



UNIVERSITY OF OREGON

Animal Occupational Health and Safety Program Manual



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Introduction

Each institution must establish and maintain an animal occupational health and safety program (AOHSP) as an essential part of the overall program of animal care and use (CFR 1984 a,b,c; DHHS 2009; PHS 2002). Primary oversight responsibilities in the program rest with the *institutional official* (IO), the *attending veterinarian* (AV), and the *institutional animal care and use committee* (IACUC). The components of this program are based on guidelines in the *NRC Guide for the Care and Use of Laboratory Animals*, the *PHS Policy on Humane Care and Use of Laboratory Animals*, the *NRC Occupational Health and Safety in the Care and Use of Research Animals*, and the *CDC/NIH Biosafety in Microbiological and Biomedical Laboratories*. An animal occupational health and safety program is mandatory for all personnel who have direct or indirect contact with any live research vertebrate animals or harvested non-human primate tissues, body fluids, or wastes. At this time the University of Oregon does not conduct work with live non-human primates. Personnel that handle animal tissue/body fluids obtained from commercial resources or harvested non-human primate tissues/samples are exempt.



Enrollment Requirements

UO Employees, Students, Volunteers, or Others Involved in Animal Research

This category covers all individuals of the University who have potential exposure to *live vertebrate animals* used in research or teaching within the scope and duty of their activities.

The supervisor ensures that individuals are formally enrolled in the Animal Occupational Health and Safety Program if listed on an IACUC protocol or if the person will have exposure to *live vertebrate animals only*. The supervisor ensures the individual receives applicable initial trainings, including the CITI Program course University of Oregon Introduction to Animal Research (10 modules) occupational health training as well as unit-specific training. The supervisor is responsible for ensuring that his/her lab staff are enrolled in the Animal Occupational Health and Safety Program and complete the Program requirements, including filling out and submitting the UO Employee “Animal Occupational Health Questionnaire” form.

Volunteers must also complete a “Conditions of Volunteer Service” form, submitting copies to Safety and Risk Services and IACUC files. Completed forms must be maintained with the unit. Details about SRS Risk Management’s Conditions of Volunteer Service Form can be found at <http://safety.uoregon.edu/volunteers>.

Individuals who enter animal research facilities infrequently and have no direct contact with animals or environmental exposure are not required to fully participate in the AOHSP. These individuals should not spend more than a few hours at a time in hallways and animal rooms within the facilities, and should not spend more than a few minutes in a cagewash area. These individuals should be educated by their supervisor or tour guide on the potential hazards in the facility. Additionally, they will be offered the opportunity to voluntarily enroll and fully participate in the Animal Occupational Health and Safety Program if they choose.

Examples of roles that meet these criteria include: inspectors, visitors, UO Police and emergency responders, Safety & Risk Services staff performing safety inspections, and CPFM staff performing minimal facility maintenance.

Responsibilities

Institutional Official

- Bears ultimate responsibility for the program; allocates resources necessary for program implementation.

*Animal Facilities Directors (TeACS, AqACS, ZIRC, Stickleback Facility, HGeM, CMLC & OIMB)*

- Administration of program elements and adherence by personnel. Ensure individuals' compliance and, in conjunction with the IACUC and IO, implement appropriate measures in instances of noncompliance.
- Notify EHS of additions or terminations of personnel enrolled in the program.

Institutional Animal Care and Use Committee

- In the case of animal occupational health and safety issues, the IACUC provides program oversight and evaluation and thereby serves as an advisory body to EHS and Occupational Healthcare Provider.

Principal Investigator/Supervisor

- Responsible for the health and safety of all individuals under their supervision and the implementation of this occupational health and safety program.
- Assess the specific risks and establish procedures to minimize these risks.
- Assure the safe conduct of their experiments employing experimental animals.
- Advise EHS of new employees to be enrolled in the Program and departing employees to be terminated from the Program.
- When training is provided departmentally or within department groups, coordinate with EHS for review of the training materials and provide EHS access to, or copies of, training records.

Individuals

- Attend training sessions prior to accessing animal facilities and understand applicable safety requirements.
- Report accidents, injuries, or near misses to supervisors immediately.
- Discuss any changes in health status or other medical concerns with a physician.
- Adhere to requirements of the program, including attendance at initial animal occupational health & safety training and completion of applicable program forms/questionnaires.
- Notify animal facility director and EHS when terminating animal work or changing species.

Occupational Health Services

- Provide medical review for enrolled individuals including review of the Animal Occupational Health Questionnaire. Initiate physical exam or interview with individual if needed.
- Notify EHS and individual departments of clearance for contact with animals.

Environmental Health & Safety



- Establish and maintain the animal occupational health and safety program, which will provide a safe and health working environment.
- Provide animal occupational health & safety training, or provide guidance for such training when conducted departmentally or within department groups.
- Initiate routing of initial and renewal animal occupational health medical questionnaires to enrolled individuals for submission to UHC.
- Maintain database of training records and copies of clearance for work involving animals.

Control and Prevention Strategies

Control of occupational hazards is implemented through standard hierarchy of controls. This means primarily implementing engineering controls whenever possible, followed by administrative and work practice controls, and utilization of personal protective equipment with other controls are infeasible. Examples of engineering controls in place for protecting employees include:

- Manipulating animals and cages inside primary containment devices (e.g., biosafety cabinets; cage change stations) whenever possible
- Biosafety cabinets, animal transfer stations, and other primary containment devices are certified by NSF-accredited personnel: initially after installation; at least annually thereafter; and anytime units are relocated or moved a distance greater than 6 inches
- Elimination of sharps, replacement of glass with plastic, and use of safety-engineered sharps devices when available and determined practical from a task standpoint
- Scavenging of anesthetic gases using exhaust snorkel devices or carbon absorption systems
- Adherence to UO Chemical Hygiene Plan policy and program requirements

Administrative and work practice controls are implemented secondarily and are trained upon heavily prior to working in the facility and on an ongoing basis. Examples of these include:

- Establishing Standard Operating Procedures for commonly performed tasks and review of SOPs on a routine basis
- Adherence to standard practices as advised in CDC/NIH Biosafety in Microbiological and Biomedical Laboratories, the NIH Guidelines, and NRC Occupational Health and Safety in the Care and Use of Research Animals
- Implementation of a colony health surveillance program for timely detection of colony outbreaks
- Routine self-inspections are encouraged within the lab groups, supplemented by EHS and IACUC inspections

Personal protective equipment is also implemented, with a baseline set of PPE worn in all animal areas and additional PPE issued per a risk assessment. Please refer to the Personal Protective Equipment section of this manual.



Hazard Identification and Risk Assessment

An effective occupational health and safety program ensures that the risks associated with the experimental use of animals are reduced to minimal and acceptable levels. Potential hazards include experimental hazards such as biological agents, chemical agents, radiation, and physical hazards. Other potential hazards – such as animal bites, exposure to allergens, chemical cleaning agents, wet floors, cage washers and other equipment, lifting, ladder use, and zoonoses – that are inherent in or intrinsic to animal use should be identified and evaluated. Once potential hazards have been identified, a critical ongoing assessment of the associated risks should be conducted to determine appropriate strategies to minimize or manage the risks. The extent and level of participation of personnel in the occupational health and safety program should be based on the hazards posed by the animals and materials used; the exposure intensity, duration, and frequency; to some extent, the susceptibility of the personnel; and on the history of occupational illness and injury in the particular workplace” (*The Guide*; 8th edition, pp. 18-19).

The University of Oregon’s Occupational Health and Safety Program is designed to inform anyone who works with or around animals about confirmed and potential hazards associated with animal exposure. Multiple methods of hazard identification and risk assessment are implemented in order to accomplish this:

Registration of Experimental Protocols

Work involving the care and use of animals must be reviewed and approved by the IACUC prior to initiation. A form is submitted by the Principal Investigator detailing the experimental design and performing the first step of identifying and assessing risks involved. If the work involves recombinant or synthetic nucleic acids or transgenic animals, a similar project registration is submitted, reviewed and approved by the Institutional Biosafety Committee (IBC), with a preliminary risk assessment performed at this step as well. Use of radioactive materials must also be reviewed and approved by EHS and the Radiation Safety Committee, and users must be thoroughly trained prior to accessing radioactive materials. If the animal research involves hazardous or regulated chemicals, the PI must submit to EHS a Request to Use Hazardous Substances in Live Vertebrate Animals, which prompts risk assessment and implementation of mitigation measures for use with these materials.

Routine inspections

Animal housing facilities and laboratories are inspected on a semi-annual or annual basis by the IACUC in order to identify physical, chemical, and other hazards, and to assess compliance with applicable guidelines. The EHS office audits animal laboratories subject to chemical and biological regulatory requirements; it is also responsible for assessing noise, ergonomic, asbestos, and other occupational safety hazards. Additionally, PIs and lab staff are expected to conduct periodic self-audits to continually monitor for hazards and initiate corrective actions to address them.

***Education***

Prior to initiating work with animals or receiving access to the animal facilities, researchers and staff must undergo training on occupational hazards. Individuals are taught to take proactive actions to discuss concerns with physicians or their principal investigator, notify their employer of changes in health status, follow procedures, and use good hygiene when conducting animal work.

Employee involvement

Employees are encouraged to speak up if they identify a hazard that needs to be addressed. By conducting periodic self-audits they are given opportunities to assess their work areas for health or safety concerns. Postdoctoral researchers and laboratory technicians are involved in formal lab inspections, are requested to participate in completion of research registration protocols, and are encouraged to serve on the IACUC and IBC in order to play an active role in identifying and assessing risks.

Training

Supervisors must ensure that animal care, laboratory and support personnel receive appropriate training regarding their duties, animal husbandry procedures, potential hazards, manipulations of infectious agents, necessary precautions to prevent exposures, and hazard/exposure evaluation procedures (physical hazards, splashes, aerosolization, etc.). Personnel must receive periodic updates and additional training when procedures or policies change.

EHS professionals provide guidance on the use of biological, chemical, radiological, and physical agents. Individuals enrolled in the program are educated on potential hazards (e.g., zoonoses that may or may not be present) in addition to confirmed hazards (e.g., allergens). Online OHP training contains information on general and species-specific hazards. This training is required for animal users and support staff, and optional for all other individuals. Records are maintained for all hazard evaluations, employee training sessions and attendance.

The occupational health physician reviews all health questionnaires prior to work with animals and on an ongoing basis, which is currently defined as every three years. Medical conditions that may predispose the individual to allergic reactions, infectious diseases, or other physical disabilities may be discussed with the individual. After completing the health questionnaire, the physician makes a recommendation whether the individual's health or the health of any animal would be compromised by the individual working with animals. This clearance is provided to the individual, animal facility director, and EHS.

Personal Hygiene

A strict policy of PPE use is implemented in animal facilities. Individuals who do not routinely enter these areas should be escorted by a knowledgeable person who can assist in



donning and doffing PPE and advise on traffic flow and areas with entry requirements. Sinks, paper towels, and soap are located in almost all of the animal rooms. Showers are available in the central mammalian facilities. TeACS animal caretakers are required to change into clean uniforms (scrubs) before starting work. At the end of the workday, caretakers are required to change and put their uniforms into a hamper. Dirty scrubs and other PPE are not permitted to be taken out of the facility. Work clothes are not allowed to be worn outside the facility, unless they put on a separate lab coat.

Long hair must be pulled back and contained. Beards or facial hair must be in compliance with proper use of respirators if respirators are required for assigned tasks.

Employees are required to wash their hands after handling animals, after leaving the animal facility, after doffing PPE, and in other necessary instances.

Eating, drinking, and applying of cosmetics are not allowed in any of the animal quarters. Food must be stored outside of the laboratory in cabinets or refrigerators designed and used for this purpose. The University provides a lounge area and kitchen in the central animal facilities for eating and drinking. Lounge/kitchen areas are located in the Streisinger Atrium and room 180. Smoking or use of tobacco products is prohibited on campus, including animal facilities.

Animal Experimentation Involving Hazards

Description of Institutional Policies

Any proposed animal use applications involving hazardous agents are reviewed by the IACUC. The animal use application requests a description of animal experimentation involving hazardous agents, including “infectious agents, biohazards, carcinogens, toxic chemicals, or radioisotopes.” It is the PI’s responsibility to disclose whether their work requires approval by another entity or oversight committee upon submission of an IACUC application. If hazardous agents are being used, prior authorization from the appropriate committee or office must be provided by the PI. Formal safety programs assess the hazards, determine the safeguards needed for their control, and establish that the facilities are adequate for the safe conduct of the research. Work must be conducted in compliance with the UO Chemical Hygiene Plan.

Description of Oversight Process and Husbandry Practices

The PI is responsible for appropriate use of hazardous agents in his/her animal research. Each room or area involving a hazardous agent is posted with a warning sign and specific instructions to follow to ensure personnel safety. The instructions specify who is allowed to enter the area, how to work with the hazardous agent and the animals involved, and disposal and decontamination of supplies. Autoclaves are available for decontamination. Work involving chemical, radiological, and/or biological hazards require consultation from relevant EHS staff as well as IBC or Radiation Safety Committee approval when applicable.

***Containment of Hazardous Agents***

Each hazardous agent is evaluated on a case-by-case basis for proper containment procedures. Adequate protective clothing, designated hazard areas or rooms, limited access to these areas, good personal hygiene practices, decontamination of work surfaces and materials, microisolator caging, and HEPA filtered isolators are all utilized following CDC guidelines.

Scavenging of Anesthetic Gases

In the TeACS surgery room, anesthetic gases are scavenged through a 100% exhaust system with the line from the anesthesia machine connected directly to the building exhaust system. In procedure rooms, gases are scavenged through 100% exhaust systems.

Bites and Scratches

The potential for receiving a bite or scratch is an ever-present hazard that applies to all employees working directly with laboratory animals and related equipment. Employees should be properly trained in handling and general restraint techniques of the species to which they are assigned.

Should a bite, scratch or any other injury occur during the course of working with laboratory animals, medical treatment is available by calling 911 for immediate life-threatening conditions, or for minor injuries, by calling UO Police at 541-346-2919 to arrange for transportation to a local health care provider.

Regardless of the severity of a bite or scratch, the incident should be reported to their supervisor and documented in the “Bite/Scratch Log.” Employees should also submit a WORKPLACE INJURY OR ILLNESS REPORT to Safety and Risk Services.

Allergens

One of the most common health concerns in the laboratory animal setting is a work-associated allergy. The risk of developing an allergy depends on parameters such as species, facility, ventilation, and the employee’s “baseline” health status. Symptoms of allergic reaction vary depending on the severity of the reaction.

Zoonoses

Zoonotic diseases are those that can be transmitted from animals to humans. As an individual working with animals, staff should be familiar with the specific zoonotic diseases associated with the animals that they work with, and are encouraged to notify their personal physician of the animals they routinely have contact with. Animal work involving Risk Group 2 agents and higher must be reviewed by the IBC. The Principal Investigator is responsible for training staff on specific hazards associated with their work. The Biosafety Officer is available as a resource for developing this training.

Inherent Hazards

These are some potential hazards inherent in any work environment. These include poor



ergonomics, slips and falls, electrical safety hazards and many more. Concerns or questions about specific work areas should be directed to Safety & Risk Services.

Facilities, Procedures, and Monitoring

UO animal housing facilities include:

- TeACS facility in Streisinger/LISB
- Zebrafish International Resource Center (ZIRC)
- AqACS facility
- Stickleback Fish Facility
- Knight Campus for Accelerating Scientific Impact (KCASI)
- Histology and Genetic Modification (HGeM) mouse facility
- Oregon Institute of Marine Biology (OIMB)
- Charleston Marine Life Center (CMLC)
- Aviary

At a minimum, animal facilities adhere to criteria described in the UO PHS Assurance. Facilities are separated from the general traffic patterns of buildings and are restricted as appropriate. Prior to entry, personnel must have specific training in animal facility procedures and must be supervised by an individual with adequate knowledge of potential hazards and experimental animal procedures.

Facilities

1. The animal facility is separated from areas that are open to unrestricted personnel traffic within the building. External facility doors are self-closing and self-locking. Access to the animal facility is restricted. Doors to areas where infectious materials and/or animals are housed, open inward, are self-closing, are kept closed when experimental animals are present, and should never be propped open.
2. The animal facility has sinks for hand washing. Sink traps are filled with water, and/or appropriate liquid to prevent the migration of vermin and gases.
3. The animal facility is designed, constructed, and maintained to facilitate cleaning and housekeeping. The interior surfaces (walls, floors and ceilings) are water resistant. Floors must be slip resistant, impervious to liquids, and resistant to chemicals. It is recommended that penetrations in floors, walls and ceiling surfaces be sealed, including openings around ducts, doors and doorframes, to facilitate pest control and proper cleaning.
4. Cabinets and bench tops must be impervious to water and resistant to heat, organic solvents, acids, alkalis, and other chemicals. Spaces between benches, cabinets, and equipment should be accessible for cleaning. Chairs used in animal area must be covered with a non-porous material that can be easily cleaned and decontaminated. Furniture is designed to be capable



of supporting anticipated loads and uses. Sharp edges and corners are avoided.

5. External windows are avoided when possible; if present, windows are sealed and resistant to breakage. If the animal facility has windows that open, they are fitted with fly screens.
6. Ventilation is provided in accordance with the *Guide for Care and Use of Laboratory Animals*, including inward directional airflow.
7. Internal facility appurtenances, such as light fixtures, air ducts, and utility pipes, are arranged to minimize horizontal surface areas to facilitate cleaning and minimize the accumulation of debris or fomites.
8. Floor drain traps are filled with water, and/or appropriate disinfectant to prevent the migration of vermin and gases.
9. Cages are washed manually or in a mechanical cage washer. The mechanical cage washer has a final rinse temperature of at least 180°F. If manual cage washing is utilized, appropriate disinfectants are utilized.
10. Illumination is adequate for all activities, avoiding reflections and glare that could impede vision.
11. Emergency eyewash and shower are readily available in locations determined necessary by presence of eye and skin hazards, and in consultation with EHS.

Procedures

1. The animal facility director establishes and enforces policies, procedures, and protocols for institutional policies and emergencies. The PI assures that worker safety and health concerns are addressed as part of the animal protocol review. Prior to beginning a study, animal protocols must also be reviewed and approved by the IACUC and IBC (when applicable).
2. Safety-related SOPs specific to the animal facility are prepared or adopted in consultation with the animal facility director and appropriate safety professionals. These SOPs are available and accessible on the animal facility website and are used for training. Personnel are advised of potential hazards and are required to read and follow instructions on practices and procedures.
3. An appropriate medical surveillance program is in place, as described in the applicable section of this manual.
4. A sign incorporating safety information must be posted at the entrance to the areas where infectious materials and/or animals are housed or are manipulated. The sign must include the animal biosafety level, general occupational health requirements, personal protective equipment requirements, the supervisor's name (or other responsible personnel), telephone number, and required procedures for entering and exiting the animal areas. Identification of specific infectious agents is generally not included on signage as UO policy, but may be provided when more than one agent is being used within an animal room.
5. Access to the animal room is limited. Only those persons required for program or support



purposes are authorized to enter the facility. All persons including facility personnel, service workers, and visitors are advised of the potential hazards (natural or research pathogens, allergens, etc.) and are instructed on the appropriate safeguards.

6. PPE is to be worn as directed, as detailed in the applicable section of this manual.
7. All procedures are carefully performed to minimize the creation of aerosols or splatters of infectious materials and waste. Engineering controls such as fume hoods, biological safety cabinets, and cage change stations should be utilized whenever possible.
8. Mouth pipetting is prohibited. Mechanical pipetting devices must be used.
9. Policies for the safe handling of sharps, such as needles, scalpels, pipettes, and broken glassware must be developed and implemented. When applicable, laboratory supervisors should adopt improved engineering and work practice controls that reduce the risk of sharps injuries. Precautions, including those listed below, must always be taken with sharp items. These include:
 - a. Use of needles and syringes or other sharp instruments in the animal facility is limited to situations where there is no alternative for such procedures as parenteral injection, blood collection, or aspiration of fluids from laboratory animals and diaphragm bottles.
 - b. Disposable needles must not be bent, sheared, broken, recapped, removed from disposable syringes, or otherwise manipulated by hand before disposal. Used disposable needles must be carefully placed in puncture-resistant containers used for sharps disposal. Sharps containers should be located as close to the work site as possible.
 - c. Non-disposable sharps must be placed in a hard-walled container for transport to a processing area for decontamination, preferably by autoclaving.
 - d. Broken glassware must not be handled directly. Instead, it must be removed using a brush and dustpan, tongs, or forceps. Plastic ware should be substituted for glassware whenever possible.
 - e. Equipment containing sharp edges and corners should be avoided.
10. Equipment and work surfaces are routinely decontaminated with an appropriate disinfectant after work with an infectious agent, and after any spills, splashes, or other overt contamination.
11. Animals and plants not associated with the work being performed must not be permitted in the areas where infectious materials and/ or animals are housed or are manipulated.
12. An effective integrated pest management program is implemented.
13. All wastes from the animal room (including animal tissues, carcasses, and bedding) are transported from the animal room in leak-proof, covered containers for appropriate disposal in compliance with applicable institutional, local and state requirements. All potentially infectious materials are decontaminated before disposal using an effective method.



Monitoring

Appropriate methods are in place for assessing and monitoring exposure to potentially hazardous biologic, chemical, and physical agents where required (e.g., ionizing radiation) or where the possibility of exceeding the permissible exposure limits exists.

The radiation safety officer issues monitoring devices and manages employee exposure to radioactive materials. The laboratory safety group within EHS addresses exposure to isoflurane and implementation of scavenging equipment to minimize potential for exposure. Employees are questioned about potential exposures to biologic agents as part of the annual health review process (e.g., have they had any bites or scratches; have they contracted a disease from an animal; have they had any serious injuries or hospitalizations in the last year). The presence of physical hazards is routinely assessed during regular work duties as well as during routine facility inspections.

Personal Protective Equipment

For work with mammals:

Protective laboratory coats, gowns, or uniforms are worn to prevent contamination of personal clothing. Uniforms (scrubs) will be worn by TeACS animal care personnel at all times while in the central animal facility. All other personnel will wear lab coats or tie-back gowns.

Uniforms will not be worn outside of the animal facility, in which case a disposable gown is worn over the uniform while outside the central facility. If the individual leaves the facility for any other reason he or she will change into street clothes and will put on a clean uniform upon returning to work. Scrubs and reusable lab coats are laundered by a contracted service and are not allowed to be taken home.

Appropriate protective clothing will be worn in all areas where designated so in the standard operating procedure (e.g., cage washer, radioactive rooms, etc.). Gloves are worn to prevent skin contact with contaminated, infectious and hazardous materials, and when handling animals. At a minimum, protective equipment required to enter the facility consists of a disposable tie-back gown and shoe covers. When entering animal rooms, nitrile gloves (or alternative), hair cover, and a surgical mask must be donned.

Respirators must be used for tasks involving contact with soiled bedding (such as emptying dirty cages in the dump station), cleaning owl transport cages, and for work involving hazardous chemicals such as filling isoflurane vaporizers. These individuals will be enrolled in the UO respiratory protection program, to include initial and annual training, medical evaluation for pulmonary function, and fit testing for a suitable respirator. All staff are offered the option of voluntary N95 use.

Depending on the task, additional PPE may be indicated, including but not limited to:

- Safety glasses (where ocular hazards exist, e.g., cagewash area)
- Ear protection
- Face shield
- Safety glasses or goggles



- Steel-toed boots
- Acid resistant gloves
- Autoclave gloves
- Acid resistant plastic aprons
- Bite-resistant gloves

Gloves and personal protective equipment are removed in a manner that minimizes transfer of infectious materials outside of the areas where infectious materials and/or animals are housed or are manipulated. Persons must wash their hands after removing gloves, and before leaving the areas where infectious materials and/or animals are housed or are manipulated.

For work with aquatics:

In the AqACS Zebrafish Facility, minimum required PPE includes long pants, long nitrile gloves, and dedicated closed-toed shoes. Examples of additional protective equipment/clothing may include lab coats, surgical masks, ear protectors, face shields, plastic goggles, rubber boots, plastic shoes (Crocs), clean room gloves, exam gloves, autoclave gloves, and cryogloves.

The ZIRC staff is required to wear gloves when handling animals or contaminated tank water. Additionally, they must wear protective clothing during all washing procedures, to include plastic goggles, closed-toed shoes, plastic aprons or protective coveralls, rubber gloves, and autoclave gloves when operating the autoclave. In addition, protective clothing is worn when handling liquid nitrogen, which consists of cryogloves, face shields and closed-toed shoes. Laboratory PPE (lab coat, safety glasses, appropriate gloves) is mandatory when handling ethidium bromide (EtBr), a potential carcinogen used to detect DNA in electrophoretic analysis. Similarly, PPE is required when acids, bases, and flammables are handled in the laboratory.

The stickleback facility personnel are required to wear protective clothing during all washing procedures. Protective equipment consists of plastic goggles, closed-toed shoes, plastic aprons or protective coveralls, rubber gloves, and autoclave gloves when operating the autoclave.

At OIMB/CMLC nitrile gloves and closed toed shoes are the only required PPE. When personnel are handling, covering or bagging fish on the boat, individuals are required to wear gloves to be protected from potential hazards. For when on the boat, life jackets are also required.

In all aquatic animal facilities additional PPE may be indicated when working with Ethidium Bromide (EtBr), acids, bases, flammables, or other hazardous materials. Examples of additional protective equipment/clothing may include long pants, lab coats, surgical masks, ear protectors, face shields, plastic goggles, rubber boots, plastic shoes (Crocs), clean room gloves, exam gloves, autoclave gloves, and cryo-gloves.

*For work with birds:*

Minimum PPE for entry into the owl aviary includes tie-back gown and shoe covers. Entry into flight cages requires donning a face shield, surgical mask, nitrile gloves, and a hairnet. Thick elbow-length gloves are worn when handling owls directly.

Zebra finch rooms require use of a lab coat upon entry. Gloves and hair net must be worn when handling birds.

Medical Evaluation and Preventive Medicine

The medical surveillance program encompasses pre-work activities as well as ongoing monitoring throughout the individual's employment in animal facilities. Only individuals who are cleared for lab animal contact by the Occupational Healthcare Provider will be permitted to work with animals.

Individuals ensure the Occupational Healthcare Provider is informed of potential occupational hazards within the animal facility, to include those associated with research, animal husbandry duties, animal care and manipulations.

Personal health status may impact an individual's susceptibility to infection, ability to receive immunizations or prophylactic interventions. Therefore, all personnel and particularly women of childbearing age are to be provided information regarding immune competence and conditions that may predispose them to infection. Individuals having these conditions should be encouraged to self-identify to the institution's healthcare provider for appropriate counseling and guidance. In the event of serious illness, the Occupational Physician may request a physical examination or written release from the individual's attending physician prior to the individual returning to work.

Personnel using respirators must be enrolled in the UO Respiratory Protection Program. A pre-employment physical examination and/or health history is required for all new personnel with animal contact or exposure. Pre-employment tests may be indicated.

An allergy prevention program is an important part of medical surveillance in an animal facility. Individuals with a history of allergies (to animal dander, saliva, urine) will be allowed access to animal facilities with a physician's approval. Every three years after initial submission, each employee must submit an Occupational Health Program Questionnaire for review by the Occupational Healthcare Provider to continue to participate in the Occupational Health Program.

Applicable immunizations for the UO animal program may include:

- Tetanus toxoid (recommended for all personnel every ten years)
- Rabies vaccine (for personnel exposed to wild animals in the field)
- Prophylactic vaccinations when research is being conducted on infectious diseases for which vaccines are available



The results of any tests or exams performed will be confidential. Only the results of any tests or exams indicated on the checklist form that relate specifically to your work with animals will be submitted to the University. Medical records will only be maintained at the University Health Center.

Radiation dosimetry must be worn by personnel meeting the criteria described in The University of Oregon Radiation Safety Manual when working with ionizing radiation. Contact EHS for determination of proper dosimetry, necessary training, and authorization.

In the event of a job-related injury or illness, individuals are trained to administer first aid as applicable and report the incident to a supervisor immediately. The person should be referred to a medical professional for evaluation. They should complete and submit a Workplace Injury Report (WIR) to Safety & Risk Services as soon as possible to initiate an incident investigation.