

Creighton University
Institutional Animal Care and Use Committee
Animal Resource Facility

**ANIMAL OCCUPATIONAL HEALTH AND SAFETY
PROGRAM**

Creighton
UNIVERSITY

Institutional Animal Care and Use Committee
<http://www2.creighton.edu/researchcompliance/iacuc/aohsp/index.php>
Office of Grants Administration
2500 California Plaza
Omaha, NE 68178

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APPENDIX A

Acknowledgement Form for Receipt of the AOHS Program

also see:

<http://www2.creighton.edu/researchcompliance/iacuc/aohsp/index.php>

APPENDIX B

Zoonotic Disease Descriptions

also see:

<http://www2.creighton.edu/researchcompliance/iacuc/aohsp/index.php>

APPENDIX C

Animal Resource Facility Gowning and De-Gowning Fact Sheet

also see:

<http://www2.creighton.edu/researchcompliance/iacuc/aohsp/index.php>

APPENDIX D

Medical Questionnaire Form for Animal Exposure Risk Assessment

also see: <http://www2.creighton.edu/researchcompliance/iacuc/aohsp/index.php>

1.0 Animal Occupational Health and Safety Program

Creighton University's Animal Occupational Health and Safety (AOHS) Program identifies risks and risk reduction measures for individuals who use or have exposure to animals in research or teaching at Creighton University. Risk assessment takes into consideration the animal species involved, the frequency of contact, potential exposure to hazardous agents, and performance of potentially hazardous tasks. The program is designed to prevent unnecessary hazards for those working with or around animals, and is a supplement to routine personal hygiene techniques and routine use of appropriate protective clothing/equipment.

2.0 Program Participation

All University personnel who work with or around animals, including direct contact with animals, animal tissue, or animal caging or living quarters are subject to this Animal Occupational Health and Safety Program (AOHS) (collectively, “Participants”). Participants include animal caretakers, principal investigators, technicians, students, post-docs, IACUC members, Research and Compliance personnel directly involved with the IACUC. Students who are only using animals in a classroom setting are not subject to the AOHS Program, but the faculty member responsible for these interactions should provide information to the students regarding any health considerations associated with the species to which they will be exposed.

3.0 Components of the Program

3.1 ANIMAL OCCUPATIONAL HEALTH AND SAFETY PROGRAM GUIDELINES

As part of the initial education and training components all participants have access to and are required to read the AOHS Program which provides education regarding precautions to be taken during pregnancy, illness, or decreased immunocompetence. The AOHS Program also provides information on allergies to laboratory animals. As part of the IACUC training, all Participants are required to sign the Acknowledgement Form for Receipt which acknowledges they have read and understand the AOHS Program, Zoonotic Disease Descriptions, ARF Gowning and De-Gowning Fact Sheet, and the Medical Questionnaire Form for Animal Exposure Risk Assessment. The acknowledgement form also notifies participants who do not understand the contents of these documents that it is their responsibility to ask questions and get the needed information from either a university health care provider or their own personal physician. It also acknowledges that while Creighton University complies with all applicable health and safety laws and regulations and has implemented programs to protect and preserve their health and safety they are responsible for taking reasonable actions for their own health and safety. Furthermore it acknowledges that Creighton University has provided them with access to these documents to assist in protecting and preserving their health and safety.

Investigators are responsible for providing all new research staff with access to the AOHS Program. The ARF Manager is responsible for providing the AOHS Program to all new facility personnel and non-research related individuals who will have access to the facility. All Participants must complete the AOHS requirements and sign the Acknowledgement Form for Receipt of access to the AOHS Program) and return it to the Research Compliance/IACUC Office in order to be approved to begin work on an IACUC protocol or be granted access to the ARF and/or other locations where animals are housed.

The Research Compliance/IACUC Office maintains a database of all Participants and the date that the Acknowledgement Form was submitted to the Research Compliance/IACUC Office.

3.2 MEDICAL QUESTIONNAIRE FORM FOR ANIMAL EXPOSURE RISK ASSESSMENT

The AOHS Program includes a mandatory Medical Questionnaire Form for Animal Exposure Risk Assessment (the “Medical Questionnaire”). The purpose of the Medical Questionnaire is to identify individuals who may be at risk for development of injuries, zoonotic diseases or animal allergies to help identify appropriate education, counseling, and

preventative measures to reduce these risks. A Participant must complete and submit his or her initial Medical Questionnaire to the Occupational Health Monitor along with the Acknowledgement Form upon initial receipt of access to the AOHS Program. An individual who refuses to complete the Medical Questionnaire will not be permitted to work with animals. An individual at high risk who refuses safety measures may be prevented from working in environments that pose a risk.

Due to the ever changing body of knowledge regarding zoonotic diseases and risks associated with working with animals, all Participants will be required to update the Medical Questionnaire annually. Failure to update information annually will result in an individual being unable to work with research animals. In some instances, individuals may be evaluated more frequently based on physician recommendation. The Occupational Health Monitor will send out forms for the annual update to each Participant.

The Medical Questionnaire will be reviewed in a confidential manner by an occupational health specialist and recommendations will be made to the Participant with respect to additional physician evaluation, training and/or immunization as necessary.

The Medical Questionnaire and the AOHS Program are not intended to provide a substitute for standard medical care. All participants should inform their primary care physicians of job responsibilities involving animals.

4.0 Personal Hygiene/Personal Protection

4.1 PERSONAL HYGIENE

The most effective means of reducing the potential of exposure to zoonotic agents and other infectious materials is hand washing. Participants should wash their hands immediately before beginning work; upon leaving for breaks, meals or restrooms; when returning to work; after handling animals, their tissue or fluids; and at the end of the day. Participants should treat all animals, their tissue and fluids as if they were infected with pathogens. Participants should avoid working with animals when they are ill, especially if the Participant has respiratory (breathing) problems. Showers are available for ARF staff.

Food and beverages are prohibited in laboratory animal quarters and other areas where laboratory animals or hazardous agents (including chemicals, radioactive materials) are used. Participants must not handle contact lenses or apply cosmetics in any room or laboratory where animals or hazardous agents are used. Smoking is not allowed in any animal room, laboratory or hallway. Participants should avoid touching their eyes, mouth or nose after handling animals until after washing their hands. Additional information on personal hygiene in the laboratory setting can be found in the Environmental Health and Safety *Investigators' Manual for Laboratory Safety*.

4.2 PERSONAL PROTECTIVE CLOTHING

Individuals working with or around animals at Creighton University are provided with appropriate personal protective clothing. The type of protective clothing/equipment required is determined by the protocol. Such protective clothing includes, but is not limited to, lab coat or gown, gloves (latex or vinyl), mask, head cover, shoe covers and/or eye protection. Chemical respirators and safety eyewear are available from the ARF.

Personal protective equipment (PPE), supplied by Creighton University, should always be worn in an animal room. All gowning materials must be removed when exiting an animal room. Shoe covers must be removed *immediately after* stepping out of the room and *before* walking down the hallway. All other gowning materials must be removed at the nearest hallway trash receptacle. Personnel DO NOT enter any other room, including the clean cage storage room, wearing dirty gowning materials. Personnel DO NOT re-enter any animal room, for any reason, without first donning fresh gowning materials. For Quarantine or Housing Areas with Biohazards under special housing conditions, including Quarantine Areas and rooms where hazardous materials and/or pathogens are being administered, slightly different de-gowning procedures are required to assure that potential pathogens do not contaminate the common hallway. All gowning materials must be removed *prior to* exiting, immediately inside the door to the room. Animal restraint devices are also available for certain species to provide an extra measure of safety when handling animals. Other protective clothing, as required, is also available. The Gowning and De-Gowning Fact Sheet, which outlines the appropriate protocol for entering animal rooms, can be found in Appendix

C. Animal restraint devices are also available for certain species to provide an extra measure of safety when handling animals.

Additional information can be found at Environmental Health and Safety website at: <http://www2.creighton.edu/adminfinance/facilities/ehs/index.php>

4.3 ENVIRONMENTAL HEALTH AND SAFETY

From an Environmental Health and Safety perspective, the ARF is a continuum of laboratory space, and laboratory requirements are enforced in the ARF. All individuals should be aware of potential pathogens as well as any other biohazardous materials involved in their animal work. It is the responsibility of the Principal Investigator to inform all students and staff members of these laboratory-specific hazards; in addition, a notice of biohazard use is posted on the animal room and laboratory doors. Laboratory safety training is required annually in accordance with OSHA regulations. Every person who works in a lab needs to attend Lab Safety Training once per calendar year. This list includes, but is not limited to, faculty, staff, graduate students, work studies, undergraduates and anyone who will be entering a lab space, including custodial staff, public safety staff, volunteers, etc.

4.4 SHARPS HANDLING AND DISPOSAL

Sharps, such as needles and scalpels, are a risk to personnel if handled or disposed of improperly. Sharps may be contaminated with animal blood or body fluids, hazardous agents or unknown substances and therefore must be handled appropriately and disposed of in the appropriately marked sharps container. **Sharps are not to be recapped prior to disposal in an approved container.** It is safest to assume that any sharp is a potential hazard. Additional information can be found in the Environmental Health and Safety *Investigators' Manual for Laboratory Safety*.

4.5 REPORTING UNSAFE CONDITIONS

Employees/students must inform either their supervisor or the manager of the ARF of any potentially unsafe situation, including equipment that is in need of repair.

5.0 Vaccinations and Immunizations

5.1 TETANUS

All Participants are required to have a current tetanus vaccination, as puncture wounds or bites may put an individual at risk for infection. Tetanus vaccination is highly effective provided revaccination occurs every ten years.

5.2 RABIES PROPHYLAXIS

All dogs and cats used at Creighton University are procured from a Class A facility and therefore have had rabies vaccinations. This decreases the risk of human exposure significantly. In the event a Participant suffers an injury from another species, the Attending Veterinarian will be contacted to determine if the treating physician should consider rabies prophylaxis.

5.3 TOXOPLASMOSIS TESTING

Toxoplasmosis testing is available upon request for any woman of childbearing age who will be working with cats. Pregnant women are encouraged to discuss with their primary care physician the appropriate measures to take to prevent exposure to infection by *Toxoplasma gondii* (see section 6.2 and Zoonotic Disease Descriptions in Appendix B).

5.4 OTHER VACCINATION REQUIREMENTS

The Principal Investigator/Supervisor, after consultation with the Attending Veterinarian and an occupational health specialist or licensed physician, is responsible for determining the need for additional vaccinations/immunizations depending on the species and risks involved in a protocol. Participants may refuse such additional recommended vaccinations/immunizations, but such Participants will be required to sign a waiver indicating knowledge of the risks but refusal of the additional vaccination(s)/immunization(s).

6.0 Allergies

Some people develop allergies to the animals with which they work. Some studies have shown that from 10% to 44% of individuals who work with animals have animal allergies. Participants who are allergic to a species with which they work can suffer significant health risks.

Allergic individuals may display any of a number of symptoms including allergic rhinitis (a condition characterized by runny nose and sneezing similar to hay fever), allergic conjunctivitis (irritation and tearing of the eyes), asthma (characterized by wheezing and shortness of breath), or contact dermatitis (a red, bumpy rash that may appear where the skin touches the animal). Individuals usually develop symptoms over a period of exposure of 1-2 years. It is estimated that occupation-related asthma arises in 10% of persons with allergic disease who work with laboratory animals. Occupation-related asthma may cause symptoms while the individual is exposed to the animals but can also lead to chronic symptoms (lasting months or years) after exposure ceases.

Individuals who work with animals may be allergic to any animal species. The allergens are proteins that are excreted in the animals' saliva, urine, and from various glands associated with the skin. The proteins become associated with the animal's hair and dander. The allergens are unique to each species of animal, so it is possible to be allergic to mice and not to rats and vice versa. It is also possible to be allergic to multiple species. A person who is already allergic to one allergen (animal or otherwise) has a greater chance of becoming allergic to a new allergen than a person who has no allergies at all.

An individual could potentially be allergic to almost any animal. The animals most commonly associated with workplace allergies are mice and rats (the most common laboratory animals). Individuals may also be allergic to rabbits, cats, guinea pigs, dogs, horses, and even cattle and pigs.

Those who work with animals should be aware of the signs and symptoms of animal allergies. Allergies can often be managed by a combination of medical management and workplace strategies. Participants with potential allergy symptoms should consult with a physician to determine the cause of the allergy in order to manage it effectively and to determine its effect on current and future health.

7.0 Zoonotic Disease Descriptions (Diseases Transmitted to Humans from Animals)

A zoonotic disease is any disease that may be transmitted from an animal to a human under natural conditions. Zoonotic diseases pose risks to Creighton University personnel who work with or around animals. Some of these diseases pose significant health consequences. Familiar zoonotic diseases include rabies and ringworm.

The most common means of transmission of a zoonotic disease is by inhalation or animal contact. Transmission of zoonotic diseases can be prevented through a variety of means, including use of protective clothing, prevention of bites and scratches, proper sharps handling procedures, medical surveillance and vaccination programs and post-injury treatment.

This section focuses on zoonotic diseases associated with animals used at Creighton University, including general methods to prevent disease transfer from animals to humans, animal bite and scratch procedures, and specific diseases associated with animals commonly used at Creighton University. It is the responsibility of the Principal Investigator to educate their staff on zoonotic diseases of the animals that they are using in their research or teaching activities.

While most animals at Creighton University are free of zoonotic diseases, it is important to be aware of pathogenic organisms that may be carried by animals commonly used at Creighton University. Additional information about specific types of animals and their associated disease conditions may be obtained from the Attending Veterinarian.

7.1 BITES AND SCRATCHES

Using appropriate techniques when handling animals, their tissues, or their cages and the use of appropriate protective clothing can reduce the risk of animal bites or scratches.

Participants must report all animal bites or scratches (regardless of whether medical treatment is required) on the *Creighton University Incident Report Form (HR-24)* and file it with Risk Management. All injuries are to be reported even if medical treatment is not required. The Participant must also report any animal bite or scratch to his or her supervisor. If the injury is a dog or cat bite, the ARF Manager must be notified as soon as possible. For injuries from other species, the Attending Veterinarian will be contacted to determine if the treating physician should consider rabies prophylaxis.

Animal bites or scratches received by Creighton University personnel should immediately be washed with soap and water. All animals have bacteria in their mouths and under their claws, which can cause infection if a scratch or bite is not cleaned immediately. If further medical attention is needed, follow the procedures outlined in section 10.0.

7.2 SPECIES-SPECIFIC ZOOONOTIC DISEASES

A more complete description of Zoonotic Disease Descriptions is located in Appendix B.

7.2.1 Dogs, Cats, Wild Animals

Toxoplasmosis – This is a protozoal infection of cats. Humans with regular contact with cats may also be infected. In healthy individuals, a mild disease characterized by swollen lymph nodes is typical. However, pregnant women are at risk for developing a systemic disease that may infect the fetus and cause severe central nervous system problems. Women who are pregnant should not work with cats.

7.2.2 Sheep, Goats

Q-Fever – This is a rickettsial disease of wild and domestic animals. In our facility, goats and sheep are the species most likely to be infected. There is no reliable test to determine which animals are infected, thus all sheep and goats should be considered positive for the organism. This causes a serious (and sometimes fatal) disease in humans. Individuals may become infected by inhalation or ingesting the pathogen or by contact with infected tissues. Individuals who are pregnant, immunocompromised or have endocarditis should not work with sheep or goats.

7.2.3 Rodents

LCMV – Lymphocytic choriomeningitis virus (LCMV) is a disease that can be transmitted from wild mice to lab animals. The virus is found in feces, urine, blood and nasal secretions. Human disease is characterized by stiff neck, fever and muscle strain. Individuals working with rodents should wear protective gloves. Bite-proof gloves should be used if a person is handling wild rodents.

Rat Bite Fever – This is caused by bacteria found in the mouths of rats. Fever and inflammation at the site of injury and the lymph nodes are typical. Some individuals may develop arthritis, pneumonia, hepatitis, enteritis and/or endocarditis.

Hantavirus – This virus is found in wild rodents and is found in the urine, feces and saliva. Humans typically become infected via aerosol transmission, but bites may also serve as a source of infection. Human infection with hantavirus may appear initially to be flu-like in nature, but may progress to death. Individuals handling wild mice or disturbing their habitats should wear protective gloves and N95 masks.

8.0 Chemicals and Other Hazardous Materials including Radiation

Personnel who may be potentially exposed to chemicals and hazardous agents (for example, toxic chemicals, infectious agents, and radiation) will be provided personal protective clothing/equipment appropriate to the agents. The Principal Investigator is responsible for informing his/her staff of the type of personal protective clothing/equipment that must be used with respect to any hazardous agents involved in a research or teaching activity. Information can be found in the Occupational Safety and Health Association (OSHA) Hazard Communication Standard, 29 CFR 1910.1200 as well as in the Material Safety Data Sheet (MSDS) for each chemical used at Creighton University.

8.1 CHEMICALS

Potentially hazardous chemicals in the animal laboratory and care rooms may be found in disinfectants, cleaning agents, pesticides and in feed and/or bedding waste. Chemical hazards may be flammable, corrosive, reactive, explosive or toxic. Burns and skin irritations are the most common chemical injuries. Other injuries can result from inhaling corrosive chemical vapors. The best means of reducing risk is to wear the required appropriate protective clothing/equipment, including gloves and masks, and to wash hands after handling any chemicals. Fume hoods should be used when handling toxic chemicals.

8.2 OTHER HAZARDOUS MATERIALS

Certain precautions and/or approvals are required for the following materials:

- **Radiation** – Contact the Radiation Safety Office for appropriate forms and approval.
- **Infectious Materials, and Recombinant DNA** – Contact the Institutional Biosafety Office for appropriate registration forms
- **Hazardous Anesthetics** – All gas anesthetics should be used with appropriate waste gas scavenging systems. Urethane is a carcinogen and should only be handled in a fume hood using gloves.

8.3 MONITORING

Materials used for euthanasia of animals are controlled substances; therefore, federal drug rules (Controlled Substances Act, 21 U.S.C. §801 et. seq.; 21 CFR §1300 et. seq.) apply for their use, storage and disposal.

9.0 Physical Hazards

Individuals are advised of any physical hazards and methods that reduce the risk of injury through Environmental Health and Safety training; such as, handling of cages, pens and other equipment could cause cuts or scratches. Other physical hazards include electrical hazards (especially in areas of water usage), machinery, noise, exposure to extreme temperatures (for example, hot water) and ergonomic demands (for example, lifting or moving heavy or odd shaped objects).

10.0 Report of Injuries and Medical Attention

Participants must report all animal bites or scratches (regardless of whether medical treatment is required) on the *Creighton University Incident Report Form (HR-24)* and file it with Risk Management. All injuries are to be reported even if medical treatment is not required. The Participant must also report any animal bite or scratch to his or her supervisor. If the injury is a dog or cat bite, the ARF Manager must be notified as soon as possible. For injuries from other species, the Attending Veterinarian will be contacted to determine if the treating physician should consider rabies prophylaxis. . If the injury is life-threatening, serious or was inflicted by a dog, cat or reptile, the injured person must seek medical attention. For all other injuries, the injured person is responsible to decide whether or not to seek further medical attention. People who are immunocompromised are to have the wound checked by a physician due to a greater chance of developing serious complications. Creighton has three ways treatment can be provided. If it is a severe injury they are advised to go to the nearest emergency room. Nebraska is a “Choice of Physician” state, which entitles a person to see any physician of their choosing. Creighton also contracts with an occupation health clinic. If an employee suffers a life threatening injury, the employee, supervisor or a co-worker are to call Public Safety. Employees with life threatening injuries are advised to receive care through appropriate emergency medical services. Participants are advised to seek treatment for any serious injury at the nearest emergency room using emergency medical services as appropriate.

If the injury is life-threatening, serious or was inflicted by a dog, cat or reptile, the injured person must seek medical attention. For all other injuries, the injured person should decide whether or not to seek further medical attention. Examples of wounds that may require medical attention are deep punctures or those near a joint. People who are immunocompromised should have the wound checked by a physician due to a greater chance of developing serious complications.

If an employee suffers a life threatening injury, the employee, supervisor or a co-worker should call Public Safety at 402-280-2911. Employees with life threatening injuries should receive care through appropriate emergency medical services.

Treatment for any serious injury should be sought at the nearest emergency room using emergency medical services as appropriate.

Employees seeking medical treatment for a non-serious injury during business hours should go to:

Concentra
2900 F Street
Omaha, NE 68107

Treatment for any non-serious injury outside business hours (including weekends or holidays) should be sought at the nearest emergency room.

Students seeking medical treatment for a non-serious injury during business hours should go to Student Health. At all other times or for a serious injury, treatment should be sought at the nearest emergency room, using emergency medical services as appropriate.

Contract personnel should seek routine medical treatment for injuries according to their employer's policies and procedures.

11.0 Education and Training

Each individual working with or around animals is responsible for ensuring that they are fully aware of the training procedures set forth in this AOHS Program and of any potential hazards involved in their work, including how to recognize, prevent, and treat occupational hazards. The individual may seek input from the Principal Investigator, Attending Veterinarian, and Environmental Health and Safety Officer in meeting this responsibility.

Participants who are required to obtain and maintain certification with the IACUC will receive training on animal occupational health and safety as part of their initial training and with recertification as may be required by IACUC policies and procedures.