

University of Maryland, Baltimore County

Laboratory Animal Facilities

Occupational Health & Safety Plan

1. Purpose & Scope

The purpose of the Laboratory Animal Facilities Occupational Health & Safety Plan (OH&S Plan) is to educate and promote safe practices and personnel safety as well as prevent occupational injury and illness for those animal care personnel who work with laboratory animals at UMBC.

Animal Care Personnel (ACPs) are individuals who handle live laboratory animals, animal cages, cage accessories or have contact with animal tissues, body fluids or wastes in which a potential personal exposure may exist. This plan is written in accordance with the University of Maryland, Baltimore County's Animal Welfare Assurance of Compliance with the Public Health Service Policy on Humane Care and Use of Laboratory Animals (#D16-00462) and consistent with the principles of the [Guide for the Care and Use of Laboratory Animals](#) (*the Guide*). In addition, this program follows guidance and requirements for promoting occupational safety on campus under UMBC's Policy on [Environmental Safety and Health Management and Enforcement](#).

2. Responsibilities

Groups responsible for aspects of this program are:

- [Office for Research Protections and Compliance \(ORPC\)](#)
- [Environmental Safety and Health \(ESH\)](#)
- [University of Maryland Family Medicine Associates \(FMA\)](#)

Furthermore, responsibilities of the program are extended to:

The Principle Investigator (PI) or faculty for:

1. assuring compliance with the OH&S Plan;
2. assuring that appropriate care and housing needs are met, consistent with the principles of *the Guide*, in facilities under the PI's control;
3. identifying and supervising employees, students and volunteers in UMBC animal facilities who are considered ACPs
4. performing hazard assessments of tasks and activities by identifying potential hazards and implementing applicable controls, e.g., the use of a lab hood or personal protective equipment (PPE), to reduce the risk of personal exposures; and
5. reporting safety incidents to Environmental Safety and Health (ESH).

The Institutional Animal Care and Use Committee (IACUC), via the Office for Research Protections and Compliance, for:

1. monitoring adherence with the OH&S Plan while conducting facility reviews and audits;
2. providing the ESH with up to date lists of all ACPs working with laboratory animals;
3. assuring training is available for all ACPs; and
4. collecting information from investigations of incidents impacting ACPs and submitting reports, when applicable, to the Office for Laboratory Animal Welfare.

Animal Care Personnel (ACPs) for:

- a. complying with the OH&S Plan; and
- b. Reporting concerns and incidents to PI and/or the ACP's supervisor and the Office for Research Protections and Compliance
- c. ACPs are principal investigators (faculty), staff (technicians and animal care workers), students (graduate and undergraduate) and/or volunteers who participate in lab activities.

3. Program Overview

Campus Commitment

UMBC is committed to providing a safe working environment for employees and establishing safety policies and procedures for work with animals. This commitment includes the creation of this plan, offering training and education of occupational health issues while working with animals, providing technical assistance to investigators on identifying hazards, performing hazard incident investigations impacting personnel and an opportunity for a medical surveillance, as needed, for risk review and assessment.

Personnel Involvement

ACPs are encouraged to bring safety concerns to the attention of their managers or supervisors but also UMBC's Environmental Safety and Health. ACPs are responsible for following established safety procedures and completing all required safety training.

Occupational Safety and Health Education and Training

Training is a critical component of an effective occupational health and safety program for ACPs. Training provides a means of educating and promoting safe practices and personnel safety as well as preventing occupational injury and illness. Individuals that work with or work in areas where there are research animals **are required** to complete the web-based training program "Basic Guide to UMBC's Occupational Safety and Health Program". Training must be completed by ACPs when they are included as personnel at the time of submission of a new IACUC study, the renewal of an expiring study, or when ACPS are added to a study that haven't taken completed training previously. Training must be repeated every three (3) years.

Additional laboratory or animal protocol specific on-line training options, as required by supervisors or specific animal work functions are available. In addition to above occupational

safety education program, current one-line training options are provided by [Environmental Safety and Health](#) and the [Office for Research Protections and Compliance](#).

The University of Maryland Family Medicine Associates also offers general in-service program on risk topics including bloodborne pathogens, animal allergens/bites, hazardous materials/chemical exposure radiation exposure) and acute injuries. A schedule of sessions is found at <http://my.umbc.edu/groups/compliance/events>.

Risk Assessment

The purpose of risk assessment is to identify ACPs with conditions that could place them at risk when working with animals. All ACPs with animal contact **will be required** to complete a UMBC Laboratory Animal Risk Assessment Form. The form will assess if ACPs may be “at risk” by working with potential hazards (examples in # 4 below) in the lab animal environment. The form is reviewed by environmental safety and health professionals to determine potential risks of working in this environment.

ACPs that identify issues that would medically affect their capable of performing the job in the facility will be referred by ESH to a medical surveillance provider for further health assessment to determine their ability to work with lab animals. UMBC has a service agreement with University of Maryland Family Medicine Associates (FMA) to provide employee health screening and related health services. Services include physical examinations, immunizations, laboratory testing and return-to-duty medical evaluations for ACPs who has been on medical leave due to an on-the-job injury or illness that occurred in the animal facility. These services will be billed to directly to ACPs UMBC department.

Risk assessments must be completed by ACPs when they are included as personnel at the time of submission of a new IACUC study, the renewal of an expiring study, when ACPs are added to a study that haven't taken completed an assessment previously, or if an ACPs personal health status changes. The assessment will be good for three (3) years.

ESH and FMA will maintain all information associated with risk assessment and medical surveillance in accordance with current regulatory, privacy, and confidentiality requirements.

4. Hazards associated with handling animals and their tissues

- a. **Biological hazards** include allergies and zoonotic diseases caused by the animal. Zoonotic diseases are diseases transmitted between animals and humans.
 - i. Rodents - Allergies, which are the result of hypersensitive reaction to a chemical or physical substance, are a common health hazard caused by exposure to laboratory rodents. The risk of disease with laboratory rodents is very low. Symptoms may include runny nose, watery eyes, sneezing, shortness of breath, and asthma. Hives or skin rashes have also occurred from direct contact with animal hair or skin. ACP's who have a history of allergies are at a higher risk of developing symptomatic reactions.

- ii. Birds - Birds in a laboratory/teaching setting are usually closely managed and free of disease. The likelihood of a person contracting a disease from those birds is very low. Wild species can carry organisms that may cause infection and disease in humans and may be transmitted either directly (e.g., through handling live or dead birds) or indirectly (e.g., through exposure to feces or airborne organisms).
 - iii. Fish/amphibians - The overall incidence of transmission of disease-producing agents from fish and amphibians to humans is low. There are, however, a few agents found in amphibians and aquarium water that have the potential to be transmitted. In general, humans acquire these diseases through ingestion of infected tissues or aquarium water, or by contamination of lacerated or abraded skin.
 - iv. Field Studies - All wild animals are potentially dangerous to researchers either from traumatic injury due to direct contact or from infectious diseases that are carried by the animals or their parasites. Researchers dealing with wild-caught animals in the field or in the laboratory should work under the assumption that the animals they are handling pose some risk to their health and safety.
- b. **Chemical hazards** depend on numerous factors, including the chemical toxicity, the amount used, physical properties, i.e., vapor pressure, flammability, and application. Exposure, which can result from inhalation or skin contact, can cause various health effects depending on toxicity.
 - c. **Radiological hazards** may be present from the use of radioisotopes. The associated hazard depends on the amount used and the type of emitter.
 - d. **Physical hazards** include animal bites or scratches. Exposure to these hazards can cause adverse health effects, including pain, respiratory distress, infection, or disease transmission.

5. Hazard Controls provided by UMBC

- a. **Engineering controls** – Local exhaust ventilation (lab hoods) and general room dilution ventilation will be used as necessary to control airborne contaminants.
- b. **Personal Protective Equipment (PPE)** – ACPs will use PPE such as paper face masks, aprons, smocks, and impervious gloves, as needed.
- c. **Safe practices** – Animals will be monitored for infection or anomalies. ACP's will comply with established laboratory facility rules and practice appropriate personal hygiene.
- d. **Institutional programs** – The UMBC Chemical Hygiene Plan (CHP), which has been implemented in accordance with the Occupational Safety & Health Administration (OSHA) regulation, Occupational exposure to hazardous chemical in laboratories, 29 CFR 1910.1450 provides for appropriate control measures for chemical hazards for laboratory workers. The UMBC Radiation Safety Officer (RSO) oversees radiological hazards issues including personnel training and the use and disposal of radioisotopes.

6. Basic health and safety

Many simple steps can be taken to lessen the risk of infection or contamination from animals.

These include, but are not limited to: not bringing food or drinks intended for human consumption into any animal husbandry or laboratory areas and making a habit of washing hands prior to consuming any food or beverages. Never apply cosmetics or contact lenses around animals, animal care areas, or in the laboratory.

ACPs should use appropriate clothing and protective gear including but not limited to gloves, gowns, goggles, or masks to reduce the potential for contact with contaminated tissues and being bitten or scratched. Single use PPE items (over sleeves, gloves, disposable gowns, facemasks) should be disposed in receptacles in the facility **not** a trash can in a hallway or office. Non-disposable PPE such as lab coats or scrubs should be laundered on-site in specified laundry rooms or by a professional laundry service aware of potential hazards (not at home).

Thorough hand washing after handling any potential source of infection or contamination with animal blood, urine, etc. is also necessary and should always be performed prior to leaving the animal or laboratory facilities and prior to consuming any food or beverages.

7. Emergency Procedures

When an emergency occurs after the campus has opened, information about early closing will be disseminated via the UMBC homepage, myUMBC, the hotline number and the media outlets listed below. During the day, everyone should continue to check the homepage for updates. E2Campus subscribers will get an emergency alert text message.

- Emergency information phone number: 410-455-6789 (or ext. 5-6789 from on campus).
- Campus alert webpage: my.umbc.edu/go/alerts.

UMBC has developed a plan to enable faculty, staff, and students to successfully cope with campus critical incidents and emergencies. The overall ability of University personnel to respond to any incident will rely primarily upon preplanned procedures, Incident Action Plans, business continuity plans, university building or facility Emergency Action Plans. In terms of animal facilities, this plan offers guidelines for personnel on site at the time of an emergency or disaster and to suggest possible and likely approaches to protecting both human and animal health after the primary response teams (e. g., fire department, police, and safety officers) have responded.

UMBC's Emergency Response plan may be found at http://www.umbc.edu/police/Emergency_Response_Plan/UMBC_Emergency_Response_Plan.pdf

8. Information

For further information, contact:

Environmental Safety and Health

<http://www.umbc.edu/safety/>

[410-455-2918](tel:410-455-2918)

Office for Research Protections and Compliance

<http://www.umbc.edu/research/ORPC/>

[410-455-2737](tel:410-455-2737)