Guidelines for Occupational Health and Safety in the Care and Use of Animals

University Police and Safety Office,
Office of the Vice President for Finance and Administration
University Police and Safety—Dept. 3300
1523 – 12th Avenue North • P O Box 6050 • Fargo, ND 58108-6050
Phone 701.231.7759 • Fax 701.231.6739

Department of Sponsored Programs Administration
Office of the Vice President for Research and Creative Activity—Dept. 4000
1735 NDSU Research Park Drive • P.O. Box 6050 • Fargo, ND 58108-6050
Phone 701.231.8045 • Fax 701.231.8098
ndsu.research@ndsu.edu
# Table of Contents

PREFACE .................................................................................................................................................................... 4

POLICY STATEMENT .................................................................................................................................................. 5

SECTION I: OUTLINE OF THE NDSU ANIMAL CARE & USE OCCUPATIONAL HEALTH AND SAFETY PROGRAM .......................................................................................................................... 6
  Part A: Program Goals & Responsibilities ........................................................................................................... 6
  Part B: Occupational Health and Safety Program at NDSU ................................................................................. 6
  Part C: Principal Elements of an Animal Care & Use OHS Program ............................................................... 9

SECTION II: HAZARDS AND RISKS ...................................................................................................................... 11
  Part A: Defining Hazard and Risk ......................................................................................................................... 11
  Part B: Animal Workplace Hazards & Risks ........................................................................................................ 11
    1. Types of Hazards ........................................................................................................................................... 11
    2. Animal-related Hazards & Risks ...................................................................................................................... 12
    3. Non-Animal Risks ......................................................................................................................................... 13
    4. Risk Factors to Individual Personnel ......................................................................................................... 14
  Part C: Levels of Risk and Participation in the OHS Program .............................................................................. 15
    1. Risk Self-Assessment Questions .................................................................................................................. 15
    2. Health Assessments/Examinations: ............................................................................................................... 15
    3. Medical Provider Reports ............................................................................................................................ 16
    4. Levels of Risk & Participation ...................................................................................................................... 17
  Part D: Avoiding Hazards & Risks: Prevention & Control Strategies ............................................................. 17
    1. Exposure Control & Prevention ................................................................................................................... 17
    2. Information on Education & Training ........................................................................................................ 19
    3. NDSU Training Program ............................................................................................................................. 19
    4. Emergency Procedures & Reporting Incidents, Injuries, or Illnesses ......................................................... 20
    5. Animal Care after Human Injury ................................................................................................................ 21
  Part E: Students in Classes, Volunteers and Ancillary Personnel ....................................................................... 21
    1. Students in Classes ....................................................................................................................................... 21
    2. Volunteers, Guests, Visiting Researchers/Scholars .................................................................................... 22
    3. Ancillary Personnel ...................................................................................................................................... 22

SECTION III: PROGRAM PROCESS ..................................................................................................................... 23

PROGRAM PROCESS FLOWCHART ..................................................................................................................... 24

SECTION IV: PROGRAM EVALUATION .............................................................................................................. 25

APPENDIX A – INCIDENT REPORT .................................................................................................................... 26

APPENDIX B EMPLOYEE ........................................................................................................................................ 28

APPENDIX C EMPLOYEE ........................................................................................................................................ 30
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMPLOYEE HEPATITIS B VACCINATION SERIES</td>
<td>30</td>
</tr>
<tr>
<td>APPENDIX D EMPLOYEE</td>
<td>31</td>
</tr>
<tr>
<td>HEALTH ASSESSMENT FOR PERSONS INVOLVED IN ANIMAL PROJECTS</td>
<td>31</td>
</tr>
<tr>
<td>APPENDIX E EMPLOYEE</td>
<td>34</td>
</tr>
<tr>
<td>MEDICAL PROVIDER HEALTH ASSESSMENT REPORT TO NDSU</td>
<td>34</td>
</tr>
<tr>
<td>WORKS CITED</td>
<td>35</td>
</tr>
<tr>
<td>WORKS CONSULTED</td>
<td>35</td>
</tr>
</tbody>
</table>
PREFACE

The NDSU Institutional Animal Care and Use Committee (IACUC), in cooperation with NDSU’s University Police and Safety Office, has developed these Guidelines for Occupational Health and Safety in the Care and Use of Animals aimed at making certain that the health and safety of faculty, staff, and students whose activities involve the use of animals is maintained and addressed appropriately. The Guidelines detail the program for occupational health and safety in regards to animal use on our campus. They are modeled after the guidelines set forth in the Guide for the Care and Use of Laboratory Animals (Institute of Laboratory Animal Resources, National Research Council, 1996) and the Occupational Health and Safety in the Care and Use of Research Animals guidebook (Institute of Laboratory Animal Resources, National Research Council, 2003).

The program is administrated under NDSU’s Safety and Risk Management Program (both Workers Compensation and University Police and Safety Office) with assistance from the IACUC Office (Office of Sponsored Programs Administration and the Office of the Vice President for Research, Creative Activities and Technology Transfer).

Questions about the Occupational Health and Safety Program can be directed to the University Police and Safety Office (231-7759, Animal Nutrition and Physiology Center South Building), Workers Compensation (231-9587,), the IACUC Attending Veterinarian (231-7830,) or the IACUC Office (231-8114, 1735 NDSU Research Park Drive).

Additional copies of the NDSU Guidelines for Occupational Health and Safety in the Care and Use of Animals are available from the University Police and Safety Office and IACUC Office.

NDSU does not discriminate in its programs and activities on the basis of age, color, gender expression/identity, genetic information, marital status, national origin, participation in lawful off-campus activity, physical or mental disability, pregnancy, public assistance status, race, religion, sex, sexual orientation, spousal relationship to current employee, or veteran status, as applicable. Direct inquiries to Vice Provost for Title IX/ADA Coordinator, Old Main 201, NDSU Main Campus, 701-231-7708, ndsu.eoaa.ndsu.edu.
Occupational Health and Safety in the Care and Use of Animals

POLICY STATEMENT

As stated by the President of North Dakota State University, the University is committed to providing a safe and healthy work environment for all of its students and employees.

Exposure to or working with vertebrate animals, in particular, is not risk free. Therefore, people who come into contact with vertebrate animals must be made aware of the potential hazards associated with such contact. Principal investigators and supervisors are responsible for the safety and education of the personnel they supervise regarding working with animals, whether those individuals are paid employees, volunteers, or students. Personnel being properly informed, presented with good examples, and working safely greatly reduces the potential risks involved in working with animals. Safety must not be sacrificed for any reason, be it production, time limitations, or financial costs.

The success of the occupational health and safety program as related to animals is dependent upon active participation from and cooperation of administrators, faculty, staff, and students. Participation in the program is required for all people who are at potential risk—to include those who have substantial contact with animals. This includes animal researchers, caretakers, technicians, students, volunteers, and veterinarians; and also facility maintenance engineers, custodians, secretaries, housekeepers, security, and other staff working in animal areas.

By working together within this program for occupational health and safety, we will help to make certain a safe, professional, and productive environment of animal care and use for personnel and animals alike.

Sincerely,

[Signatures]

Kelly A. Rusch, Ph.D., P.E.
Vice President for Research & Creativity Activity

Bruce Bollinger
Vice President for Finance & Administration
SECTION I: OUTLINE OF THE NDSU ANIMAL CARE & USE OCCUPATIONAL HEALTH AND SAFETY PROGRAM

Part A: Program Goals & Responsibilities

The overall goal of an occupational health and safety program is to prevent occupational injury, illness and exposure.

North Dakota State University Police and Safety Office, the IACUC and individual investigators and supervisors will:

1.) Provide those individuals who have substantial contact with animals appropriate guidelines for occupational health and safety in the care and use of animals that outline general health and safety issues associated with working with animals
2.) Provide those individuals who have substantial contact with animals the required occupational health and safety training program
3.) Provide those individuals who have substantial contact with animals a hazard and risk assessment; and
4.) Make available to those individuals who have substantial contact with animals any necessary medical evaluations, vaccinations, or immunizations (e.g., tetanus, rabies, etc.) at a cost to the department

Part B: Occupational Health and Safety Program at NDSU

Administration: The animal occupational health and safety program is administrated under NDSU’s Safety and Risk Management Program and the IACUC Office (Office of Sponsored Programs Administration and the Office of the Vice President for Research and Creative Activity).

NDSU’s employee safety policy (Policy 166) and program is part of the required North Dakota Workforce Safety and Insurance (WSI) and Office of Management of Budget (OMB) Risk Management Program.

Many different campus offices and entities work together to create an encompassing and effective program of occupational health and safety in the care and use of animals at NDSU.

Offices, committees, personnel, and their functions, include:

The IACUC Office
- Processes IACUC protocols and records
- Helps to coordinate the OHS program and communication between different offices and individuals
- Serves as a contact place and information center for Principal Investigators (PIs), personnel, and various collaborating offices about the IACUC and the animal OHS program
- Maintains a copy of emergency contact list for animal facilities
- Maintains documentation of personnel training for proper use and care of animals in paper and database files
The IACUC
- Helps to identify potential medical risks, animal housing facility designs, physical hazards, etc., during protocol review
- Refers investigators to other committees (Institutional Biosafety Committee, Radiation Safety, etc.)
- Suggests appropriate training sessions for investigators and their personnel
- Involves the University Police and Safety Office or a representative of the UP&SO as an executive member of the IACUC
- Assists in the implementation of the OHS Program

The Attending Veterinarian
- Aids PIs in the formulation of their research projects, helping to identify potential risks and hazards
- Suggests alternatives to dangerous procedures, where possible
- Refers PIs to other committees for protocol review
- Alerts PIs to training requirements
- Maintains a copy of emergency contact list for animal facilities

The Office of Sponsored Programs Administration/Office of the Vice President for Research, and Creative Activity:
- Sponsors and administers the IACUC, the IRB, the IBC,
- Supports the IACUC Office & programs (financially, administratively, and organizationally)

The University Police and Safety Office
- Administer training programs in Baseline and Supervisor Safety Training, Lab Safety, Chemical Safety, and Radiation Safety
- Assists in coordinating plans and procedures for safety emergencies and concerns
- Assists in identifying potential work place hazards during protocol review (e.g., working with chemicals or radiation, fire exits and extinguishers, etc.)
- Assists in providing information to personnel in obtaining appropriate personal protective equipment (PPE) (e.g., respirators)
- Perform ergonomic assessments as requested for operations and tasks that involve repetitive lifting and movement
- Evaluate performance of fume hoods, safety showers, eye wash stations, chemical storage; fire alarms and drills; and other equipment
- Coordinate incident reporting and investigation of all events and near misses
- Coordinate workers compensation claims and act as a liaison between medical providers, injured employees, and their supervisors
- Update the written OHS Program for the Care and Use of Animals per IACUC requirements
- Request procedure and price updates from the designated medical provider
- Assists in the implementation of the OHS Program and maintain data base of participants

Campus Police
- Respond to emergency situations and work with IACUC Office on emergency procedures
- Maintain a copy of emergency contact list for animal facilities

Designated Health Care Providers
- Provides evaluation of health assessments at the department’s expense
- Provide medical exams and immunizations to high-risk and other designated personnel
Help to identify further risks for personnel based on medical history or conditions (e.g., pregnant women, pre-existing allergies)

The designated medical providers (DMP) for NDSU’s occupational health and safety concerns are Sanford Clinic Occupational Medicine and Essentia Health West Fargo Clinic. It is recommended that any required post-offer/pre-hire exams or testing be conducted only at a provider currently on the DMP list provided by UP&SO.

- **For employees:**
  - Sanford Clinic Occupational Medicine, 3828 12th Ave North, Fargo; 234-4700
  - Essentia Health West Fargo Clinic, 1401 13th Ave East, West Fargo; 364-5757

- **For students who are not employees:** NDSU Student Health Service; 231-7331

UP&SO and Facilities Management
- Disposes of hazardous waste for researchers
- Repairs and maintains facility equipment and machinery (Facilities)

Individual Campus Departments
- Review and update the functional and environmental demands/requirements associated with the work to be performed for each position, class or project
- Identify and require personnel who have **substantial contact with animals** to participate in the Occupational Health & Safety in the Use of Animals Program
- Complete the Hazard and Risk Assessment for high risk positions/substantial animal contact
- **Cover the cost** of certain medical/evaluation exams, immunizations, and vaccinations
- Pay for equipment purchases and/or repairs
- Purchase personal protective equipment (PPE) and enforce its use
- Implement any and all precautions or preventive measures outlined by the medical provider

Principal Investigators
- Design protocols involving animals
- Work with the Attending Vet, IACUC, IRB, IBC, and UP&SO to identify potential problems and risks to personnel
- After the risks have been identified, complete the Hazard and Risk Assessment for all personnel he/she supervises, based on the type of work they will be doing (e.g., allergies; kicks, bites, scratches; zoonosis; infectious agents)
- Provide each individual who has substantial contact with animals a completed Hazard and Risk Assessment Form and explain the process of the medical evaluation
- **Pay for certain medical costs like exams and immunizations** that are associated with particular procedures, projects, or persons

Staff, Students
- Responsible for personal hygiene and safety
- Comply with recommended and required rules and guidelines for occupational health and safety in animal care and use
- Attend and participate in training programs (Occupational Health and Safety, Baseline, etc.)
- Complete the **Class Participation Waiver**.
Part C: Principal Elements of an Animal Care & Use OHS Program

The following elements and examples are essential components of an effective animal-use occupational health and safety program:

Personnel Training
- Training for specific protocol and department Safe Operating Procedures is the sole responsibility of the Department, PI and Supervisor
- Training will provide personnel with clear definitions and descriptions of their duties and the hazards associated with those duties (such as zoonosis, chemical hazards, physical hazards like radiation and allergies, handling waste materials)
- Training will provide personnel with information about levels of risk associated with working with animals and personal health conditions (e.g., special precautions to avoid hazards for pregnant women or persons with chronic diseases, etc.)
- Make certain that personnel are proficient in implementing safety precautions
- Departments are responsible for maintaining their department specific training records

Hazard and Risk Assessment (Appendix C)
- Identifies hazardous biological, chemical, or physical agents
- Identifies potential hazards that are inherent to animal work, such as animal bites, chemical cleaning agents, allergens, or zoonosis
- Assesses extent and level of participation in occupational health and safety training program on the hazards posed by the animals and materials used; the exposure intensity, duration, or frequency; the susceptibility of the personnel; and the history of occupational illness or injury in the particular workplace
- PI or supervisor completes the Hazard and Risk Assessment for those who have substantial contact with animals, provides a copy to the individuals and sends copy to the Safety Office

Personal Hygiene
- Set high standards for personnel cleanliness and hygiene
- Require suitable clothing, gloves, masks, head covers, coats, coveralls, shoe covers, etc.
- Require hand-washing and changing clothes where necessary
- Make certain that all laboratory personnel, including service and custodial staff and visitors, understand the chemical and biological dangers associated with the lab or facility
- Affix biohazard signs on doors outside laboratories where biohazardous material is handled or stored (available from the University Police and Safety Office). The protocol to be followed in case of a spill of the biohazardous materials should be posted in a visible location in the laboratory or facility
- **Restrict laboratory or facility access and keep doors locked when unattended**
- Keep the facility clean and free of clutter. Make certain that emergency safety devices (fire extinguishers, eye washes, etc.) are easily accessible and in working order
- Make certain that all personnel, students and visitors wear protective clothing such as lab coats, gloves and safety glasses. Remove lab coats or gowns before leaving the laboratory or facility
- Do not eat, drink, smoke, store food and food utensils, apply cosmetics or lip balm, or insert or remove contact lenses while in the facility or laboratory
- Restraine long hair. Avoid wearing loose clothing or jewelry, shorts, open-toed shoes or sandals.
- Carry out procedures so as to minimize risks of splashes, spills, and generation of aerosols
- Pipetting by mouth is not allowed
Use hypodermic needles only when absolutely necessary. Do not bend, break, shear or recap used needles. Use the appropriate sharps containers

Use a two-person team to inoculate animals when appropriate

Wash hands after handling infectious material and before leaving the laboratory

Decontaminate all contaminated materials before disposal or reuse

Decontaminate laboratory surfaces following any spill of biohazardous materials and at the end of each workday.

Report all spills, accidents, and incidents immediately (as required by the NDSU Safety and Risk Management Program 24 hour reporting requirement)

Facilities, Procedures, and Monitoring

- Maintain cleanliness of facilities and supplies
- Consider ergonomics and request for assessments
- Inspect, maintain, and repair equipment
- Dispose of contaminated bedding properly

Animal Experimentation involving Hazards

- PI’s, departments and supervisors must maintain up-to-date written policies governing experimentation with hazardous biological, chemical, physical agents
- Individuals must use recommended practices and procedures, and facility requirements for working with hazardous biological agents and materials
- Individuals must use special facilities and safety equipment as recommended
- Individuals must dispose of hazardous or contaminated waste properly

Personal Protection

- Obtain required clothing, shoes, shoe covers, gloves, arm protectors, masks, face shields, hearing protection, respirators, etc. from your supervisors

Medical Evaluation and Preventive Medicine for Personnel:

- Comply with required medical evaluations for high risk positions and those with substantial contact with animals
- Comply with required immunizations, and vaccinations for particular individuals
- Inform personnel how to report accidents, injuries, illnesses, exposures and property damage
SECTION II: HAZARDS AND RISKS

Part A: Defining Hazard and Risk

What is a hazard?
A hazard is the inherent danger involved in working with a particular animal, material, equipment, process, procedure or system.

What is risk?
Risk is a measure of the likelihood of a consequence from working with a certain hazard.

What are the hazards involved in working with animals and animal projects?
There are many hazards involved in working with animals. These hazards range from minor to very serious, and can include things like allergies, bites, zoonotic diseases, working with hazardous chemicals or radiation, and handling contaminated waste. Information follows in this document that describes many of the potential hazards individually.

What are the risks involved in working with animals?
The risks involved range from a low to high potential of injury or illness from the identified hazards.

What can be done to avoid hazards and reduce risk?
The primary way to avoid problems in work with animals is to know what the hazards are and what precautions to take in order to avoid them.

Part B: Animal Workplace Hazards & Risks

1. Types of Hazards

The following chart outlines some, but not all categories and types of potential hazards that may be present in work with animals.

Example: Types of Hazards that May be Present during Work on Animal Protocols.

<table>
<thead>
<tr>
<th>Types</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Hazards</td>
<td>Bites, sprains, scratches, sharps, lasers, machinery, slips, falls</td>
</tr>
<tr>
<td>Chemical Hazards</td>
<td>Burns, skin irritations, inhalation, ingestion</td>
</tr>
<tr>
<td>Zoonosis</td>
<td>Human diseases acquired from animals</td>
</tr>
<tr>
<td>Allergens</td>
<td>Allergies to rodents, cats, dogs (urine, contaminated litter, dander, hair)</td>
</tr>
<tr>
<td>Ergonomics</td>
<td>Heavy lifting, repetitive motion, body mechanics, posture</td>
</tr>
<tr>
<td>Infectious Agents</td>
<td>Bacteria, fungi, parasites, protozoa, rickettsia, viruses, blood-borne pathogens</td>
</tr>
</tbody>
</table>
2. Animal-related Hazards & Risks

This model animal risk assessment summary is for risk ranks of animal-related activities for immunocompetent adult humans. Risk ranks are based on both the likelihood of an incident and the seriousness of the possible abnormal condition. Risk levels for experimental agents are not included in the chart, and use of experimental hazardous agents requires review and approval of the appropriate safety committee.

<table>
<thead>
<tr>
<th>Risk of</th>
<th>Bite wound (a)</th>
<th>Scratch wound (a)</th>
<th>Microbial flora exposure (b)</th>
<th>Allergy development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chick embryo</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Fish</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Reptiles</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Amphibians</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Mouse</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Rat</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Hamster</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Guinea Pig</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Rabbit</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Cat</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Dog</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Sheep, Goat</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Pig</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Wild mammals &amp; birds</td>
<td>4 (if handled)</td>
<td>4 (if handled)</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Cattle</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Bison</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Horse</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Key:
1 = No known risk
2 = Minor risk
3 = Moderate risk
4 = Significant risk
5 = High risk

a = Potential microbial contamination and physical trauma are both included. Tetanus prophylaxis is required for all staff members.

b = Risk of inhalant, ocular, or oral exposure to microbial or parasitic agents from animals acquired through institutionally approved vendors.

Zoonosis. Diseases communicable from animals to humans are called zoonosis. In many cases the animals show little, if any, sign of illness. A bacterium in the normal flora of a healthy animal may cause a serious disorder in a person exposed to it. While the animals have developed “resistance” to these microorganisms, humans with no previous exposure to the agent lack this protective immunity. Therefore, one should always be aware of possible consequences when working with each type of animal and then take precautions to minimize the risk of infection. Information can be found in the Animal Welfare and IACUC Blackboard Course Documents.

Zoonosis can be acquired through various routes of infection, including contact with animal products, the animal itself, or a byproduct of the animal. The routes of infection include ingestion, inhalation, and penetration of broken or unbroken skin, wound penetration, and contact with the mucous membranes of the eyes, nose, and mouth via the following:
- Animal bites and scratches;
- Contact with animal tissues and cultures, body fluids, and excreta;
- Inanimate objects that are contaminated by the animal or animal contact; and
- Exposure to aerosols produced as a result of activities such as cleaning cages.

Individuals whose work involves substantial exposure to or handling of animals and animal tissues, body fluids, and cell cultures should be aware of the possibility of the illnesses that may be transmitted by contact with animals. In the zoonosis training module, at-risk individuals are informed of laboratory-acquired zoonosis, causative microorganisms, animals most commonly in contact with humans, appropriate animal handling procedures, personal hygiene, and protective equipment specific to the animal type and use. Information can be found in the Animal Welfare and IACUC Blackboard Course Documents.

All known human exposure to a zoonotic disease is considered an incident and must be immediately reported by the individual to their supervisor or principal investigator for appropriate medical treatment and investigation. An NDSU Report of Occupational Incident/Injury/Illness/Exposure Report must also be filed immediately or within 24 hours to the UP&SO.

If a zoonotic disease is suspected in an animal, the principal investigator or supervisor and the NDSU Attending Veterinarian shall be notified immediately for appropriate action.

**Allergens.** Approximately 20% of people who work with animals have animal allergies. Animal allergies may be present before an individual begins formal work with animals, or the allergy may develop during the course of the individual’s work with animals. Animal hair, fur, skin, dander, urine, saliva, scratches, etc., can cause or aggravate allergies to animals.

**Physical Hazards.** Physical hazards associated with animal contact can include animal bites, scratches, and kicks; noise; waste; and physical methods of euthanasia. Further information follows regarding physical hazards and ways to minimize the risk of injury from physical hazards.

**Infectious Agents.** Animal contact can bring personnel into contact with infectious agents, either from the animal itself or from agents introduced for the research project.

### 3. Non-Animal Risks

Possible Risks and Hazards Present During Work on Animal Protocols.

<table>
<thead>
<tr>
<th>Item</th>
<th>Examples</th>
<th>Potential Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latex</td>
<td>Gloves, masks</td>
<td>Allergies</td>
</tr>
<tr>
<td>Freund’s complete adjuvant</td>
<td>Used extensively for sanitation and sterilization</td>
<td>Can cause sensitization to TB</td>
</tr>
<tr>
<td>Steam/hot water</td>
<td>Used extensively for sanitation and sterilization</td>
<td>Can cause severe thermal burns</td>
</tr>
<tr>
<td>Chemicals</td>
<td>Detergents, acidic de-scaling agents, alcohol, cleaning products, flammables</td>
<td>Can cause chemical burns or toxicity</td>
</tr>
<tr>
<td>Pharmaceuticals</td>
<td>Anesthetics, antibiotics, analgesics, tranquilizing agents, test drugs</td>
<td>Can be toxic</td>
</tr>
<tr>
<td>Heavy items</td>
<td>Lifting feed bags, caging,</td>
<td>Can cause lifting injuries</td>
</tr>
<tr>
<td>Animals</td>
<td>Risk to Individual Personnel</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>------------------------------</td>
<td></td>
</tr>
<tr>
<td>Wet floors</td>
<td>Mopping floors and cleaning</td>
<td></td>
</tr>
<tr>
<td>animals</td>
<td>labs or animal housing facilities</td>
<td>Slipping and falling</td>
</tr>
<tr>
<td>Carcinogens, mutagens, teratogens, and other hazardous test substances</td>
<td>Cancer-causing agents, spills</td>
<td>Agents can cause genetic mutation; disruption of normal cellular development in an embryo or fetus</td>
</tr>
<tr>
<td>Biological toxins</td>
<td>Poisons and venoms</td>
<td>Agents capable of causing illness and/or death</td>
</tr>
<tr>
<td>Ultraviolet (UV) light</td>
<td>Germicidal lamps, outdoor work</td>
<td>Can damage eyes and skin</td>
</tr>
<tr>
<td>Sharps</td>
<td>Needles, scalpels, broken glass</td>
<td>May produce physical damage</td>
</tr>
<tr>
<td>Infectious agents</td>
<td>E. coli, Salmonella, parasites, Hanta virus, rabies</td>
<td>Risk of infection and illness</td>
</tr>
<tr>
<td>Husbandry</td>
<td>Cleaning bedding, cages</td>
<td>Exposure to contaminated bedding, waste</td>
</tr>
<tr>
<td>Flammable materials</td>
<td>Chemicals, bedding, paper towels and gowns</td>
<td>Burns, property damage</td>
</tr>
<tr>
<td>Pressure vessels</td>
<td>Compressed-gas cylinders, high-pressure washing equipment</td>
<td>Risk of explosion and personal injury</td>
</tr>
<tr>
<td>Lasers</td>
<td>Lasers</td>
<td>Eye damage due to viewing; burns</td>
</tr>
<tr>
<td>Electricity</td>
<td>Electrical hazards are present wherever electric current is present; absence of plate on wall socket; frayed or exposed wires</td>
<td>Electric shocks, burns</td>
</tr>
<tr>
<td>Ionizing radiation</td>
<td>Using radioisotopes in research animals, X rays, gamma rays</td>
<td>Exposure to radiation</td>
</tr>
<tr>
<td>Noise</td>
<td>Working in a loud environment with machinery and animal noise</td>
<td>Hearing damage, loss of concentration, distraction</td>
</tr>
<tr>
<td>Machinery</td>
<td>Excessive noise; dangerous equipment</td>
<td>Hearing damage; injury</td>
</tr>
<tr>
<td>Ergonomic hazards</td>
<td>Heavy and repeated lifting (of cages, large animals), pinch points</td>
<td>Risk of injury</td>
</tr>
</tbody>
</table>

4. Risk Factors to Individual Personnel

Examples of Risk Factors to Individual Personnel.

<table>
<thead>
<tr>
<th>Personnel type</th>
<th>Risk(s)</th>
<th>Caused by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women of childbearing age</td>
<td>Threat to fetus</td>
<td>Exposure to cat feces (toxoplasmosis), sheep and goats (Q fever)</td>
</tr>
<tr>
<td>Individuals with chronic or pre-existing conditions (e.g., asthma, allergies, serious disease of liver, kidney, or spleen; immune system deficiencies; steroid, radiation, or chemotherapy patients; heart valve disease)</td>
<td>Worsening of pre-existing condition; further illness or complications</td>
<td>Exposure to animal skin, dander, fur, urine, etc.; exposure to Q fever or other zoonotic agents</td>
</tr>
</tbody>
</table>
Part C: Levels of Risk and Participation in the OHS Program

1. Risk Self-Assessment Questions
PI’s, departments, supervisors and employees must consider the hazards and risks involved with each task or project conducted in their lab or facility.

PI’s, departments and supervisors must discuss the potential hazards and risks associated with the animal work tasks that will be performed. **Supervisors must complete a Hazard and Risk Assessment** for each position they supervise (the Hazard and Risk Assessment form is attached as Appendix B of this document). This Hazard and Risk Assessment addresses broad issues and questions like:

1) What are the potential work-related animal, non-animal, and individual hazards and risks involved with the work you will be performing or supervising?

2) What preventive measures or actions are available (e.g., training courses, medical examinations, immunizations or vaccinations, personal protective equipment, avoiding contact with certain species) that could reduce, avoid, or eliminate identified hazards and risks?

Upon completion of the form, a copy must be given to the individual for review. They will use this form to aid in the completion of their Health Assessment Form (Appendix D). A copy will also be provided to the Medical Provider as they proceed with the occupational health evaluation. The Hazard & Risk Assessment Form (Appendix B) will be sent to the provider along with Appendix D. All NDSU sites in North Dakota will submit the evaluation to Sanford Clinic Occupational Medicine in Fargo for review. If a medical consultation is recommended for those not living in the Fargo area, that exam may take place at the individual’s Designated Medical Provider location.

2. Health Assessments/Examinations:
As part of the hazard and risk assessment, individuals should carefully consider the information provided in these Guidelines as they complete the Health Assessment for Persons Involved in Animal Projects Form (Appendix D). The answers to these questions are intended to provide the Medical Provider with information on the health hazards, demands and risks involved with the work that will be performed. A Designated Medical Provider will complete an evaluation of the Health Assessment Form as a medical reference baseline. Once the Medical Provider has completed the evaluation of the Health Assessment (Appendix D), the Safety Office will be notified as to whether or not a physical exam/vaccination is recommended. The Safety Office will then notify the individual. Cost of the evaluation, exams, vaccinations, immunizations, or other recommended medical procedures will be paid on a case-by-case basis, but is the responsibility of the department/facility/student.

Vaccinations may be recommended based on the Health Evaluation. Individuals must participate unless they can provide supporting documentation for not completing them.

1.) **Tetanus immunization:** Boosters are suggested every 10 years. The history of immunization will be determined at the time of the initial assessment. Additional immunizations will be administered as needed.
2.) **Rabies immunization:** Pre-exposure immunizations with follow-up antibody titers every two years; repeat immunizations are required as follows if personnel:
   A. Work directly with the rabies virus
   B. Have direct contact with animals quarantined for rabies surveillance
   C. Are exposed to animals or animal parts with potential of containing the rabies virus
   D. Are responsible for the control of wild animals on campus

3.) **Other:** Based on the health and hazard assessment, the consulting physician will collaborate with the UP&SO to advise of or determine the need for other or additional immunizations (such as tuberculosis or hepatitis).

4.) **Serum Banking:** Serum banking serves as a reference sample if zoonosis transmission is suspected. Post-offer/pre-hire serum collection is advisable only in **specific circumstances** as determined by the consulting physician.

5.) **Allergies:** Allergies should be identified and documented post-offer/pre-hire (Appendix E). Individuals with **pre-existing** allergic tendencies will be encouraged to seek help from their private physician.

6.) **Special Precautions for Women of Childbearing Age:** Serological samples may be taken on all women handling **high-risk species** prior to beginning work to avoid confusion about the significance of various positive antibody tests in case of subsequent pregnancy. Female caretakers, especially those known to be pregnant, should not be exposed to pregnant sheep, cattle, goats, and cat feces (possibility of toxoplasmosis infection). Working with hazardous drugs, agents or toxic chemicals during pregnancy is also strongly discouraged. Personal protective equipment (PPE) should be worn at all times and additional precautions observed for pregnant women, as outlined by the principal investigator, supervisor or physician prior to the start of work with animals. Communicate your work conditions to your medical provider.

3. **Medical Provider Reports**
   Following the medical exam, the health care provider will provide a copy of the Medical Provider Health Assessment Report to NDSU (Appendix E) to the Safety Office to indicate:

   1.) No existing health condition has been identified that could alter the employee’s exposure-risk profile. **OR**
   2.) A health condition exists that affects the employee’s exposure-risk profile, but the risk can be minimized (and will provide example precautions or preventive measures – e.g., vaccinations; wearing gloves, masks, etc.; avoiding contact with certain species – that would minimize or eliminate the hazards and risks). **OR**
   3.) A health condition exists that affects the employee’s exposure-risk profile that cannot be eliminated or minimized.

Upon completion of the Hepatitis B Vaccination Series, the DMP will provide a copy of the form (Appendix C) to the individual and the Safety Office. The Safety Office will record into a database and forward to Human Resources for retention in the individual’s medical file.
All medical records are confidential. They will be maintained by the Designated Medical Provider and Human Resources and will be shared only with the patient/individual. As noted previously, the individual may be asked to authorize the release of limited information from the healthcare provider to the University Police and Safety Office regarding any necessary precautions or restrictions necessitated by any physical limitations or conditions which could affect personal health or the health of the animals. These could include current conditions and possible future conditions.

If a health condition exists, or there is a change in one’s health that could alter the individual’s exposure-risk profile, the individual will inform their supervisor of the medical provider’s recommendations for eliminating the risk.

4. Levels of Risk & Participation

Occupational Health Program Participation Based on Risk/ Rank of Animal-Related Activity.

<table>
<thead>
<tr>
<th>Level</th>
<th>Basic IACUC OHS Training Module</th>
<th>Review of information packet with supervisor</th>
<th>Training in animal handling &amp; protective measures</th>
<th>Medical evaluation &amp; surveillance recommended</th>
<th>Immunizations or Vaccinations Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1 (no known risk)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Level 2 (minor risk)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>TBD*</td>
</tr>
<tr>
<td>Level 3 (moderate risk)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>TBD*</td>
<td>Yes</td>
</tr>
<tr>
<td>Level 4 (significant risk)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Level 5 (high risk)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*TBD = to be determined by the individual, and/or a healthcare provider.

The cost of health assessments, medical exams and vaccinations/immunizations are to be paid by principal investigators, departments, or individual personnel. Students may be accountable for certain medical costs (e.g., the cost of a tetanus shot) if such treatment is required for a course involving animals (i.e., students pay for a shot just as they would for a textbook).

Part D: Avoiding Hazards & Risks: Prevention & Control Strategies

1. Exposure Control & Prevention

Exposure Control Methods: (Includes some, but not all, strategies for avoiding, reducing, or eliminating exposure to hazards and risks).

<table>
<thead>
<tr>
<th>Hazard or Risk Types</th>
<th>Prevention Strategy Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Controls</td>
<td>Practice product substitution; use barriers; allow for adequate filtration and ventilation; maintain proper temperature and humidity controls; regularly check fire extinguishers, alarms, sprinklers</td>
</tr>
<tr>
<td>Work Practice Controls</td>
<td>Alter animal handling and transport to reduce exposure; pay attention to personal hygiene, housekeeping, and waste management practices; be informed of and practice Safe (or Standard) Operating Procedures (SOPs)</td>
</tr>
<tr>
<td>Section</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Personal Protective Equipment (PPE)</strong></td>
<td>Wear gloves, uniforms, gowns, aprons, hard hats, safety glasses, steel-toed boots, respirators, etc.</td>
</tr>
<tr>
<td><strong>Training &amp; Education (also see below)</strong></td>
<td>Participate in university and departmental specific training program; follow SOPs (Mandatory Baseline Safety Training and Supervisor Safety Training).</td>
</tr>
<tr>
<td><strong>Equipment Maintenance &amp; Operation</strong></td>
<td>Follow SOPs; be trained in the proper use of equipment and machinery; regularly check machine performance (report any problems or needed repairs to supervisor immediately)</td>
</tr>
<tr>
<td><strong>Animal Source</strong></td>
<td>Purchase animals from reputable vendors; avoid contact with wild animals or animals of unknown origin; take necessary precautions (PPE, proper animal handling instruction) when it’s necessary to work with high-risk species</td>
</tr>
<tr>
<td><strong>Animal Housing, Caging, Bedding</strong></td>
<td>Follow SOPs; wear gloves, protective clothing, use proper posture and body mechanics (lifting, pushing, pulling, etc.).</td>
</tr>
<tr>
<td><strong>Hazardous Material Use</strong></td>
<td>Follow SOPs; attend university training in lab and chemical safety</td>
</tr>
<tr>
<td><strong>Waste Disposal</strong></td>
<td>Follow university policies and procedures for hazardous waste removal (allow UP&amp;SO to dispose of the waste properly)</td>
</tr>
<tr>
<td><strong>Animal Transportation</strong></td>
<td>Do not transport animals through common, non-animal corridors or facilities (may expose non-animal personnel); use proper techniques and transport devices</td>
</tr>
<tr>
<td><strong>Emergency Procedures</strong></td>
<td>Know the contact people for each facility; be sure emergency phone numbers are posted in animal facilities; be familiar with standard emergency procedures like evacuation routes and emergency exits, what to do in the event of a chemical spill, which medical providers to go to in medical emergencies, and how to report injuries to the University Police and Safety Office, Claims Management Specialist.</td>
</tr>
<tr>
<td><strong>Zoonosis</strong></td>
<td>Obtain appropriate immunizations or vaccinations; wear gloves and protective clothing when handling species with zoonotic disease potential; participate in medical consultations and surveillance; avoid high-risk animals and situations</td>
</tr>
<tr>
<td><strong>Animal Handling</strong></td>
<td>Learn proper handling techniques; wear protective gloves, clothing, respirators, etc.</td>
</tr>
<tr>
<td><strong>Good Housekeeping</strong></td>
<td>Maintain a clean and organized work area that is free from clutter</td>
</tr>
<tr>
<td><strong>Personal Hygiene &amp; Safety (also see below)</strong></td>
<td>Wash hands; wear PPE, as necessary</td>
</tr>
<tr>
<td><strong>Women of Childbearing Age</strong></td>
<td>Avoid all exposure to possible toxoplasmosis infection and/or do not have contact with cat feces; Avoid contact with hazardous chemicals – especially during the first trimester; wear PPE</td>
</tr>
<tr>
<td><strong>Medical Assessments &amp; Immunizations/Vaccinations</strong></td>
<td>Receive the recommended immunizations to prevent disease transmission; Learn strategies (such as wearing a mask) that would reduce or eliminate exposure to health-altering situations (like allergies)</td>
</tr>
</tbody>
</table>
2. Information on Education & Training

The extent of an individual’s personal involvement in the program will be determined by the assessment of the potential risks to the individual’s position at the University.

Departments, supervisors and principal investigators will be responsible to provide training for the students and employees working under their supervision. The training will be specific to the species and procedures to be used.

Departments will be responsible for maintaining the documentation of the Departmental Specific Training. Training requirements use a fiscal year calendar and documentation must consist of the following information: date of training, topics covered, name of the person providing the training, and the participants acknowledgement of attendance. Records should be maintained for five years, unless otherwise specified. The University Police and Safety Office will manage the documentation of the mandatory University safety training.

NDSU’s Police and Safety Office will provide training and/or training resources that outline general health and safety issues at NDSU. The IACUC serves as a primary resource, and assists principal investigators and supervisors in assuring proper animal care and use training of those they supervise.

The IACUC has developed and organized a collection of training modules to cover the spectrum of animal activities undertaken by NDSU faculty, staff, and students in regard to animal use. Some of these modules are developed and in-place, while others are continually being developed and added to the program. The training and education programs utilize the programs and resources of the University Police and Safety Office, and the IACUC Office/Office of Sponsored Programs Administration/Office of the Vice President for Research and Creative Activity.

3. NDSU Training Program

The key element to a successful accident prevention program and in any occupational safety and health program is effective job orientation and safety and health training. NDSU’s Risk Management Program will address the basic safety training and continuing education of the job elements, on-the-job safety, general health, and the prevention of injury and illness (Baseline Safety Training). The program includes an employee orientation process in which all employees learn the general safety rules, safe operating procedures, ergonomic hazards, and claims management procedures.

The program will, at a minimum, require departments to complete orientation and initial training for new, transferred and reassigned employees to different positions, along with periodic regular training on at least an annual basis for all employees. Required training will consist of documentation on the following:

- Mandatory Annual Baseline Safety Training
- Mandatory Annual Supervisor Safety Training
- Department Specific Safe Operating Procedures Mandatory Upon Hire (examples of specific department training)
  - Lab and Chemical Safety Training (refresher recommended every 3 yrs.)
  - Radiation Safety Training (refresher every 5 yrs.)
  - Hazardous Waste & Biohazard
  - Exposure Control/Bloodborne Pathogens
  - X-ray (initial) & Laser
- Pesticide Application
- Forklift/Heavy Equipment
- Lockout-Tagout
- Confined Space
- Occupation Health and Safety with Animals
- Animal Species/Common Name, Animal Welfare and the NDSU IACUC
- CPR/First Aid/AED
- Asbestos (initial)
- Other

Additional training will be conducted as follows:
- Whenever employees change positions or begin a new position for which training has not been previously received
- Whenever new species, substances, processes, procedures or equipment are added or changed that may present a new or previously unrecognized hazard
- Whenever an incident/accident investigation recognizes a training need

List of Current NDSU IACUC Training Modules

Required training programs:
- CITI Online Training Program – Working With The IACUC (www.citiprogram.org)
- “Occupational Health & Safety in the Care & Use of Vertebrate Animals”
- Species specific training
- Other training programs that may be required by supervisors for particular work with animals

All courses listed are available online as a self-enrolled blackboard session. You may contact the director of the IACUC for further information. Future access through the IACUC website will be made available.

4. Emergency Procedures & Reporting Incidents, Injuries, or Illnesses

Emergencies
Dial 911 in the event of fires, medical emergencies, or other serious threats. University police may also be contacted at 231-8998 for non-emergencies. Follow the procedures outlined by your department in the event of emergencies.

If the emergency or problem involves the animals, refer to the emergency contact placards posted in the animal facility for the names and phone numbers of the appropriate contact person(s) for that facility. The NDSU Attending Veterinarian can also be contacted in the event of animal emergencies (231-7830).

Reporting Work Place Incidents, Injuries, Illnesses, or Near Misses
To promote a safe work environment, all work related near misses, incidents, injuries, illnesses and exposures will be reported immediately or within 24 hours by the employee to their immediate supervisor or next person in charge at the time of injury, and the Safety Office.

When a work related incident/injury/illness/exposure occurs, whether medical attention is needed or not, the following steps must be followed:
1. Assess the injury. Is medical treatment needed, or is first aid adequate? If it is an emergency, call 911.

2. If non-emergency medical care during regular business hours is required, seek treatment at NDSU’s Designated Medical Provider. If it is after hours or if you are out of town, seek medical attention at the nearest medical facility.

3. Immediately after you have received medical treatment, or within 24 hours, you must bring the Workers’ Compensation First Report of Injury form (which you would have completed at the Designated Medical Provider’s office) to the Claims Specialist at the Safety Office. All other Workers’ Compensation forms required for your injury will also need to be completed at this time.

4. Complete the NDSU incident report for every incident and fax this report to the Safety Office (231-6739) within 24 hours. Per NDSU Policy 166, it is a requirement that incident reports be completed and submitted to the Safety Office immediately, no matter if the incident requires medical attention or not.

5. The Supervisor is required to assess the event/incident for immediate hazards and conduct an investigation. The Supervisor must identify and document corrective actions to prevent similar incidents from occurring again.

6. The injured individual is required to follow all medical restrictions, 24 hours a day, 7 days a week.

7. It is the responsibility of the injured worker to communicate with the Claims Specialist (231-6740) and his or her Supervisor, so as to keep them informed of any referrals, restrictions and medical visits.

When there is a potential for an incident to occur, or when a hazard is identified, the employee will file a Near Miss Report with their immediate supervisor. The supervisor will assess the near miss and make certain that corrective action is complete to prevent recurrence. The completed Near Miss Report should then be sent or faxed to the Safety Office (231-6739). North Dakota State University incident report forms and near miss forms can be found on the Downloadable Forms webpage.

5. Animal Care after Human Injury

Special procedures may be required to identify the risk of human exposure to diseases for a particular animal. All samples, animals, or equipment involved in a human injury shall be preserved and have special identification to aid in further testing and/or procedures. The principal investigator or supervisor and the NDSU Attending Veterinarian should be notified immediately for appropriate care of the animal, investigation of the incident, and corrective action. If the animal is used for teaching or research, medical information and care required shall be relayed to all participants.

Part E: Students in Classes, Volunteers and Ancillary Personnel

1. Students in Classes

As part of the Animal Care and Use Protocol for teaching, the instructor will complete the Hazard and Risk Assessment Form; train students on the risks associated with the class and discuss prevention techniques.

   1. The Hazard and Risk Assessment form will include a brief description of the class, the species of animals involved, and a description of student contact with the animals.
2. If a course is determined to be High Risk, the instructor will discuss with the class the potential hazards, zoonosis and the student’s options for individual medical assessment.
   a) High Risk – High probability of an adverse health effect, for example, students working with wild-caught mammals, or involved with lambing.
   b) Low Risk – Low to moderate probability of adverse health effects.
   c) Following the training, the instructor will have each student complete and sign the “Participation Waiver”.

3. Each principal investigator or instructor will provide students with substantial contact to animals with the following information:
   a) The availability of, and the option to request medical evaluation and treatment from Student Health Service
   b) Educational material regarding general information, potential hazards, universal precautions and personal hygiene
   c) Other potential health and safety hazards

2. Volunteers, Guests, Visiting Researchers/Scholars
   1. This includes individuals NOT listed on an Animal Care and Use Protocol and who are not NDSU employees or students, but do have substantial contact with animals used in research or teaching.
   2. The Principal investigator or Facility Manager will provide each individual with information pertinent to the species/protocol on which they are working and document that the information has been provided.
   3. Each principal investigator or instructor will provide those with substantial contact to animals with the following information:
      a) The availability of, and the option to request medical evaluation and treatment from their personal provider at their expense
      b) Educational material regarding general information, potential hazards, universal precautions and personal hygiene
      c) Other potential health and safety hazards
      d) Provide, and have the volunteers, guests, visiting researchers/scholars complete and sign the “Participation Waiver”

3. Ancillary Personnel
   1. Ancillary personnel are those employees who do not have direct/substantial animal contact in their daily job functions, but who may need to enter an animal area in the course of performing their duties.
   2. Ancillary personnel will be provided, by their supervisor or designee, information based on their need for entry into animal care facilities.
      a) The availability of, and the option to request medical evaluation and treatment of a medical condition
      b) Educational material regarding general information, potential hazards, universal precautions and personal hygiene
      c) Other potential health and safety hazards
SECTION III: PROGRAM PROCESS

Step 1: Faculty, staff, principal investigators and students involved in the use of animals must review the Guidelines for Occupational Health and Safety in the Care and Use of Vertebrate Animals and complete the quiz.

Step 2: Departments, supervisors, and principal investigators identify and require personnel who have substantial contact with animals to participate in the Occupational Health and Safety in the Use of Vertebrate Animal Program. This is done primarily through review of the functional demands and environmental factors associated with the work to be performed (position description, class or project).

Step 3: The supervisor/department/PI, in coordination with the NDSU Attending Veterinarian completes a Hazard and Risk Assessment (Appendix B) for the project/class/protocol and gives a copy to each person working with animals in his or her lab, class or facility. This form needs to be completed only once for each individual under their supervision unless one or more of the following has changed: duration of animal exposure, type of activity, equipment, chemical, type of animal and/or change in the individual’s health status. Maintain a copy of this assessment in the employee’s file and forward a copy to the Safety Office or have the individual deliver to the Safety Office at the time of their meeting.

Step 4: After the supervisor reviews the Hazard and Risk Assessment with the individual, he/she will be sent to the Safety Office with their completed Health Assessment (Appendix D) and Hazard and Risk Assessment (Appendix B) Forms. The Safety Office will explain the process and complete the medical authorization form.

- The individual must have completed the Health Assessment for Persons Involved in Animal Projects (Appendix D). Please enter requested vaccinations records.
- After reviewing the process, the Safety Office will mail the forms (B & D) to the Designated Medical Provider (Sanford Clinic Occupational Medicine or Essentia Health West Fargo Clinic) for review.
- The Medical Provider will review the assessment forms and make recommendations.
- If an exam is recommended, the Medical Provider will notify the Safety Office and the Safety Office will notify the individual. Individuals needing the exam must participate in the medical examination/vaccinations.
- If the Medical Provider recommends vaccinations only, individual must participate unless supporting documentation can be provided for not completing the recommended vaccinations.
- The Medical Provider will return the “Medical Provider Health Assessment Report to NDSU” (APP E) to the NDSU Safety Office.
- The NDSU Safety Office will maintain information in a database and send the final medical reports to HR/PR for recordkeeping.
- The NDSU Safety Office will forward any precautions or preventive measures to the supervisor/department/PI.
- Supervisor/department/PI will implement any and all precautions or preventive measure outlined by the Medical Provider.
- Employee is required to comply with precautions or preventive measures outlined by the Medical Provider.
- Only when indicated by the Medical Provider, the individual is to return the Hepatitis B Form (Appendix C) to the Safety Office when the series of shots have been completed. This will be maintained in the individual’s HR/PR medical file.

Step 5: The Safety Office will maintain a database for all individuals and send out a report annually to all supervisors/departments/PI. Re-evaluation is based on the nature of the hazards (respirators, substantial risk areas, etc.) and when there are changes in work assignments (change in species, contact level, etc.). These hazards and risks will be determined by the supervisor, principal investigator, faculty, etc.

Step 6: Complete all University required training prior to beginning work and annually thereafter.
SECTION IV: PROGRAM EVALUATION

The program for occupational health and safety in the care and use of vertebrate animals is evaluated annually through the mechanism of the IACUC Semiannual Program Review. Documentation of this self-evaluated Semiannual Program Review (which becomes part of the Semiannual Report to the Institutional Official) is maintained in the IACUC Office. The IACUC Director and IACUC members conduct the Semiannual Program Review.

This review, based on the Sample Semiannual Program and Facility Review Checklist from the PHS-Office of Laboratory Animal Welfare (OLAW), asks the IACUC and NDSU to consider, evaluate, and make certain that the following elements are part of an institutional animal care and use occupational health and safety program.

The evaluation asks whether the program:

- Is established and implemented
- Covers all personnel who have substantial contact with animals
- Is based on hazard identification & risk assessment
- Includes personnel training with information on topics like zoonosis, hazards, health precautions, etc.
- Includes personal hygiene procedures (e.g., work clothing, eating/drinking/smoking policies)
- Has procedures for use, storage, and disposal of hazardous biological, chemical, and physical agents
- Includes specific procedures for personnel protection (e.g., shower/change facilities, injury protection)
- Involves evaluation including health history for personnel with substantial contact with animals
- Offers immunizations as appropriate (e.g. rabies, tetanus) and tests zoonosis surveillance as appropriate
- Includes procedures for reporting and treating injuries, including bites, etc.

After the evaluation has been conducted, any deficiencies, problems, or suggestions for improvement regarding the animal care and use occupational health and safety program are brought to the attention of the IACUC and the Institutional Official for discussion and action.
APPENDIX A – INCIDENT REPORT

Incident Reporting Responsibilities

**EMPLOYEE**
1. Report incident/event immediately to your supervisor
2. Assess for first aid or medical treatment
3. Complete the incident report immediately and fax to the Safety Office (24 hour reporting requirement)
4. If you need medical care - report to NDSU's Designated Medical Provider
5. Bring First Report of Injury Form from the Medical Provider to the Claims Specialist immediately
6. Complete additional required Workers Comp forms with the Claims Specialist
7. You are required to follow medical restriction 24/7
8. You are required to accept modified work
9. Keep the Claims Specialist informed of referrals, restrictions and medical visits
10. Sign and date all documents

**SUPERVISOR**
1. Assess the injury for first aid or medical treatment - if medical treatment is needed, send or take to the Designated Medical Provider
2. Provide a copy of the Incident Report Form to the employee
3. Assess the event/incident for immediate hazards and conduct an investigation
4. Complete the Supervisor's portion of the Incident Report from and fax to the Claims Specialist immediately
5. Identify Corrective Actions to prevent similar incident from occurring again
6. Repair, Replace, Remove or Retrain/Train
7. Monitor the Return to Work and provide temporary accommodations for restrictions
8. Work with the injured worker and Claims Specialist throughout the claims process
9. Sign and date all documents

**CONTACT INFORMATION**
NDSU Claims Specialist 701-231-9587
NDSU Safety Office Fax 701-231-6739
NDSU Safety Office 701-231-7759
### NDSU Guidelines for OHS in the Care & Use of Animals

APPENDIX B EMPLOYEE

University Police & Safety Office, 231-7759
NDSU Occupational Health and Safety Program for Animal Care & Use

HAZARD & RISK ASSESSMENT

This form is completed for the purpose of conducting an occupational health risk assessment for the participant. This form will be used in conjunction with the Health Assessment Questionnaire to evaluate for appropriate medical surveillance.

Completion of this form for each individual involved in our animal care and use program is required by the principal investigator, supervisor, or department chair in order to aid in determining appropriate training courses and necessary health precautions to minimize the potential for animal-related health risks to NDSU employees and students assigned to animal facilities and projects. This form needs to be completed only one time for each individual under their supervision unless one or more of the following has changed: the duration of animal exposure, the type of activity, the type of animal and/or a change in the individuals, health status. A faculty principal investigator may complete their own risk assessment.

Faculty/Staff/Student Name: ___________________________ E-mail Address: ___________________________

Department: ____________________________________________________________________________

Phone: ________________________________________________________________________________

Nature of Work/Job Title: __________________________________________________________________

PI Assessment of Potential Work-Related Health/Safety Issues

All Animals to be encountered according to the following designations:

**Level 0**  No animal contact
**Level 1**  No direct contact, but enters animal facility
**Level 2**  Does not conduct procedures on live animals but handles “unfixed” animal tissues and fluids
**Level 3**  Handles, restrains, collection of specimens or administers substances to live animals.
**Level 4**  Performs invasive procedures such as surgery, necropsy

- Amphibian
- Birds
- Cat
- Cameld
- Cattle
- Dog
- Ferret
- Gerbil
- Goat
- Guinea Pig
- Hamster
- Horse
- Marine Mammal
- Mice
- Swine
- Poultry
- Primate
- Rabbit
- Rat
- Reptile/Fish
- Sheep
- Wild Rabbit/Mice/Rat
- Other – list
Will work involve direct contact with any of the following?

1. Biological Agents
   a. Recombinant DNA  Yes  No
   b. Infectious Agents Yes  No

2. Human Blood, Tissues, or Cells  Yes  No

3. Physical Agents
   a. Caustic, Flammables or cryoagents Yes  No
   b. Noise Yes  No
   c. Radiation Yes  No
   d. Radioisotopes Yes  No
   e. Extreme environmental conditions Yes  No
   f. Lasers Yes  No

4. Chemical Agents
   a. Anesthetic gases Yes  No
   b. Drugs/Chemotherapeutic agents Yes  No
   c. Heavy metals Yes  No

PI/Supervisor’s determination of special preventative measures or actions to be taken for this individual’s animal-related work.

1. Training courses
   _____ Baseline Safety Training
   _____ IACUC Training
   _____ Occupational Health & Safety Program
   _____ Chemical/Lab Safety Training
   _____ Radiation Safety Training
   _____ Laser Safety Training
   _____ Exposure Control Plan
   _____ Chemical Hygiene
   _____ Other Protocol Specific Procedures

2. Health Assessment, immunizations/vaccinations

3. Personal protective equipment like gloves, clothing, respirators, etc.

4. Avoiding contact with certain species, etc.

List other:

By signature, I certify that the information provided is accurate, that I have provided the participant in Section A with the NDSU plan on the Animal Care and Use Occupational Health Program, and that I have provided necessary training on the items detailed in that program and as specified in this form.

________________________________________
Pl, Supervisor, or Dept. Chair Name (please print)

________________________________________
Signature of Pl, Supervisor, or Dept. Chair  Date

Provide copy to the employee and Safety Office (fax – 231-6739) - then send individual to the Safety Office with the completed Health Assessment Form.

Copy to employee and retain a copy within your departmental employee files

ND NDSU Guidelines for OHS in the Care & Use of Animals


APPENDIX C EMPLOYEE

University Police and Safety Office, 231-7759
NDSU Occupational Health and Safety Program for Animal Care & Use

EMPLOYEE HEPATITIS B VACCINATION SERIES
CONSENT/DECLINATION FORM

I, an employee of this facility, understand that due to my occupational exposure to blood or other potentially infectious materials, I may be at risk of acquiring Hepatitis B virus (HBV) infection. Hepatitis B virus is a viral infection with a major effect on the liver. Due to this potential, I have been offered the Hepatitis B vaccination series, which is 98% effective in preventing Hepatitis B.

I understand that the vaccination series will include an initial dose followed by a 2nd dose one month later, 3rd dose taken six months after the first. Antibody testing is performed 1-2 months after the third dose to assure antibody production.

An evaluation by a Healthcare Professional as to the indication for the Hepatitis B vaccination, potential side effects, contraindications, and answers to any questions I may have will be provided prior to the series.

I have been informed that this vaccine and vaccination series will be:

- At no cost to me, the employee, and assumed by my department and offered at a reasonable time and place.
- Provided under the supervision of a licensed physician, or by or under the supervision of another licensed healthcare professional.
- Provided in accordance with recommendations of the U.S. Public Health Service.
- Provided all laboratory tests conducted by an accredited laboratory at no cost to me, the employee, but assumed by my department.
- My responsibility to complete the series and follow medical recommendations.

Please Sign Choice 1), 2), or 3) Below

1) I, __________________________________(Name of Employee), on _______________ (Date), CONSENT to the Hepatitis B vaccination series and follow-up as recommended by the U.S. Public Health Service, offered by my employer, and as stated above.

2) I, __________________________________(Name of Employee), on _________________(Date), DECLINE the HBV vaccination series and follow-up.

3) I, ________________________________ (Name of Employee), on ________________ (Date), DECLINE the HBV vaccination series and follow-up based on the fact that I have previously had the vaccination series.

_________________________________________ (Employee’s Signature) ______________ (Date)

_________________________________________ (Employee’s Job Classification)

_________________________________________ (Supervisor’s Signature) _____________ (Date)

Date of 
Hire
Date of Consent 
or Decline
Date of Dose 1
Date of Dose 2
Date of Dose 3
Date of Titer
HCP Written Opinion and Vaccine Data on File?

This report will be maintained in HR/PR confidential Employee Medical Record File
**HEALTH ASSESSMENT FOR PERSONS INVOLVED IN ANIMAL PROJECTS**

North Dakota State University provides an occupational health program for individuals who work with and have substantial contact with animals. All individuals engaged in the aforementioned activities must complete this form.

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<tr>
<th>Last Name</th>
<th>First Name</th>
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- □ Male  □ Female  Date of Birth

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<th>Local Address</th>
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<tr>
<th>NDSU Department</th>
<th>Supervisor</th>
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<thead>
<tr>
<th>Job Title</th>
<th>Species of Animal to be handled</th>
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**Please continue with this questionnaire.**

You must submit this questionnaire to the medical provider for review since work with animals may involve an increased risk for you. *These answers are confidential and should be discussed directly with a healthcare provider. Answer Yes or No*

- ____ A. Is animal husbandry an essential part of your duties (provide food/water, clean cages, groom animals, etc.)? *Essential means it is the reason the duty/responsibility of the job exists.*
  - □ No animal Contact
  - □ No direct contact, but enters animal facility
  - □ Does not conduct procedures on live animals, but handles “unfixed” tissues and fluids.
  - □ Handles, restrains, collection of specimens or administers substances to live animals.
  - □ Performs invasive procedures such as surgery, necropsy.

- ____ B. Do you work with (or in the proximity of) pregnant mammals (rodents excluded)?

- ____ C. Do you work with (or in the proximity of) wild-caught mammals and/or wild-caught birds?

- ____ D. Do you work with (or in the proximity of) venomous animals?

- ____ E. Does your work with animals require you to be in contact with agents that are infectious to humans (blood or other tissues from animals infected or contaminated with a pathogen)? List the agent(s)
  - _________________________________

- ____ F. Do you have known or suspected allergies to animals?
  - _________________________________

- ____ G. Do you have chronic health problems (diabetes, asthma, high blood pressure, etc.)?

- ____ H. Do you have renal or liver disease?

- ____ I. Do you have heart disease?

- ____ J. Do you have immune system deficiencies (or other medical conditions that may limit your ability to carry out your duties)?
  - _________________________________

- ____ K. Do you have pre-existing allergic tendencies (hay fever, eczema, cholinergic, latex, etc.)?

- ____ L. Do you have a history of spleen problems or have you had a splenectomy (spleen removal)?
M. Are you pregnant?
N. Are you under current therapy using high dose steroids, radiation, or carcinogens?
O. Do you work directly with the rabies virus or have direct contact with animals quarantined for rabies surveillance?
P. Are you exposed to animals or animal parts with potential of containing infectious rabies virus and/or are you responsible for the control of wild animals on campus?

Will the work involve any of the following?

1. Biological Agents
   a. Recombinant DNA  Yes  No
   b. Infectious Agents  Yes  No

2. Human Blood, Tissues, or Cells  Yes  No

3. Physical Agents
   a. Caustic, flammables or cryoagents  Yes  No
   b. Noise  Yes  No
   c. Radiation  Yes  No
   d. Radioisotopes  Yes  No
   e. Extreme environmental conditions  Yes  No
   f. Lasers  Yes  No

4. Chemical Agents
   a. Anesthetic gases  Yes  No
   b. Drugs/Chemotherapeutic agents  Yes  No
   c. Heavy Metals  Yes  No

**Personal Health History:** Please answer all questions and comment on “yes” answers in space provided. Have you had? (Check all that apply)

1. Asthma
2. Serious Allergies
3. Bronchitis
4. Chicken pox
5. Tuberculosis (or exposure)
6. Diabetes
7. Thyroid disorder
8. Kidney disorder
9. Urinary problems
10. Recurrent headaches
11. Head injury
12. Loss of consciousness
13. Recent weight gain
14. Recent weight loss
15. Prolonged anxiety
16. Vision problems
17. Hearing problems
18. Carpal Tunnel Syndrome
19. Musculo-skeletal problems
20. Neurological problems
21. Hepatitis A, B, or C
22. Heart Disease
23. Chest pain/pressure
24. Shortness of breath/emphysema
25. Rapid/Irregular heartbeat
26. High blood pressure
27. Low blood pressure
28. Back problems/pain
29. Benign tumors
30. Cancer
31. Jaundice
32. Epilepsy/seizure disorders
33. Toxoplasmosis
34. Digestive problems
35. Insomnia
36. Gall bladder disorder
37. Irregular period’s
38. Severe cramps
39. Excessive flow
40. Pregnancy
41. Miscarriage

Comments: (regarding “yes” answers above)
Has your physical activity been restricted during the past five years? Describe:
Have you had any surgery during the past five years? Describe:

Have you been seriously ill or injured during the last five years? Describe:

Are you currently receiving medical treatment/counseling? Describe:

Do you take any medications routinely? Describe:

DO YOU HAVE ALLERGIES TO CHEMICALS? Name:

DO YOU HAVE ENVIRONMENTAL ALLERGIES? Name:

DO YOU HAVE MEDICATION ALLERGIES? Name of drug(s):

DO YOU SMOKE OR USE TOBACCO PRODUCTS?

DO YOU HAVE PETS AT HOME? Describe:

RECORD OF VACCINATIONS RECEIVED:

Date of last Tetanus ___/___/___ Hep B Series ___/___/___ Rabies Series ___/___/___

After completing the Health Assessment Questionnaire, I accept participation in the Occupational Health Program and medical evaluation, treatment and surveillance program. I will have access to educational materials, personal protective equipment, and other support services aimed to prevent occupational injuries and exposures. By enrolling in the medical portion of the Occupation Health Program, I am also giving authorization to Sanford Clinic Occupational Medicine or Essentia Health West Fargo Clinic to release my medical records related to the work I am performing to designated individuals within the Occupational Health Program at NDSU.

My records will be kept in a confidential medical file and may be released, without my consent, to the medical provider and/or to any entity entitled to the data under the law.

Print Name: ____________________________

Signature: ____________________________ Date ____________________________

The medical provider will determine if an exam or vaccination is recommended. The Safety Office will assist you in mailing the Health Assessment and Hazard and Risk Assessment to the medical provider.

Send to: Sanford Clinic Occupational Medicine 3828 12th Ave. N. Fargo ND 58102 (234-4700)

Essentia Health West Fargo Clinic, 1401 13th Ave. East, West Fargo, ND 58078 (364-5757)

PROVIDERS NOTES AND RECOMMENDATIONS:

Medical Provider Signature Date ____________________________

Medical Provider is to complete the “Medical Provider Health Assessment Report to NDSU” (Appendix E) and forward to the NDSU Safety Office. (Fax – 231-6739)
APPENDIX E EMPLOYEE

University Police & Safety Office, 231-7759

NDSU Occupational Health and Safety Program for Animal Care & Use

MEDICAL PROVIDER HEALTH ASSESSMENT REPORT TO NDSU

Name: ________________________________  Department: ________________________________

Supervisor Name (Please print) ______________________________________________________________________________________

1. I certify that I have evaluated the above individual’s health assessment and have concluded the following:
   □ No medical exam/vaccine is recommended based on the submitted information.
   □ Recommend Vaccine only:  Tetanus ____  Hep B ____  Hep A ____  Rabies ____
   □ Recommend medical exam/vaccine based on the submitted information.

Medical Provider: (Return copy to NDSU Safety Office and patient)

Provider Signature: ________________________________  Date: ______________

2. I certify that I have completed the medical exam on the above individual and have concluded the following:
   □ No existing health condition has been identified that could alter this person’s exposure-risk profile.
   □ A health condition exists that affects this person’s exposure-risk profile, but the risk can be minimized or eliminated. The person must take the following precautions or preventive measures (e.g., vaccinations, wearing gloves, masks, avoiding contact with certain species, etc.) to minimize or avoid the risks:

   ______________________________________________________

   ______________________________________________________

   ______________________________________________________

   ______________________________________________________

   ____/____/____  Tetanus  ____/____/____  Hep B(1st Shot)  ____/____/____  Hep A  ____/____/____  Rabies (1st Shot)  ____/____/____

   □ A health condition exists that affects this person’s exposure-risk profile that cannot be eliminated or minimized.

Health Care Facility (DMP): ________________________________

Provider Signature: ________________________________  Date: ______________

(1) Send a copy to the NDSU Safety Office (fax 701-231-6739) or mail to Safety Office, Dept. 3300, P O. Box 6050, Fargo, ND 58108

(2) Provide a copy to the above individual after completing the medical exam and a copy to the NDSU Safety Office (fax 701-231-6739) or mail to Safety Office, Dept. 3300, P O. Box 6050, Fargo, ND 58108

(Report to be forwarded by the Safety Office and maintained in HR/PR Office)
WORKS CITED


WORKS CONSULTED
