

University of Washington
FEBRUARY 15th, 2024 IACUC Meeting Minutes

Members Present: AB GS*Left at 3:55 JS
 AW GW KG
 CC JFI MB
 JPVH MK

Members Absent: AP DM JT MRB
 GL MRK

Opening Business

- The Floor was opened for public comment at 2:31 pm.
- The IACUC Chair called the meeting to order at 2:40 pm.

Confirmation of a Quorum and Announcement

- Quorum was confirmed by JS.

Approval of the IACUC Meeting Minutes

- The IACUC Chair called for the approval of the January meeting minutes.
Motion was made and seconded: to approve the minutes as written.
Further Discussion: none
Vote: Approved with 11 members voting in favor, 0 against and 0 abstentions.

Attending Veterinarian's Report – CC

I have checked with the leadership at all sites and have two adverse events to report this month.

Event 1

On 12/29/23, a 15-day old zebra finch was injured during a cage liner change being performed by an experienced and properly trained husbandry technician. The injury was immediately reported to veterinary services, and the bird was humanely euthanized. A zebra finch of this age should have been within the nest continuously, and it is unknown how this animal ended up on the floor of the cage. It's possible that the nestling fell out or was removed from the nest by the parents. I reviewed the liner-change process with staff and evaluated the modifications to the cage pans that were made in the past to enhance visibility. We did not identify any modification to the process that would have prevented this incident without creating increased risks of other issues. Further modifications to the cage bottoms would compromise the integrity of the cage. Given the rarity of incidents like this, it was determined not to change the process or the caging

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design at this time. However, a reminder to check closely for non-flighted animals was added to the husbandry log, and this staff member was reminded of the importance of checking all cage locations thoroughly.

This has been reported to OLAW.

Are there any questions, additional discussion, or actions the committee would like to take?

There was no discussion and no action was taken.

Event 2

On Saturday, January 27th, a rack containing 36 mice in a room in the BSL3 facility was found non-responsive by the facility manager during routine health checks. It was noted that the exhaust hose was disconnected from the rack, and that the blower had been switched off. The exhaust hose was reconnected, and the blower was turned back on. 16 mice recovered after these actions, but 20 mice died as a result of the incident. The mice had been moved into the room the afternoon before, and the rack was reported to be working well then. The rack and all cages had been tested for airflow prior to adding animals. The system was alarmed and had emergency battery back-up power available, but since the blower was actually turned off, the alarm did not trigger and the battery did not kick on. It is unclear how the blower unit was turned off. It is possible that the hose detached and the hose itself triggered the switch to turn off, but we cannot confirm this. This incident occurred using the Allentown caging systems that are no longer in regular use in this facility. The current caging systems are not airtight and have airflow alarms rather than power alarms. This has been reported to OLAW.

Are there any questions, additional discussion, or actions the committee would like to take?

Discussion:

The committee discussed the use of older racks, which were used to replicate a previously published study. The group has requested to continue with this study since data wasn't collected. The committee also discussed adding a sensor that would monitor oxygen content – that will be investigated for feasibility.

No motion was made

Protocol Monitoring Update

We currently have 25 protocols on enhanced veterinary monitoring. Of these 25 protocols, 17 of them were placed on monitoring proactively at the time of procedure approval to provide enhanced support during development or implementation of complex procedures. The other 8 were placed on monitoring following an unexpected outcome. Of the 25 protocols, 8 of them are currently performing the procedure for which they are on monitoring. All PIs on monitoring continue to work with their veterinary monitor.

OAW Director's Report – JFI

IACUC metrics – IACUC metrics are in the meeting folder

Other Updates –

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NWABR – Last call for the Northwest Association for Biomedical Research IACUC conference on February 29th. If you are interested in attending and have not already let OAW know, please let OAW know by tomorrow.

Noncompliances

4339-01 – On December 13th, four mice were used to train a graduate student to perform oral gavage. The use of animals for training or practice was not approved on the IACUC protocol. This incident was discovered because vet services received a report about two mice that had died acutely following oral gavage. One carcass was collected by vet services for necropsy, and the other carcass was taken by the graduate student that had submitted the report. The student reported to vet staff that they had observed fluid in the lungs during their own necropsy. The official pathology report on the second animal that had died was made available earlier this week and did not suggest aspiration, with official cause of death unknown. The veterinarian coordinated with the student to observe the oral gavage of two additional animals. No issues were observed during or following the first procedure. With the second animal, some fluid was observed coming out of the animal's mouth during that procedure, so the mouse was monitored for 15 minutes and checked again 45 minutes later. Both animals fully recovered.

During the investigation of this event, it was challenging to get a clear and consistent story from the PI about how these animals were used. There was some confusion over whether these animals were on study or were being used solely for training. It appears to the OAW liaison that there may be some contributing lack of communication or lack of oversight within the lab, perhaps exacerbated by some recent personnel transitions within that group. For that reason, this protocol has been put on veterinary monitoring to provide additional external oversight of procedures. The OAW liaison will also continue to work with the lab to provide HoverBoard training and other guidance as needed.

Despite miscommunications during investigation of the incident, the PI has been very responsive, has had multiple meetings with their OAW liaison, and has expressed sincere concern. They have proactively re-registered themselves and all personnel on their protocol that work with animals in hands-on training classes through CLATR and will specifically request training for oral gavage. They have also amended their protocol to add the use of animals for training. In the spirit of reduction, they have been able to incorporate most of the tissues from these animals as controls in another approved experiment on their protocol.

This has been reported to OLAW.

Discussion:

The committee discussed that details of the situation remain unclear, including the training that had been provided to the graduate, and how the graduate student could be uncertain of what substance they administered. Committee members expressed concern that the PI was not aware of these procedures before they occurred. It was discussed that, while oral gavage does not require certification by CLATR, there is an expectation of training and CLATR can provide training, and the lab should maintain records of training that can be made available to site visitors.

There was additional discussion about how to help PIs know which procedures require training documentation and how to document lab staff training. Idea to add this to PI onboarding and/or create templates that could be provided to make this easier.

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Motion was made and seconded: to send a letter of Reprimand

Further Discussion: *To add acknowledgement of positive efforts made so far and also note that this is an issue the IACUC takes very seriously*

Vote: Approved with 11 members voting in favor, 0 against, 0 abstentions.

In January 2024, 2 incidents of unapproved housing of zebrafish in incubators were identified.

4405-02 - During the triennial review of this protocol, it was discovered that the research group had been utilizing an incubator in their lab space to rear zebrafish larvae up to 4-5 days post-fertilization before transfer to the primary fish facility. While there have not been any reported concerns or issues involving the larvae housed in this space, this space was not an IACUC-approved housing space. The space underwent an initial IACUC inspection on 1/16/24 and was evaluated for a sensaphone on 1/18/24. The group has also worked with their liaison and the aquatics veterinarian to develop required animal care logs and an appropriate contingency plan. A sensaphone has now been installed and tested, and the space has been added to the protocol.

2997-01 - On January 11, 2024, during an IACUC site visit, a space was visited in which the group was housing larval zebrafish up to 8 days post-fertilization in an incubator. The space was approved on the protocol as a use location (animals present for <12 hours) but was not approved for housing. The incubator was equipped with a functional sensaphone, was being checked daily, and appropriate animal care logs were maintained. There have not been any reported concerns or issues involving the larvae housed in this space.

An amendment was promptly submitted to the protocol to add this space as a housing space. The space was inspected by the UW's aquatics veterinarian and a program operations specialist in the Office of Animal Welfare on 1/19/24. That amendment has been approved, and the space is now approved on the protocol for housing.

This space and incubator had been inspected by the IACUC and approved for use (less than 12 hours) in April 2022. The group indicates that at that time they intended to request approval to use the space for housing (greater than 24 hours), but there was an oversight and miscommunication between the lab manager, PI, and others in the research group that resulted in the request only being for less than 12 hours. In the future the lab manager will double-check verbally with all involved to make sure that all housing and procedure space requests accurately reflect the intended use of that space.

Both of the above incidents have been reported to OLAW.

As part of the response to these incidents, the aquatics veterinarian and OAW program operations specialist also reviewed all other incubators that are approved to house embryo or larval zebrafish. They specifically evaluated remote monitoring systems, and found that all units are set up with appropriate remote monitoring and alarm systems that send out an alert in situations such as a power outage. No other concerns were identified during that review. OAW has also sent an email out to all PIs that are approved for the use of zebrafish to remind them about institutional IACUC policies and regulatory requirements surrounding when zebrafish are considered live vertebrate animals (3 dpf), and that any spaces used for procedures or housing of zebrafish that are 3 dpf or older must be approved on the protocol and inspected by the IACUC, including incubators.

There was no discussion and no action was taken.

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In September 2023, OAW was notified of a potential protocol non-compliance involving the use of *Octopus rubescens* at Friday Harbor Laboratories in early 2023. Upon investigation, and meeting with group members in October, it was determined that unapproved work with this species occurred in February, April, and October 2023. In total, nine adult octopuses were collected over three dives (3 animals collected/dive). Animals were captured by hand and then held for 1-2 days prior to euthanasia. No other procedures were performed. This work was performed by a graduate student, in collaboration with a visiting scientist.

Animals were housed and work was performed in IACUC approved spaces. The individual that performed the procedures was appropriately trained (Animal Use L&R, AUMS, Octopus handling, Lab-Managed Records class) and had prior experience working with this species. The euthanasia method used was appropriate.

The animals that were collected supported work on two different protocols - 4356-02 and 4549-01. Work between February and October 2023 was not approved on either protocol. Work was previously covered under protocol 4356-02. This protocol, however, expired on 2/13/23, just prior to the February collection event on 2/17/23. The PI of protocol 4356-02 was closing his animal program and did not intend to renew the protocol. In anticipation of this, an amendment was submitted to add this work to protocol 4549-01 on 1/29/23. This amendment was not approved until 11/21/23.

Care logs were also not maintained while animals were housed at FHL.

Corrective Actions Already Taken:

- No additional octopus work is currently planned.
- The FHL Director has dedicated part of an FTE to support animal research oversight at FHL. This individual has previously served in a safety compliance role at FHL (including prior experience hosting IACUC site visits) and currently manages the dive program, so has a solid understanding of processes at FHL and an appreciation of the important role of compliance in research. They have completed appropriate training and have had several discussions with the FHL Director and OAW Co-Director regarding the responsibilities of this role.
- This individual has been added to protocol 4549-01 and will be added as a guest to all other FHL protocols for visibility on what work and individuals are/are not approved on the associated protocol.
- The OAW liaison, Co-Director, and staff at FHL have also had several discussions on how to better coordinate communication and support for visiting scientists. Updates include cc'ing OAW on initial offer communication to visiting scientists so that OAW can proactively reach out about protocol development and training, modifying the FHL research application to more clearly indicate when proposed work involves vertebrate animals/cephalopods, and developing a checklist of tasks visiting scientists need to complete prior to starting work (in progress).

Discussion:

The committee discussed that while the visiting scientist is still there, there are no plans to continue work with octopus in the near future. It was also discussed that a letter of counsel was sent to this PI in April 2022 due to unapproved use of paralarval octopus and pygmy squid. The corrective action relayed to the committee at that time was that FHL staff would work closely with their researchers and OAW to improve the process and ensure that all required protocols are in place and followed. The individual who collected these octopuses was working under the assumption that that work was approved, but the PI and both other individuals involved were in the approval flow to receive notifications of IACUC approval and should have known that the work was not approved.

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Motion was made and seconded: to send a letter of Reprimand

Further Discussion:

- *Is the Dive master now aware of what collections are allowed under protocols going on at these sites? Yes.*
- *IACUC has not done an unannounced inspection at this site, but the AV has not seen anything of immediate concern, while acknowledging challenges of monitoring individuals who are often not on site.*
- *The Committee wants the letter to include asking the PI to talk directly to the committee about the plans for oversight after this issue. Mandatory retraining for those involved. Acknowledgement/praise of this new position. A requirement or recommendation for enhanced external oversight (monthly visits by AV or OAW) with at least the first few visits being in person. Work with OAW to establish enhanced oversight. Also, for the letter to emphasize the concern related to the repetitive nature of these issues. Discussion included possible corrective action to have this PI be shadowed by more senior PI.*
- *Will this letter go just to the PI, or to the individuals who collected specimens? It was agreed that a letter will go to all three, The Director (who is also the PI) and the two other individuals involved.*

Vote: Approved with 11 members voting in favor, 0 against, 0 abstentions.

IACUC GS Left the meeting 3:55pm – 10 members are present

After an audit of facility inspection history over the past 2 years, OAW identified 34 spaces that had not been inspected by the IACUC at a frequency in compliance with federal regulations and our OLAW assurance. This audit was initiated when, during internal OAW review of approved space, a space was identified that was approved on an IACUC protocol but had not been inspected. This space had been approved on the protocol in 2022 during Triennial Review but was not added to the list that OAW uses to internally track inspections. This appears to be due to a weak point in the process of flagging these sorts of changes during review, which I'll discuss more later. This space was subsequently inspected and approved.

Upon identifying this noncompliance, OAW performed a thorough audit of all spaces approved on IACUC protocols. No other spaces were identified that were approved on an IACUC protocol but not included in our list of spaces to be inspected.

In addition, OAW did an audit of facility inspection history over the past 2 years (4 inspection cycles) to identify any deviations from the facility inspection process as required by USDA and OLAW regulations and described in UW's OLAW Assurance. UW's Assurance stipulates that the IACUC "Inspect at least once every 6 months all of the Institution's animal facilities, including satellite facilities and animal surgical sites, using the Guide as a basis for evaluation." The Assurance provides the following exception that "Procedural (non-housing) spaces where procedures on non-USDA regulated species do not involve surgical manipulation, or where only perfusion procedures are conducted may be inspected once a year if there have been no inspection findings in the previous two semi-annual inspections"

Upon review, OAW identified an additional 33 spaces that were not inspected in a manner that complied with our Assurance (34 total including the space described above).

26 spaces were only visited once in a 12-month period during that time but were not eligible for decreased inspection frequency due to the usage of the space.

- One (1) was a space approved for housing. [mice]
- Nine (9) of the spaces were approved for survival surgery procedures. [mice/rats]

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- Twelve (12) were spaces approved for non-survival surgery procedures other than perfusion, one of these being non-survival surgery of a USDA-regulated species. [11 mice/rats; 1 guinea pig]
 - Four (4) of the spaces were approved for procedures on USDA-regulated species. Note that one of these spaces is included in the 12 identified above that are approved for non-survival surgery. [non-survival surgery in guinea pigs; terminal perfusion in ferrets; imaging in NHPs (2 spaces)]
 - One (1) of these was a vehicle used for transport. [wild-caught song birds]
- 7 spaces were only visited once in a 12 month period during that time, but were not eligible for decreased inspection frequency due to not meeting the requirement of having no inspection findings in the previous two semi-annual inspections.
- Six (6) of these spaces were skipped during an inspection cycle despite having a deficiency identified during the previous inspection. [mice/rats; 5 euthanasia only; 2 non-surgical procedures followed by euthanasia]
 - One (1) of these spaces was skipped during an inspection cycle despite only have one previous inspection (no deficiencies).

Just to put this into perspective, at most recent count the IACUC inspects approximately 350 spaces every site visit cycle, and that number does not include most individual spaces within a vivarium.

This has been reported to OLAW.

Corrective Actions:

- During a site visit cycle, if a space is not visited, the site visit scheduling team will enter an inspection record into HoverBoard indicating in the title and notes that that inspection was skipped, providing the rationale for skipping that inspection (e.g., no animal work, meeting exception requirements), and confirming that this is compliant with our Assurance.
- The site visit scheduling team will review spaces at least twice a year, prior to each site visit cycle, to determine which spaces meet eligibility criteria to be skipped that cycle. Any doubt will result in inspection of that space unless confirmed OK to skip by OAW and/or IACUC leadership.
- OAW reviewers will institute a confirmatory check of the housing and use page when a protocol item is in post-review, prior to sending the official approval letter, to confirm that any new spaces have been reviewed and signed off on by the program operations specialist that manages that room addition process.
- To enable on-going self-audit, OAW is working to develop a reliable report that will pull housing and use location information out of HoverBoard and allow for a quick comparison to the facility inspection list. OAW may need to work with Huron (the developers of HoverBoard) and/or ORIS (the Office of Research Information Services) to develop this report and audit process.

IACUC JFI left the meeting at 4:05 – quorum is maintained at 9 members

Motion was made and seconded: to send a letter of commendation to the OAW staff member who identified this issue

Further Discussion: none

Vote: Approved with 9 members voting in favor, 0 against, 0 abstentions.

Motion was made and seconded: to send a letter of acknowledgment to the members of the IACUC and to OAW

Further Discussion: *Was this something that would have ever been caught by the IACUC members? Unlikely but still the responsibility lies with the IACUC*

Vote: Approved with 9 members voting in favor, 0 against, 0 abstentions.

IACUC JFI returned to the meeting at 4:13– 10 members are present

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Standard Operation Procedures / Policies / Guidelines - CC

I have revised the IACUC Policy for Surgery Training Requirements. A copy, with changes tracked, was provided in the Supporting Documents for this meeting. Changes to the policy included the following:

- Slightly revised the verbiage of the definitions of surgery and aseptic technique to match the definitions used in the Anesthesia Certification policy
- Clarified that CLATR coordinates surgery training
- Updated references from AUTS to CLATR and included links to the training requirements section of the CLATR website
- Added description of the content included within the surgery training coursework
- Removed the species breakdown for training requirements since the general topics of the training is the same regardless of species
- Removed the specific names of the courses provided by CLATR to allow for course title changes without amendments to the IACUC policy

There has also been a small revision to the Rodent Survival Surgery Policy clarifying some language around the use of electric heating pads to clarify which types of heating pads are allowable. Regarding the provision of external heat support during anesthesia, the prior version highlighted preferred types of heat sources and then stated that Electric heating pads could not be used. However, all of the preferred devices are powered by electricity which was causing some confusion by staff. Thus, we have rephrased this to state the “heating pads to the do not meet the above specifications” should not be used and requiring that methods be in place to prevent risk of burns from external heat sources.

Motion was made and seconded: to approve the policy as written.

Further Discussion: *IACUC members are encouraged to question and investigate heating pads during site visits. Differences may not be readily apparent by visual ques of IR and Electric heating pads. Training will be provided at a future meeting.*

Vote: Approved with 10 members voting in favor, 0 against, 0 abstentions.

Lastly, I have also revised the Euthanasia Policy. Changes include:

- Reorganized content to be divided by species and method of euthanasia.
- Strengthened language regarding requirements for confirmation of death and secondary methods based on method of euthanasia.
- Added option for remote certification of euthanasia methods for field work.
- Clarified exposure times for immersion euthanasia for finfish.

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- Removal of references to AUTS regarding certification for physical methods of euthanasia; instead certification is at the discretion of the AV or designee.

There were a few suggested edits after posting this in the supporting documents that have been incorporated that I want to highlight those changes for you.

- Under Euthanasia of Rodents, General Considerations – I removed the sentence “Euthanasia should always be performed in cohorts.” due to redundancy with bullet point 3.
- In the section describing certification for physical methods, I added language to support assessment by alternate means for remote work.
- In the section regarding Immersion in Eugenol for finfish, I clarified immersion length if secondary methods can’t be used.

Motion was made and seconded: to approve the euthanasian policy with the changes as outlined.

Further Discussion: *none*

Vote: Approved with 10 members voting in favor, 0 against, 0 abstentions.

I don’t have a training created for this meeting so instead I’ll offer this 30 second tidbit. . . I think our site visits are a key opportunity to drive home the point about what the IACUC expectations are regarding provision of heat for anesthetized rodents. I encourage you all to ask about this on your upcoming site visits – you can’t tell the difference between infrared heating pads and cheap department store electric pads. I’ll prepare training next month to cover types of heat support, advantages and disadvantages of each, and how we can incorporate these evaluations into our site visits.

Closing Business:

The Meeting was brought to a close at 4:19 pm.