



Safety and Risk  
Management

# OSHPAC Manual

## Occupational Safety and Health Program for Personnel with Animal Contact

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## Forward

The purpose of the Occupational Safety and Health Program for Personnel with Animal Contact (OSHPAC) is to minimize the risks of working with vertebrate animals to an acceptable level. This manual serves as Western Carolina University's written policy for occupational risk reduction for those who handle or are exposed to animals in research or teaching activities.

## Section 1: Responsibilities

An effective safety and health program requires coordination between the research community, Safety and Risk Management, WCU Health Services, and the IACUC (Institutional Animal Care and Use Committee).

### Department Heads or Directors

Ensure compliance with the OSHPAC Manual and IACUC requirements within their respective departments.

### Principal Investigators

Perform self-Inspections of their work area. Supervisors must assure that corrective action is taken and completed on deficiencies noted through inspections conducted by the Office of Safety and Risk Management, their own self inspections, or results from investigations of accidents and incidents.

The Principal Investigator for the project will ensure that personnel under his/her supervision:

- Complete the Animal Contact Questionnaire form and submit to the Safety and Risk Management Office. This form is required for employees only (faculty, staff, graduate students, & paid student workers).
- Participate in Medical Surveillance when required and obtain necessary vaccinations.
- Are appropriately oriented to health and safety risks in their working environment.
- Review WCU Health and Safety Programs that apply to his/her operation (Chemical Hygiene Plan, Biological Safety Manual, Field Research Safety Manual, etc.).
- Are provided with appropriate personal protective equipment (PPE) and are trained in its proper use and care procedures. OSHA requires that each PI/Supervisor perform a risk assessment of the hazards involved with the work area to determine the type of protective equipment needed.
- Receive appropriate training. PIs are responsible for ensuring that each new employee, whether temporary or permanent, receives appropriate safety training at the start of employment. The list below is not comprehensive and includes areas that all employees should have familiarization with. Training provided to the employee should be documented and maintained in his/her personnel file.
  - Medical response for animal bites, scratches, and traumatic injuries.
  - Recognition and response for zoonotic infections.
  - Personal hygiene practices.
  - Correct use of personal protective equipment.
  - Correct handling of waste material.

- Are involved in accident prevention activities. Employee observation and feedback to correct at-risk behaviors of coworkers and praise for safe behavior is an effective and recommended technique. Teams of employees and peers for investigating accidents and incidents and to perform workplace inspections are also recommended.

### Laboratory Personnel (employees and students)

- Follow the guidelines in all laboratory safety documents.
- Follow oral and written laboratory safety rules, regulations, and standard operating procedures required for the tasks assigned.
- Keep the work areas safe and uncluttered.
- Review and understand the hazards of materials and processes in the laboratory research prior to conducting work.
- Utilize appropriate measures to control identified hazards, including consistent and proper use of engineering controls, personal protective equipment, and administrative controls.
- Understand the purpose, capabilities, and limitations of personal protective equipment issued to them.
- Promptly report accidents and unsafe conditions to the PI/Laboratory Supervisor.
- Complete all required health, safety and environmental training.
- Participate in the medical surveillance program, when required.
- Inform the PI/ Laboratory Supervisor of any work modifications ordered by a physician as a result of medical surveillance, an occupational injury, or exposure.

### Additional Duties of Laboratory Personnel Working Autonomously

In addition to the above responsibilities, laboratory personnel working autonomously or performing independent research are also responsible for the following:

- Notify and consult with the PI/Laboratory Supervisor, in advance, if they intend to deviate from their written scope or scale of work.
- Provide the PI/Laboratory Supervisor with a written scope of work for their proposed research.
- Provide appropriate oversight, training and safety information to laboratory personnel they supervise or direct.

Note: Generally, it is prudent to avoid working in a laboratory building alone. Under normal working conditions arrangements should be made between individuals working in separate laboratories outside of working hours to crosscheck periodically. Experiments known to be hazardous should not be undertaken by a worker who is alone in a laboratory.

### Safety and Risk Management Office

- Coordinate the OSHPAC program for the University.
- Work in cooperation with supervisors and WCU Health Services to improve efficiency and effectiveness of the medical surveillance aspect of the program.

- Work in cooperation with supervisors and IACUC to ensure up to date Occupational Health and Safety training modules are supplied.
- Perform regular laboratory inspections and provide reports.

### Institutional Animal Care and Use Committee (IACUC)

- Assures that animal care and use complies with all federal, state, and local regulations as well as university policy and assurances.
- Reviews and investigates concerns or complaints involving the appropriate care and use of animals.
- Negotiates modifications, suspends or terminates animal activities deemed not in compliance with those regulations.

## Section 2: Program Summary

The Occupational Safety and Health Program for Personnel with Animal Contact (OSHPAC) is applicable to all employees involved in the direct care of vertebrate animals and their living quarters, including:

- Full time, part time, and temporary WCU personnel involved in animal care areas that house animals for research and/or teaching purposes.
- Personnel conducting field studies or wildlife research.
- Personnel listed on an Institutional Animal Care and Use (IACUC) protocol.
- Other personnel who may reasonably be expected to come in contact with vertebrate animals (live or dead), their viable tissues, body fluids or wastes (facilities management, security, housekeeping, etc.).

Participants are organized into categories that reflect the specific surveillance needs of the individuals based on real or potential occupational exposure to specific species of animals.

**Category 1:** Personnel whose contact is limited to activities in teaching laboratories and do not contact the animals directly (i.e. housekeeping, maintenance, observational studies, visitors, etc.).

**Category 2:** Personnel who work in animal husbandry or research and have regular contact with animals or their tissues, fluids, waste, etc.

The OSHPAC Program Components include:

- Hazard Identification and Risk Assessment
- Personnel Training
- Facilities, Procedures, and Monitoring
- Personal Protective Equipment
- Medical Surveillance (as applicable based on the risk assessment)

The assessment of risk will be determined by frequency of contact, intensity of exposure, hazards associated with the animals being handled, hazardous properties of agents used in research, the susceptibility of individual employees, the hazard-control measures available, and the occupational

history of individual employees. Baseline risk assessment will involve completion of an Animal Contact Questionnaire and, depending on personnel category, may include medical surveillance.

### Section 3: Program Enrollment

**Category 1 personnel** will not enroll in the OSHPAC, but must receive training specific to their animal exposure. The supervisor is responsible for providing and documenting the training.

**Category 2 personnel** initially enrolling into the program must complete the Animal Contact Questionnaire and return it to the Safety and Risk Management Office. Enrollment of Category 2 personnel in the OSHPAC should occur prior to the participant's exposure to animals, their viable tissues, body fluids or wastes. The Principal Investigator has a central role in ensuring personnel health and safety in the workplace, and is responsible for ensuring that all personnel listed on new and continuing animal use protocols are included in the OSHPAC program.

For employees who are already enrolled in the program and have submitted a previous questionnaire, a subsequent questionnaire may be required as described below:

- Whenever there is a change in health status that could increase your risk of health problems due to exposures to animals, such as developing a new onset asthma or contact allergy.
- Whenever there is a change in your job description dealing with animal handling e.g. from changing bedding to shaving animals.
- Whenever there is a change in animal species or biological materials.

The Institutional Animal Use and Care Committee (IACUC) is responsible for tracking participation in the OSHPAC.

### Animal Contact Safety Training

All personnel enrolled in the program will receive training on health risks associated with animal contact, primarily animal allergies and zoonotic diseases, and the importance of medical follow-up if problems arise. The training is administered by the Safety and Risk Management Office.

Personnel must also receive training directly from their supervisor regarding clearly defined procedures, associated hazards, and any safeguards such as personal protective equipment (PPE) necessary to conduct their duties safely. The training must be documented.

Training on animal care and use regulations, as well as institutional policies and procedures, is required for personnel listed on an IACUC protocol and is administered by the Office of Research Administration.

### Medical Surveillance Program

The requirement for medical surveillance is determined based on a risk assessment that focuses on the type and frequency of exposure to animals. If determined to be necessary for the research study, the Safety and Risk Management office will notify the individual for participation in the Animal Contact Medical Surveillance Program. The program consists of a confidential medical evaluation, follow-up assessments, and tests/immunizations as needed.

Individuals enrolled into the Medical Surveillance Program are required to complete a medical evaluation with WCU Health Services. Health Services will determine if further clinical interaction or added precautions are needed and will maintain the medical records per HIPAA Standards.

All personnel working with animals should receive tetanus vaccination every 10 years, and rabies immunization or proof of titer is recommended for those who have contact with random source or wild mammals, or mammals kept outdoors. Additional special procedures/vaccinations may be necessary for certain projects such as work with non-human primates or infectious diseases for which effective vaccines are available. The supervisor is responsible for notifying employees of vaccination requirements and ensuring that vaccinations are received when recommended by Health Services.

Additional OSHA Standards requiring medical surveillance may also pertain depending on the type of animal research being conducted. These may include, but are not limited to, the Occupational Noise Exposure Standard, the Respiratory Protection Standard, and the Bloodborne Pathogens Standard.

If an employee wishes to decline participation in a portion or the entire Medical Surveillance Program the supervisor needs to be informed. The supervisor must consult with WCU Health Services in circumstances where an employee refuses to comply with physician's recommendations. Declining participation in a required element may result in exclusion from certain positions or work activities.

### **Medical Surveillance Renewal**

A renewal is needed when there are changes in work assignment (i.e., change in species, contact levels) or changes in personal health status (development of a chronic illness or condition, immune suppression, pregnancy, development of animal or environmental allergies).

### **Medical Program Exemptions**

Individuals that do not meet the criteria for the Medical Surveillance Program, such as those who may have incidental or infrequent exposure due to their work near animals or observing animals in the field are not required to participate in the medical surveillance program. They should however be advised that some people are at increased risk from animal-associated disease and the following individuals should contact WCU Health Services with any concerns regarding their health and contact with animals:

- Women who are pregnant or planning to become pregnant
- Individuals with a compromised immune system
- Individuals with known animal allergies

## Section 4: Hazards Associated with Animal Contact

There are many kinds of physical, environmental, or biological hazards associated with the use of animals in teaching or research. Some examples are provided below:

Potential Risk of...	Due to...	Examples
Back Injury and other acute injury (crush, abrasion, laceration)	Lifting, pushing, twisting, falling, getting stepped on, kicked, etc.	Feed bags, cage racks, restraining large animals, slipping on wet floors
Burns	Hot water, steam	Cage washer, autoclave, steam cleaner
Ocular injury	Particulates, UV, Chemicals	Bedding, UV lights, chemicals
Chronic injury	Repetitive motion	Cage changes
Hearing loss	Excessive noises	Cage washing areas, dog runs
Electrical Shock	Faulty electrical wiring	Wet floors, ungrounded equipment
Puncture wound	Bites or scratches	Unrestrained animals
Needle stick	Injecting or bleeding	Improper sharps disposal
Exposure	Allergens, biohazards, chemicals, radiation	Animal hair, dander, serum, animal proteins. Human pathogens, zoonotic agents (latent or introduced). Hazardous materials used for testing, cleaning, anesthetics, etc. Research isotopes, X-ray equipment.

### Best Practices to Minimize Animal Hazards

A hazard control program to reduce exposure to animal hazards should employ the following hierarchy of controls:

- **Eliminate** the hazard, for example use computer models or cell culture in place of in vivo studies involving animals.
- **Substitute** the hazard with the use of a less hazardous component such as using a comparable non-aggressive species in place of an aggressive species.
- **Engineering controls** to isolate and contain the hazard such as a biosafety cabinet or chemical fume hood.
- **Administrative controls** to minimize exposure such as training, standard safety procedures, medical surveillance, scheduling to reduce contact, and personal hygiene practices.
- **Personal protective equipment** should be implemented after all other attempts to reduce the hazard (as described above) have been put in place. PPE includes barriers such as gloves, face shields, eye glasses, disposable gowns, respirator, etc.).

Safe work practices and an understanding of the hazards associated with the procedures performed are the most important elements in controlling exposures.

The following safe work practices should be adhered to:

- Restrict access and provide warnings to the work area to reduce the number of employees at risk of exposure.
- Personal hygiene is essential, always wash hands before and after handling animals and removing gloves.
- Avoid exposure by ingestion, do not eat, drink, smoke, apply cosmetics, etc., in areas used for the care and use of animals. Keep hands away from mouth and protect mouth from splash hazards. Never pipette by mouth, always use an automatic pipetting device.
- Decontaminate surfaces before and after work and immediately after a spill of hazardous agent.
- Practice good housekeeping and maintain animal care areas in a clean and organized manner. Prevent clutter from accumulating and becoming contaminated. Decontaminate surfaces and floors regularly and use dust suppression methods (wet mopping, HEPA filtered vacuum, etc.).
- Always wear the required personal protective equipment (PPE).
- Reduce the risk of percutaneous exposure by eliminating the use of sharp objects whenever possible, use safer sharp devices (self-sheathing, needleless, etc.), use puncture-resistant sharps disposal containers, and handle animals with proper restraint to prevent scratches and bites.
- Avoid exposure by inhalation through containment controls (fume hood, biological safety cabinet, etc.), and handling fluids carefully to avoid spills, splashes, and generation of aerosols.
- Waste disposal should be on a regular schedule as determined by the Safety Office based on the amount of material and risk posed by the hazardous agents.
- Personnel handling animals must be properly trained in safe techniques to restrain animals.
- Cage cleaning methods must be established to prevent exposure to contaminated bedding material, hazardous cleaning chemicals, noise and ergonomic hazards, excessive heat exposure, and any sharp edges on cages.

### Personal Protective Equipment (PPE)

PPE provides a barrier to a potentially hazardous agent and is the final measure for controlling exposure. PPE is selected to prevent contact with eyes, skin, mucous membranes, and personnel clothing and should provide sufficient coverage to protect the entire area from potential contact.

- Glove material should be selected to provide an adequate barrier to the chemical hazard or risk of animal bite or scratch.
- Protective clothing should not be worn outside the work area and should not be taken home. A laundry service should be provided or the use of disposable gowns.
- Safety shoes are recommended for personnel working in the field, or handling heavy equipment.
- Safety glasses should be worn to protect from projectiles, minor splashes, and to prevent eye/hand contact.
- Face protection (shield) should be used to prevent exposure from splashes of infectious or hazardous liquids and when cleaning agents are used under pressure.

- Respiratory protection may be necessary to control aerosol exposures. The Safety and Risk Management Office will evaluate the exposure risk and if necessary enroll personnel in the Respiratory Protection Program.

## Section 5: Accidents and Illness

Personnel should notify their supervisor immediately in the event of an accident, animal bite, scratch or allergic reaction so appropriate medical care is received and proper reporting procedures implemented.

### **Accidental Injuries**

Accidental injuries to students, staff, and visitors while on University property or during University employment or activity must be reported to the Safety and Risk Management Office within 24 hours.

### **Occupational Illness**

Occupational illnesses are medical disorders resulting from exposures to workplace environmental factors such as chemicals, biological agents, noise, repetitive motion, radiation, etc. The exposure may be a short-term over exposure or may occur over a long period of time. Acute illness from short-term over exposure and any direct exposure to blood or body fluids are to be reported to the Safety Office following the same procedure as accidental injuries. Illness from long term suspected exposures are to be reported at the time the employee is informed of a possible chronic illness by a medical physician.

### **Near Miss Incidents (Close Calls)**

Incidents which do not result in an injury or illness but could have under slightly different circumstances should also be reported to the Safety Office in order to assess the need for corrective action and prevent an incident in the future.

### **WCU Health Services**

All injured personnel should be directed to WCU Health Services when practical. If the injury is severe, dial 828-227-8911 (on campus) or 911 (off campus) immediately.

### **Employee Statement Form**

Employees involved in an accident or occupational illness will be required to complete an "Employee Statement" form providing information about the accident or illness. The form is available from the Safety Office (828-227-7443). The immediate supervisor of an employee involved in an accident or occupational illness is responsible for determining the cause of the accident or illness and forwarding the Employee Statement form to the Safety Office. As the manager in charge of daily work activities, supervisors are expected to determine what happened, why it happened, and how it happened.

### **Follow up Investigation**

All accidents, illnesses, and fires will be investigated by the Safety Office for the purpose of analyzing the circumstances surrounding the event, the possible need for corrective action to prevent future

occurrence, and the compensability of a reported injury or illness under the terms of the North Carolina Workers' Compensation Act. A safety follow-up report will be completed for all accidents.

### **Possible Rabies Exposure**

If you are exposed to a potentially rabid animal, wash the wound thoroughly with soap and water, as well as isopropyl alcohol if available. Allow the wound to bleed unless there is risk for significant blood loss, and seek medical attention immediately. A health care provider will care for the wound and will assess the risk for rabies exposure. The following information should be provided to the health care provider:

- the geographic location of the incident
- the type of animal that was involved
- how the exposure occurred (provoked or unprovoked)
- the vaccination status of the animal
- whether the animal can be safely captured and tested for rabies

Steps taken by the health care provider will depend on the circumstances of the bite. Your health care practitioner should consult state or local health departments, veterinarians, or animal control officers to make an informed assessment of the incident and to request assistance. The important factor is that you seek care promptly after you are bitten by the animal.

### **Section 6: References**

Requirements for an occupational health program for personnel working with laboratory animals are found in the following references:

- Guide for the Care and Use of Laboratory Animals 8<sup>th</sup> ed. (National Research Council, 2011)
- Occupational Health and Safety in the Care and Use of Research Animals (National Research Council, 1997)
- Biosafety in Microbiological and Biomedical Laboratories, 5th ed. (US Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health, 2009)
- Code of Federal Regulations, Title 10, Part 20 and Title 29, Part 1910

## Appendix A - Emergency Contacts

In the event of an emergency affecting campus, the [Campus Emergencies](#) webpage is the official source for WCU emergency related information.

### Emergency Telephone Numbers

	Normal Business Hours	Evenings/Weekends
EMERGENCY Fire/Police/Medical	828-227-8911 or 911	828-227-8911 or 911
University Police Department NON-EMERGENCY	828-227-7301	828-227-7301
Safety and Risk Management	828-227-7443	828-227-7443
Chemical Spill	828-227-7443	828-227-7443
Biological Spill	828-227-7443	828-227-7443
Radiation Exposure	828-227-7443	828-227-7443
Workers' Compensation	828-227-7443	828-227-7443
NC Poison Control Center	1-800-84 TOXIN (1-800-848-6946)	1-800-84 TOXIN (1-800-848-6946)
N.C. Radiation Protection Section	919-814-2250	800-858-0368 Emergency after hours
Jackson County Department of Public Health	828-586-8994	8:00am - 5:00pm Monday-Friday
<b>Work Management Centers</b>		
Facilities Management	828-227-7442	828-227-7224
WCU Health Services	828-227-7640	828-227-8911 EMS