

Essential Knowledge on Animal Research in the NIH Intramural Research Program

Working with laboratory animals is regulated and monitored by the US government. The proper application of hygiene and standard operating procedures is mandatory to prevent harm to ones own projects, the animals, your institute and the NIH itself. This document summarizes essential knowledge for every fellow or student working with laboratory animals in the NIH Intramural Research Program.

Legal The Animal Welfare Regulations and the Public Health Service Policy on Humane Care & Use of Laboratory Animals set legal boundaries for animal research. The United States Department of Agriculture & the Office of Laboratory Animal Welfare along with the “Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC International)” oversee animal research at the NIH. Every project has to be covered by an Animal Study Proposal (ASP), which states the species of animals and how many animals will be studied. Study endpoints, procedures, reagents, special needs for care, etc. are defined clearly.

Safety Animal research exposes the researcher to various potential hazards such as injuries/bites, infections (e.g. tuberculosis, retroviral infections) and development of allergies. Therefore every researcher handling animals or tissues has to enroll in the Animal Exposure Program of the Occupational Medical Service (Bethesda 301-496-4411; Frederick 301-846-1096). The OMS also provides first aid and post-exposure prophylaxis. At nights and weekends: pager 301-496-1211 (Bethesda). In addition, work using human pathogens or recombinant nucleic acids must be registered in advance with the NIH Institutional Biosafety Committee.

Standard Operating Procedures Detailed and helpful guidelines concerning all aspects of animal research are published online at:

- <http://oacu.od.nih.gov>
- <http://web.ncifcrf.gov/rtp/lasp/intra/>

Training resources (for details see useful links, page 2)

- Mandatory web based initial course for animal users
- Hands-on Workshops & Courses
- Hands-on training by the facility management and veterinarians
- Investigators Handbook and Training DVD

Absolute dos

- Understand and sign the Animal Study Protocol; complete mandatory online courses
- Enroll in the Animal Exposure Program
- Apply disinfection measures and wear personal protective equipment (gloves etc...) which are required at your facility
- Ask for rules or guidelines specifically designed for your facility

Absolute don'ts

- Never import animals without approval from the facility management
- Never introduce biological material (e.g. cells, antibodies, serum, etc...) without MAP/PCR-testing and after specific approval of the material in your Animal Study Proposal
- Never go beyond the limitations of your Animal Study Proposal (e.g., non-approved procedures, handling of animals by individuals who are not on the protocol).

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Acronyms

AAALAC	Association for Assessment and Accreditation of Laboratory Animal Care International
ACUC	Animal Care and Use Committee
ARAC	Animal Research Advisory Committee
ASP	Animal Study Proposal
DOHS	Division of Occupational Health and Safety
MAP/PCR-testing	Mouse Antibody Production/Polymerase Chain Reaction Testing
OACU	Office of Animal Care and Use
USDA	United States Department of Agriculture
OLAW	Office of Laboratory Animal Welfare
PI	Principal Investigator

Useful Links

Mandatory initial course for animal users

<http://oacu.od.nih.gov/training/index.htm>

Optional in depth Training for animal users

- **Bethesda** <http://web.ncifcrf.gov/rtp/lasp/intra/acuc/beth/Training.asp>
- **Frederick** <http://web.ncifcrf.gov/rtp/lasp/intra/acuc/fred/training.asp>

Mandatory online Laboratory Safety Training

<http://www.ors.od.nih.gov/labsafety/>

Working safely with HIV and other blood borne pathogens (online tutorial)

<http://www.ors.od.nih.gov/labsafety/>

NIH Institutional Biosafety Committee

<http://dohs.ors.od.nih.gov/index.htm>

General Regulations, Procedures, Policies at the NIH

<http://oacu.od.nih.gov/>

- **Bethesda**
<http://web.ncifcrf.gov/rtp/lasp/intra/acuc/beth/RegulationsPolicies.asp>
- **Frederick**
http://web.ncifcrf.gov/rtp/lasp/intra/acuc/fred/guidelines_nci.asp

Occupational Medical Service

http://dohs.ors.od.nih.gov/OMS_main.htm

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FAQs

These Frequently Asked Questions were obtained from recently introduced users in a mouse facility on the Bethesda Campus and reflect the most frequent problems of new animal users.

What is the minimum mandatory training for animal users?

- Web based initial course for animal users
- Training video provided by facility management

Note: Make sure to be listed on your Animal Study Proposal (ASP) and registered in the Animal Exposure Program (AEP)

Who do I talk to if I need information?

- Your PI
- The Animal Program Director, facility veterinarian, or facility management

What can be taken in and out the animal facility?

- Biological material (e.g. antibodies, cell lines) must be MAP/PCR-tested (Mouse Antibody Production/Polymerase Chain Reaction). Please check with your supervisor and facility manager
- Import of animals: Do not import animals on your own. The process has to be started by your PI according to NIH guidelines
- All items must be disinfected prior to entering the facility

Which hygiene and personal protection equipment (PPE) is required?

- Wash hands prior to entering and after leaving the facility
- Wear mask, lab coat, hair cover, shoe cover and gloves

Note: Be aware of quarantine periods and hygiene measures between entering two different animal facilities

- e.g. wait 24h hours, take a shower, changes clothes
- Talk to your supervisor or the facility management

After which procedures do you have to change gloves?

- When you touched a potentially infected animal
- When you touched potentially contaminated surfaces
- When touching a dead mouse with signs of autolysis/decay
- When you touched the facility floor

How can I transport mice outside the facility?

- **Which cages?**
 - Use cardboard rodent transport boxes if mice will be euthanized immediately.
 - Use plastic disposable cages if the mice will not be euthanized immediately. Place food and a bottle of water.
- **Which elevators to use?** Only use elevators with sign “animals allowed”

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- **Where can I take them to?** Check your Animal Study Proposal, where is specified to which laboratories animals can be taken to
- **Where do I find empty cages?** Either in the mouse room or in the facility storage room

Note:

- Use the provided large brown paper bags to transport the cages to laboratories outside the animal facility
- **Never remove regular cages from the animal facility**

What entrance do I use?

- If possible, use the side entrance to the CRC Vivarium

Which exit do I use?

- If possible, use the side entrance to the B2 facility
- Never take out mice via the locker room

If animals have to be euthanized, what do I do?

- Sign an lilac X-sticker and place it on the cage
- Place the cage back into the rack and ensure that the mice have access to water and food
- If animals are ill and need immediate attention, notify the facility management

Note:

- **Do not leave cage on the floor**
- **Do not overcrowd the cage with more than five mice**

How do I dispose of dead animals?

- Put them into a plastic bag and put them into the freezer in room B2-3457

What procedures must occur under the hood?

- Please refer to your PI and facility management

And what can be done on a cart?

- Please refer to your PI and facility management

What is required for each cage?

- Cage card providing Animal Study Proposal, number and sex of animals, PI, contact person phone number, information whether moribund animals shall be euthanized and carcasses saved
- Water (Gel immediately after weaning for 7 days)
- Metal rack with food and lid

Note:

- **Clean the surface after each use and then apply a disinfectant appropriate to the hazard and materials you have used**
- **Do not overcrowd the cage with more than 5 mice**

[For comments please contact <http://felcom.od.nih.gov/liasons/index.aspx>]