

If you have any questions on the information presented in this booklet, contact:

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**Institutional Animal Care and Use Committee**  
607 253-3516  
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For more information on the Animal Users Health and Safety Program (AUHSP), see our web site at:  
www.ehs.cornell.edu/AUHSP/



**Radiation**

Radiation is a hazard for those exposed to X rays, gamma rays, or radioactive isotopes. Appropriate training and the use of personal protective equipment are required. Before using radioactive materials in animal facilities, or if an accidental exposure occurs, contact The Office of Radiation Safety of EH&S ([www.ehs.cornell.edu/radjump.htm](http://www.ehs.cornell.edu/radjump.htm)).

**Sharps**

Sharps pose a risk for personnel working with animals. Special care is needed when using needles and scalpel blades to avoid injuries. Puncture-resistant, leak-proof disposal containers need to be available wherever sharps are used. For recommendations on the safe handling and disposal of sharps, see SOP 711 Sharps Precautions ([www.research.cornell.edu/care/documents/SOPs/CARE711.pdf](http://www.research.cornell.edu/care/documents/SOPs/CARE711.pdf)).



**Special Recommendations For Those Whose Health is Compromised**

Individuals with some medical conditions may be at an increased risk if exposed to infectious agents. Some examples of these conditions include immunosuppression; pregnancy; chronic liver, respiratory, or kidney disease; and heart problems. Those with compromised health should notify Gannett or their personal-care physician before they work with animals. Physicians should be encouraged to consult with personnel of the Occupational Medicine Office at Gannett about specific risks.

**Zoonotic Diseases**

Unless experimentally infected with a zoonotic agent—a disease agent that can be transferred from animal to man—research animals generally carry a limited number of infectious



microorganisms of concern to animal users. This is mainly due to the existence of preventative medicine programs and the frequent use of specific pathogen-free animals in research projects. Although small, the risk of infection between research animals and humans does exist and must be recognized to avoid exposure. For example; dogs or cats may shed *Giardia* in their feces, rodents may naturally carry a bacteria that causes rat-bite fever in humans, wild-caught mammals may be infected with the rabies virus, and *Salmonella* could be shed by a number of domestic and wild species, from reptiles to cows. For more information, see [www.ehs.cornell.edu/AUHSP/lass.htm](http://www.ehs.cornell.edu/AUHSP/lass.htm).

Zoonotic agents generally pose a higher risk to immunosuppressed people, pregnant women, children, and the elderly. Special care must be taken to avoid contact between vulnerable people and infectious agents of animal origin.

**Biohazards**

Research projects may involve the use of biohazardous agents as part of their study design. Areas where biohazardous agents are used must be appropriately labeled. Specific recommendations and restrictions must be clearly posted and enforced at all times. Projects using biohazardous pathogens must undergo additional review by the Institutional Biosafety Committee ([www.osp.cornell.edu/Compliance/IBC.html](http://www.osp.cornell.edu/Compliance/IBC.html)). This committee reviews the details of the study and evaluates the precautions needed to minimize the risk for all involved in the project. The purpose of the evaluation is to ensure that infectious agents are used safely and conform to existing standards published by the Centers for Disease Control and the National Institutes of Health. The fourth (1999) edition of *Biosafety in Microbiological and Biomedical Laboratories* is available in .pdf format online at [www.cdc.gov/od/ohs/pdffiles/4th%20BMBL.pdf](http://www.cdc.gov/od/ohs/pdffiles/4th%20BMBL.pdf).



Photos: Alexis Wenski-Roberts, University Photography, Shaiphoto.com, Corbis, PhotoAlto, and PhotoDisc.  
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Printed on recycled paper. 1/06 2.5M SL 050119A

**Introduction**

Cornell University's Animal Users Health and Safety Program (AUHSP) evaluates the human-health risks associated with direct and indirect contact with animals used in research and teaching at Cornell. The objective of the program is to ensure that health risks for every individual are managed to an acceptable level.

Responsibility for the AUHSP is shared by the Institutional Animal Care and Use Committee (IACUC), the Cornell Center for Animal Resources and Education (CARE), Gannett Health Services, and the Department of Environmental Health and Safety (EH&S). The AUHSP Coordinating Committee, composed of the directors of the four participating units, administers the program. This committee establishes policies and procedures that ensure the occupational health and safety of animal users and other individuals having direct and indirect contact with animals used in research and teaching at Cornell.

**Regulatory Requirements\***

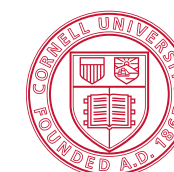
"The [U.S.] Public Health Service Policy through the *Guide for the Care and Use of Laboratory Animals* requires that 'An occupational health and safety program must be part of the overall animal care and use program.' It also suggests that 'An effective program relies on strong administrative support and interactions among several institutional functions or activities, including the research program, the animal care and use program, the environmental health and safety program, occupational-health services, and administration.'

*Occupational Health and Safety in the Care and Use of Research Animals* (NRC, 1997), defines that the main goal of an occupational health and safety program is to prevent occupational injury and illness by the control of hazards and the reduction of risks."

**Participants**

- animal-care staff members, and all CARE veterinarians and veterinary technicians
- people named to animal protocols (including visiting scholars and undergraduate students)
- students enrolled in classes that use vertebrate animals
- IACUC members
- Cornell employees having no direct contact with and no responsibilities related to animals, but who as part of their job duties work in animal-housing facilities or animal-procedure rooms (e.g., those working in laboratories/procedure rooms where others are using animals, custodial staff, building maintenance staff, Cornell shops personnel)
- outside contractors working in animal-housing facilities
- volunteers working with animals
- visitors to animal housing facilities

\*from Cornell University Policy 1.4 *Care and Use of Animals in Research and Teaching*



Cornell University

## AUHSP Components

### Hazard Identification

- The AUHSP Working Group includes the Biosafety Officer from EH&S, an occupational medicine professional from Gannett, and a CARE veterinarian. The group holds monthly meetings to evaluate all *Protocols for the Use of Vertebrate Animals* and *Animal Use Protocol Minor Amendments* submitted for IACUC approval, to identify occupational health and safety concerns.
- Facility inspections are conducted by facility managers, EH&S, CARE, and IACUC members.
- Review of animal disease and surveillance by CARE veterinarians.
- Review of the *Risk Assessment Form* by an EH&S professional and/or of the *AUHSP Medical Evaluation Form* by a Gannett practitioner, medical evaluation of personnel, if indicated, and the evaluation of accident reports submitted by individuals working with animals.

### Risk Assessment

- Health risks associated with participation in a specific research project are assessed at the time of protocol review by the IACUC. The AUHSP Working Group discusses each individual protocol, assigns a risk level, and provides specific recommendations. The IACUC is informed of the results of these deliberations and shares this information with the project's principal investigators as part of the correspondence associated with the approval process.
- Personal-health risk is assessed through the review of the *Risk Assessment Form (RAF)* and/or the *Medical Evaluation Form (MEF)*. The RAF must be completed by all individuals who are listed in low-risk protocols and by those who have indirect animal contact, excluding both visitors and students who have animal contact through classroom activities. Once completed, the form is reviewed by the Occupational Health and Safety Office of EH&S. If human-health concerns are identified, the information is forwarded to the Occupational Medicine Office of Gannett, and the individual is asked to submit an *AUHSP Medical Evaluation Form*. Personnel listed in protocols assigned to the moderate- or high-risk level, as well as all animal-care staff members, must submit a MEF to the Occupational Medicine Office at Gannett. Occupational-medicine professionals at Gannett review the MEF and offer specific recommendations for each individual regarding preventive medicine programs, safe work practices, and/or the need for additional training, tests, or treatment.



Visitors to animal facilities must comply with the Animal Facility Visitation section of Cornell University Policy 1.4 *Care and Use of Animals in Research and Teaching*. The animal-facility manager, or designee, must meet with the visitors to provide information on potential risks associated with access to each animal facility. Visitors should contact Gannett's Occupational Medicine Office or their personal health-care provider before entering an animal facility if they have any medical conditions (e.g., if they are immunocompromised or pregnant, or have allergies) that may increase their risk. Visitors may only have indirect contact with animals and must be accompanied at all times—while in the animal facility—by the animal-facility manager or designee.

Students enrolled in classes that use vertebrate animals will be provided with an introduction to the care and use of animals. This overview includes information on the IACUC, regulations governing animal care and use, the mechanism to report concerns on the care and use of animals, and occupational health and safety issues. The overview will be given in targeted courses to first-year veterinary students and Department of Animal Sciences students, and prior to using animals in all other courses that involve animal use. Students should contact Gannett before working with animals or entering an animal facility if they have any medical conditions that may increase their risk.

Students who are members of the equestrian or polo team and those enrolled in physical education classes at the Oxley Equestrian Center are required to sign a waiver form that advises them to consult with Gannett if they have a medical condition that may increase their risk.



### Risk Management

To help manage risk associated with animal use at Cornell, you should

- Participate in the AUHSP.  
If required, complete the *Risk Assessment Form* and forward it to EH&S.  
If indicated, complete the *AUHSP Medical Evaluation Form* and forward it to Gannett.  
Follow safety recommendations at all times.  
Promptly report any accidents, illnesses, and zoonotic diseases on the *Cornell University Accident Report Form*.
- Procedures must be in place and research and animal-care staff members must be trained on appropriate safety precautions before any potentially hazardous projects commence.
- Receive adequate training in animal restraint and handling, chemical lab safety, and animal work-related hazards and safe work practices.
- Maintain restricted access to the laboratory, animal facility, and animal procedure areas.
- Follow posted requirements.
- Wear personal protective equipment (PPE) as recommended. Lab coats or coveralls are required when working with animals; additional PPE, such as gloves, shoe coverings, or a face mask may also be necessary in some areas. Soiled non-disposable clothing should be institutionally laundered.
- Protect yourself from exposure to inhalation of aerosols by incorporating appropriate engineering controls (e.g., use work stations).
- Minimize splashes and aerosols.
- Dispose of waste appropriately. Contaminated bedding, animal carcasses, animal products, or items contaminated by animal products should be disposed of according to recommended guidelines.

- Always dispose of contaminated sharps (e.g., hypodermic needles, scalpel blades) in a Biohazard Sharps Container. For additional information on sharps precautions, see Standard Operating Procedure (SOP) 711 Sharps Precautions ([www.research.cornell.edu/care/documents/SOPs/CARE711.pdf](http://www.research.cornell.edu/care/documents/SOPs/CARE711.pdf)).
- Decontaminate equipment and work surfaces at least once a day and always after any spill of material.
- Use good personal hygiene.  
Wash hands after animal contact and before leaving the laboratory or animal facility.  
Do not eat, drink, smoke, handle contact lenses, or apply cosmetics in work areas, and wash hands before engaging in any of these activities.
- Isolate sick or infected animals whenever possible and handle and care for them last.
- Notify CARE about ill animals or unexpected deaths.
- Notify your supervisor.  
If you become aware of a sick or dead animal.  
If you have a fever, diarrhea, or other symptoms that could be associated with zoonotic diseases, biohazards, or other hazardous materials that you work with.
- Notify Gannett for advice on direct and indirect animal exposure if you are or become immunocompromised.
- If you are ill or injured, seek medical attention at Gannett or inform your physician that you work with animals and may be exposed to zoonotic diseases.  
Have your physician contact the Occupational Medicine Office at Gannett regarding your illness or injury.

## General Hazards Involved in Using Animals

### Allergies

Individuals who have preexisting allergic conditions face a greater risk of developing allergies to animals. Typical allergens include animal urine, saliva, dander, and hair. Most common symptoms include runny nose, itchy eyes, and skin rashes. If ignored, reactions can lead to more severe symptoms, such as asthma (coughing, wheezing, and shortness of breath) and may persist beyond the period of animal exposure. In extreme cases, life-threatening anaphylactic reactions can occur.

Exposure to animal allergens should be limited to prevent the development of allergies. Some aspects of facility design help minimize exposures to allergens. Ventilation in animal rooms usually allows for 100 percent fresh air with ten to fifteen air changes per hour. To help reduce the load of environmental allergens, ventilated hoods or workstations are used for emptying used cages; animals can also be housed in filter-top cages. Personal protective equipment (e.g., masks and gloves) and personal hygiene are important barriers to animal



allergen exposure. Note that disposable surgical masks may not be effective against allergens: properly fitted respirators will provide superior protection. In this case, participation in fit testing and medical clearance are legally required. For more information on this, see the web site of the Respiratory Protection Program of EH&S ([www.ehs.cornell.edu/ochs/rpp.htm](http://www.ehs.cornell.edu/ochs/rpp.htm)).

### Animal Bites, Kicks, and Scratches

Bites and scratches are the most common physical hazards encountered when working with animals, especially with dogs, cats, or rodents. Kicks and crushing injuries occur more frequently with larger species, such as horses or cows. In many cases, these physical hazards can be prevented by following safe practices that ensure proper animal handling. An accident may appear to be inconsequential, but complications may result. Of special concern are venomous species, which require a comprehensive review of safety precautions and emergency care prior to handling. For recommendations on how to proceed in the case of an animal-related injury, see SOP 707 Animal Related Injury ([www.research.cornell.edu/care/documents/SOPs/CARE707.pdf](http://www.research.cornell.edu/care/documents/SOPs/CARE707.pdf)).

### Chemical Hazards

Hazardous chemicals such as disinfectants, fixatives, pesticides, anesthetic gases, and toxic chemicals are commonly used for experimental purposes and require cautious handling. When using such chemicals, personnel should wear appropriate personal protective equipment, and be familiar with the information summarized in the specific Material Safety Data Sheets ([msds.ehs.cornell.edu/msdsrch.asp](http://msds.ehs.cornell.edu/msdsrch.asp)). For recommendations on specific chemicals, consult with the Office of Chemical and Laboratory Safety of EH&S ([www.ehs.cornell.edu/labjump.htm](http://www.ehs.cornell.edu/labjump.htm)).

### Ergonomics

Because repetitive motion, such as cleaning cages by hand, can produce small stresses that may lead to cumulative injuries, tasks should be varied to reduce the number of repetitions. Because lifting heavy bags of food or large animals may contribute to back injuries, properly designed equipment should be used to assist with such tasks. For more information, visit [www.ehs.cornell.edu/ochs/Ergonomics.htm](http://www.ehs.cornell.edu/ochs/Ergonomics.htm).

### Noise

Animals such as pigs or dogs, and equipment such as pressure washers or cage washers can cause intense noise. Personnel exposed to noise levels exceeding 85 dB must be part of the Hearing Conservation Program as legally mandated by the Occupational Safety and Health Administration (OSHA). If engineering controls are not successful at mitigating the noise, hearing protection devices, such as earplugs or earmuffs, should be worn. For more information about the Hearing Conservation Program at Cornell, log onto [www.ehs.cornell.edu/ochs/HCP.html](http://www.ehs.cornell.edu/ochs/HCP.html).

