

## **Guidelines for the Use of Appropriate Personal Protective Equipment in Animal Research**

The University of Texas at Austin Institutional Animal Care and Use Committee

*These guidelines have been written to assist faculty, staff, and students in performing vertebrate animal procedures in a humane manner and complying with pertinent regulatory requirements. Under some circumstances deviations from these procedures may be indicated but such variances must be approved in advance by the IACUC.*

This document provides information regarding use of appropriate personal protective equipment that should be used by individuals working with and around research animals.

Section A – Background

Section B – Implementation: General Objectives

Section C – Implementation: Species Specific

Section D – References

### **Section A – Background**

In addition to the oversight of animal welfare, institutional animal care and use committees are tasked with ensuring users of animals in research are able to work safely.

According to the Guide for Care and Use of Laboratory Animals (National Research Council, 2011):

An animal care and use program comprises all activities conducted by and at an institution that have a direct impact on the well-being of animals, including animal and veterinary care, policies and procedures, personnel and program management and oversight, occupational health and safety, institutional animal care and use committee (IACUC) functions, and animal facility design and management. A comprehensive Occupational and Health Safety Program (OHSP) should include a hierarchy of control and prevention strategies that begins with the identification of hazards and the assessment of risk associated with those hazards.

Managing risk involves the following steps: first, the appropriate design and operation of facilities and use of appropriate safety equipment (engineering controls); second, the development of processes and standard operating procedures (SOPs; administrative controls); and finally, the provision of appropriate personal protective equipment (PPE) for employees.

Special safety equipment should be used in combination with appropriate management and safety practices (NIH 2002; OSHA 1998a,b). Managing risk using these strategies requires that personnel be trained, maintain good personal hygiene, be knowledgeable about the hazards in their work environment, understand the proper selection and use of equipment, follow established procedures, and use the PPE provided.

### **Section B – Implementation: General Objectives**

The Institutional Animal Care and Use Committee has established the minimum required personal protective

equipment (PPE) to be used by personnel while working with various species. University of Texas oversight committees (e.g. IBC), specific departments (e.g. EHS), specific animal housing facilities (e.g. ARC) and the type of work being done in specific projects (e.g. the use of biological materials) may require the use of more PPE. Researchers must not use less than these standards without explicit approval from the IACUC. Please contact Occupational Health and Protection and/or Environmental Health and Safety if you have questions on PPE.

The PPE guidelines for work with non-human primates can be found separate from this document. Refer to the [Guidelines for the Use of Appropriate Personal Protective Equipment for Personnel Working with Non-Human Primates at UT-Austin](#).

PPE functions to reduce exposure to allergens and to protect animals and humans from infectious agents. The type of PPE needed depends on multiple factors including the use of allergen reducing equipment such as ventilated racks and biosafety cabinets, the susceptibility of the animal colony being housed and the activity being performed. Some activities may warrant additional PPE. These activities are divided by risk level: low, moderate, and high.

Activity Risk Level	Description	Examples*
Low risk	Entering area with no anticipation of physical exposure to animals or soiled caging/ system water	<ul style="list-style-type: none"> <li>• Performing health checks</li> <li>• Observing animals</li> </ul>
Moderate risk	Exposure to animals, animal allergens, or soiled non-biohazardous soiled caging/ system water or dirty tanks	<ul style="list-style-type: none"> <li>• Handling an animal</li> <li>• Handling soiled caging and pans</li> <li>• Handling contaminated field cages, traps, or equipment</li> </ul>
High risk	Potential exposure to biohazardous material or zoonotic agents	<ul style="list-style-type: none"> <li>• Cleaning, dumping, or changing cages, tanks, or other soiled enclosures</li> </ul>

*\*While these are examples of differing levels of risk, the species and location of activities can further modify the degree of risk and requisite PPE. See Section C.*

The tables in Section C describe minimum PPE requirements for each species/ type of animal based on activity risk level. **Note: additional PPE may be required if there are additional safety risks beyond just the presence of animals, such as hazardous chemical use or biological agent administration. A consultation with Environmental Health and Safety will be required to establish those special requirements. Additional room specific PPE requirements may be posted at the entrance.**

## Section C – Implementation: Species-Specific Housing\*

\*Similar criteria apply to all procedure rooms, but recommendations may be modified based on specific procedures and species.

### Rodents- Conventional

Activity Risk Level	Close-toed shoes and long pants or dress	Gloves	Scrubs, lab coat, or isolation gown	Face mask	Additional foot protection	Hair bonnet	Eye/ face protection
Low risk	Required	Not required	Required	Dust/surgical mask required	Not required	Not required	Not required
Moderate risk	Required	Required	Required	Dust/surgical mask required	Not required	Not required	Not required
High Risk	Required	Required	Required	Dust/surgical mask required	Not required	Not required	Not required

### Rodents- SPF and Barrier

Activity Risk Level	Close-toed shoes and long pants or dress	Gloves	Scrubs, lab coat, or isolation gown	Face mask	Additional foot protection	Hair bonnet	Eye/ face protection
Low- High Risk	Required	Required	Required	Dust/surgical mask required	Shoe covers required	Required	Not required

### Rabbits- Standard

Activity Risk Level	Close-toed shoes and long pants or dress	Gloves	Scrubs, lab coat, or isolation gown	Face mask	Additional foot protection	Hair bonnet	Eye/ face protection
Low risk	Required	Not required	Required	Dust/surgical mask required	Not required	Not required	Not required
Moderate risk	Required	Required	Required	Dust/surgical mask required	Not required	Not required	Not required
High Risk	Required	Required	Required	Dust/surgical mask required	Not required	Not required	Not required

**Aquatic Amphibians, Reptiles, and Fish- Standard**

Activity Risk Level	Close-toed shoes and long pants or dress	Gloves	Scrubs, lab coat, or isolation gown	Face mask	Additional foot protection	Hair bonnet	Eye/ face protection
Low risk	Required	Not required	Recommended	Not required	Non-slip shoes or rubber boots for wet areas	Not required	If significant splash hazard is likely
Moderate risk	Required	Recommended*	Recommended	Not required	Non-slip shoes or rubber boots for wet areas	Not required	If significant splash hazard is likely
High Risk	Required	Recommended*	Recommended	Not required	Non-slip shoes or rubber boots for wet areas	Not required	If significant splash hazard is likely

*\*If gloves will not be worn, then hands must be washed with soap and water immediately after handling. If there is no access to a sink, then hands may be sanitized. Soap and water must be used later when there is access to a sink.*

**Terrestrial Reptiles and Amphibians- Standard**

Activity Risk Level	Close-toed shoes and long pants or dress	Gloves	Scrubs, lab coat, or isolation gown	Face mask	Additional foot protection	Hair bonnet	Eye/ face protection
Low risk	Required	Not required	Required	Not required	Not required	Not required	Not required
Moderate risk	Required	Recommended*	Required	Not required	Not required	Not required	Not required
High Risk	Required	Recommended*	Required	Not required	Not required	Not required	Not required

*\*If gloves will not be worn, then hands must be washed with soap and water immediately after handling. If there is no access to a sink, then hands may be sanitized. Soap and water must be used later when there is access to a sink.*

**Wild Rodents**

Activity Risk Level	Close-toed shoes and long pants or dress	Gloves	Scrubs, lab coat, or isolation gown	Face mask	Additional foot protection	Hair bonnet	Eye/ face protection
Low-Med Risk*	Required	Required	Required	Dust/surgical mask required	Not required	Not required	Not required
High Risk	Required	Required (nitrile recommended +/- protective bite/scratch gloves)	Required	N95** Required	Shoe covers required	Required	Safety glasses required (at a minimum)

\*Low/medium risk depends on explicitly meeting biosafety criteria of the Institutional Biosafety Committee.

\*\*N95 Respirators require a Respiratory Fit Test. Please contact Occupational Health and Safety for more information.

**Mammals- Field Work** (see also the [Safety Guidelines for Field Researchers](#))

Activity Risk Level	Close-toed shoes and long pants or dress	Gloves	Dedicated field wear*	Face mask	Additional foot protection	Hair bonnet	Eye/ face protection
Low risk	Required	Not required	Not required	Not required	Required based on location (wet, rocky, ticks, snakes, etc.)	Protective headgear recommended based on location (wet, sun, exposure, mosquitos, etc.)	Consult with EHS
Moderate/High risk	Required	Required (nitrile recommended +/- protective bite/scratch gloves)	Required	N95** may be required (Consult with EHS)	Required based on location (wet, rocky, ticks, snakes, etc.)	Protective headgear recommended based on location (wet, sun, exposure, mosquitos, etc.)	Consult with EHS

*\*Dedicated field wear may include clothes that will be changed out of at the end of a workday or an overcoat.*

*\*\*N95 Respirators require a Respiratory Fit Test. Please contact Occupational Health and Safety for more information.*

**Birds - Field Work** (see also the [Safety Guidelines for Field Researchers](#))

Activity Risk Level	Close-toed shoes and long pants or dress	Gloves	Dedicated field wear*	Face mask	Additional foot protection	Hair bonnet	Eye/ face protection
Low risk	Required	Not required	Not required	Not required	Required based on location (wet, rocky, ticks, snakes, etc.)	Protective headgear recommended based on location (wet, sun, exposure, mosquitos, etc.)	Consult with EHS
Moderate/High risk	Required	Required (nitrile recommended +/- protective bite/scratch gloves)	Required	Dust/surgical masks recommended	Required based on location (wet, rocky, ticks, snakes, etc.)	Protective headgear recommended based on location (wet, sun, exposure, mosquitos, etc.)	Consult with EHS

*\*Dedicated field wear may include clothes that will be changed out of at the end of a workday or an overcoat.*

## Section D – References and Acknowledgements

National Research Council. 2011. Guide for the Care and Use of Laboratory Animals. National Academy Press, Washington, D.C. 220p.

National Institute of Health Office of Animal Care and Use Intramural Research Program. 2016. Guidelines for Personnel Protection in Animal Facilities: <https://oacu.oir.nih.gov/sites/default/files/uploads/arac-guidelines/ppe.pdf>

The University of Texas at Austin Environmental Health & Safety. 2010. Safety Guidelines for Field Researchers: <https://ehs.utexas.edu/programs/labsafety/documents/FieldResearchers-SafetyGuidelines.pdf>

This guideline contains information adapted from

- University of Michigan Environment, Health and Safety policy, “Animal Handler PPE Chart” found at: <https://ehs.umich.edu/wp-content/uploads/2018/05/Animal-Handler-PPE-Chart.pdf>