

Title: Minimally Required Personal Protective Equipment for Animal Care and Use, IACUC Administrative Policy P-0018-01	
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Authorized by: Institutional Animal Care & Use Committee	
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I. PURPOSE

To define minimum standards for personal protective equipment (PPE) when working with animals for teaching, research or outreach purposes at Central Michigan University for the purpose of preventing or controlling personnel exposure to zoonotic organisms and allergens inherent when working with animals.

The Office of Laboratory and Field Safety (OLFS) Personal Protective Equipment Program Guidelines which are based on OSHA and MIOSHA requirements take precedence over this policy. Please refer to the OLFS Program Guidelines and the hazard assessment for your area to determine if any additional PPE are required to protect personnel from additional hazards.

Examples of additional hazards that may be encountered in the research setting include the following: chemicals, toxins, infectious agents or radioactive materials purposefully administered to animals in an approved animal use protocol; physical, chemical or noise hazards present in cage wash facilities or diagnostic laboratories; and hazards associated with field research or wild caught animals. PPE required for use in these settings must be determined after consultation with the Office of Laboratory and Field Safety (OLFS) at 989-774-4189 for additional information.

Personnel with compromised immune systems or who are pregnant may need additional protections as required by a physician or occupational health specialist. OLFS will evaluate potential risks and make recommendations for individuals upon request.

Animal care and use personnel must be aware that exposure to infectious and/or hazardous materials can occur through cuts/punctures with contaminated sharp objects, blood, feces, urine or other potentially infectious materials entering a break in the skin, splashes to the eyes, nose or mouth. The proper use of appropriate personal protective equipment will significantly reduce the risk of exposure to potentially hazardous materials. If employees have an open cut, wound or skin abrasion, the affected area should be covered with an adhesive bandage or other type of waterproof dressing. If the affected area is on the hands, double gloves should be worn to prevent transmission through breaks in the skin before entering the space. Any exposure incidents or injuries should be reported immediately to your supervisor.

To report incidents or injuries and seek medical attention, follow the process located at: https://www.cmich.edu/fas/fsr/rm/risk_management/Pages/Injuries.aspx

II. PROCEDURES

It is the responsibility of the Principal Investigator to ensure that anyone under their supervision is trained in the appropriate use of PPE when working with animals or tissues in research and that their staff appropriately utilize the required PPE.

It is the responsibility of OLFS to periodically reassess potential risks within the animal facility that could be mitigated by use of PPE and amend PPE requirements as needed.

It is the responsibility of OLFS to perform a risk assessment and determine the appropriate PPE for use in situations for which this policy does not apply (e.g., for pregnant or immunocompromised personnel).

It is the responsibility of the management of each animal use area to ensure that the signage (see example on the final page of this document) detailing required PPE is clearly posted and that all users are monitored for appropriate PPE use. Deviations from this policy must be reported to OLFS and/or the Office of Research Compliance.

III. Definitions

Animal Facility/Animal Use Area – Any area used for animal housing, procedures or support (e.g. cage wash, procedure room, surgery, necropsy).

Animal body substances – tissues or fluids of animal origin (e.g., urine, feces, blood, saliva).

Conventional housing – Housing absent cage level barriers that minimize/prevent the spread of allergens.

Dedicated clothing- a garment (e.g., scrubs or laboratory coat) worn only in the animal facility or research laboratory but not in general public areas. These garments must not leave the workplace and must be laundered and stored in the workplace. Note: corridors are considered general public areas, PPE must be removed prior to entering corridors.

Face Mask- covering for the mouth or face that supplies splash and gross debris protection (should be water resistant), but is not intended to provide respiratory filtration (see OLFS approved respirator).

Fixed tissue - tissues processed with a chemical substance (e.g., formalin, formaldehyde, glutaraldehyde) known to inactivate select biological hazards.

Minimal Barrier Housing –Rooms with barriers at the cage level only (micro-isolator tops for example) are minimal barrier.

Personal Protective Equipment- protective coverings (e.g., clothing, gloves, hair and shoe covers, goggles, masks, etc.) designed to protect the wearer's body from exposure to infectious agents or allergens associated with animals.

OLFS Approved Respirator- NIOSH certified N-95 or higher particulate respirator or powered air purifying respirator (PAPR).

Sealed eye protection- goggles with closed top, side, and bottom and indirect vents that fit snug against the face forming a seal around the eyes, thus preventing liquids from splashing or dripping into the eyes. Goggles must meet standards described in 29 CFR 1910.133 Eye and Face Protection and ANSI Z87.1 - 1989.

SPF- Specific Pathogen Free- facility intended to maintain rodents free of pathogens and other infectious agents that may not produce disease but nevertheless may cause research interference.

IV. SPECIAL INSTRUCTIONS

PROTECTIVE CLOTHING REQUIREMENTS FOR PERSONNEL IN RODENT FACILITIES

Considerations: In rodent facilities PPE functions to reduce staff exposure to allergens and to protect animals 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. The following PPE requirements and recommendations are based on a hazard assessment that is applicable to all rodent facilities at CMU which considered the presence or exclusion of specific pathogens and established these facilities as Animal Biosafety Level 2 (ABSL2):

Rodent facility required PPE:

- ***A disposable lab coat/jumpsuit or dedicated lab coat/uniform including long pants***
- ***Disposable (Latex/nitrile) gloves***
- ***Eye protection when there is a risk of splash (e.g. Surgery, injections, blood draws)***
- ***Sealed eye protection for greater splash risks such as necropsy/chemical hazards, cage washing.***

- ***Open toed shoes are not allowed***

Rodent facility strongly recommended PPE:

- ***Surgical mask****
- ***Disposable hair covers*****

Other requirements and recommendations:

- ***Disposable shoe covers or dedicated shoes are recommended in all situations but are only required in the same instances where sealed eye protection is required******
- ***Thorough washing of hands is required when exiting any animal facility***

*Additional mucous membrane protection may be required by individuals with known sensitivities to various species. Individuals are encouraged to consult with OLFS for further information.

**Krop, EJ, et al, found allergens in the home of staff not wearing hair protection.

***Hickman-Davis, JM, et al, found that putting on shoe covers was a potential source of contamination and that shoe covers did not significantly impact rodent health.

PROTECTIVE CLOTHING REQUIREMENTS FOR PERSONNEL IN FISH & FROG FACILITIES

Considerations: In aquatic facilities, exposure to potential zoonotic agents or allergens occurs through direct contact with the fish or frogs or indirect through exposure to system water. Personnel safety includes the wearing of closed-toed shoes with non-skid soles as the work environment includes wet floors. Waterproof gloves should be worn when holding/manipulating animals. Many husbandry tasks involve exposure to water without direct contact with animals. Use of gloves can limit exposure in some of these tasks, however; many routine tasks may involve immersing the hands into system water. In these situations the gloves can trap system water against the skin causing prolonged exposure and no opportunity for the skin to dry. Thus with some husbandry tasks involving contact with system water it may be more appropriately performed without gloves. As with other animal facilities, thorough washing of hands before exiting is essential. Hand washing facilities must be available inside the aquatic facility. The following provides a framework for the establishment of Best Practices for PPE:

Fish and Frog facility required PPE:

- ***A disposable lab coat/jumpsuit or dedicated lab coat/uniform including long pants***
- ***Disposable (Latex*/nitrile) gloves** if prudent***

- ***Eye protection when there is a risk of splash (e.g. Surgery, injections, blood draws)***
- ***Sealed eye protection for greater splash risks such as necropsy/chemical hazards, cage washing.***
- ***Open toed shoes are not allowed***

Fish and Frog facility recommended PPE:

- ***Surgical mask***
- ***Disposable hair covers***

Other requirements and recommendations:

- ***Disposable shoe covers should generally not to be used due to potentially wet and slippery floors. Use dedicated footwear when applicable.***
- ***Thorough washing of hands is required when exiting any animal facility***

*Latex gloves are not recommended for working with certain species of fish/frogs which may be sensitive, please ask your project director for direction in selecting the most appropriate disposable gloves.

**For additional information on risks of handling aquatic species without use of protective gloves, please examine the following references:

- CHEMICAL HAZARDS - Bernstein PS, Digre KB, Creel DJ. Retinal toxicity associated with occupational exposure to the fish anesthetic MS-222. Am J Ophthalmol. 1997 Dec;124(6):843-4.
- BIOLOGICAL HAZARDS - Lowry T, Smith SA. Aquatic zoonoses associated with food, bait, ornamental, and tropical fish. JAVMA. 2007 Sept; 231 (6): 876-880

PROTECTIVE CLOTHING REQUIREMENTS FOR PERSONNEL IN CAGE WASH AREAS

Requirements: Please refer to the OLFS hazard assessment for PPE requirements in your cage wash area.

PROTECTIVE CLOTHING REQUIREMENTS FOR PERSONNEL IN BIRD FACILITIES

Bird facility required PPE:

- ***A disposable lab coat/jumpsuit or dedicated lab coat/uniform including long pants***
- ***Disposable (Latex/nitrile) gloves***

- ***Eye protection when there is a risk of splash (e.g. Surgery, injections, blood draws)***
- ***Sealed eye protection for greater risks such as necropsy/chemical hazards, cage washing.***
- ***Open toed shoes are not allowed***
- ***Disposable hair covers***
- ***Surgical mask***

Other requirements and recommendations:

- ***Disposable shoe covers or dedicated shoes are recommended in all situations but are only required in the same instances where eye protection is required******
- ***Thorough washing of hands is required when exiting any animal facility***

V. *RELATED DOCUMENTS

- CMU Accidental Personal Injury Report
- Policy on Animal Handler Occupational Health and Safety Program
- Laboratory Risk Assessment Form