

# 2024 AAALAC Site Visit Findings

Jason Villano, DVM, DACLAM

7/9/2024

## Findings categories

- Commendations – 10
- Mandatory – 3
- Suggestions for improvement – 12
- Ancillary items – 6

### NOTES:

1. Not all findings will be discussed here. Only those that relate to the researchers will be.
2. Specific examples and incidences will not be presented here. If your lab was associated with the findings, you have been or will be conducted.

## Commendations

### Com # 1: identification of reasons for single housing for mice

- What is the reason for this singly-housed mouse?
  - Breeding ("B") – used as a breeder stud or pregnant female
  - Attrition ("A") – last animal in its group
  - Veterinary ("V") – because of veterinary reasons like fighting
  - Experimental ("E") – research study dictates single housing
- Label cage cards (not on cages themselves).
  - Write the letter "B", "A", "V", or "E"; OR
  - Write the letter on a sticky tab; OR
  - Use a letter sticker.
  - Use paper identification.
- What do singly-housed animals must have?
  - Cages are flagged
  - Additional enrichment



Single-housed animal (Circle one)	
Breeding	Veterinary
Attrition	Experimental

## Com # 2: Clean and well-maintained facilities

- Clean after yourselves.
- Report any facility and non-compliance issues.

## Com # 3: Clean and well-maintained behavioral cores

- For both MRB and Krieger Hall (Homewood)
- Clean after yourselves.

## Mandatory items

Man # 1: Macaque handling PPE are not adequate.

- Problem: Personnel may be exposed to B virus (Macacine alphaherpesvirus 1), especially when handling macaques and cage washing.
- Current: surgical mask with face shield, or mask with visor
- Response/change: Protective goggles with face shield



## Man # 2: Toe clipping in rodents older than 7 days of age without anesthesia.

- Problem: This is against the *Guide for the Care and Use of Animals in Research* and our own internal Hopkins guidelines.
- Response: Review the guidelines that can be found here: <https://animalcare.jhu.edu/guidelines/>.
  - The principal investigator must provide a strong justification in their protocol for use of toe clipping and explain why alternative methods cannot be used.
  - Toe-clipping should be performed < 7 days of age and can be done without the use of anesthesia.
  - Exceptions to the 7 day old age limit must be addressed in the animal protocol. If toe-clipping is performed at >7 days of age anesthesia must be used.
  - It is recommended that only one toe per foot (preferably the hind foot) be clipped. The amount taken should be limited to the distal phalynx whenever possible.
  - Under all circumstances, aseptic practices should be followed.
- You would be contacted by the ACUC if you need to amend your protocol.
- Review your protocol to ensure that it complies with the Guidelines

## Man # 3: Single-housing without enrichment and adequate scientific justification.

- Problem: examples of inadequate justification in the ACUC protocol:
  - *"We have been doing this for years/decades."*
  - *"Animals will be fighting."*
    - NOTE: Single-housing because of social incompatibility needs to be approved by the veterinarian and/or RAR's Behavioral Management team on a case-by-case basis.
  - *"Social housing can affect our research."*
  - *"Environmental enrichment can affect our research."*
  - *"Other institutions do the same."*
- Solution:
  - When you are applying for exemption to social housing and/or environmental enrichment:
    - Describe why and how social housing (vs social isolation) and/or environmental enrichment can affect your research. Cite literature (as many as you possibly can).

## Suggestions for improvement (SFI)

### SFI # 1: Inadequate rodent allergy prevention for dirty bedding dumping

- For cage wash facilities and satellite labs
- Problem: Occupational health and safety issue
- Solution: If you dump dirty bedding in your satellite facility, you have two options:
  1. Wear PPE including gloves, gown, and a respirator (N95 or PAPR).
    - NOTE: You need to be fitted for N95. Contact Chemical Safety for more info.
  2. Send your dirty rodent cages intact to RAR cage wash facilities. RAR will process these for you as a fee-for-service.

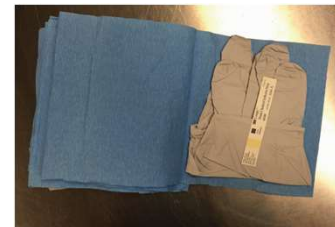
## SFI # 2: Pest control program

- Problem: Rodent traps were not being checked daily.
- Solution:
  - Please help us ensure that rodent traps are checked daily.
- We need your help in preventing escaped animals.
  - Secure the mice/rats. Have the cage top or wire top on the cage bottom as much as possible when working with animals. Do not leave the cages open.
  - Secure transport boxes like the food take-out boxes. Use secondary container or put adhesive tape on the lid.
  - Catch escaped animals or at least alert husbandry personnel.



## SFI # 3: Rodent survival surgery and post-op care are not consistent with the guidelines.

- Problem: non-sterile instruments, non-sterile gloves, hair not clipped, only ethanol is use, post-op care not recorded (not performed)
- Response: Review the guidelines found here: <https://animalcare.jhu.edu/guidelines/>
- Important:
  - Sterilize instruments and clean work surfaces.
    - *Since most rodent surgeries are done in batches, start with sterile (autoclave or ethylene oxide) instruments. In between animals, the instruments should be wiped clean of blood and tissues with sterile gauze, rinsed in sterile saline and sterilized using a glass bead sterilizer.*
  - Give preemptive analgesia (analgesia given prior to making the incision).
  - Provide heat support.
  - Perform aseptic technique.
    - Clip hair (at least 2x the length of incision site length and width)
    - 3x alternating betadine or chlorhexidine with alcohol or sterile saline
    - Sterile gloves (See appendix 1 of the Guidelines).
    - While not required, sterile drapes covering incision site/ surgical site are highly recommended in order to maintain a sterile surgical field. If drapes are not being used, extra precautions must be taken in order to maintain appropriate aseptic technique. Drapes can be cloth, paper, sterile stockinettes, 3M™ Steri-Drape™ Incise Drapes, or new and unused GLAD Press'n Seal™ wrap.
  - Ensure animal recovery. Don't leave the animals unattended until they regain their mobility.



**Appendix 1: Sterilizing gloves for rodent surgeries**

## Rodent Survival Surgery Guidelines

Rodent Surgical and Post-op Record

PI \_\_\_\_\_ Procedure \_\_\_\_\_

Diagnosis \_\_\_\_\_

# of animals in cage \_\_\_\_\_ Date of procedure \_\_\_\_\_

For each of the following, provide the dose (mg/kg or %) administered per animal:

Anesthetics \_\_\_\_\_ Pre-operative analgesia \_\_\_\_\_

Anesthesia and Surgical notes \_\_\_\_\_

### Records:

- Surgical and post-operative records are required for each rodent cage that houses mice that have undergone surgery. The cage record can reflect all animals in the same cage.
- Since records have been inconsistent across many labs, we are requiring the use of the cage-card size surgical and post-op record (see top of the screen). These cards are available in the procedure rooms and in other areas in the vivaria.
  - Any individual animal with surgical complications and/or post-operative findings like pain/distress, dehiscence, infection, and hemorrhage should be identified on the record, with a notation of the finding and its remediation.
  - Associated “*Clinical Call*” documentation must also be maintained and completed at the cage level.
- Each day’s recording can only be recorded at the time that the post-operative monitoring is occurring.
- Records include:
  - anesthetics and analgesics administered for the surgical procedure and after for post-operative care (include the dose, frequency of administration, and route of administration)
  - frequency of monitoring
  - findings and any intervention

## Rodent Survival Surgery Guidelines

### Records:

- If the animal is euthanized or dies within the post-operative period, this must be noted on the post-operative record.
- Records must be on the cage until at least 7 days after the surgery or until sutures/wound clips are removed, whichever is latest. Records may also be kept close to where the animals are but a system should be in-place to cross-reference the records with the cages involved (i.e., the records clearly indicate the cages involved and the cages are labelled accordingly).
- After completion, keep records in the laboratory available for review for at least 3 years post-surgery.



## SFI # 4: Use of wire-bottom cages.

- Problem: Wire-bottom cages typically may cause pododermatitis.
  - Especially a problem in satellite labs
- Solution: Do not use unless scientifically justified. If using, provide resting platform.



## SFI # 5: No mechanism for after-hours monitoring of temperature and humidity in some facilities

- Problem: Animals may be subjected to extreme environmental conditions.
- Solution: All animal holding areas to be included in the centrally managed environmental monitoring system being rolled-out.
  - Some satellite facilities have been included in the system. RAR and ACUC Office are working with Facilities Management to install sensors in satellites by end of August.

## SFI # 6: Lack of clinical reporting to the vets

- Problems:
  - Sick or animals unexpectedly found dead were not being reported to the vets
  - Treatments for clinical diseases are being instituted without being described in the ACUC protocol or veterinary consultation.
  - **Especially a problem in satellite labs**
- Solution:
  - Please report all clinical cases.
  - Non-emergency clinical call
    - For rodents, fill out the orange clinical call card and write on the clinical call log.
    - For large animals, report to the clinical vet directly.
  - Emergency call
    - Place a call to the RAR business office or the on-call vet phone, or immediately notify the husbandry supervisor.
    - NOTE: the phone numbers are on the directory near the phones in your areas.

## SFI # 7: Use of non-pharmaceutical grade compounds not described in the protocol.

- Problem: Anesthetics and analgesics are not pharma-grade.
  - Including experimental drugs with unknown efficacy and powder-form chemicals
- Solution:
  - Only use pharma-grade compounds, especially for:
    - Survival surgery
    - Anesthesia, analgesia, and euthanasia
  - If you must use non-pharma grade, ensure this is justified in your protocol.



## SFI # 8: Animal reuse

- **Problem:** No mechanism for tracking animal reuse and formal review process. Reduction in animal numbers should not be a rationale for reuse.
- **Solutions:**
  - Guidelines for reuse of animals in research are currently under review and will be sent out soon. Pls review the Guidelines.
  - Pls ensure that you have adequate scientific justification for reusing animals.
  - Know and consider the animal's previous experimental history before filing for approval to reuse them.
  - Consider and limit the number of times animals are reused.
  - Veterinary and behavioral assessment need to be performed prior to reuse.

## SFI # 9: Rodents marked for euthanasia and are used by researchers

- **Problem:** No mechanism to track animal usage, justification of numbers used, and ensuring that the animals are not used for survival experiments and/or reused
- **Solution:**
  - ACUC Office is modifying the ACUC protocol form.
  - We are developing the Guidelines on the use of animals on the euthanasia rack. We will send that out soon. Pls review.

## SFI # 10: Lack of health monitoring for certain animal species

- **Problem:** We do not survey the health status of certain species, like rabbits, hamsters, guinea pigs, zebrafish, zebra finches, bats, and owls.
- **Solutions:**
  - Pls report all clinical cases.
  - Veterinary judgment will be used if diagnostic samples including carcasses need to be submitted for clinical workup.
  - Veterinary team is developing the program. We will provide more info, especially if we need your assistance in sample collection.

Ancillary items

## Anc # 1: Monitoring of effectiveness of hand-sanitized equipment.

- **Problem:** There is no verification of the efficacy of hand-sanitization for equipment like racks in satellites, behavioral equipment, hypoxia chambers, and sleep boxes. These include all equipment and items that come in contact with the animals.
- **Solution:** SOP has been created and ready to be implemented
  - RAR will coordinate with satellites for testing/cores.

**Title: Procedures for Hand Cleaning and Sanitization of Rodent Racks In Satellite Facilities**

**Purpose:** To ensure proper cleaning and sanitization of rodent rack when hand washing outside a cage wash environment.

**Personnel Responsibilities:**

Satellite Personnel: Follow these procedures for hand cleaning and sanitizing racks.

**Satellite Coordinator:** Ensure that these procedures are being followed. Notify Director of any deviations from these procedures.

**Director of Rodent Resources, Research Animal Resources:** Will review all deviations in this process and implement corrective action or SOP revision accordingly.



## Anc # 2: Water provided to the animals is not tested for contaminants.

- **Problem:** There is no water microbiologic monitoring program for satellite labs that provide their own water to the animals. Contamination can cause health issues especially in immunodeficient and immunocompromised animals.
- **Solution:**
  - RAR is developing the program and will reach out to satellite labs. If you use immunodeficient and immunocompromised animals, pls let us know and we will work with you first.
  - Do not use tap water as much as possible. Use reverse osmosis (RO)/dioniozed (DI) or autoclaved water.

Anc # 3: Charcoal canisters were not positioned in a manner conducive to adequate venting of waste anesthetic gases.

- Problem: Vent holes are covered.
- Solution: Vent holes should not be covered and the canister needs to be upright.
  - Use stand. OR
  - Use canister that ventilates through the top.
- Record weight before each use to ensure the canister is still functional.
- Replace after a 50-g increase from initial weight.
- Contact HSE for proper disposal.



Anc # 4: Do not recap needles.



## AAALAC Accreditation Status

- Post-site visit communication – due this Friday, July 12<sup>th</sup>
  - Town hall
  - Follow up with satellite labs
  - ACUC oversight will be enhanced.
    - Semi-annual inspection
    - Post-approval monitoring (PAM) program
- Pending AAALAC Council meeting in Sept
  - Hoping and would want to get FULL ACCREDITATION

## **KEY TAKEAWAYS** Compliance

- Read and review your protocol.
  - Especially if you are a new lab member
- Inform all lab members of any amendments to the protocol.
- Periodically evaluate:
  - Your protocol to identify deviations from your current procedures and/or ACUC/RAR guidelines and SOPs. File for amendments, as necessary.
  - Records such as surgical/post-op and drug records
- If it's not written in your protocol, do not do it.
- When in doubt, consult with the veterinarians and/or the ACUC office.
- We need to enhance satellite facilities oversight and the post-approval monitoring program.
- Read emails and attend meetings/town halls.
- Periodically visit the ACUC and RAR websites, and review and follow guidelines/SOPs.
  - <https://animalcare.jhu.edu/guidelines/>
  - <https://researchanimalresources.jhu.edu/>
  - NOTE: We are updating/developing guidelines and SOPs as we improve the program.
- If you see something, say something.



