



**Animal Facility SOP 4.2
Hazards in the Animal Facility**

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The purpose of this document is to provide information about the health and safety hazards associated with working with research animals and to summarize basic safety prevention practices.

Hazard Categories

The general hazards associated with the care and use of research animals include:

1. Bites, scratches
2. Allergens
3. Zoonoses
4. Protocol Related Hazards
5. General Safety Hazards

1. Bites and scratches

Bites and scratches are ever-present hazards associated with research animal contact and work with related equipment. Species-specific animal handling techniques are taught by the Laboratory Animal Care Unit veterinary staff and the animal facility management staff. If possible, direct handling of wild animals or any animals suspected of being infected will be avoided and the appropriate personnel (Animal Control) will be contacted. Animals known to be aggressive should always be handled by a minimum of two people.

Immediate Care For minor injuries involving rodent bites:

- Laboratory bred rodents are free of zoonotic disease. However secondary bacterial infection is possible. Let the wound slightly bleed under running water and gently scrub with a surgical sponge and antiseptic soap from the first aid kit..
- If material is splashed into eyes or face, activate eyewash and rinse thoroughly.

First -Aid Kits

First-Aid kits are located on the counter near the sink in each animal or in a visible place in each work room. The facility director or their designee is responsible for maintaining the first-aid kit and checking the contents' expiration dates.

First-Aid kit contents must include:

- Surgical scrubs impregnated with antiseptic soap
- Sterile gauze pads
- Adhesive tape
- Band-aids
- Topical antibiotic ointment

Get medical attention at a health facility as described above and notify your supervisor and the animal facility manager. [Incident reporting process](#).

2. Allergens

One of the most common health risks in the research animal setting is allergic reaction to lab animals. It is estimated that anywhere from 10% to 44% of animal care workers will develop allergic symptoms to the animals. In addition, an estimated 10% of workers will eventually develop occupation-related asthma. The risk of developing an allergy depends on many factors such as animal species contact, facility and ventilation design, and the employee's personal health status. For example, individuals with certain respiratory conditions or pre-existing allergies may be at higher risk of developing lab animal allergies and/or experiencing more severe allergic reactions. Allergen exposure is cumulative. Increasing exposure can result in individuals developing allergies. Therefore, it is important to minimize exposure.

Symptoms of allergic reaction may vary and can include any of the following:

- Contact urticaria with symptoms such as skin redness, itchiness, welts or "hives"
- Allergic conjunctivitis with symptoms such as sneezing, eye itchiness, clear nasal drainage, or nasal congestion
- Allergic rhinitis with symptoms such as sneezing, nose itchiness, clear nasal drainage, nasal congestion
- Asthma with symptoms such as cough, wheezing, chest tightness, or shortness of breath
- Anaphylaxis with symptoms such as generalized itching, hives, throat tightness, eye or lip swelling, difficulty swallowing, hoarseness, shortness of breath, dizziness, fainting, nausea, vomiting, abdominal cramps, diarrhea

The most effective way to control and prevent allergies is to minimize exposure to the allergens by the use of:

- Engineering controls, such as biosafety cabinets or downdraft tables.
- Personal protective equipment, such gloves, gowns, hair/shoe covers, N95 respirator masks, and safety goggles.
- Work practices, such as opening cages in biosafety cabinets, handwashing/showering after handling animals, and keeping cages/work areas clean.

If you have animal allergies or think you may be at risk of developing allergies as a result of working with animals, you should contact your health care provider and/or the Environmental Health & Safety to get advice about the best methods to use to protect yourself.

3. Zoonoses

Zoonoses are any infectious diseases that can be transmitted from animals to humans. Our laboratory houses rodents, and aquatic invertebrates. Laboratory-bred mice and rats are free of the zoonoses that are common in wild rodents. However, bites and scratches can result in bacterial infections and personnel who are exposed should seek medical attention. Aquatic invertebrates can be infected with mycobacteria species that can cause dermal lesions and . gloves must be worn when working with these organisms.

If you are exposed through a bite, scratch, needle stick, aerosol droplet, mucosal secretion, feces or urine, you should immediately notify your supervisor or Principal Investigator and seek medical evaluation.

4. Protocol Related Hazards

Research protocols can introduce chemicals, biologic agents, flammable substances, or radioactive materials into animals, which then can enter the hazardous waste stream of the animal facility. Protocol-related hazards are protocol-specific and protocols are reviewed by an environmental health and safety representative on the Animal Care and Use Committee. When significant hazards are identified, a safety consideration meeting is required with the staff who will be handling animals that are part of the specific protocol.

5. General Safety Hazards

There are general physical hazards that can be present in any work environment, including animal research work areas. The general safety hazards include:

- Ergonomic hazards caused by tasks that require repetitive motion, lifting, or awkward body postures.
- Slip, trip and fall hazards caused by various work processes, lighting requirements, housekeeping practices.
- Sharp injury hazards caused by needles, broken glass, pipettes, scalpels, etc.
- Flammable material hazards caused by improper use or storage of flammable hazards
- Pressure vessel hazards related to compressed gas cylinders, autoclaves, high-pressure washing equipment, etc. Equipment should be properly secured and maintained.
- Electrical hazards related to the use of various electrical equipment can be minimized by proper maintenance, engineering controls (ground-fault interrupters).
- Ultraviolet radiation and Laser hazards require appropriate engineering controls (e.g., shielding, interlocking devices) and/or personal protective equipment. Special training is required for work involving lasers.

- Machinery hazards may include pinch, nip or crush points related to moving parts. It is important to be trained on equipment use and follow safe work practices, including use of guarding.
- Noise hazards can result from animals, from equipment such as cage washers. If acceptable noise levels cannot be achieved with engineering controls, administrative controls (e.g., time limits) or personal protective equipment (hearing protection) will be required.
- Chemical hazards related to the use of disinfectants, pesticides, anesthetic gases, and tissue preservatives, as well as protocol-related use of chemicals. Another source of chemical hazards is the disposal of bedding and other waste materials from experimental procedures.

Hazard Control

The occupational health and safety program provides guidelines designed to protect employees from the hazards associated with the care and use of research animals. However, the primary responsibility for maintaining good health and safety lies with each individual. Personnel should always follow safety guidelines and exercise common sense. In general, a risk assessment identifies the potential hazards and level of risk. Once risks are identified, measures are planned and implemented to minimize or eliminate the risks. The SOP's linked below apply to those working with laboratory animals.

[Occupational Health and Safety Plan](#)

[Training Requirements](#)

[Personal Protective Equipment](#)

[Animal Facility Access](#)

[General Emergency Procedures](#)