



DEPARTMENT OF HEALTH & HUMAN SERVICES

PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH

FOR US POSTAL SERVICE DELIVERY:

Office of Laboratory Animal Welfare
6700B Rockledge Drive, Suite 2500, MSC 6910
Bethesda, Maryland 20892-6910
Home Page: <http://grants.nih.gov/grants/olaw/olaw.htm>

FOR EXPRESS MAIL:

Office of Laboratory Animal Welfare
6700B Rockledge Drive, Suite 2500
Bethesda, Maryland 20817
Telephone: (301) 496-7163
Facsimile: (301) 480-3387

February 21, 2020

Re: Animal Welfare Assurance
#A3325-01 (OLAW Case 1L)

Dr. Steven Goodman
Vice Chancellor for Research
University of Tennessee Health Science Center
910 Madison Avenue — (b) (4)
Memphis, TN 38163

Dear Dr. Goodman,

The Office of Laboratory Animal Welfare (OLAW) acknowledges receipt of your February 14, 2020 letter reporting an instance of noncompliance with the PHS Policy on Humane Care and Use of Laboratory Animals at the University of Tennessee Health Science Center (UTHSC).

According to the information provided, this Office understands that the UTHSC Animal Care and Use Committee (ACUC) determined that instances of noncompliance occurred with respect to: protocol suspension (pending correction) due to USDA non-compliance and concerns with animal welfare. This final report states the institution inadvertently did not send the same report sent to USDA to OLAW in accordance with its assurance. This protocol utilizes a pre-term pig model (105 gestation) to study the impact of varied neonatal diets on pre-term development. On April 16, 2019 the UTHSC veterinary staff reported to the IACUC chair the following animal welfare concerns:

- Procedures performed on piglets that were not included in the approved protocol, namely: (1) use of isoflurane anesthesia, in order to replace an orogastric feeding tube (2) administering sodium bicarbonate treatment and (3) administering blood transfusions.
- PI's records indicated that the clinical criteria for establishing when a euthanasia endpoint is reached were not consistently tracked. For example, heart rate was not included in any of the records, despite the approved protocol indicating a heart rate below 100 bpm, for 10 minutes, was a criterion for euthanasia.
- On at least one occasion, an animal was not euthanized, despite having reached one of the humane endpoints described in the protocol. On another occasion, the PI did not adhere to a UTHSC veterinarian's recommendation to euthanize an animal.
- General inadequacy of the 24/7 monitoring and the training of the research team doing so.

The IACUC met on April 23, 2019 and discussed the concerns and the inconsistent recording of clinical parameters described in the protocol. Those parameters included: visual observations, measures of respiration, heart rate and pulse-oximetry. Based on the discussion, the IACUC approved the following conditions and requirements that must be met by the PI before the use of pre-term pig research model may continue:

- IACUC required a new set of clearly defined clinical parameters and guidelines be established that define when a humane endpoint has been reached. These parameters and guidelines must include but are not limited to: clinical variables to be monitored, when monitoring is initiated, frequency of monitoring, method of recording and a clear clinical decision tree. Final documents will require veterinary approval, and the IACUC, via the protocol amendment process and Full Committee Review.

- In conjunction with the UTHSC veterinary staff, the PI must establish how many pre-term piglets a single individual can adequately monitor to ensure each animal is receiving appropriate care and monitoring. Research staff monitoring the animals must also be adequately trained to assess the established clinical monitoring variables, and follow the guidelines, in order to recognize when a piglet requires veterinary care and/or has reached a humane endpoint.

- Following approval of the modifications to the protocol, the PI will be permitted to perform only one experiment, after which the committee has required a report on the outcomes of that experiment, including a review of all medical records.

- The committee has also required that the PI and his research staff complete the 'Working with the IACUC Refresher' course through the AALAS Learning Library.

- The PI was reminded that any future failure to comply with an approved animal protocol, IACUC procedures or Lab Animal Care Unit procedures could be grounds for termination of his animal research program.

This information was sent to the USDA on May 2, 2019 and stated the corrective actions were in progress at the time. It is noted that the research is not supported by PHS funding. If any of the proposed corrective actions have not been completed as stated or if additional actions were required, please notify this Office so that our files are complete and accurate.

Sincerely,

(b) (6)

Jacquelyn T. Tubbs, DVM
Veterinary Medical Officer
Division of Compliance Oversight
Office of Laboratory Animal Welfare

cc: IACUC Chair
Robert M. Gibbens, DVM, Director, Animal Welfare Operations



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February 14, 2020

Division of Compliance Oversight
Office of Laboratory Animal Welfare
National Institutes of Health
670b Rockledge Drive, Suite 2500, MSC6910
Bethesda, MD 20892

Dr. Morse or Dr. Wolff:

The University of Tennessee Health Science Center (UTHSC), in accordance with Assurance A3325-01, and PHS and USDA policy, reported to the USDA non-compliance and concerns for animal welfare that resulted in the suspension (pending correction) of (b) (6) IACUC protocol #18-021. This protocol utilizes a pre-term pig model (105 days gestation) to study the impact of varied neonatal diets on pre-term development. The work is not supported by any federal funding. Please see attached letter that was sent to the USDA on May 2, 2019. This letter details the non-compliance and the corrective action plan that was put in place by the IACUC, at the time.

A recent review of our records indicated that, at that time, we inadvertently did not send the same report to OLAW, in accordance with our assurance. We apologize for the oversight and are correcting that error by way of this communication.

Further to the above, please be advised that (b) (6) protocols were never reinstated, and he has left the university.

Sincerely,

(b) (6)

Steven R. Goodman PhD
Vice Chancellor for Research

Copied:

(b) (6)

Institutional Animal Care & Use Committee

910 Madison Avenue, Suite 650

Memphis, TN 38163

Phone: (901) 448-3904

Fax: (901) 448-5222

May 2, 2019

Elizabeth Goldentyer, DVM
Regional Director – Animal Care
USDA/APHIS, Eastern Region
920 Main Campus Drive, Suite 200
Raleigh, NC 27606-5210

Dear Dr. Goldentyer,

The University of Tennessee Health Science Center (UTHSC), in accordance with Assurance A3325-01, and PHS and USDA policy, reports non-compliance and concerns for animal welfare that resulted in the suspension (pending correction) of (b) (6) IACUC protocol #18-021. This protocol utilizes a pre-term pig model (105 days gestation) to study the impact of varied neonatal diets on pre-term development. The work is not supported by any federal funding.

On April 16th 2019, the UTHSC veterinary staff reported to the IACUC Chair a number of animal welfare concerns, regarding an experiment, under #18-021, that began on April 12th with the cesarean delivery of greater than a dozen piglets. The Concerns were as follows:

1. At least three procedures were performed on piglets that were not included in the approved protocol, namely: (1) the use of isoflurane anesthesia, in order to replace an orogastric feeding tube, (2) administering sodium bicarbonate treatment, and (3) administering blood transfusions.
2. While euthanasia endpoints are listed in protocol #18-021, the PI's records indicated that the clinical criteria for establishing when an endpoint is reached were not consistently tracked. For example, heart rate was not included in any of the records, despite the approved protocol indicating a heart rate below 100 bpm, for 10 minutes, was a criteria for euthanasia.
3. On at least one occasion, an animal was not euthanized, despite having reached one of the humane endpoints described in the protocol (i.e. poor skin color). Further, on another occasion, the PI did not adhere to a UTHSC veterinarian's recommendation to euthanize an animal.
4. A major concern identified by the veterinarians was the general inadequacy of the 24/7 monitoring, and the training of the research team doing so.

The IACUC met for a regularly scheduled meeting on April 23, 2019, at which time the committee discussed the concerns outlined, above. The discussion included the unapproved use of: (1) anesthesia procedures, and (2) the delivery of blood transfusions and/or sodium bicarbonate as clinical interventions. As well, the committee discussed the inconsistent recording of clinical parameters described in the protocol including: (1) visual observations, and (2) measures of respiration, heart rate and pulse-oximetry. The failure to collect these data was

concerning to the IACUC, as was the fact that some animals that had reached a humane endpoint, but were not euthanized, either on the basis of clinical observations, or as instructed by a UTHSC veterinarian. Finally, the committee expressed significant concerns, regarding the insufficient number of staff charged with monitoring the piglets, at any one time, and the adequacy of their training.

Based on the discussion, the IACUC approved the following conditions and requirements that must be met by the PI, before the use of the pre-term pig research model may continue:

1. In coordination with UTHSC veterinary staff, the IACUC required that a new set of clearly defined clinical parameters and guidelines be established that define when a humane endpoint has been reached. These parameters and guidelines must include, but are not limited to: clinical variables to be monitored, when monitoring is initiated, frequency of monitoring, method of recording and a clear clinical decision tree. Final documents will require veterinary approval, and the IACUC, via the protocol amendment process and Full Committee Review.
2. In conjunction with the UTHSC veterinary staff, the PI must establish how many pre-term piglets a single individual can adequately monitor to ensure each animal is receiving appropriate care and monitoring. Research staff tasked with monitoring the animals must also be adequately trained (as determined by the veterinary staff) to assess the established clinical monitoring variables, and follow the guidelines (as defined in item one, above), in order to recognize when a piglet requires veterinary care and/or has reached a humane endpoint.
3. The IACUC determined that following approval of the modifications to protocol #18-021, the PI will be permitted to perform only **one** experiment, after which the committee has required a report on the outcomes of that experiment, including a review of all medical records.
4. The committee has also required that the PI and his research staff complete the *Working with the IACUC Refresher* course through the AALAS Learning Library.
5. The PI was reminded that any future failure to comply with an approved animal protocol, IACUC procedures, or Lab Animal Care Unit procedures, no matter how minor, could be grounds for termination of his animal research program.

These corrective actions are currently in progress.

Sincerely,

(b) (6)

Steven R. Goodman, PhD
Vice Chancellor for Research
Institutional Official

Copied:

(b) (6)

Jeffery Steketee, PhD IACUC, Chair

(b) (6)

David Hamilton, DVM Attending Veterinarian
AAALACi

Morse, Brent (NIH/OD) [E]

From: OLAW Division of Compliance Oversight (NIH/OD)
Sent: Tuesday, February 18, 2020 11:14 AM
To: (b) (6) OLAW Division of Compliance Oversight (NIH/OD)
Cc: (b) (6)
Subject: RE: Incident Report A3325-01

Thank you for providing this report (b) (6) We will send an official response soon.

Best regards, Brent Morse

Brent C. Morse, DVM, DACLAM
Director
Division of Compliance Oversight
Office of Laboratory Animal Welfare
National Institutes of Health

Please note that this message and any of its attachments are intended for the named recipient(s) only and may contain confidential, protected or privileged information that should not be distributed to unauthorized individuals. If you have received this message in error, please contact the sender.

From: (b) (6)
Sent: Friday, February 14, 2020 4:13 PM
To: OLAW Division of Compliance Oversight (NIH/OD) <olawdco@od.nih.gov>
Cc: (b) (6)
Subject: Incident Report A3325-01

Report attached.

Please contact us if additional information is needed.

(b) (6)

UT HSC

(b) (6)

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