

## Ekstrand, Alan

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**From:** Ekstrand, Alan  
**Sent:** Monday, October 21, 2019 11:25 AM  
**To:** wolffa@od.nih.gov; olawdco@mail.nih.gov  
**Subject:** Institutional Report A3485-01  
**Attachments:** OLAW Oct2019.pdf

Dear Dr. Wolff,

Please find the attached institutional report for Washington State University as a follow up to our verbal report. Please do not hesitate to contact me if you have any questions or need additional clarification.

Sincerely,

-Alan

Alan Ekstrand, CPIA, RLATG  
Assistant Director, Animal Welfare Program  
(509) 335-7951  
[alan.ekstrand@wsu.edu](mailto:alan.ekstrand@wsu.edu)

<https://iacuc.wsu.edu/>

October 18, 2019

Axel Wolff, M.S., D.V.M., Deputy Director  
Office of Laboratory Animal Welfare  
National Institutes of Health  
6700B Rockledge Drive, Suite 2500, MSC 6910  
Bethesda, MD 20892-6910

Re: Institutional Report for Animal Welfare Assurance A3485-01

Dear Dr. Wolff,

Washington State University, in accordance with Assurance A3485-01 and PHS Policy IV.F.3 provides this report involving the implementation of a significant change to a protocol prior to IACUC approval. The project involved mice and the focus was on developing molecules for detecting cancer cells.

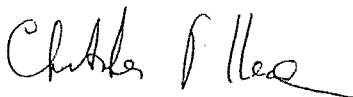
The deviation involved a pilot study conducted to determine the ideal immune compromised mouse strain to grow the tumor cells required for the study. In addition, several mice were injected with tumor cells in more than one location (flank and mammary fat pad). The pilot study and injection of tumor cells in more than one location were not described in the approved protocol. There were no adverse animal welfare issues as the tumors did not grow and the animals were humanely euthanized. The Principal Investigator decided not to pursue additional in vivo work on this project at this time so has withdrawn the protocol.

The graduate student who was conducting the studies met with the Office of the Campus Veterinarian, retraining was provided on the amendment process, and requirements that significant changes to the protocol require prior IACUC approval. The IACUC issued a letter to the PI for the protocol deviation and reminder of their oversight responsibilities and amendment process.

Washington State University is committed to animal welfare and compliance with federal policies concerning animal use in research. Should you have any questions regarding this letter, please contact Alan Ekstrand, Assistant Director- Animal Welfare Program at [alan.ekstrand@wsu.edu](mailto:alan.ekstrand@wsu.edu) or (509) 335-7951.

Thank you for your consideration of this matter.

Sincerely,



Dr. Christopher J. Keane  
Vice President for Research  
Professor of Physics



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  
Fax: (301) 402-7065

October 24, 2019

Re: Animal Welfare Assurance  
A3485-01 [OLAW Case 1A]

Dr. Christopher J. Keane  
Vice President for Research  
Washington State University  
P.O. Box 646525  
Pullman, WA 99164

Dear Dr. Keane,

The Office of Laboratory Animal Welfare (OLAW) acknowledges receipt of your October 18, 2019 letter reporting an instance of noncompliance with the PHS Policy on Humane Care and Use of Laboratory Animals at Washington State University, following up on an initial telephone report on August 30, 2019. According to the information provided, OLAW understands that an unapproved pilot study was conducted in mice and involved injecting tumor cells into two different sites, which was also not approved. No adverse events were reported in the mice.

The corrective actions consisted of euthanizing the mice and withdrawing the protocol. The graduate student responsible was retrained on the requirement for Institutional Animal Care and Use Committee (IACUC) review and approval prior to implementing significant changes to a protocol. The IACUC sent a letter to the Principal Investigator addressing the protocol deviation, protocol oversight, and the protocol amendment procedures.

Based on its assessment of this explanation, OLAW understands that measures have been implemented to correct and prevent recurrence of this problem. OLAW concurs with the actions taken by the IACUC to comply with the PHS Policy. Note that if this study was PHS-supported, the cancellation of the protocol must also be reported to the NIH funding component. Thank you for keeping OLAW apprised on this matter.

Sincerely,

Axel Wolff, M.S., D.V.M.  
Deputy Director  
Office of Laboratory Animal Welfare

cc: IACUC Chair  
Assistant Director, Animal Welfare Program

## Ekstrand, Alan

---

**From:** Ekstrand, Alan  
**Sent:** Tuesday, September 24, 2019 8:37 AM  
**To:** wolffa@od.nih.gov; olawdco@mail.nih.gov  
**Subject:** Institutional Report A3485-01  
**Attachments:** OLAW September2019.pdf; OLAW September2019 (2).pdf

Dear Dr. Wolff,

Please find the attached institutional reports for Washington State University as a follow up to our verbal report regarding two incidents. Please do not hesitate to contact me if you have any questions or need additional clarification.

Sincerely,

-Alan

Alan Ekstrand, CPIA, RLATG  
Assistant Director, Animal Welfare Program  
(509) 335-7951  
[alan.ekstrand@wsu.edu](mailto:alan.ekstrand@wsu.edu)

<https://iacuc.wsu.edu/>

September 18, 2019

Axel Wolff, M.S., D.V.M., Deputy Director  
Office of Laboratory Animal Welfare  
National Institutes of Health  
6700B Rockledge Drive, Suite 2500, MSC 6910  
Bethesda, MD 20892-6910

Re: Institutional Report for Animal Welfare Assurance A3485-01

Dear Dr. Wolff,

Washington State University, in accordance with Assurance A3485-01 and PHS Policy IV.F.3 provides this report of an incident involving a water leak in one of our vivaria.

A water softener unit that was located in the mechanical room above one of our rodent housing facilities leaked into an animal room. Animal care staff found that the water had leaked into a mouse cage containing three mice. Two of the mice were found dead and the third was humanely euthanized.

The remaining animals were relocated to another housing room while the source of the leak was identified. Facilities Management was able to track the leak to an old water softener in the mechanical space. The water softener was no longer in use so was disconnected to prevent any re-occurrences.

Washington State University is committed to animal welfare and compliance with federal policies concerning animal use in research. Should you have any questions regarding this letter, please contact Alan Ekstrand, Assistant Director- Animal Welfare Program at [alan.ekstrand@wsu.edu](mailto:alan.ekstrand@wsu.edu) or (509) 335-7951.

Thank you for your consideration of this matter.

Sincerely,



Dr. Christopher J. Keane  
Vice President for Research  
Professor of Physics



DEPARTMENT OF HEALTH & HUMAN SERVICES

PUBLIC HEALTH SERVICE  
NATIONAL INSTITUTES OF HEALTH

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FOR EXPRESS MAIL:

Office of Laboratory Animal Welfare  
6700B Rockledge Drive, Suite 2500  
Bethesda, Maryland 20817  
Telephone: (301) 496-7163  
Facsimile: (301) 402-7065

September 27, 2019

Re: Animal Welfare Assurance  
A3485-01 [OLAW Case 1B]

Dr. Christopher J. Keane  
Vice President for Research  
Washington State University  
P.O. Box 646525  
Pullman, WA 99164

Dear Dr. Keane,

The Office of Laboratory Animal Welfare (OLAW) acknowledges receipt of your September 18, 2019 letter reporting an adverse event affecting research mice at Washington State University, following up on an initial telephone report on August 30, 2019. According to the information provided, OLAW understands that two mice died and one required euthanasia after water had leaked into their cage from a water softener unit in the mechanical space above the animal room.

The corrective actions consisted of relocating the rest of the mice to another room and disabling the unit.

Based on its assessment of this explanation, OLAW understands that measures have been implemented to correct and prevent recurrence of this problem. OLAW concurs with the actions taken by the institution to comply with the PHS Policy on Humane Care and Use of Laboratory Animals.

Sincerely,

Axel Wolff, M.S., D.V.M.  
Deputy Director  
Office of Laboratory Animal Welfare

cc: IACUC Chair  
Assistant Director, Animal Welfare Program

September 18, 2019

Axel Wolff, M.S., D.V.M., Deputy Director  
Office of Laboratory Animal Welfare  
National Institutes of Health  
6700B Rockledge Drive, Suite 2500, MSC 6910  
Bethesda, MD 20892-6910

Re: Institutional Report for Animal Welfare Assurance A3485-01

Dear Dr. Wolff,

Washington State University, in accordance with Assurance A3485-01 and PHS Policy IV.F.3 provides this report of an animal welfare incident regarding the failure to provide analgesics according to the IACUC approved protocol after 19 mice underwent a castration surgery.

Mice had been injected with tumor cells for an IACUC approved protocol studying prostate cancer however, the tumor cells did not grow as expected. The PI and research technician decided to utilize these mice to practice the castration procedure described in the protocol. The animals were not provided with the pre-operative carprofen gel or post-operative buprenorphine described in the approved protocol. Once this oversight was noted the animals were provided carprofen gel and later the decision was made to humanely euthanize the animals.

The PI and research technician met with the Attending Veterinarian, the clinical veterinarian for the facility and the Assistant Director of the Animal Welfare Program to review the issues. Retraining was provided on the appropriate use of analgesics and it was verified that all analgesics were on hand for future procedures. We also reviewed the options for training staff under the Attending Veterinarian's training protocol. The research technician went through several hands-on training sessions with the clinical veterinarian to verify proficiency. The PI is updating his protocol for the triennial review and will make certain that all staff are familiar with the contents and adhere to the post-operative analgesics regimen and all other aspects of the protocol.

Washington State University is committed to animal welfare and compliance with federal policies concerning animal use in research. Should you have any questions regarding this letter, please contact Alan Ekstrand, Assistant Director-Animal Welfare Program at [alan.ekstrand@wsu.edu](mailto:alan.ekstrand@wsu.edu) or (509) 335-7951.

Thank you for your consideration of this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Christopher J. Keane". The signature is fluid and cursive, with the first name "Christopher" being more legible than the last name "Keane".

Dr. Christopher J. Keane  
Vice President for Research  
Professor of Physics





DEPARTMENT OF HEALTH & HUMAN SERVICES

PUBLIC HEALTH SERVICE  
NATIONAL INSTITUTES OF HEALTH

FOR US POSTAL SERVICE DELIVERY:

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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) 402-7065

September 27, 2019

Re: Animal Welfare Assurance  
A3485-01 [OLAW Case Z]

Dr. Christopher J. Keane  
Vice President for Research  
Washington State University  
P.O. Box 646525  
Pullman, WA 99164

Dear Dr. Keane,

The Office of Laboratory Animal Welfare (OLAW) acknowledges receipt of your September 18, 2019 letter reporting an instance of noncompliance with the PHS Policy on Humane Care and Use of Laboratory Animals at Washington State University, following up on an initial telephone report on August 30, 2019. According to the information provided, OLAW understands that 19 mice subjected to approved castration, failed to receive both the pre and post-operative analgesia described in the protocol.

The corrective actions consisted of providing analgesic gel and subsequently euthanizing the mice. The Principal Investigator and technician were counseled and retrained on the use of analgesia. The technician was trained in surgery by the veterinarian and checked for proficiency. The protocol was updated for the triennial review and the PI will ensure that the staff is familiar with the contents and will follow them.

Based on its assessment of this explanation, OLAW understands that measures have been implemented to correct and prevent recurrence of this problem. OLAW concurs with the actions taken by the institution to comply with the PHS Policy.

Sincerely,

Axel Wolff, M.S., D.V.M.  
Deputy Director  
Office of Laboratory Animal Welfare

cc: IACUC Chair  
Assistant Director, Animal Welfare Program

## Ekstrand, Alan

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**From:** Ekstrand, Alan  
**Sent:** Wednesday, August 7, 2019 12:14 PM  
**To:** olawdco@mail.nih.gov; wolffa@od.nih.gov  
**Subject:** Institutional Report A3485-01  
**Attachments:** OLAW August2019\_final.pdf

Dear Dr. Wolff,

Please find the attached institutional report for Washington State University as a follow up to our verbal report regarding two incidents pertaining to failure to confirm death after euthanasia. Please do not hesitate to contact me if you have any questions or need additional clarification.

Sincerely,

-Alan

Alan Ekstrand, CPIA, RLATG  
Assistant Director, Animal Welfare Program  
(509) 335-7951  
[alan.ekstrand@wsu.edu](mailto:alan.ekstrand@wsu.edu)

<https://iacuc.wsu.edu/>

August 7, 2019

Axel Wolff, M.S., D.V.M., Deputy Director  
Office of Laboratory Animal Welfare  
National Institutes of Health  
6700B Rockledge Drive, Suite 2500, MSC 6910  
Bethesda, MD 20892-6910

Re: Institutional Report for Animal Welfare Assurance A3485-01

Dear Dr. Wolff,

Washington State University, in accordance with Assurance A3485-01 and PHS Policy IV.F.3 provides this report of two incidents regarding failure to confirm death after euthanasia along with our corrective actions.

The first incident involved 7 mouse pups (<7 days old) that were found in a bag in the carcass freezer and were still alive. The husbandry technician who found them immediately euthanized the animals. The research technician responsible was provided retraining by the Office of the Campus Veterinarian on the use of a secondary physical method of euthanasia following carbon dioxide euthanasia.

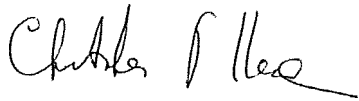
The second incident involved a frog (*X. laevis*) that was euthanized due to clinical signs of disease and taken directly to necropsy. The pathologist noted the animal had some recovery of movement and immediately euthanized the frog. A veterinarian from the Office of the Campus Veterinarian met with the laboratory staff and provided re-training of the 3-step process of amphibian euthanasia (anesthesia, decapitation, pithing). The PI's protocols were also amended to include the 3-step process.

The Office of the Campus Veterinarian has also hired a new laboratory animal veterinarian who begins in August 2019 and will be overseeing the training program. Enhanced euthanasia training will be one of the focuses for the training program.

Washington State University is committed to animal welfare and compliance with federal policies concerning animal use in research. Should you have any questions regarding this letter, please contact Alan Ekstrand, Assistant Director-Animal Welfare Program at [alan.ekstrand@wsu.edu](mailto:alan.ekstrand@wsu.edu) or (509) 335-7951.

Thank you for your consideration of this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris J. Keane". The signature is fluid and cursive, with a long horizontal stroke at the end.

Dr. Christopher J. Keane  
Vice President for Research  
Professor of Physics



DEPARTMENT OF HEALTH & HUMAN SERVICES

PUBLIC HEALTH SERVICE  
NATIONAL INSTITUTES OF HEALTH

FOR US POSTAL SERVICE DELIVERY:

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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) 402-7065

August 12, 2019

Re: Animal Welfare Assurance  
A3485-01 [OLAW Case Y]

Dr. Christopher J. Keane  
Vice President for Research  
Washington State University  
P.O. Box 646525  
Pullman, WA 99164

Dear Dr. Keane,

The Office of Laboratory Animal Welfare (OLAW) acknowledges receipt of your August 7, 2019 letter reporting an instance of noncompliance with the PHS Policy on Humane Care and Use of Laboratory Animals at Washington State University, following up on an initial telephone report on June 28, 2019. According to the information provided, OLAW understands that a sick frog was euthanized but was still moving when taken to pathology.

The immediate action taken upon discovery consisted of the pathologist appropriately euthanizing the frog. The laboratory staff responsible was retrained in the conduct of euthanasia for amphibians and the frog protocol was amended to describe in detail the steps for frog euthanasia. A new veterinarian was hired to oversee the training program which will include enhanced euthanasia training.

Based on its assessment of this explanation, OLAW understands that measures have been implemented to correct and prevent recurrence of this problem. OLAW concurs with the actions taken by the institution to comply with the PHS Policy.

Sincerely,

Axel Wolff, M.S., D.V.M.  
Deputy Director  
Office of Laboratory Animal Welfare

cc: IACUC Chair  
Assistant Director, Animal Welfare Program



DEPARTMENT OF HEALTH & HUMAN SERVICES

PUBLIC HEALTH SERVICE  
NATIONAL INSTITUTES OF HEALTH

FOR US POSTAL SERVICE DELIVERY:

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FOR EXPRESS MAIL:

Office of Laboratory Animal Welfare  
6700B Rockledge Drive, Suite 2500  
Bethesda, Maryland 20817  
Telephone: (301) 496-7163  
Facsimile: (301) 402-7065

August 12, 2019

Re: Animal Welfare Assurance  
A3485-01 [OLAW Case X]

Dr. Christopher J. Keane  
Vice President for Research  
Washington State University  
P.O. Box 646525  
Pullman, WA 99164

Dear Dr. Keane,

The Office of Laboratory Animal Welfare (OLAW) acknowledges receipt of your August 7, 2019 letter reporting an instance of noncompliance with the PHS Policy on Humane Care and Use of Laboratory Animals at Washington State University, following up on an initial telephone report on June 28, 2019. According to the information provided, OLAW understands that seven live mouse pups were found in the carcass freezer due to a failure to ensure death following exposure to CO<sub>2</sub> for euthanasia.

The corrective action consisted of appropriately euthanizing the pups and retraining the research technician responsible on using a physical method of euthanasia following CO<sub>2</sub> exposure to ensure death. A new veterinarian was hired to oversee the training program which will include enhanced euthanasia training.

Based on its assessment of this explanation, OLAW understands that measures have been implemented to correct and prevent recurrence of this problem. OLAW concurs with the actions taken by the institution to comply with the PHS Policy.

Sincerely,

Axel Wolff, M.S., D.V.M.  
Deputy Director  
Office of Laboratory Animal Welfare

cc: IACUC Chair  
Assistant Director, Animal Welfare Program

## Ekstrand, Alan

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**From:** Ekstrand, Alan  
**Sent:** Thursday, July 25, 2019 4:59 PM  
**To:** olawdco@mail.nih.gov; wolffa@od.nih.gov  
**Subject:** Institutional Report A3485-01  
**Attachments:** OLAW\_rat\_implant\_July2019.pdf

Dear Dr. Wolff,

Please find the attached institutional report for Washington State University as a follow up to our verbal report regarding a bone implant study in rats. Please do not hesitate to contact me if you have any questions or need additional clarification.

Sincerely,

-Alan

Alan Ekstrand, CPIA, RLATG  
Assistant Director, Animal Welfare Program  
(509) 335-7951  
[alan.ekstrand@wsu.edu](mailto:alan.ekstrand@wsu.edu)

<https://iacuc.wsu.edu/>

July 25, 2019

Axel Wolff, M.S., D.V.M., Deputy Director  
Office of Laboratory Animal Welfare  
National Institutes of Health  
6700B Rockledge Drive, Suite 2500, MSC 6910  
Bethesda, MD 20892-6910

Re: Institutional Report for Animal Welfare Assurance A3485-01

Dear Dr. Wolff,

Washington State University, in accordance with Assurance A3485-01 and PHS Policy IV.F.3 provides this report of an animal welfare incident regarding a bone implant study in rats and an IACUC suspension of surgeries. These projects are supported by the National Institute of Arthritis and Musculoskeletal and Skin Diseases award #5R01AR066361-05.

On April 4th and 5th, 4 rats underwent surgery to create a bilateral femoral defect model. The purpose of the study is to evaluate the potential for calcium phosphate ceramic composite implants to help heal bone defects. The animals received postoperative analgesia and supportive care as described on the protocol over the next few days. On the afternoon of April 8th, the animals were re-examined by the Office of the Campus Veterinarian (OCV) staff and due to concern of complications, the 4 animals were euthanized. At gross necropsy by the veterinary staff, two of the four animals were identified to have fractures.

Another cohort of 4 animals received surgery on the morning of April 8th. On examination by veterinary staff on April 9th, the possibility of fracture was identified. The 4 animals were radiographed and fractures identified in three animals. The four animals were euthanized immediately and two submitted to the diagnostic laboratory. In discussion with the PI, research staff, AV, clinical veterinarian and Animal Welfare Program staff the decision was made to postpone additional surgeries under this protocol until the ceramic composite material could be evaluated.

On April 22nd and 24th, 6 additional animals underwent a similar surgery under another IACUC protocol using surface-coated titanium implants. OCV veterinary staff observed the surgeries and immediate post-operative radiographs were conducted on 4 of the 6 animals. Between 2 and 4 days post surgery, 2 of the 6 animals developed fractures. Those animals were euthanized immediately. The remaining 4 animals did not fracture but the project finished early and all animals were euthanized. All of these surgeries were performed by two trained graduate students in the laboratory who had both successfully conducted these procedures in previous cohorts.



At a convened IACUC meeting on April 24th, the IACUC voted to suspend these two protocols due to unexplained bone fractures. The IACUC formed a subcommittee to work with the PI to evaluate these adverse events and develop a plan. The implant size used for these studies (3x5mm) was longer than the description in the approved protocol (3x3mm), however, this (3x5mm) size implant has been used successfully under a WSU IACUC approved protocol for other studies by the PIs group and various other groups reported in literature. Past results were reviewed as well as published papers on bone defect models in rats with 3x5mm defect size, in other WSU IACUC approved protocols. Testing of the ceramic implant material using x-ray diffraction did not reveal any issues with the materials used. Bone densities were obtained using CT scans of femur bones from three animals from this cohort of animal, and a single animal from a prior cohort. The bone densities were lower in this new cohort however, there was an age difference of ~ 6 weeks so no direct conclusions were drawn. Four animals were submitted for necropsy and histopathology post-surgery and one animal had evidence of bacteria and degenerative bone. Bone histopathology was normal for the remaining postoperative animals as well as 3 animals from the same cohort which did not undergo surgery and an older control animal from a separate cohort.

The IACUC requested that the PI submit a pilot protocol to validate the surgical techniques in a small cohort of animals and requested the following;

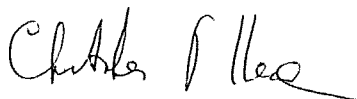
- 1) The surgeons will undergo refresher training and the surgeries will be observed by a veterinary surgeon familiar with the procedure.
- 2) The drill bits used for the procedure will be replaced.
- 3) The analgesic regimen will be adjusted based on the veterinarian's recommendations.
- 4) Post-op radiographs to be included in the pilot project.

The PI submitted this proposal to the IACUC and it was approved by the IACUC. The results of the pilot project will guide any additional changes required for the two primary protocols. If there are additional similar adverse events, these will be reported to the AV and IACUC and additional modifications made.

Washington State University is committed to animal welfare and compliance with federal policies concerning animal use in research. Should you have any questions regarding this letter, please contact Alan Ekstrand, Assistant Director- Animal Welfare Program at [alan.ekstrand@wsu.edu](mailto:alan.ekstrand@wsu.edu) or (509) 335-7951.

Thank you for your consideration of this matter.

Sincerely,



Dr. Christopher J. Keane  
Vice President for Research  
Professor of Physics



DEPARTMENT OF HEALTH & HUMAN SERVICES

PUBLIC HEALTH SERVICE  
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FOR EXPRESS MAIL:

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6700B Rockledge Drive, Suite 2500  
Bethesda, Maryland 20817  
Telephone: (301) 496-7163  
Facsimile: (301) 402-7065

July 29, 2019

Re: Animal Welfare Assurance  
A3485-01 [OLAW Case V]

Dr. Christopher J. Keane  
Vice President for Research  
Washington State University  
P.O. Box 646525  
Pullman, WA 99164

Dear Dr. Keane,

The Office of Laboratory Animal Welfare (OLAW) acknowledges receipt of your July 25, 2019 letter reporting the suspension of an animal activity at Washington State University, following up on an initial telephone report on April 25, 2019. According to the information provided, OLAW understands that the Institutional Animal Care and Use Committee (IACUC) took this action after determining that seven of fourteen rats on a bone implant study sustained unexpected bone fractures.

The immediate action taken with the rats with fractures was to euthanize them. The other rats were also euthanized due to concern of complications. The IACUC suspended two protocols and a subcommittee was formed to evaluate the cause of the fractures. A pilot study will be performed to assess the surgical techniques, the surgeons will be retrained, a veterinarian will observe the procedure and prescribe analgesics, new drill bits will be used, and post-operative radiographs will be taken.

Based on its assessment of this explanation, OLAW understands that measures have been implemented to determine the cause of the bone fractures and to prevent further problems. OLAW concurs with the actions taken by the IACUC to comply with the PHS Policy on Humane Care and Use of Laboratory Animals. Please inform OLAW about the outcome of the pilot study, positive or negative, and the overall status of the study. Also please inform the funding component about the suspension. Thank you for keeping OLAW apprised on this matter.

Sincerely,

*For* Axel Wolff, M.S., D.V.M.  
Deputy Director  
Office of Laboratory Animal Welfare

cc: IACUC Chair  
Assistant Director, AWP

## Ekstrand, Alan

---

**From:** Ekstrand, Alan  
**Sent:** Tuesday, June 11, 2019 5:56 PM  
**To:** olawdco@mail.nih.gov; wolffa@od.nih.gov  
**Subject:** Institutional Report A3485-01  
**Attachments:** OLAW June2019.pdf

Dear Dr. Wolff,

Please find the attached institutional report for Washington State University as a follow up to our verbal report in April. Please do not hesitate to contact me if you have any questions or need additional clarification.

Sincerely,

-Alan

Alan Ekstrand, CPIA, RLATG  
Assistant Director, Animal Welfare Program  
(509) 335-7951  
[alan.ekstrand@wsu.edu](mailto:alan.ekstrand@wsu.edu)

<https://iacuc.wsu.edu/>

June 10, 2019

Axel Wolff, M.S., D.V.M., Deputy Director  
Office of Laboratory Animal Welfare  
National Institutes of Health  
6700B Rockledge Drive, Suite 2500, MSC 6910  
Bethesda, MD 20892-6910

Re: Institutional Report for Animal Welfare Assurance A3485-01

Dear Dr. Wolff,

Washington State University, in accordance with Assurance A3485-01 and PHS Policy IV.F.3 provides this report of an animal welfare incident regarding the mortality of three mice. These mice were on a project researching neutrophil-mediated drug delivery, which is supported by the National Institute of General Medical Science's award 1R01GM116823-01.

A craniotomy surgery was conducted to inject glioma tumor cells into the brain of three mice on April 5th (Friday). The mice recovered from surgery and were placed back in the animal housing room that afternoon. The graduate student checked on the mice the following day and they were observed to be lethargic so she removed them from the housing room and placed the cage on a heating pad (pad covered about a third of the cage) in the procedure room. The animal care staff found the mice deceased the morning of April 8th. A necropsy was not performed since the animals had been deceased for some time so cause of death was not determined.

Upon further review it was determined that these animals did not receive the post-operative analgesia described in the protocol and the required post-operative check was not performed on April 7th. The surgery conducted to implant the tumor cells differed from the surgery approved in the protocol. It was less invasive (a small burr hole <1mm to allow for cell injection) however this would require that a second surgery be conducted ~1-2 weeks later to place the cranial window described in the protocol (a second surgery had not yet been performed). The original protocol described the tumor cell injection and cranial window placement occurring during the same surgery.

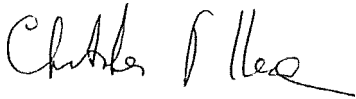
The PI voluntarily stopped the surgeries and the individual who conducted the surgeries re-took the online IACUC and aseptic surgical technique trainings and in-person surgical technique training with the Attending Veterinarian (AV). The PI, laboratory members, AV and Assistant Director- Animal Welfare Program met and reviewed the protocols. They also reviewed the importance of post-operative analgesia and monitoring, and importance/process for contacting the veterinarians if there are any

animal health concerns. The IACUC requested that the next two surgeries by the graduate student be observed by the AV/designee and then additional observations if needed at the discretion of the veterinary staff. The IACUC also requested additional post-approval monitoring to ensure the PI's corrective actions are effective. The IACUC protocol has been amended to include the option of a second surgery.

Washington State University is committed to animal welfare and compliance with federal policies concerning animal use in research. Should you have any questions regarding this letter, please contact Alan Ekstrand, Assistant Director- Animal Welfare Program at [alan.ekstrand@wsu.edu](mailto:alan.ekstrand@wsu.edu) or (509) 335-7951.

Thank you for your consideration of this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris J. Keane", with a stylized flourish at the end.

Dr. Christopher J. Keane  
Vice President for Research  
Professor of Physics

## Ekstrand, Alan

---

**From:** Ekstrand, Alan  
**Sent:** Monday, May 27, 2019 5:31 PM  
**To:** wolffa@od.nih.gov  
**Cc:** olawdco@mail.nih.gov  
**Subject:** Response Letter- A3485-01  
**Attachments:** OLAW May2019.pdf

Dear Dr. Wolff,

Please find the attached letter from Washington State University, assurance number A3485-01 regarding your enquiry earlier this month. Please do not hesitate to contact me if you have any questions or need additional information.

Sincerely,

-Alan

Alan Ekstrand, CPIA, RLATG  
Assistant Director, Animal Welfare Program  
(509) 335-7951  
[alan.ekstrand@wsu.edu](mailto:alan.ekstrand@wsu.edu)

<https://iacuc.wsu.edu/>



DEPARTMENT OF HEALTH & HUMAN SERVICES

PUBLIC HEALTH SERVICE  
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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) 402-7065

June 12, 2019

Re: Animal Welfare Assurance  
A3485-01 [OLAW Case W]

Dr. Christopher J. Keane  
Vice President for Research  
Washington State University  
P.O. Box 646525  
Pullman, WA 99164

Dear Dr. Keane,

The Office of Laboratory Animal Welfare (OLAW) acknowledges receipt of your June 10, 2019 letter reporting an instance of noncompliance with the PHS Policy on Humane Care and Use of Laboratory Animals at Washington State University, following up on an initial telephone report on April 25, 2019. According to the information provided, OLAW understands that three mice appeared lethargic the day after a craniotomy and the cage was placed on a heating pad. The mice were subsequently found dead. Post-operative analgesia had not been provided, the post-operative check had not been performed on one day, and the surgery had not been performed as described in the protocol.

The corrective actions consisted of the Principal Investigator stopping the surgeries and having the surgeon take online and hands on retraining. The PI, staff, Attending Veterinarian (AV), and Animal Welfare Program Assistant Director met to review the content of the protocols, post-operative analgesia, monitoring, and the requirement for contacting veterinary staff regarding any animal health concerns. The student involved will be observed by the AV during the performance of the next two surgeries, the laboratory was placed on enhanced post-approval monitoring, and the protocol was amended.

Based on its assessment of this explanation, OLAW understands that measures have been implemented to prevent recurrence of this problem. OLAW concurs with the actions taken by the institution to comply with the PHS Policy.

Sincerely,

Axel Wolff, M.S., D.V.M.  
Deputy Director  
Office of Laboratory Animal Welfare

cc: IACUC Chair  
Assistant Director, AWP

May 24, 2019

Axel Wolff, M.S., D.V.M., Deputy Director  
Office of Laboratory Animal Welfare  
National Institutes of Health  
6700B Rockledge Drive, Suite 2500, MSC 6910  
Bethesda, MD 20892-6910

Re: Animal Welfare Assurance A3485-01 [OLAW Case U]

Dear Dr. Wolff,

Washington State University received your letter dated April 29, 2019 concerning an allegation of noncompliance with the PHS policy. This concern is the result of a misinterpretation of our meeting minutes and we offer the following responses to your questions below;

- 1) Was a bone implant study conducted in rabbits at WSU during the time period noted?

Response: Yes, an IACUC approved project involving bone implants in rabbits was conducted during the referenced time period.

- 2) If so, was the study funded by PHS, NIH, NSF, or other federal entity under OLAW jurisdiction? If confirmed please provide the grant number.

Response: Yes, this project is being supported by the National Institute of Arthritis and Musculoskeletal and Skin Disorder (AR067306-01A1).

- 3) Did the IACUC take any action with this study such as suspension or termination? Was any action taken in accordance with IV.C.6 of the PHS Policy?

Response: No, there was no IACUC action to suspend or terminate this project. The AV provided an update to the IACUC on this project during the September 2018 IACUC meeting. The language in our minutes was a reference to the decision the PI had made in consultation with the AV to euthanize this group of animals ahead of the planned study endpoint and not to order additional rabbits until the cause of the adverse outcomes had been determined and any needed changes implemented. We understand how the wording in the minutes could be misinterpreted and are proposing to the IACUC that the minutes be amended to "The animals from this group were all euthanized and the PI has postponed additional surgeries until the likely cause is identified and any



needed changes are implemented". This will clarify the update the AV provided to the IACUC during the meeting.

- 4) Did any IACUC actions or noncompliance occur with the rabbit study which should have been reported to OLAW? See also NOT-OD-05-034 Guidance on Prompt Reporting to OLA W under the PHS Policy on Humane Care and Use of Laboratory Animals: "conditions that jeopardize the health or well-being of animals, including natural disasters, accidents, and mechanical failures, resulting in actual harm or death to animals." If so, why was no report made to OLAW?

Response: No. There were study related adverse outcomes (see summary in 6 below) however, we did not identify noncompliance with the PHS Policy or a serious deviation from the provisions of the Guide. The IACUC received regular updates from the AV on this project. Given the decision made by the PI and AV to postpone additional surgeries, no additional action was required at the time by the IACUC.

- 5) If this project was funded by NIH, was the termination reported to the funding component?

Response: As noted above the project was not terminated or suspended by the IACUC.

- 6) Provide any other pertinent information regarding the rabbit study.

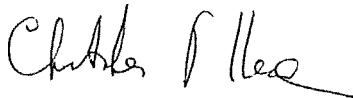
Response: The goals of this research is to optimize the use of metal implants such as titanium and tantalum by varying the physical parameters of the "laser" process to print them directly via 3D printing. Other considerations that are being investigated are the biological response including tissue integration and new bone formation. The outcomes of these studies will result in a stronger bone-implant interface as well as improved biological performance leading to faster healing times for a potential patient and a longer lasting implant lifetime. The rabbit portion of the study involves a bilateral surgery to create a cortical defect in the distal femur followed by placement of a cylindrical titanium rod into the defect. During surgery on 7/25/2018 one rabbit was observed with an intra-operative fracture and was humanely euthanized before recovering from anesthesia. Another animal that underwent surgery on 8/1/2018 was noted to be lethargic 3 days post-operatively and was euthanized. It was determined to have bilateral fractures. The remaining eight rabbits continued on study; however, there were post-operative complications including incisional swelling and infection that were treated and monitored by the clinical veterinary staff. One animal had a seizure after being returned to the cage after a health exam and died on 9/6/2018. One animal was euthanized for clinical reasons on 9/7/2018. Radiographs revealed luxated patellas in some of the animals as well as implants that had migrated or that had become dislodged. The decision was made to euthanize the remaining animals on 9/18/2018 prior to the planned endpoint in October.

The samples collected from the rabbits were sent to a collaborating institution for processing and placing on slides for histology. The slides have been prepared and have been sent to the Washington Animal Disease Diagnostic Laboratory for evaluation. The surgeon conducting the procedures is a DVM and Diplomate of the American College of Veterinary Surgery and has had good success conducting these surgeries in prior projects. Once all of the data has been gathered the research team will meet with the AV and IACUC members to review. We anticipate the final adverse event report will be submitted to the IACUC for review during the June 26, 2019 IACUC meeting. We can provide OLAW with an update after this meeting.

Washington State University is committed to animal welfare and compliance with federal policies concerning animal use in research. Should you have any questions regarding this letter, please contact Alan Ekstrand, Assistant Director, Animal Welfare Program at [alan.ekstrand@wsu.edu](mailto:alan.ekstrand@wsu.edu) or (509) 335-7951.

Thank you for your consideration of this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris J. Keane", written in a cursive style.

Dr. Christopher J. Keane  
Vice President for Research  
Professor of Physics

## Ekstrand, Alan

---

**From:** Ekstrand, Alan  
**Sent:** Thursday, February 7, 2019 4:07 PM  
**To:** 'wolffa@od.nih.gov'  
**Subject:** FW: OLAW Case A3485-T

Hi Dr. Wolff,

Thank you for your prompt reply and feedback. I hope all is going well.

Sincerely,

Alan

Alan Ekstrand, CPIA, RLATG  
Assistant Director, Animal Welfare Program  
(509) 335-7951  
[alan.ekstrand@wsu.edu](mailto:alan.ekstrand@wsu.edu)

<https://iacuc.wsu.edu/>

**From:** Ward, Joan (NIH/OD) [E] <[wardjoa@od.nih.gov](mailto:wardjoa@od.nih.gov)>  
**Sent:** Thursday, February 7, 2019 12:11 PM  
**To:** Keane, Christopher <[chris.keane@wsu.edu](mailto:chris.keane@wsu.edu)>  
**Cc:** [iacuc@wsu.edu](mailto:iacuc@wsu.edu)  
**Subject:** OLAW Case A3485-T

Dear Dr. Keane,

Attached please find Dr. Axel Wolff's final response to OLAW Case A3485-T.

If you have any questions, feel free to contact us by phone or by e-mail.

Regards,  
Joan

*Joan Ward  
Program Specialist  
Office of Laboratory Animal Welfare  
National Institutes of Health  
6700B Rockledge Dr., Suite 2500  
Bethesda, MD 20892  
301-496-7163  
[wardjoa@od.nih.gov](mailto:wardjoa@od.nih.gov)*

**From:** Ward, Joan (NIH/OD) [E] <[wardjoa@od.nih.gov](mailto:wardjoa@od.nih.gov)>  
**Sent:** Wednesday, May 1, 2019 10:03 AM  
**To:** Keane, Christopher <[chris.keane@wsu.edu](mailto:chris.keane@wsu.edu)>  
**Cc:** [iacuc@wsu.edu](mailto:iacuc@wsu.edu); Gibbens, Robert - APHIS ([Robert.M.Gibbens@aphis.usda.gov](mailto:Robert.M.Gibbens@aphis.usda.gov))  
<[Robert.M.Gibbens@aphis.usda.gov](mailto:Robert.M.Gibbens@aphis.usda.gov)>  
**Subject:** OLAW Case A3485-U

Dear Dr. Keane,

Attached please find Dr. Axel Wolff's final response to OLAW Case A3485-U.

If you have any questions, feel free to contact us by phone or by e-mail.

Regards,  
Joan

*Joan Ward  
Program Specialist  
Office of Laboratory Animal Welfare  
National Institutes of Health  
6700B Rockledge Dr., Suite 2500  
Bethesda, MD 20892  
301-496-7163  
[wardjoa@od.nih.gov](mailto:wardjoa@od.nih.gov)*



DEPARTMENT OF HEALTH & HUMAN SERVICES

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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) 402-7065

April 29, 2019

Re: Animal Welfare Assurance  
A3485-01 [OLAW Case U]

Dr. Christopher J. Keane  
Vice President for Research  
Washington State University  
P.O. Box 646525  
Pullman, WA 99164

Dear Dr. Keane,

The Office of Laboratory Animal Welfare (OLAW) received an allegation of noncompliance with the PHS Policy on Humane Care and Use of Laboratory Animals at Washington State University (WSU) from Stop Animal Exploitation Now (SAEN). The allegation stated that the Institutional Animal Care and Use Committee suspended an activity with rabbits but failed to report this to OLAW. The incident being cited concerns a bone surgery study in rabbits which took place from July 25, 2018 to August 2, 2018. From the supporting documentation provided by SAEN it appears that bilateral bone implants were being placed in the distal femur which resulted in fractures and required euthanasia of two animals. Problems occurred in the other rabbits as well. SAEN obtained a copy of the IACUC minutes from September 26, 2018 (presumably through a Freedom of Information Act request) which states that the project has been terminated. SAEN has interpreted this action as being a suspension and has therefore contacted OLAW with this complaint and feels that the matter should have been reported to this Office as being noncompliant with IV.F.3.c of the PHS Policy.

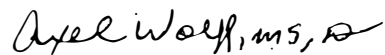
Please direct the IACUC, avoiding any conflicts of interest, to address this matter and provide answers to the following questions:

- 1) Was a bone implant study conducted in rabbits at WSU during the time period noted?
- 2) If so, was the study funded by PHS, NIH, NSF, or other federal entity under OLAW jurisdiction? If confirmed please provide the grant number.
- 3) Did the IACUC take any action with this study such as suspension or termination? Was any action taken in accordance with IV.C.6 of the PHS Policy?
- 4) Did any IACUC actions or noncompliance occur with the rabbit study which should have been reported to OLAW? See also NOT-OD-05-034 Guidance on Prompt Reporting to OLAW under the PHS Policy on Humane Care and Use of Laboratory Animals: "conditions that jeopardize the health or well-being of animals, including natural disasters, accidents, and mechanical failures, resulting in actual harm or death to animals." If so, why was no report made to OLAW?
- 5) If this project was funded by NIH, was the termination reported to the funding component?
- 6) Provide any other pertinent information regarding the rabbit study.

Page 2 - Dr. Keane  
April 29, 2019  
OLAW Case A3485-U

Please provide the requested information by **May 27, 2019**. Feel free to contact me with any questions.

Sincerely,



Axel Wolff, M.S., D.V.M.  
Deputy Director  
Office of Laboratory Animal Welfare

cc: IACUC Chair  
Robert Gibbens, D.V.M., USDA-APHIS-AC



DEPARTMENT OF HEALTH & HUMAN SERVICES

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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) 402-7065

May 28, 2019

Re: Animal Welfare Assurance  
A3485-01 [OLAW Case U]

Dr. Christopher J. Keane  
Vice President for Research  
Washington State University  
P.O. Box 646525  
Pullman, WA 99164

Dear Dr. Keane,

The Office of Laboratory Animal Welfare (OLAW) acknowledges receipt of your May 24, 2019 letter responding to my April 29, 2019 request for information regarding an allegation of noncompliance with the PHS Policy on Humane Care and Use of Laboratory Animals at Washington State University. Specifically, Stop Animal Exploitation Now (SAEN) stated that a bone study in rabbits was suspended by the Institutional Animal Care and Use Committee (IACUC) but that this action was not reported to OLAW. According to the information provided, OLAW understands the following:

- 1) An IACUC approved bone implant study was conducted in rabbits between July 25, 2018 and August 2, 2018.
- 2) This study was supported by NIH. The grant number was provided.
- 3) The IACUC did not suspend or terminate the study. The Principal Investigator, in consultation with the Attending Veterinarian, euthanized one cohort of rabbits prior to the planned endpoint in order to determine the cause of the unexpected bone fractures.
- 4) Although there were adverse study outcomes, there was no noncompliance with the PHS Policy or serious deviations from the provisions of the *Guide for the Care and Use of Laboratory Animals*.
- 5) Because there was no suspension or termination, no report needed to be made to the funding component.
- 6) Unexpected complications occurred with the study rabbits including bone fractures, incisional swelling, infection, seizures, and migrating implants. The rabbits were treated by the veterinary staff but due to the health issues, the remaining animals were euthanized prior to the planned endpoint. Samples were taken for histology and an adverse event report will be submitted to IACUC once all data have been gathered.

Based on its assessment of these explanations, OLAW has a better understanding of the facts surrounding this case. I will explain to SAEN why no report to OLAW was necessary. Please do provide an update regarding possible reasons for the unexpected problems encountered in this study. Thank you for keeping OLAW apprised on this matter.

Page 2 -- Dr. Keane  
May 28, 2019  
OLAW Case A3485-U

Sincerely,

A handwritten signature in black ink, appearing to read "Axel Wolff, M.S., D.V.M.", with a stylized flourish at the end.

Axel Wolff, M.S., D.V.M.  
Deputy Director  
Office of Laboratory Animal Welfare

cc: IACUC Chair  
Robert Gibbens, D.V.M., USDA-APHIS-AC





DEPARTMENT OF HEALTH & HUMAN SERVICES

PUBLIC HEALTH SERVICE  
NATIONAL INSTITUTES OF HEALTH

FOR US POSTAL SERVICE DELIVERY:

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

FOR EXPRESS MAIL:

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

March 06, 2019

Re: Assurance D16-00303 (A3485-01)  
Report to OLAW for CY 2018

Christopher Keane, Ph.D.  
Vice President for Research  
Washington State University  
P.O. Box 641030, Lighty SVS 280  
Pullman, WA 99164-1030

Dear Dr. Keane,

This notice is to acknowledge that the Division of Assurances, Office of Laboratory Animal Welfare (OLAW) received and reviewed your institution's Annual Report that was submitted in accordance with Part IV.F. of the Public Health Service (PHS) Policy on Humane Care and Use of Laboratory Animals, revised 2015.

The Annual Report to OLAW is a key document in a continuing relationship with the PHS. It contains pertinent information regarding the policies and procedures in place to provide for the appropriate care and use of laboratory animals.

We look forward to receiving your next report for the period January 1, 2019 through December 31, 2019 within 30 days (January 31, 2020) of the end of the reporting period. Please include your Assurance number on your Annual Report and in all correspondence to OLAW.

Thank you for your attention to these matters.

Sincerely,

X

Program Assistant  
Division of Assurances  
Office of Laboratory Animal Welfare

cc:  
IACUC Contact  
Director- Office of the Campus Veterinarian

## Ekstrand, Alan

---

**From:** Ekstrand, Alan  
**Sent:** Wednesday, February 6, 2019 8:15 AM  
**To:** 'olawdco@mail.nih.gov'; 'gopeenv@od.nih.gov'  
**Subject:** Incident report A3485-01  
**Attachments:** OLAW Feb2019.pdf

Dear Dr. Gopee,

Please find the attached report from Washington State University, assurance number A3485-01 regarding an incident we discussed over the phone last month. Please do not hesitate to contact me if you have any questions or need additional information.

Sincerely,

-Alan

Alan Ekstrand, CPIA, RLATG  
Assistant Director, Animal Welfare Program  
(509) 335-7951  
[alan.ekstrand@wsu.edu](mailto:alan.ekstrand@wsu.edu)

<https://iacuc.wsu.edu/>

February 4, 2019

Neera Gopee, Ph.D., D.V.M.  
Veterinary Medical Officer  
Office of Laboratory Animal Welfare  
National Institutes of Health  
6700B Rockledge Drive, Suite 2500, MSC 6910  
Bethesda, MD 20892

Dear Dr. Gopee,

Washington State University, in accordance with Assurance A3485-01 and PHS Policy IV.F.3 provides this report of an animal welfare incident regarding the mortality of 2 mice.

On November 25, 2018, 2 mice were found deceased in a cage and a strong smell of ammonia was noted by the animal care staff. The mice had been moved from a ventilated cage system to a static micro-isolator cage and put on a reverse light cycle as required by the study. The animals were not moved into a clean cage prior to putting them in the light chamber so missed the routine cage change and went 18 days in-between a cage change. The two deceased mice were not available for necropsy so a cause for the mortality was not established. The remaining three mice did not display any clinical symptoms and were moved to a clean cage without further issues.

The laboratory staff has been reminded to always place animals in a clean cage prior to starting the modified light cycle and to notify the animal care staff when the light cycle is being changed so they can ensure cage changes are scheduled during the light period. In addition, the research staff will also reduce the number of males in the cage to minimize the buildup of ammonia and prevent similar incidents.

Washington State University is committed to animal welfare and compliance with federal policies concerning animal use in research. Should you have any questions regarding this letter, please contact Alan Ekstrand, Assistant Director, Animal Welfare Program at [alan.ekstrand@wsu.edu](mailto:alan.ekstrand@wsu.edu) or (509) 335-7951.

Thank you for your consideration of this matter.

Sincerely,



Dr. Christopher Keane  
Vice President for Research

cc: P. Erdman, Chair-IACUC  
N. Woodford, Attending Veterinarian, Office of the Campus Veterinarian  
A. Ekstrand, Assistant Director, Animal Welfare Program



DEPARTMENT OF HEALTH & HUMAN SERVICES

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FOR EXPRESS MAIL:

Office of Laboratory Animal Welfare  
6700B Rockledge Drive, Suite 2500  
Bethesda, Maryland 20817  
Telephone: (301) 496-7163  
Facsimile: (301) 402-7065

February 7, 2019

Re: Animal Welfare Assurance  
A3485-01 [OLAW Case T]

Dr. Christopher J. Keane  
Vice President for Research  
Washington State University  
P.O. Box 646525  
Pullman, WA 99164

Dear Dr. Keane,

The Office of Laboratory Animal Welfare (OLAW) acknowledges receipt of your February 4, 2019 letter reporting a serious deviation from the provisions of the *Guide for the Care and Use of Laboratory Animals* at Washington State University, following up on an initial telephone report on January 30, 2019. According to the information provided, OLAW understands that two mice died after research staff failed to change a static micro-isolator cage for 18 days.

The immediate action taken upon discovery consisted of moving the surviving mice in the same cage to a clean one. The corrective actions consisted of counseling the laboratory staff to always use a clean cage when starting the study activities and to notify animal care staff when cages can be changed. The number of male mice in the cages will be reduced to reduce ammonia buildup.

Based on its assessment of this explanation, OLAW understands that measures have been implemented to correct and prevent recurrence of this problem. OLAW concurs with the actions taken by the institution to comply with the PHS Policy on Humane Care and Use of Laboratory Animals.

Sincerely,

Axel Wolff, M.S., D.V.M.  
Deputy Director  
Office of Laboratory Animal Welfare

cc: IACUC Chair

## Ekstrand, Alan

---

**From:** Ekstrand, Alan  
**Sent:** Friday, January 11, 2019 9:21 AM  
**To:** 'olawdco@mail.nih.gov'; 'gopeenv@od.nih.gov'  
**Subject:** Incident report A3485-01  
**Attachments:** Biocontainment\_01\_2019.pdf

Dr. Gopee,

Please find the attached report from Washington State University, assurance number A3485-01 regarding an incident we discussed over the phone last month. Please do not hesitate to contact me if you have any questions or need additional information.

Sincerely,

-Alan

Alan Ekstrand, CPIA, RLATG  
Assistant Director, Animal Welfare Program  
(509) 335-7951  
[alan.ekstrand@wsu.edu](mailto:alan.ekstrand@wsu.edu)

<https://iacuc.wsu.edu/>

January 10, 2019

Neera Gopee, Ph.D., D.V.M.  
Veterinary Medical Officer  
Office of Laboratory Animal Welfare  
National Institutes of Health  
6700B Rockledge Drive, Suite 2500, MSC 6910  
Bethesda, MD 20892

Dear Dr. Gopee,

Washington State University, in accordance with Assurance A3485-01 and PHS Policy IV.F.3 is reporting an animal welfare incident regarding the mortality of 2 mice due to improper placement of the cage on a biocontainment rack.

On November 29, 2018, 2 mice were found deceased in a cage on a biocontainment ventilated rack. The cage was accidentally placed backwards the previous night preventing air from entering the cage and the lack of ventilation was the likely cause of mortality. The remaining mice in the cage were lethargic but fully recovered after the cage was repositioned.

To minimize the chance of reoccurrence, the laboratory personnel were counseled and re-trained to assure the proper placement of the cages. The facility also labeled the cages to better identify improper placement. The IACUC and AV are also looking into possible alternatives to this rack system that will allow the containment needed for the research but facilitate correct positioning on the rack to further reduce the potential for re-occurrence.

WSU is committed to animal welfare and compliance with federal policies concerning animal use in research. Should you have any questions, please contact Alan Ekstrand, Assistant Director - Animal Welfare Program, [alan.ekstrand@wsu.edu](mailto:alan.ekstrand@wsu.edu), (509) 335-7951.

Thank you for your consideration of this matter.

Sincerely,



Christopher Keane  
Vice President for Research

cc: Phyllis Erdman, Chair, IACUC  
Nina Woodford, Attending Veterinarian, Office of the Campus Veterinarian  
Alan Ekstrand, Assistant Director, Animal Welfare Program



DEPARTMENT OF HEALTH & HUMAN SERVICES

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FOR EXPRESS MAIL:

Office of Laboratory Animal Welfare  
6700B Rockledge Drive, Suite 2500  
Bethesda, Maryland 20817  
Telephone: (301) 496-7163  
Facsimile: (301) 402-7065

January 15, 2019

Re: Animal Welfare Assurance  
A3485-01 [OLAW Case S]

Dr. Christopher J. Keane  
Vice President for Research  
Washington State University  
P.O. Box 646525  
Pullman, Washington 99164

Dear Dr. Keane,

The Office of Laboratory Animal Welfare (OLAW) acknowledges receipt of your January 10, 2019 letter reporting a serious deviation from the provisions of the *Guide for the Care and Use of Laboratory Animals* at Washington State University, following up on an initial telephone report on December 10, 2018. According to the information provided, OLAW understands that two mice died from lack of air supply caused by an improperly docked cage on a biocontainment rack. The cage had been inadvertently placed backwards, preventing ventilation.

The immediate action taken upon discovery consisted of positioning the cage correctly which allowed the surviving mice in the cage to fully recover. The laboratory staff was counseled and retrained and the cages were labeled to ensure correct placement. A different type of containment system is also being evaluated.

Based on its assessment of this explanation, OLAW understands that measures have been implemented to correct and prevent recurrence of this problem. OLAW concurs with the actions taken by the institution to comply with the PHS Policy on Humane Care and Use of Laboratory Animals.

Sincerely,

Axel Wolff, M.S., D.V.M.  
Deputy Director  
Office of Laboratory Animal Welfare

cc: IACUC Chair

## Ekstrand, Alan

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**From:** Ekstrand, Alan  
**Sent:** Wednesday, February 20, 2019 8:04 PM  
**To:** Ekstrand, Alan  
**Subject:** RFI -OLAW

Request for Information (RFI): Request for Information (RFI): Input on Draft Report from Working Group on Reducing Administrative Burden to Researchers for Animal Care and Use in Research

Thank You - Your Comments Have Been Received. You may want to print this page with your comments for your records.

02/20/2019 at 11:02:58:444 PM

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### Name

Alan Ekstrand

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### Email Address

alan.ekstrand@wsu.edu

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### Name of Organization

Washington State University

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### Type of Organization

Individual

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### City and State

Pullman, WA

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### Enter any input you may have on the draft report

*Note that comments may be publically available. Personally identifiable information (except organizational affiliations and addresses) will be removed by NIH prior to making comments publically available. Please do not submit confidential business information.*



I am writing to provide comments on the "Draft Report on Recommendations To Reduce Administrative Burden on Researchers". I appreciate the effort put forth to explore ways to reduce regulatory burden that allows researchers to spend more time on their research, while ensuring the appropriate oversight of animals used in biomedical research and teaching. While I think this is a good start, I agree with and support the comments submitted by the National Association for Biomedical Research that more will need to be done in order to reduce the administrative burden on the researchers. Below are a few of my comments on the draft recommendations; Reporting; 1) The OLAW annual report and USDA annual report are two very different reports and I do not see any benefit to creating a common portal for submission. The OLAW annual report does not require the level of attention from the researchers that the USDA report does. One of the more time consuming aspects of the annual reports is in the animal numbers required for the USDA annual report, separated by pain classification. USDA should consider a change to the AWA/R annual report process to accept a simple annual usage by species. This would simplify the process while still providing usage numbers by species. 2) I support OLAW's commitment to review the guidance on prompt reporting. I think transparency is good and reporting significant non-compliance is important however some of the examples on what to report seem like issues that can be handled by the institutions IACUC and/or AV and do not rise to the level of a prompt report to OLAW. Protocol review: In response to "USDA will propose, ... to remove the requirement that IACUCs conduct 'continuing reviews of activities covered ... at appropriate intervals . . . but not less than annually,' and, instead, insert a requirement that IACUCs conduct a three-year de novo review of activities." I fully support the reduction in frequency to be consistent with PHS policy at every 3 years but recommend replacing "three-year de novo" with "complete review every three years" to maintain consistent language between the policies. Extending both PHS policy and USDA AWA/R protocol review periods to a review every 5 years would be an excellent way to reduce administrative burden on the PI's. Ongoing reviews of active projects are going on through daily checks by animal care staff, routine rounds by veterinary staff and facility inspections by the IACUC. In addition, most institutions have robust post-approval monitoring programs providing additional oversight. PI's can keep the protocol current through amendments and I don't think extending the approval approval will greatly increase this risk. Semi-annual Inspections: I think OLAW and USDA should reconsider their response to the suggestion of reducing the frequency of inspections to annual. I think a risk based approach could work and frequency in certain facilities reduced without an impact to animal welfare. As mentioned above there is often a lot of on-going review already occurring in these facilities to ensure animal welfare and compliance. I do agree that there is also a lot of self-imposed regulatory burden at each institution. There are several causes of this and support any ongoing training efforts by OLAW and USDA to help reduce over interpretation of the regulations. Thank you for allowing me the opportunity to comment.

## Ekstrand, Alan

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**From:** Ekstrand, Alan  
**Sent:** Wednesday, June 5, 2019 10:42 AM  
**To:** Hampton, Lori (NIH/OD) [E]  
**Cc:** Deberry, Mira  
**Subject:** RE: OLAW Online Seminars program.

Hi Lori,

Yes, Mira is in Spokane and it would be great if you can add her. Thanks!

-Alan

Alan Ekstrand, CPIA, RLATG  
Assistant Director, Animal Welfare Program  
(509) 335-7951  
[alan.ekstrand@wsu.edu](mailto:alan.ekstrand@wsu.edu)

<https://iacuc.wsu.edu/>

**From:** Hampton, Lori (NIH/OD) [E] <[hamptonl@od.nih.gov](mailto:hamptonl@od.nih.gov)>  
**Sent:** Wednesday, June 5, 2019 10:31 AM  
**To:** Ekstrand, Alan <[alan.ekstrand@wsu.edu](mailto:alan.ekstrand@wsu.edu)>  
**Subject:** RE: OLAW Online Seminars program.

Hi Alan,

Certainly, we can enroll contacts at the other WSU campus locations. Just send me their contact info. Is Mira in Spokane? I can go ahead and enroll her in the program since I already have her contact information.

Lori

**From:** Ekstrand, Alan [<mailto:alan.ekstrand@wsu.edu>]  
**Sent:** Wednesday, June 05, 2019 1:27 PM  
**To:** Hampton, Lori (NIH/OD) [E] <[hamptonl@od.nih.gov](mailto:hamptonl@od.nih.gov)>  
**Subject:** FW: OLAW Online Seminars program.

Hi Lori,

WSU has several campuses across Washington State and our Medical/Pharmacy School is located in Spokane about 1.5 hours from the Pullman campus. Would it be possible to get them access for these webinars? I know they can access the archives after the webinar but check on the options given that we have several campus locations.

Thanks,

-Alan

Alan Ekstrand, CPIA, RLATG  
Assistant Director, Animal Welfare Program

(509) 335-7951  
[alan.ekstrand@wsu.edu](mailto:alan.ekstrand@wsu.edu)

<https://iacuc.wsu.edu/>

**From:** Deberry, Mira <[mira.deberry@wsu.edu](mailto:mira.deberry@wsu.edu)>  
**Sent:** Tuesday, June 4, 2019 1:33 PM  
**To:** Ekstrand, Alan <[alan.ekstrand@wsu.edu](mailto:alan.ekstrand@wsu.edu)>  
**Cc:** Heineke, Merle J <[merle.heineke@wsu.edu](mailto:merle.heineke@wsu.edu)>  
**Subject:** FW: OLAW Online Seminars program.

Hello Alan,

Just received the email below. Would it be possible to connect to the program in Spokane without having to drive to Pullman to view a webinar?

Thank you,  
Mira Deberry

**From:** Hampton, Lori (NIH/OD) [E] <[hamptonl@od.nih.gov](mailto:hamptonl@od.nih.gov)>  
**Sent:** Tuesday, June 4, 2019 1:25 PM  
**To:** Deberry, Mira <[mira.deberry@wsu.edu](mailto:mira.deberry@wsu.edu)>  
**Subject:** OLAW Online Seminars program.

Dear Mira,

We received your submission to enroll in the OLAW Online Seminars program. The capacity of our Web cast is limited and participation is restricted to one connection per location per institution. We currently have Alan Ekstrand at your institution enrolled in the program. You may contact him to arrange viewing of the webinars. He will receive registration information prior to each webinar. If you all would like to change the designated contact, let me know.

Next webinar:

**The 4th R - Rehoming, Retirement and Release**  
June 13, 2019 – 1:00-2:00 pm ET  
Lara Helwig, DVM, Brown University

For those who are not able to participate in real-time, the webinars are recorded and posted on the OLAW website after the event. Go to Webinars and Podcasts for the archive of recordings, transcripts and slides.

Best regards,  
Lori

**Lori Hampton**  
*Office of Laboratory Animal Welfare, NIH*  
6700B Rockledge Drive, Suite 2500, MSC 6910  
Bethesda, MD 20892  
Phone: 301-594-1573  
Email: [hamptonl@mail.nih.gov](mailto:hamptonl@mail.nih.gov)  
Follow us: [@NIH OLAW](#)

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