WILLIAM & MARY
CHARTERED 1693

ENVIRONMENTAL HEALTH & SAFETY OFFICE

LABORATORY ANIMAL OCCUPATIONAL HEALTH PROGRAM

Effective Date: October 26, 2021

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Background

Working with laboratory animals presents potential risks to the health and well-being of research personnel and others in operational support roles. This program pertains to all personnel who work in laboratory animal facilities or have direct animal contact, including animal care staff, IACUC members, facilities services staff, environmental health and safety staff, and others regularly exposed to potential hazards associated with the use of laboratory animals. All individuals in these roles must be enrolled in the Laboratory Animal Occupational Health Program (LAOHP). Individuals subject to enrollment are to be identified through the Primary Investigators responsible for IACUC protocols as well as those that require access to restricted areas on campus at the Population Lab and Vivarium. Examples of health risks may include:

- Zoonotic diseases (infectious agents shared by humans and animals
- Allergies to laboratory animals
- Bites, scratches, and other injuries
- Immune deficiency, pregnancy, or other medical conditions
- Ergonomics and other health hazards

This program will identify, evaluate, and reduce potential health risks associated with the care and use of animals. By assessing an individual's risk, appropriate choices can be made to limit exposure of personnel from biological, chemical, and physical hazards associated with laboratory animal research. The university Environmental Health & Safety Office (EH&S) collaborates with the Institutional Animal Care and Use Committee (IACUC) as well as the Principal Investigators (PI) to assure the health and safety of personnel working in animal research laboratories through the implementation of this program.

All applicable employees are enrolled in the LAOHP upon hire and are supplied training appropriate to their institutional role involving the use of animals (e.g. laboratory, wildlife, etc.). The Supervisor will identify and address compliance with program requirements.

Control and Prevention Strategies

The University EH&S Office maintains an occupational health and safety program as part of the overall program of animal care and use, consistent with the requirements of 29 CFR 1984a, b, c; DHHS 2009; PHS 2002, and federal, state, and local regulations pertaining to maintaining a healthy and safe workplace. The

EH&S works with Risk Management to implement control and prevention strategies which identify and avert risk. Risk management and mitigation involves:

1. The appropriate design and operation of facilities and appropriate engineering controls and equipment.
2. The development of process and standard operating procedures as administrative controls.
3. Providing appropriate personal protective equipment (PPE) for those involved in animal research.

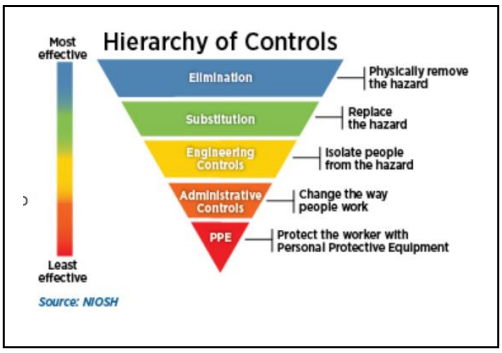
Personnel are to receive appropriate training, maintain good personal hygiene, be knowledgeable about the hazards of their work environment, understand how to properly select and use PPE, and follow established procedures. Safe work practices are the responsibility of all program participants.

Hazard Identification and Risk Assessment

Hazard identification and risk assessments involve individuals qualified to assess dangers associated with the program and implement appropriate safeguards. Animal research presents potential risks of exposure to chemical and biological hazards associated with their use. Health and safety specialists and laboratory personnel with knowledge in relevant disciplines are involved in these risk assessment and the development of procedures to manage such risks. Specific institutional policies are in place to protect employees from identified risks, such as personal hygiene, handling of hazardous agents, and personnel protection. Compliance with these policies is mandatory.

Potential experimental hazards may include biologic agents, chemical agents, explosives, radiation, and physical hazards. Risks for field work, wildlife studies, and experimental conditions are also subject to evaluation.

If individuals have specific concerns, a job hazard assessment will be conducted by EH&S. Requests for assessments can be submitted to Safety@wm.edu .



Ongoing identification and hazard evaluation is provided through periodic inspections, protocol reviews, and incident/near-miss reportings and review.

Facilities, Equipment, and Monitoring

Laboratory facilities are designed to provide engineering controls and equipment to minimize exposure to known potential hazards. In designated laboratories, this involves:

- HVAC systems designed to provide 100% filtered fresh air with controlled humidity levels
- HVAC systems operating as a variable-volume system
- Air change capabilities of 10-15 per hour
- Negatively pressurized rooms
- Fume hoods and biosafety cabinets
- Autoclaves and other sanitization equipment
- HEPA filtered housing systems

Only trained, authorized personnel are allowed to utilize equipment. Supervisors are responsible to ensure employees receive training for equipment usage protocols and maintain associated

documentation. Facilities Management maintains HVAC equipment and monitors the Building Automation System for alarms when operating outside of set parameters. Fume hoods and biosafety cabinet inspections are conducted annually by Facilities Management and EH&S.

Personnel Training

Training provides an opportunity to educate employees to recognize hazards and implement measures to reduce associated risks. Measures may include defining procedures and equipment which protect the employee, others working in the area, others outside of the work area, and laboratory animals. W&M provides training from several resources including those identified in the "Animal Lab Onboarding Checklist". Sources of training may include that provided directly by the PI, policy review, the online Collaborative Institutional Training Initiative (CITI) Program, readings in the "Guide for the Care and Use of Laboratory Animals", readings in the "Assistant Laboratory Animal Technician, Training Manual", and training provided through the EH&S office. Training spans topics such as zoonoses, allergies, precautions to be taken during pregnancy, changes in health status, and decreased immunocompetence. The "Animal Lab Onboarding Checklist" documents this training, as well as records from individual training sessions. Training records are maintained by the supervisor.

Personal Hygiene

Good personal hygiene will often reduce the possibility of occupational injury and cross-contamination. University policies and training address the use of suitable attire and PPE (e.g. gloves, protective eye coverings, lab coats, close-toed shoes, etc.) for use in laboratories and when handling animals. Soiled lab coats are to be placed in the designated hampers and are professionally laundered and returned to the laboratories. Personnel are instructed to wash and/or disinfect their hands and change clothing as often as necessary to maintain good personal hygiene. Protective clothing and equipment should not be worn beyond the boundary of the hazardous agent work area or the animal facility (DHHS 2009). Personnel are not permitted to eat, drink, use tobacco products, apply cosmetics, or handle or apply contact lenses in rooms and laboratories where animals are housed or used. Shower facilities are also available.

Animal Experimentation Involving Hazards

Hazardous biologic, chemical, and physical agents may exist that require specific safe-guards. Examples include drug disposal, use of "select agents and toxins", biohazardous waste disposal, and sharps disposal. Procedures and policies identify safe work practices to reduce and mitigate risk associated with hazards. Supervisors are responsible to ensure employees are trained on applicable procedures and practices, as identified in the "Animal Lab Onboarding Checklist". A collaborative approach with the investigator, research team, attending veterinarian, animal care technician, and EH&S identifies opportunities to ensure compliance and identify areas of improvement.

Personal Protection

Personal protection is provided through protecting personnel, a clean work environment, and protective clothing. Personal Protection Equipment (PPE) is provided to reduce exposure to hazards. To effectively control and prevent hazards, the NIOSH Hierarchy of Controls is used. When no other controls can effectively address a hazard in the work environment, including exposure to hazardous agents or hazards associated with certain species, PPE will be utilized. The University provides professionally laundered lab coats and other PPE, such as gloves, eye protection, face shields, and respiratory protection. Individuals

that require respiratory protection will be enrolled in the University's respiratory protection program managed by the EH&S Office.

When an accident or injury occurs, the first priority is to address any urgent medical needs. Work-related injuries are to be immediately reported to the employee's supervisor. The Employee First Report of Accident/Injury form will be completed by the employee and supervisor. The university Panel Physicians Form contains a list of 3 locations available to utilize for immediate care. Injuries that require care beyond the capabilities of an urgent care facility should be addressed at a local hospital emergency care facility. Forms and instructions for accident/injury reporting are located at:

https://www.wm.edu/offices/publicsafety/ehs/accident-incident/index.php .

Medical Evaluation and Preventive Medicine for Personnel

Employees intending to be involved in the care and use of laboratory animals or providing support services shall be enrolled in the medical surveillance program for LAOHP.

1. Enrollment is initiated by the supervisor or HR contacting the EH&S Office at Safety@wm.edu to request enrollment for medical surveillance under the LAOHP program with authorization for enrollment, providing the individual's name and email address.
2. EH&S will provide the individual with instructions and two forms, the "Concentra Employer Services Form" and an "Animal Allergy Questionnaire". Both forms are to be completed by the employee and submitted directly to the PLHCP, per instructions provided.
3. EH&S will maintain a log of this application and issue a purchase order to the approved occupational medical professional's office.
4. The forms will be reviewed by an occupational health professional, such as an occupational health physician or nurse, approved by the university. The questionnaire will identify the specific species and other job hazards subject to medical assessment. This assessment will be provided at no cost to the individual. The assessment questionnaire is used to determine exposure risk levels and further assess the need for medical surveillance or other measures to reduce safety or health risks.
5. Once the questionnaire is evaluated by the occupational health provider, a determination will be made if the individual can engage in animal work with no further action; if additional assessment, prophylactic treatment, or a diagnostic procedure is needed; or if the individual can proceed with identified restrictions. The occupational medical professional will determinate the appropriate immunization schedule, such as the necessity for tetanus or pre-exposure immunization for those at risk of infection or exposure to specific agents (e.g., species at risk for rabies). Vaccination is recommended if research is to be conducted on infectious diseases for which effective vaccines are available. Vaccinations determined to be required, required PPE, and participation in the medical evaluation process will be paid by the University.
6. The occupational medical professional will then complete "Animal Allergy Questionnaire Medical Review Results". EH&S will share this document with the supervisor/PI and documentation will be stored in the restricted access EH&S drive utilized for medical records.

Medical evaluations to assess potential risk for individual employees are to be made:

- As a requirement of employment
- When assignments or conditions to risk exposure change
- When health conditions change (e.g. pregnancy, worsening allergies, onset of an immune disorder, etc.)

A laboratory animal allergy can be a significant issue for individuals in contact with laboratory animals. The medical surveillance program emphasizes the early diagnosis of allergies and includes evaluation of an individual's medical history for pre-existing allergies. Personnel training includes information about laboratory animal allergies, preventive control measures, early recognition and reporting of allergy symptoms, and proper techniques for working with animals. PPE should be used as a last option to supplement, not replace, engineering and process controls. If PPE respiratory protection is needed, then the individual will be enrolled in the University's Respiratory Protection Program.

Confidentiality and other medical and legal factors are addressed in the procedures and recordkeeping associated with the medical surveillance program. All communications and recordkeeping practices will comply with Virginia health records privacy laws (Va. Code §32.1-127.1:03) and, if applicable, federal regulations under the HIPAA privacy rule. Instructions are provided on the form to submit the completed questionnaire to the occupational medical provider utilizing encrypted email or to submit via fax. After evaluation, the provider will communicate findings directly with the individual. If further assessment, treatment, or vaccination is required, that will be communicated directly with the individual. Any further action, such as enrollment in the Respiratory Protection Program, will be addressed by EH&S and coordinated with the Supervisor.

Personnel Security

All employees in the LAOHP are subject to standardized pre-employment screening including background checks and reference checks. Employees are required to adhere to the "IT Security Training Program", which provides training annually regarding information technology security. All access to facilities is governed by the "Access Control Policy for University Facilities". Required access requests and terminations are initiated by supervisors.