[redacted]
OPEN		11/5/2020	9:20 AM	
[redacted]	[redacted]	11/5/2020	9:40 AM	
OPEN		11/5/2020	10:00 AM	
[redacted]	[redacted]	11/5/2020	10:20 AM	
		11/5/2020	10:40 AM	
		11/5/2020	11:00 AM	
		11/5/2020	11:20 AM	
		11/5/2020	11:40 AM	
WALK OVER TO MARB		11/10/2020	9:00 AM	[redacted]
[redacted]	[redacted]	11/10/2020	9:20 AM	
		11/10/2020	9:40 AM	
		11/10/2020	10:00 AM	
		11/10/2020	10:20 AM	
MARB ANIMAL FACILITY		11/10/2020	10:40 AM	
BUS OVER TO 400 FARMINGTON AVENUE (Bus #4)		11/10/2020	9:10 AM	[redacted]
[redacted]	[redacted]	11/10/2020	9:40 AM	
		11/10/2020	10:00 AM	
GCSB ANIMAL FACILITY		11/10/2020	10:20 AM	
BUS BACK TO ACADEMIC ENTRANCE (Bus #4)		11/10/2020	11:04 AM	
OPEN		11/10/2020	11:20 AM	
[redacted]	[redacted]	11/10/2020	11:40 AM	
[redacted]	[redacted]	11/12/2020	9:00	[redacted]
		11/12/2020	9:20	
		11/12/2020	9:40	
		11/12/2020	10:00	

Obtained by Rise for Animals.
Uploaded to Animal Research Laboratory Overview (ARLO) on 04/07/2021

CCM Facilities inspection deficiencies December 2020 (Attach #3)

Finding	Type	Space(s)	Resolved
Eye wash checks are not performed and/or documented	Minor - should ensure checks are performed, next check by 5/31/21	[redacted]	Open
Sharps disposal - inadequate (overflowing/recapped needles)	Minor - sharps container should be replaced, next check by 5/31/21	[redacted]	Open
Biosafety cabinets are not calibrated	Minor- BSC should be calibrated during next calibration cycle, next check by 5/31/	[redacted]	Open
Sharps disposal - inadequate (overflowing/recapped needles)	Minor - sharps container should be replaced, next check by 5/31/21	[redacted]	Open
Floors must be impervious to water	Minor- AV should evaluate; if fix is required, should be repaired by 5/31/21	[redacted]	Open
Room doors are not secure	Minor- settings on the door should be fixed to ensure self-closure, next check by 5/31/21	[redacted]	Open
Humidity of room is inadequate	Major - AV should evaluate by 3/1/21 to deterime what actions are necessary to ensure appropriate room humidity.	[redacted]	Open
Temperature of room is inadequate	Major - AV should evaluate by 3/1/21 to deterime what actions are necessary to ensure appropriate room temperature.	[redacted]	Open
Electrical outlets are inadequate	Minor- electrical outlets/coverings should be repaired by 5/31/20	[redacted]	Open
Electrical outlets are inadequate	Minor- electrical outlets/coverings should be repaired by 5/31/20	[redacted]	Open
Insect pest control is inadequate	Minor- pest control strips should be placed into holding room - recheck by 5/31/21	[redacted]	Open
Electrical outlets are inadequate	Minor- electrical outlets/coverings should be repaired by 5/31/20	[redacted]	Open
Insect pest control is inadequate	Minor- pest control strips should be placed into holding room - recheck by 5/31/21	[redacted]	Open
Room doors are not secure	Minor- settings on the door should be fixed to ensure self-closure, next check by 5/31/21	[redacted]	Open
Electrical outlets are inadequate	Minor- electrical outlets/coverings should be repaired by 5/31/20	[redacted]	Open
Insect pest control is inadequate	Minor- pest control strips should be placed into holding room - recheck by 5/31/21	[redacted]	Open
Room walls and ceiling are inadequate	Minor- AV should evaluate; if fix is required, should be repaired by 5/31/21	[redacted]	Resolved
Food is inadequate	Food replaced	[redacted]	Resolved
Room walls and ceiling are inadequate	Minor- AV should evaluate; if fix is required, should be repaired by 5/31/21	[redacted]	Open
Eye wash checks are not performed and/or documented	Minor - should ensure checks are performed, next check by 5/31/21	[redacted]	Open
Eye wash checks are not performed and/or documented	Minor - should ensure checks are performed, next check by 5/31/21	[redacted]	Open

Obtained by Rise for Animals.
Uploaded to Animal Research Laboratory Overview (ARLO) on 04/07/2021

November 2020 Lab inspection deficiecies (Attach#4)

Finding	Plan of Correction	Group(s)	Space(s)	Resolved
Drugs are past expiration dates	Minor- not used; Informed not to use and to bring back to CCM at inspection	[redacted]		Open
Eye wash checks are not performed and/or documented	Minor- PI informed to document eyewash checks; recheck by 5/31/21			Open
Biosafety cabinets are not calibrated	Minor- PI informed to get BSC calibrated if using BSL-2 agents, recheck by 5/31/21			Resolved
Eye wash checks are not performed and/or documented	Minor- PI informed to document eyewash checks; recheck by 5/31/21			Resolved
Animal training records are incomplete or missing	Minor- PI informed that all individuals must document procedural training, recheck by 5/31/21			Resolved
Drugs are past expiration dates	Minor- not used; Informed not to use and to bring back to CCM at inspection			Open
Eye wash checks are not performed and/or documented	Minor- PI informed to document eyewash checks; recheck by 5/31/21			Open
Sharps disposal - inadequate (overflowing/recapped needles)	Minor- PI informed to replace container; recheck by 5/31/21			Open
Eye wash checks are not performed and/or documented	Minor- PI informed to document eyewash checks; recheck by 5/31/21			Resolved
Animal protocols have not been read/documented	Minor- PI informed that all individuals need to read protocols and sign off that they have read them. Recheck by 5/31/21			Open
Animal safety protocols have not been read/documented	Minor- PI informed that all individuals need to read protocols and sign off that they have read them. Recheck by 5/31/21			Open
Animal training records are incomplete or missing	Minor- PI informed that all individuals must document procedural training, recheck by 5/31/21			Open
Sharps disposal - inadequate (overflowing/recapped needles)	Minor- PI informed to replace container; recheck by 5/31/21			Open
Biosafety cabinets are not calibrated	Minor- PI informed to get BSC calibrated if using BSL-2 agents, recheck by 5/31/21			Resolved
Eye wash checks are not performed and/or documented	Minor- PI informed to document eyewash checks; recheck by 5/31/21			Resolved
Sharps disposal - inadequate (overflowing/recapped needles)	Minor- PI informed to replace container; recheck by 5/31/21			Resolved
Eye wash checks are not performed and/or documented	Minor- PI informed to document eyewash checks; recheck by 5/31/21			Open
Animal training records are incomplete or missing	Minor- PI informed that all individuals must document procedural training, recheck by 5/31/21			Resolved

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Eye wash checks are not performed and/or documented	Minor- PI informed to document eyewash checks; recheck by 5/31/21	[redacted]		Resolved
Sharps disposal - inadequate (overflowing/recapped needles)	Minor- PI informed to replace container; recheck by 5/31/21			Open
Sharps disposal - inadequate (overflowing/recapped needles)	Minor- PI informed to replace container; recheck by 5/31/21			Resolved
Animal protocols have not been read/documented	Minor- PI informed that all individuals need to read protocols and sign off that they have read them. Recheck by 5/31/21			Open
Animal safety protocols have not been read/documented	Minor- PI informed that all individuals need to read protocols and sign off that they have read them. Recheck by 5/31/21			Open
Animal training records are incomplete or missing	inor- PI informed that all individuals must document procedural training, recheck by 5/31/21			Open
Eye wash checks are not performed and/or documented	Minor- PI informed to document eyewash checks; recheck by 5/31/21			Open
Sharps disposal - inadequate (overflowing/recapped needles)	Minor- PI informed to replace container; recheck by 5/31/21			Open
Other Issues - Downdraft table	Minor - disconnect far end of hose from ceiling and reconnect the near end of the hose to the downdraft table.			Resolved
Sharps disposal - inadequate (overflowing/recapped needles)	Minor- PI informed to replace container; recheck by 5/31/21			Resolved
Fume hoods are not calibrated	Minor- PI informed to schedule fume hood calibration with EH&S, recheck by 5/31/21			Open
Drugs are past expiration dates	Minor- not used; Informed not to use and to bring back to CCM at inspection			Open
Animal protocols have not been read/documented	Minor- PI informed that all individuals need to read protocols and sign off that they have read them. Recheck by 5/31/21			Open
Animal training records are incomplete or missing	Minor- PI informed that all individuals must document procedural training, recheck by 5/31/21			Open
Sharps disposal - inadequate (overflowing/recapped needles)	Minor- PI informed to replace container; recheck by 5/31/21			Open
Eye wash checks are not performed and/or documented	Minor- PI informed to document eyewash checks; recheck by 5/31/21			Resolved
Eye wash checks are not performed and/or documented	Minor- PI informed to document eyewash checks; recheck by 5/31/21			Open
Eye wash checks are not performed and/or documented	Minor- PI informed to document eyewash checks; recheck by 5/31/21			Open
Fume hoods are not calibrated	Minor- PI informed to schedule fume hood calibration with EH&S, recheck by 5/31/21			Resolved

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Sharps disposal - inadequate (overflowing/recapped needles)	Minor- PI informed to replace container; recheck by 5/31/21	[redacted]		Open
Sharps disposal - inadequate (overflowing/recapped needles)	Minor- PI informed to replace container; recheck by 5/31/21			Open
Sharps disposal - inadequate (overflowing/recapped needles)	Minor- PI informed to replace container; recheck by 5/31/21			Resolved
Animal training records are incomplete or missing	Minor- PI informed that all individuals must document procedural training, recheck by 5/31/21			Resolved
Fume hoods are not calibrated	Minor- PI informed to schedule fume hood calibration with EH&S, recheck by 5/31/21			Resolved
Animal protocols have not been read/documented	Minor- PI informed that all individuals need to read protocols and sign off that they have read them. Recheck by 5/31/21			Resolved
Controlled drug log sheets are inadequately completed	Minor- PI shown correct information that is required to be on the sheet; recheck by 5/31/21			Resolved
Drugs are past expiration dates	Minor- not used; Informed not to use and to bring back to CCM at inspection			Resolved
Drugs are past expiration dates	Minor- not used; Informed not to use and to bring back to CCM at inspection			Resolved
Eye wash checks are not performed and/or documented	Minor- PI informed to document eyewash checks; recheck by 5/31/21			Resolved
Sharps disposal - inadequate (overflowing/recapped needles)	Minor- PI informed to replace container; recheck by 5/31/21			Resolved
Eye wash checks are not performed and/or documented	Minor- PI informed to document eyewash checks; recheck by 5/31/21			Resolved
Animal carcasses are not adequately disposed of	Minor- PI informed that carcasses exposed to hazards must be identified and labeled with hazard and hazard number; recheck by 5/31/20			Resolved
Animal protocols have not been read/documented	Minor- PI informed that all individuals need to read protocols and sign off that they have read them. Recheck by 5/31/21			Resolved
Animal safety protocols have not been read/documented	Minor- PI informed that all individuals need to read protocols and sign off that they have read them. Recheck by 5/31/21			Resolved
Animal training records are incomplete or missing	Minor- PI informed that all individuals must document procedural training, recheck by 5/31/21			Resolved
Eye wash checks are not performed and/or documented	Minor- PI informed to document eyewash checks; recheck by 5/31/21			Resolved
Drugs are past expiration dates	Minor- not used; Informed not to use and to bring back to CCM at inspection			Resolved
Sharps disposal - inadequate (overflowing/recapped needles)	Minor- PI informed to replace container; recheck by 5/31/21			Resolved

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Animal protocols have not been read/documented	Minor- PI informed that all individuals need to read protocols and sign off that they have read them. Recheck by 5/31/21	[redacted]		Open
Animal safety protocols have not been read/documented	Minor- PI informed that all individuals need to read protocols and sign off that they have read them. Recheck by 5/31/21	[redacted]		Open
Controlled drug storage is not behind two locks	Minor- PI informed that he needs to speak with EH&S regarding controlled drug licenses; recheck by 5/31/21	[redacted]		Open
Drugs are past expiration dates	Minor- not used; informed not to use and to bring back to CCM at inspection	[redacted]		Open
Eye wash checks are not performed and/or documented	Minor- PI informed to document eyewash checks; recheck by 5/31/21	[redacted]		Open
Rodent survival surgery area inappropriate for usage	Minor- PI informed that rodent surgery area must be clear of clutter, recheck by 5/31/21.	[redacted]		Open
Controlled drug log sheets are inadequately completed	Minor- PI shown correct information that is required to be on the sheet; recheck by 5/31/21	[redacted]		Resolved
Fume hoods are not calibrated	Minor- PI informed to schedule fume hood calibration with EH&S, recheck by 5/31/21	[redacted]		Open
Animal protocols have not been read/documented	Minor- PI informed that all individuals need to read protocols and sign off that they have read them. Recheck by 5/31/21	[redacted]		Open
Animal safety protocols have not been read/documented	Minor- PI informed that all individuals need to read protocols and sign off that they have read them. Recheck by 5/31/21	[redacted]		Open
Sharps disposal - inadequate (overflowing/recapped needles)	Minor- PI informed to replace container; recheck by 5/31/21	[redacted]		Open

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Approved Deviations from the *Guide for the Care and Use of Laboratory Animals* and/or Exemptions to the Standards of the Animal Welfare Act and Regulations

1. Protocol [redacted] Approved 4/25/18 Expires 1/31/20
   Deviation: MMSS
   Justification: Related components of a single research objective.

2. Protocol [redacted] Approved 4/26/18 Expires 1/31/20
   Deviation: Cage changing not performed for 2-3 week after bone marrow chimera procedure.
   Justification: The mice have a platelet deficiency during the initial week or two of recovery, they will not be handled or have their bedding changed to minimize the chance of internal bleeding.
   Deviation 2: MMSS
   Justification 2: Related components of a single research objective.

3. Protocol [redacted] Approved 5/29/18 Expires 2/21/21
   Deviation: Use of wire-bottom caging
   Justification: Required temporarily for urine collection.

4. Protocol [redacted] Approved 6/6/18 Expires 3/31/21
   Deviation: Prolonged restraint.
   Justification: Weight bearing research - Tail suspension as a model of hindlimb unloading for bone and joint research is a well-established model with over 1000 publications.

5. Protocol [redacted] Approved 6/26/18 Expires 3/31/21
   Deviation: Use of wire-bottom caging
   Justification: Required temporarily for urine collection.

6. Protocol [redacted] Approved 7/24/18/18 Expires 4/30/21
   Deviation 1: Food restriction for 6 hours
   Justification 1: To perform a glucose tolerance test
   Deviation 2: Single housing of social species
   Justification 2: Required to collect stool samples for subsequent administration

7. Protocol [redacted] Approved 8/3/18 Expires 5/31/18
   Deviation 1: Food and water restriction
   Justification 1: Chronic unpredictable mild stress (CUMS) is an established animal of depression. Mice show depression-like behaviors after exposing to a variable sequence of 13 unpredictable stressors for 28 days. Food deprivation and water deprivation, less than 14 h, are the two key components of the 13 stressors in this CUMS protocol, mice are unlikely to develop typical depression-like behaviors if food deprivation or water deprivation is excluded from this CUMS protocol.
   Deviation 2: The mouse will be placed in a 50 ml conical tube that has a lot of holes (for air circulation) for 1h and prevents the mouse from moving around.
   Justification 2: part of the CUMS model of depression.

8. Protocol [redacted] Approved 8/9/18 Expires 5/31/18
   Deviation 1: Food and fluid restriction
   Justification 2: Method to induce CUMS for depression studies
   Deviation 2: Prolonged restraint
   Justification 2: Method to induce CUMS for depression studies

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9. Protocol [redacted] Approved 8/16/18 Expires 5/31/18
Deviation: Housing of rabbits outside thermoneutral zone
Justification: Rabbits are used to propogate *T. pallidum* and the reduced temperature is required for the bacteria to grow in the rabbits.

10. Protocol [redacted] Approved 8/23/18 Expires 5/31/18
Deviation 1: Use of wire bottom caging
Justification 1: Mice inoculated with ticks, when ticks are finished feeding, they fall off the animals. In order to collect them, mice are kept in wire bottom cages over water.
Deviation 2: Animals housed outside CCM for >24 hours.
Justification 2: The feeding of ticks on the animals and collection of the subsequent infected ticks are housed in the PI laboratory as animals are monitored throughout the day.

11. Protocol [redacted] Approved 9/28/18 Expires 6/30/21
Deviation: Use of wire-bottom caging
Justification: Required temporarily for urine collection.

12. Protocol [redacted] Approved 10/18/18 Expires 7/31/21
Deviation: Single housing of pregnant females
Justification: Critical to ensure precise timings of matings

13. Protocol [redacted] Approved 10/19/18 Expires 7/31/21
Deviation: Cervical dislocation without anesthesia
Justification: Anesthesia interferes with interferon-induced NK cell cytotoxicity which the lab is studying.

14. Protocol [redacted] Approved 11/5/18 Expires 8/31/21
Deviation: >150g weight cage density
Justification: Mice in protocol gain weight, so they will get large (as they are studying obesity) and to separate mice will interfere with experimental parameters.

15. Protocol [redacted] Approved 11/20/18 Expires 8/31/21
Deviation: Use of wire bottom caging
Justification: Urine collection

16. Protocol [redacted] Approved 12/18/18 Expires 9/30/21
Deviation: Water restriction
Justification: Requirement for the behavioral testing being performed.

17. Protocol [redacted] Approved 12/19/18 Expires 9/30/21
Deviation: Use of wire bottom caging
Justification: Urine collection

18. Protocol [redacted] Approved 12/21/18 Expires 9/30/21
Deviation: Individual housing of mice
Justification: Individual housing after a subcutaneous implant for a maximum time of 12 days; PIs don't want implants to be disturbed.

19. Protocol [redacted] Approved 12/21/19 Expires 9/30/21
Deviation: Cervical dislocation without anesthesia
Justification: Gasses and anesthetics suppress myocardial function which will negatively impact work.

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20. Protocol [redacted] Approved 1/10/19 Expires 10/31/21
Deviation: No environmental enrichment after knee surgery
Justification: Enrichment will aggravate the osteoarthritic progression and interfere with the study.

21. Protocol [redacted] Approved 1/25/19 Expires 10/31/21
Deviation: Cervical dislocation without anesthesia
Justification: Gasses and anesthetics cause hypoxia-induced gene expression changes which interfere with study.

22. Protocol [redacted] Approved 1/28/19 Expires 10/31/21
Deviation: No environmental enrichment after knee surgery
Justification: Enrichment will aggravate the osteoarthritic progression and interfere with the study.

23. Protocol [redacted] Approved 2/13/19 Expires 11/30/21
Deviation 1: Cervical dislocation without anesthesia
Justification 1: Gasses and anesthetics disrupt hypothalamic-pituitary adrenal axis which will negatively impact work.
Deviation 2: Food restriction
Justification 2: Overnight fast prior to a glucose tolerance test.

24. Protocol [redacted] Approved 2/26/19 Expires 11/30/21
Deviation: Cervical dislocation without anesthesia
Justification: Gasses and anesthetics impairs viability of isolated limb bud mesenchymal cells which interfere with study.

25. Protocol [redacted] Approved 2/28/19 Expires 11/30/21
Deviation: Cervical dislocation without anesthesia
Justification: Gasses and anesthetics interfere with lymphocyte functions which interfere with study.

26. Protocol [redacted] Approved 3/12/19 Expires 12/31/21
Deviation: Cervical dislocation without anesthesia
Justification: Gasses and anesthetics interfere with lymphocyte functions which interfere with study.

27. Protocol [redacted] Approved 4/17/19 Expires 1/31/22
Deviation: Individual housing of social species
Justification: Housed individual after surgery to avoid any damage that may result if animals fight or groom excessively.

28. Protocol [redacted] Approved 6/25/19 Expires 3/31/22
Deviation: Light intensity of 400-600 lux
Justification: Required for experimental parameter for AMD

29. Protocol [redacted] Approved 7/1/19 Expires 4/30/22
Deviation: Individual housing of social species
Justification: Required to ensure adequate bacterial colonization on mouse skin; grooming by other mice would affect skin growth of the microorganisms.

30. Protocol [redacted] Approved 7/29/19 Expires 4/30/22
Deviation: Decapitation without anesthesia
Justification: Anesthetics and CO_2 elevate plasma glucocorticoid levels and interfere with evaluation.

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31. Protocol [redacted] Approved 7/31/19 Expires 4/30/19
Deviation 1: Decapitation without anesthetics
Justification 1: Anesthetics affect gene expression in the intestine
Deviation 2: Housing outside central facility for greater than 24 hours

Justification 2: Animals are housed in a specialized housing chamber in the laboratory

32. Protocol [redacted] Approved 9/16/19 Expires 6/30/22
Deviation: Housing outside central facility for greater than 24 hours
Justification: Mice are given hazardous substances and PI, at the request of the BSO, will provide husbandry rather than introducing substance into the central facility.

33. Protocol [redacted] Approved 10/22/19 Expires 7/31/22
Deviation 1: Individual housing of social species
Justification 2: Animals are attached to glucose and insulin sensors and cage mates can cause destruction of the tubing of wire connections.
Deviation 1: Housing outside central facility for greater than 24 hours
Justification 2: The sensors to which mice are attached are attached to specialized computer equipment in the PI laboratory.

34. Protocol [redacted] Approved 10/22/19 Expires 7/31/22
Deviation 1: Individual housing of social species
Justification 2: Animals are attached to glucose and insulin sensors and cage mates can cause destruction of the tubing of wire connections.
Deviation 1: Housing outside central facility for greater than 24 hours
Justification 2: The sensors to which mice are attached are attached to specialized computer equipment in the PI laboratory.

35. Protocol [redacted] Approved 11/14/19 Expires 8/31/22
Deviation: Individual housing of social species
Justification: Animals will be housed singly after surgery to prevent wounds from being damaged; animals will be rehoused together after healing is compete.

36. Protocol [redacted] Approved 11/15/19 Expires 8/31/22
Deviation: Individual housing of social species
Justification: Animals will be housed singly after surgery to prevent wounds from being damaged; animals will be rehoused together after healing is compete.

37. Protocol [redacted] Approved 11/25/19 Expires 8/31/22
Deviation: Individual housing of social species
Justification: Animals will be housed singly after surgery to prevent wounds from being damaged; animals will be rehoused together after healing is compete.

38. Protocol [redacted] Approved 12/13/19 Expires 9/20/22
Deviation: Cervical dislocation without anesthesia
Justification: Use of CO_2 will damage the bursa and make embryo collection impossible.

39. Protocol [redacted] Approved 2/11/20 Expires 11/30/22
Deviation: Housing animals outside of the central facility for >24 hours
Justification: CCM does not have housing available for zebrafish; therefore, fish will be kept in dedicated room outside of CCM under PI control.

40. Protocol [redacted] Approved 5/4/20 Expires 2/28/23
Deviation: Individual housing of social species
Justification: Individual fecal samples from individual mice are required for microbiome studies.

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41. Protocol [redacted] Approved 5/13/20 Expires 2/28/23
Deviation: Individual housing of social species
Justification: Animals will be housed singly after surgery to prevent wounds from being damaged; animals will be rehoused together after healing is compete.

42. Protocol [redacted] Approved 5/26/20 Expires 2/28/23
Deviation: Individual housing of social species
Justification: Animals will be housed singly after surgery to prevent wounds from being damaged; animals will be rehoused together after healing is compete.

43. Protocol [redacted] Approved 9/3/20 Expires 6/30/23
Deviation: Animals housed outside central facility for >24 hours.
Justification: Animals to be housed in anechoic room for 3 days prior to perfusion to reduce sound exposure to the mice.

44. Protocol [redacted] Approved 9/16/20 Expires 6/30/23
Deviation: Animals housed outside central facility for >24 hours.
Justification: Animals are implanted with glucose sensors that are attached to specialized computer equipment in PI laboratory.

45. Protocol [redacted] Approved 10/6/20 Expires 7/31/23
Deviation: Non-pharmaceutical grade anesthetic used
Justification: Urethane will not suppress micturition as other anesthetics will.

46. Protocol [redacted] Approved 10/21/20 Expires 7/31/23
Deviation: Food restriction
Justification: Animals are fasted for 24 hours prior to blood draw for glucose levels.

CURRENT AS OF 11/16/20

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