

University of New England
Animal Users Basic Training

This course is designed with the following specific goals in mind:

- ❖ Provide an explanation of the basic function of the Institutional Animal Care and Use Committee (IACUC).
- ❖ Provide information on the federal regulations in regards to Animal Care and Use
- ❖ Provide training required by the IACUC to enter UNE's animal facilities and handle animals including:
 - Occupational Health Information
 - Animal Husbandry Practices
 - Proper Euthanasia Techniques
 - UNE's Whistleblowing Policy

Institutional
Animal
Care and
Use
Committee

By law, an institutional committee must review all aspects of the animal care and use program. This committee is most commonly referred to as the "Institutional Animal Care and Use Committee", or IACUC. Whether you are performing research or testing on animals, or using animals for teaching, you must receive IACUC approval before any use of animals begins.

The IACUC is responsible for making sure that all federal laws, regulations and policies are followed when investigators perform animal research. They achieve this by:

1. Reviewing and approving animal use protocols submitted by investigators.
2. Monitoring the animal care and use program by conducting thorough reviews of the program and inspections of the animal facilities semiannually.

Federal regulators regard the IACUC as an essential partner in ensuring compliance with animal welfare laws and guidelines. In effect, the IACUC functions as the self-regulating body for animal research on behalf of the institution. Federal inspectors may periodically visit the institution to evaluate the overall animal care and use program.

An effective IACUC protects both the individual investigator and the institution, while inspiring confidence in the general public that animal research is being performed in an ethical manner.

Research utilizing animals is a privilege, not a right. Thus, the IACUC must do its part to make sure that animal research is performed according to the highest standards. By assuring that animal research complies with animal welfare laws and guidelines, the IACUC ensures that animals are not subjected to unnecessary pain and distress.

This also protects both the investigator and the institution. A single incident of serious noncompliance with animal welfare regulation or guidelines can jeopardize the entire institution's privilege of conducting animal research.



The United States Department of Agriculture (USDA)

The first important agency regulating animal research is the Animal and Plant Health Inspection Service (APHIS) of the United States Department of Agriculture (USDA). Congress gave the USDA broad authority to regulate animal research when it passed the Animal Welfare Act. The USDA then established the regulations to enforce the Animal Welfare Act.

These very detailed enforcement documents are known as the Animal Welfare Regulations and take precedence over regulatory documents produced by all other agencies.

The USDA has published an Animal Care Policy Manual that clarifies how some of the language in the Animal Welfare Regulations should be interpreted.

The Animal Welfare Act instructs the Secretary of the USDA to regulate any institution that fits the following criteria:

❖ Purchases or transports live animals in commerce

OR

❖ Receives funds under a grant, award, loan, or contract from a department, agency, or instrumentality of the United States for the purpose of carrying out research, tests, or experiments.

Thus, the scope of the Animal Welfare Act is based upon the authority of the federal government to regulate interstate commerce, and its responsibility to make sure funds provided for animal research and testing are used appropriately.

To what animals do the Animal Welfare Regulations apply?

According to the Animal Welfare Regulations, an animal is defined as:

“Animal means any live or dead dog, cat, non-human primate, guinea pig, hamster, rabbit, or any other warm blooded animal, which is being used, or is intended for use for research, teaching, testing, experimentation, or exhibition purposes, or as a pet.”



This term EXCLUDES: Birds, rats of the genus *Rattus* and mice of the genus *Mus* bred for use in research, and horses not used for research purposes and other farm animals, such as, but not limited to livestock or poultry used or intended for use for improving animal nutrition, breeding, management, or production efficiency, or for improving the quality of food or fiber. With respect to a dog, the term means all dogs, including those used for hunting, security, or breeding purposes."

Federal Mandates



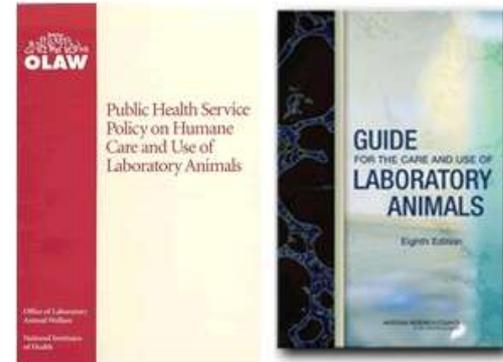
The Public Health Service (PHS)

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The second agency involved in regulating animal use is the Department of Health and Human Services, which is the home of the Public Health Service (PHS). Passed by Congress in 1985, the Health Research Extension Act directed the PHS to provide guidelines for animal research.

The Office of Laboratory Animal Welfare (OLAW) is responsible for monitoring institutional compliance with PHS policy and guidelines. OLAW relies primarily on two documents for judging compliance, both of which are very important to animal research.

The Office of Laboratory Animal Welfare (OLAW) Compliance Documents



The first, fairly brief, document is the:

PHS Policy on Humane Care and Use of Laboratory Animals - The PHS Policy incorporates nine U.S. government principles for the use and care of vertebrate animals in testing, research, and training that must be considered when institutions receive support from U.S. Government agencies.

The second, lengthier document is the:

Guide for the Care and Use of Laboratory Animals (affectionately referred to as the *Guide*).

These two documents together provide important information that is sometimes collectively called "PHS Policy." Compliance with PHS Policy is a required condition for receiving PHS support for activities involving vertebrate animals.

Institutions that accept any PHS agency research funding must agree to follow PHS Policy for animal research. PHS funding agencies include:



National Institutes of Health (NIH)
Centers for Disease Control and Prevention (CDC)
Food and Drug Administration (FDA)

Normally, if an institution does not accept any such funding, it is not subject to PHS guidelines, but many of these institutions not subject to PHS Policy follow it because it strongly promotes effective and ethical animal research programs.



Although not as widely applicable as the Animal Welfare Act and Regulations, PHS Policy covers **ALL** vertebrate species used for research, teaching, and testing. Including all laboratory mice and rats, birds, and animals used for agricultural research.

***** UNE does have PHS funded research conducted on campus and therefore we have to comply with PHS Policy *****

Occupational Health Concerns for Individuals Working with Laboratory Rodents



Zoonotic Diseases

What is a zoonotic disease?

Zoonotic disease: a disease that can be transmitted from animals to humans or from humans to animals.



Examples of Rodent Zoonotic Diseases

Viral

- ❖ LCMV (Lymphocytic Choriomeningitis Virus)
- ❖ Hantavirus

Bacterial

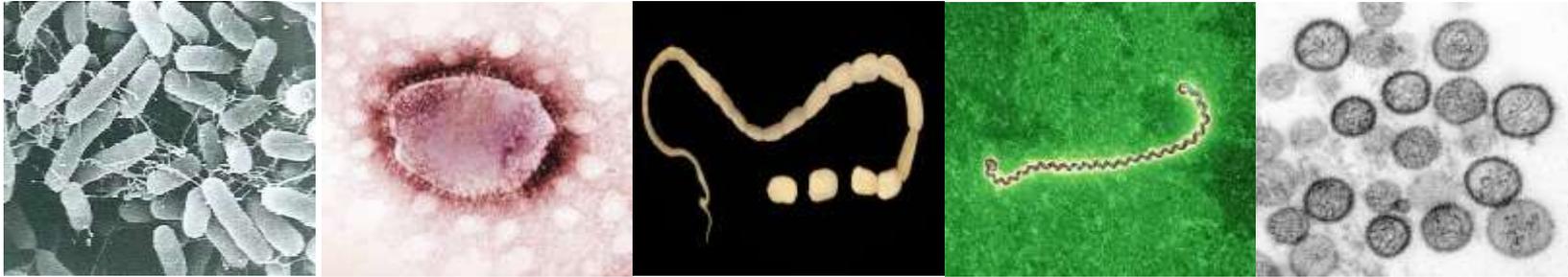
- ❖ Salmonellosis
- ❖ Rat Bite Fever
- ❖ Leptospirosis

Parasites

- ❖ Tape Worms



Potential For Exposure



Due to the use of SPF animals and extensive serological screening of animals, these diseases are typically only encountered in the wild rodent population.

However the potential for introduction into the facility and exposure of animals and humans to these agents does exist.

Basic hygiene precautions and proper use of personal protective equipment while working with laboratory animals is essential to avoiding possible exposure to these diseases.

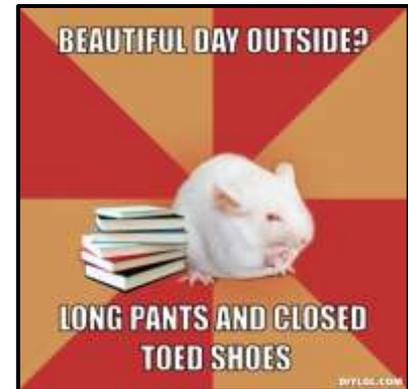
Disease Prevention

Most rodent diseases are carried in the wild population and then inadvertently brought into the laboratory.

The use of Personal Protective Equipment and good hygiene (hand washing) practices are vital to avoiding contracting potential diseases carried within the rodent population.

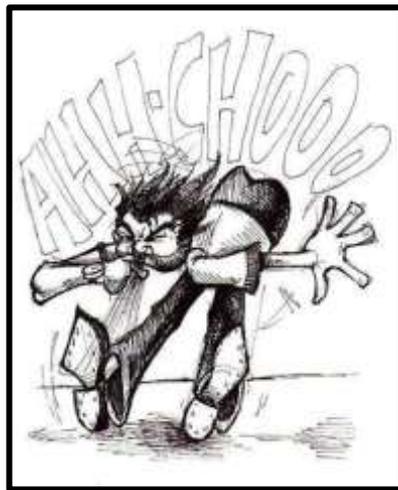
Pregnant women and immunosuppressed people have increased risk associated with the harmful affects of these diseases.

If you should become sick and need to see a physician, be sure that they are aware that you are in contact with laboratory rodents so that this information can be considered when they are formulating a diagnosis.



The Risk of Developing Allergies Related To Working With Rodents

Allergies to laboratory animals poses a significant health risk. An allergy is an exaggerated reaction by the body's immune system. In most laboratory settings the allergy is triggered by proteins in the



animals urine, saliva, and dander. the People that work with laboratory als often develop allergies. It is at approximately 10 – 44% s who work with laboratory develop allergies. Further, an estimated 10% will develop occupational-related asthma.

Allergy Prevention

Good Personal Hygiene



Proper Use of PPE

Gloves

Mask

Lab Coat



Proper Use of Equipment

Hoods

If Allergy Symptoms Develop

1. Dial **602-2298** or **9-1-1** if emergency care is needed
2. If it is a non-emergency and medical treatment is necessary then please seek treatment at 1 of the following:

US Health Works

55 Spring Street
Scarborough, ME 04074
(207) 883-3988

SMMC WorkWell

One Medical Center Drive
Biddeford, ME 04005
(207) 283-7600

Concentra

85 Western Ave. Unit 6,7,8
S. Portland, ME 04106
(207) 774-7751

3. **Complete an Accident Report and turn it in to HR within 24 hours of onset.**

Animal Husbandry

Animals are cared for in accordance with the guidelines established in *the Guide*.

- ❖ All animals are checked on a daily basis.
- ❖ Health status, food, and water levels are all checked at this time.
- ❖ Cages are changed regularly, either weekly or bi-weekly depending on the type of cage.
- ❖ Room temperature and humidity is kept within the acceptable range of 65 – 75°F and 35 – 75% humidity and recorded daily.
- ❖ Air exchanges are in the acceptable range of 10 - 15 air exchanges per hour.



Proper Euthanasia Techniques

All euthanasia MUST be performed in accordance with the AVMA Guidelines on Euthanasia

- ❖ Rodents must be euthanized by trained personnel using appropriate technique, equipment and agents.
- ❖ Death should be induced as painlessly and quickly as possible.
- ❖ Upon completion of the procedure, death must be confirmed by an appropriate method, such as ascertaining cardiac and respiratory arrest or noting an animal's fixed and dilated pupils.

Types of Euthanasia

The various guidelines set up a hierarchy of euthanasia techniques, from most desirable to least desirable:

Most desirable: Nonphysical methods of euthanasia such as carbon dioxide inhalation and barbiturate overdose.

Next: Physical methods used in conjunction with sedation or anesthesia. Examples include exsanguination, decapitation, or cervical dislocation of an anesthetized animal.

Less desirable: Physical methods alone. Examples include exsanguination, decapitation, or cervical dislocation on a conscious animal without sedation or anesthesia. Such methods should not be used unless approved by the IACUC based upon scientific justification.

Use of the Carbon Dioxide Chamber

- 1) Species should not be mixed and the chamber should not be overcrowded.
- 2) The chamber should not be “pre-charged” with CO₂ prior to introducing the animals.
- 3) CO₂ should not be blasted into the chamber, a slow steady flow rate is much less stressful to the animal.
- 4) Place animals in the chamber.
- 5) Fill chamber with CO₂ for approximately 1-2 minutes. It is not necessary (and wasteful) to run CO₂ for longer.
- 6) Animals should remain in the chamber for ~5 minutes to ensure expiration.
- 7) Observe each animal for lack of respiration, lack of heart beat, and faded eye color.
- 8) If not expired, again fill the chamber with CO₂ at a slow steady flow rate. Allow animals to remain in chamber an additional 5 minutes.
- 9) Only after ensuring expiration, animals should be placed in a disposal bag and placed in the freezer.

Reporting Misuse, Mistreatment, or Non-Compliance



UNE INSTITUTIONAL ANIMAL CARE AND USE COMPLIANCE

**If You Have Concerns Regarding the Treatment of any Laboratory Animal in the UNE Facilities
Please Contact ANY of the Following Personnel who are members of the UNE Institutional Animal
Care and Use Committee**

(IACUC, <http://www.une.edu/research/compliance/iacuc/index.cfm>)

ANIMAL FACILITY SUPERVISOR

Jamie Vaughn
Stella Maris, 432b
602-2030
jvaughn@une.edu

CONSULTING VETERINARIAN

Steve Askin
602-6431
saskinvmd@une.edu

DIRECTOR RESEARCH INTEGRITY

William Harrison
Pickus, 108
602-2244
wharrison@une.edu

IACUC CHAIR

James Sulikowski
Marine Science Center, 220
602-2730
jsulikowski@une.edu

Concerns can also be reported to the IACUC Mailbox - iacuc@une.edu

In addition, if for some reason such reports cannot be made through the above listed contacts, concerned individuals may contact:

UNE Chief Compliance Officer

John Tumiel
Hersey Hall 110, UNE Portland Campus
221-4628
jtumiel@une.edu

OR

The Employee Compliance Anonymous Hotline - 1-866-587-6636

***Any concerns reported to the Chief Compliance Officer will be kept anonymous when/where possible, to the extent permitted by law.**

In cases where the identity of the reporter is known, consistent with applicable federal law and state law, including the Maine Whistleblowers Protection Act (Title 26 MRSA, Section 831 et seq.), upon receipt of a good-faith report regarding non-compliance, UNE will assure each individual that they will be fully protected from any action of retaliation or adverse action against them by a UNE employee or supervisor for making a report.