

# YUKON UNIVERSITY ANIMAL CARE

## Occupational Health and Safety Guidelines - activities involving animals



These guidelines are part of the OH&S program to provide information and requirements for working safely with animals in the course of research and teaching at Yukon University. It has been adopted from the modules of the Canadian Council on Animal Care (CCAC) and are designed to promote understanding and compliance with these requirements.

**DRAFT**

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## Occupational Health and Safety when working with Animals

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### Background

Whether in a laboratory, or out in the field, contact with animals can pose an occupational health and safety hazard. Yukon University is committed to the promotion of the health, safety and well-being of all members of the University community, to the provision of a safe and healthy work and study environment. The University complies fully with the requirements of Occupational Health and Safety legislation and strives to prevent occupational injuries and illnesses.

The purpose of this document is to provide information and requirements for working safely with animals in research and/or teaching situations in order to:

- Protect faculty, staff, students and visiting researcher and reduce risks from the hazards associated with animal use activities affiliated with Yukon University
- Prevent occupational injury and illness
- Comply with all federal, territorial and Yukon University policies
- Inform and educate all workers of the hazards associated with their work
- Provide health screening services and the delivery of prompt and adequate medical care and advice; and,

- Prevent the spread of diseases from ill workers to others or the animals with which they are working

This information should help you to understand:

- Roles and responsibilities
- Physical Hazards associated with animal care and use
- Animal behaviour and ways animals react or defend themselves, if a procedure causes pain, or they perceive their safety to be threatened;
- Relevant aspects of safe handling and performance of manipulations;
- Procedure for reporting animal related injuries;
- Proper waste disposal procedures;
- Zoonoses - recognize examples of animal infections that can be transmitted to humans;

## Introduction

Working safely with animals in laboratories or field situations encompasses not only the people and the animals, but also the facilities, equipment, and the procedures we use. It also includes the community in which we each live. We must each practice safe working habits to ensure that any health risks in our working environments never "leak" into the community because of faulty procedures or carelessness. The principal investigator or instructor must assume responsibility for ensuring that personnel working on the project are aware of any risks to health and safety.

Policies and programs required under territorial Occupational Health and Safety laws and government regulations are implemented by Yukon University. This program also supports a safe working environment for activities that involve working with or around animals in their natural environments. As most animal associated activities at Yukon University are done through field studies this includes details on safe operating procedures for working with or near wildlife. The general principals of animal care and safety apply equally to wild vertebrates regardless of whether studies are carried out in the natural habitat of the animal or in a laboratory.

Researchers who use wild vertebrates must constantly guard against simply using a species as there should be a return of knowledge and understanding applicable to the species under study in order to justify their use. Those using wildlife should also recognize the necessity for collaborations amongst wildlife researchers, conservationists, ethnologists and veterinarians, for proper definition and subsequent maintenance of a state of well-being for these species.

## Roles and Responsibilities

All faculty, staff and students have a shared responsibility for maintaining a safe and healthy work environment. Understanding the processes and policies is required to ensure a safe and healthy work environment and is the role of many different areas of the University.

### Senior Administrators

- Show strong commitment to the program
- Understand the issues and provide guidance
- Establish and support institutional policies
- Provide necessary supports and ensure adequate training of faculty, staff and students

### Animal Care Committee (ACC)

- Develop and recommend policies, guidelines and procedures for animal care and use and identify structures to implement them
- Review all animal use protocols (AUP)
- Ensure that animal users are qualified and properly trained
- Inspect and approve where applicable YukonU facilities for the housing, care and use of animals

### Occupational Health & Safety Committee

- Provide support and recommendations to ensure proper implementation of the program
- Monitor and evaluate the program
- Assist and advise where required with the evaluation of completed hazard assessments

### Animal Use Supervisors/Researchers and Instructors

- Implement, monitor and evaluate the OH&S program involving the use of animals
- Notify the OH&S office of new employees that may require health screening/medical surveillance
- Develop and implement standard operating procedures (SOPs) and safe work practices
- Inform employees about occupational hazards and the necessary precautions for protecting them from the hazards
- Provide training or seek training resources and information for their employees and students
- Ensure employees and students follow all applicable health, safety and environmental policies and procedures.
- Monitor and inspect work areas and activities as required
- Schedule safety meetings and provide follow-up on health and safety concerns of the employees as situations arise.
- Maintain training records of all employees

### Employees and Students

- Abide by statutory regulations and all health and safety rules, policies, procedures and practices.
- Work in a manner that will not endanger themselves or others
- Actively participate in all training programs and report to a supervisor any lack of understanding or knowledge to perform the work activities safely.
- Report unsafe acts or conditions to a manager/supervisor/researcher.
- Report all injuries and incidents
- Assist with incident/injury investigations and comply with the recommended corrective action(s).
- Report illnesses to a supervisor including but not limited to
  - Generalized rash or skin lesions
  - Jaundice
  - illness that does not resolve within a reasonable period of time (ie. cough for more than 2 weeks, gastrointestinal symptoms for more than 3-4 days, fever > 39.5 degrees C for more than 2 days)
- Report any illness or medication that may compromise the immune system
- Report any open wounds, burns, fresh tattoos or piercings on exposed body surfaces

# Procedures

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Individuals involved in animal care and use are given protection from health risks through a range of mechanisms including.

- Education and training
- Evaluation of health status prior to exposure
- Periodic health assessments
- Provision of emergency health care
- Administration of immunizations or other prophylaxis for protection from specific risks
- Use of appropriate apparel, equipment and facilities
- Veterinary management and advice on animal health issues
- Maintenance of records of illnesses, occupational diseases and injuries

## Avoiding Physical Injuries

Many tasks in animal facilities require moderate to heavy physical labour, and performing these tasks may expose personnel to risks from moving heavy equipment (strains), slippery floors, electrical hazards when washing, noise, etc. Each person must exercise due caution when performing such tasks. There are also physical risks relating to field research activities.

Although the importance of understanding basic animal behaviour in the human/experimental animal interaction to avoid injuries can be emphasized here, it cannot replace the skills that are learned by working directly with the animals. Skilled animal care technical staff will already have the right attitudes and approaches towards animal handling and manipulations. They will also have the practical skills to do so safely and humanely. For others, some of the material presented here can serve as a useful introduction to handling animals safely in an experimental animal facility or in the field.

To work safely with an experimental animal a person should:

- understand basic animal behaviour in relation to their interactions with people during handling
- appreciate the "flight zones" typical of a species
- understanding animal behaviour
- use appropriate restraint techniques
- use restraint equipment properly
- identify any animals that may be unpredictable
- wear appropriate protective clothing and equipment
- maintain appropriate vaccination status

## Basic Animal Behaviour Related to Handling and Manipulations

The flight zone is an animal's "personal space". The size of the flight zone varies with the tameness of the animal, and other animal-related factors. Completely tame animals have little or no flight zone and a person can touch them. An animal will begin to move away when the person enters the edge of the flight zone. When the person is outside the flight zone, an animal (or group of animals in a herd) will turn and face the person while maintaining a safe distance.

It is probably safe to say that when animals are in small cages or pens, all human "intrusions" are inside the animal's flight zone. Therefore, it is very important to condition the animals to regular handling to reduce the apprehension and stress imposed by human presence.

When an animal is apprehensive (e.g., about being picked up), aggressive (e.g., about to attack), or defensive (e.g., protecting itself, or its young in the case of a mother), its posture and other behavioural signs can give clues about its state and possible intentions. In many mammalian species the "warning" posture includes lowered head, ears down or back, and in the smaller animals, mouth open in a snarl.

By carefully observing the animal's behaviour while approaching it, injuries such as bites and scratches can be avoided.

### Understanding Animal Behaviour

For laboratory animals your voice, your touch, your smell, are all part of an animal's knowledge about you. To establish a two-way familiarity before a project starts, the people who will be handling or restraining the animals should talk to, touch, and regularly handle each animal. The conditioning period after transport to the laboratory (usually one or two weeks) is an excellent time to begin. Consistency in handling each animal is important. Most laboratory animals learn very quickly who their regular handlers or caretakers are, and accept the handling without undue stress.

In field research it is important to understand and recognize basic animal behaviours and responses to human encounters in order to prevent injuries. Most animals are not aggressive but conflicts may occur when animals are trying to meet their basic needs of finding food, water and shelter. In some cases animals can become aggressive and knowing steps that can be taken to avoid and prevent conflicts in the field is important. Yukon Government have various resources that provide ways to present human-wildlife conflicts. [http://www.env.gov.yk.ca/environment-you/human\\_wildlife\\_conflict.php](http://www.env.gov.yk.ca/environment-you/human_wildlife_conflict.php) Information is available on bear safety and what to do if you encounter a bear. <https://yukon.ca/en/outdoor-recreation-and-wildlife/wilderness-safety/stay-safe-bear-country#what-to-do-if-you-encounter-a-bear> If working in the field you must be familiar with the various aspects of wilderness safety and wildlife encounters.

### Using Appropriate Restraint Techniques

Different species defend themselves in different ways. For example, a mouse, rat, hamster or dog may bite, a rabbit may struggle furiously and kick or sometimes bite to try and escape, a cat may scratch (with intent!) or bite; a cow or horse may kick. The approach to restraining the animal, including any equipment used for restraint, is to prevent the animal from taking such action while ensuring it is safely and humanely held. Appropriate handling and restraint methods have been developed for most laboratory animal species. Skills in the appropriate handling and restraint methods should be attained BEFORE the research project starts.

There are also standard operating procedures that should be followed for working safely with specific wildlife species.

Although the correct approach to handling and restraint can be understood from printed and audio-visual materials, practice is essential.

### Use of Restraint Equipment

For some procedures such as intravenous injection in a rabbit or blood sampling in a cow, restraint devices or equipment are useful adjuncts to the handling, and help ensure that the procedure can be done safely for both the animal and the person. Correct use of such restraint devices will help avoid unnecessary stress or injury to the animal during the procedure. Conditioning the animal to accept the restraint device is important to minimizing the risk of injury both to the animal and to the handler.

## Use of Chemical Restraint

The safe handling of some species either in the laboratory or in the field, may require the use of "chemical" restraint. Chemical restraint is the use of sedatives or anesthetics to control an animal's activity and thereby allow certain procedures to be done with minimal stress to the animal. Some of the drugs discussed in the analgesia and anesthesia sections of this course are useful for chemically restraining animals in circumstances where physical restraint represents a serious risk of harm to the animal or the handler, or is not feasible (e.g., many wild species).

## Personal Protective Clothing and Equipment

Protective clothing and equipment is intended to protect you from hazards that you may encounter while performing tasks for work involving animals. Protective clothing suitable for the handling of specific animals should be worn at all times. This should fit properly. This includes laboratory coats, coveralls, gloves, masks, boots (e.g., steel-toed for working with cattle), etc. You should assess these requirements for working safely in the field and consult the field safety protocols.

### Minimum requirements

- full length pants
- long or short sleeved shirts
- footwear that covers the toes
- long hair tied back securely
- respiratory protection, if required
- Canadian Standards Association (CSA) approved safety glasses
- Protective gloves required for activities where potential hand injury exists
- Hearing protection if there is potential for noise exposure

### Field activities

- Insect repellent
- Long-sleeved shirts and pants
- CSA approved safety boots (no sandals)
- Bear spray or horn

## Health Screening and Monitoring

All staff, researchers, student, visiting researchers and volunteers who are involved in the care and use of animals in research or teaching activities should undergo the following health screening and medical surveillance procedures under the direction of the Animal Care Committee and/or Department:

- Health screening by a doctor
- Review of immunizations and testing
- Booster of tetanus/diphtheria vaccine
- Discussion regarding allergy notification, management and accommodation

There can be varying components of health screening and monitoring depending on the work activities, species handled and type of research being done. To determine the need for specific health screening and monitoring a hazard assessment should be completed that takes into account the following factors

- animal species contact
- exposure intensity

- exposure frequency
- physical and biological hazards presented by the animal
- susceptibility of the individual

If an employee's or student work activities or health status changes from his/her initial assessment, the health screening and medical surveillance program for that individual will also have to be modified to meet any additional identified hazards.

### Infection Control

Personal hygiene and infection controls practices must be followed at all times during animal handling activities.

### Immunization Requirements

#### Tetanus Vaccination

Tetanus is an acute and often fatal disease caused by an extremely potent neurotoxin produced by *Clostridium tetani*. The organism is ever present in soil but has also been detected in the intestines of animals and humans. Wounds that are contaminated with soil or animal/human feces and that are associated with tissue injury and necrosis are most often associated with tetanus. It is recommended that all Canadians receive a primary immunizing course of tetanus toxoid in childhood followed by routine booster doses every 10 years. Adults who have not previously received a primary tetanus toxoid series require three doses as part of an adult primary immunization procedure.

To minimize the risks associated with infections arising from any cuts or wounds such as animal bites or needle sticks, all persons working in laboratory animal facilities or in field exercises should maintain their tetanus vaccination status.

#### Rabies Vaccination

All persons at risk of exposure to rabies from any animals that may be infected, should consider vaccination for rabies. Any animals brought into experimental animal facilities that might have been exposed to rabies should be considered risks. Generally this refers to any domestic animals housed outdoors (including farm or fur animals), random source dogs and cats, and any wild animals. Institutions may require staff to have rabies vaccination as a condition of working with such species.

#### Influenza

Annual seasonal influenza immunization is recommended for people in direct contact during culling operations with poultry infected with avian influenza. This is to reduce the potential for mixing of human and avian strains of influenza that may arise if workers become co-infected with seasonal and with avian influenza. Influenza immunization of swine and poultry workers is currently under National Advisory Committee on Immunization (NACI) review. Influenza vaccine is encouraged for all adults. Refer to [Influenza Vaccine](#) in Part 4 for additional information.

#### Other Vaccinations

Depending on the species handled other immunizations may be recommended as part of a health and safety program. It is now recognized that it is possible for other animals to contract COVID-19. In order to reduce potential transmission to other species there may be requirements for COVID-19 vaccination

when working with specific wildlife species to help reduce any possible transmission. Other safety measures may need to be considered for health & safety considerations.

Appropriate records on the vaccination status of all employees involved in animal use and care activities will be maintained by Yukon University.

## Animal-Related Injuries, Management and Reporting

Any animal-related injury that may be serious should be handled by the usual emergency medical care system. Apply the appropriate first aid, call an ambulance or get the injured person to a hospital emergency department.

Any minor injuries or incidents (bites or scratches) should be handled by the appropriate first aid, and documented.

Report all injuries/incidents to your supervisor/researcher immediately. An incident report form should be filled in. [https://www.yukonu.ca/sites/default/files/inline-files/Incident%20Report%20V3.0%20Aug20\\_1.pdf](https://www.yukonu.ca/sites/default/files/inline-files/Incident%20Report%20V3.0%20Aug20_1.pdf) Reports should be made to the OH&S committee within 24 hours of the incident. Document all injuries, including minor ones, in case complications develop later.

OH&S will complete investigations in consultation with the research services office/animal care section and the researcher/instructor.

## Biological Hazards of Working with Animals in Research

### Zoonoses

**Definition:** The CCAC Guide to the Care and Use of Experimental Animals defines zoonosis as a disease of animals that may under natural conditions be transmitted to humans. What this really means is a disease that can be transmitted from animals to humans. Some individuals may be potentially at higher risk such as those that suffer from defective immune systems and those who are under severe stress or other disease.

Most infectious agents show a considerable degree of species specificity. The list of potential zoonoses related to working with animals in research and teaching is quite long, and numerous books have been written on the subject. (See the [CCAC Guide to the Care and Use of Experimental Animals, Volume 1, 2nd Ed., Appendix VII Zoonoses](#)). However, in reality the risks are very low when dealing with the common small laboratory animal species in the laboratory. There are several reasons for this low risk. Firstly, commercial suppliers of laboratory animals have done an excellent job of producing disease-free animals. Transmission of infections from animals to humans can generally be avoided through proper care and adherence to occupational health and safety requirements that include veterinary monitoring and care programs.

The risk of exposure to zoonotic diseases is greater for those who work with experimental animals from random sources (including cats, dogs and most livestock), and for field researchers studying wild animals in their habitat.

Some of the risk factors for zoonoses when working with wildlife include

- working outside
- insect bites
- contact with the materials including
  - deceased canids
  - fish tissues/fluid

- rodents and rodent urine feces

Being aware of potential zoonotic diseases in the area where field work is taking place and implementing appropriate protective measures are important factors in limiting disease exposure.

A few of the most common zoonoses in each of these areas of animal research are provided as examples. You should consult additional sources for more information on zoonoses, and for more information about specific disease organisms. The Material Safety Data Sheets (MSDS) for individual organisms published by [Health Canada Office of Laboratory Security](#) provides [Pathogen Safety Data Sheets](#) (for individuals working with pathogens in a laboratory) and a information about [Infectious diseases](#)

### Routes of Exposure

Common routes of exposure to infectious organisms are:

- aerosol (inhaling the organisms)
- ingestion (swallowing the organisms)
- absorption through the skin, through mucus membranes or skin wounds
- injection (accidental, in research)

The use of appropriate equipment, including personal protective equipment appropriate to the route of exposure for a particular infectious organism, and appropriate practices, will minimize the risk of exposure.

Yukon University currently doesn't have any laboratory or farm animals. This will be updated to reflect these requirements if this situation changes. Details provided deal with common zoonoses associated with wild animals and field studies in the Yukon.

### Zoonoses Associated with Wild Animals and Field Studies

#### *Ringworm*

Ringworm is a fungal infection of the skin that can occur in a wide range of animals including humans.

- Organism names, and synonym: *Microsporium spp.*, *Trichophyton spp.*, fungal organisms. Synonyms: Ringworm, dermatomycosis, tinea.
- Reservoir: Most domestic and wild animals, and humans. May be latent in hair of some species.
- Mode of Transmission: Direct or indirect contact with skin lesions or infected hair, or fomites (brushes, clippers, etc.).
- Incubation Period: 4-10 days.
- Clinical Disease: The fungi infect keratinized areas of the body - hair, skin and nails. Signs include round lesion of scaling skin, hair loss or breakage, sometimes reddened and crusting of infected skin.
- Communicability: Communicable from person to person when infective lesions are present.
- Diagnosis and Prevention: Monitoring for typical signs, confirmed by skin scrapings and culture. Many treatments are available.

#### *Rabies*

Rabies has not been found in Yukon animals since the 1970s. However it has been found in neighboring regions including Alaska, Northwest Territories and British Columbia. Rabies can infect any mammal, including humans. Purpose-bred laboratory animals are not a likely source of rabies. However wild animals,

animals obtained from random sources, or livestock, may carry rabies. Many institutions have rabies vaccination policies for at-risk personnel.

- Organism name, and synonym: Rabies - a rhabdovirus, Rabies, Hydrophobia.
- Reservoir: Wild and domestic animals (e.g., dogs, cats, foxes, coyotes, skunks and racoons) and bats.
- Livestock and rodents may be secondary hosts if infected by a biting animal.
- Mode of Transmission: Most commonly by a bite which introduces the virus from the saliva of a rabid animal. May be airborne in caves inhabited by infected bats.
- Incubation Period: Usually a few weeks, but may be up to a year or longer. The virus propagates in nerves. Thus the site of the wound (distance from the brain), presence of nerves at the wound, etc., influence the incubation period.
- Clinical Disease: Once clinical signs appear, the clinical course is short - usually less than 10 days with death due to respiratory paralysis. Signs include apprehension, behavioural changes, spasms of swallowing muscles, delirium, weakness progressing to paralysis.
- Epidemiology: Worldwide distribution with some rabies free areas. All mammals susceptible.
- Communicability: Infected animals shed virus for a few days before clinical signs appear. From then until the death of the animal, it is infectious.
- Diagnosis and Prevention: Pre-exposure immunization of all individuals at high risk (those who will handle animals, including laboratory workers, veterinarians and other animal handlers) should be used. The human diploid cell vaccine (HDCV) is currently used. Post-exposure treatment includes immediate first aid by generously flushing the wound and washing with soap and/or antiseptics, and providing post-exposure treatments as directed by the physician (e.g. rabies immune globulin, and vaccination).

#### *Hantavirus Infection – Hantavirus pulmonary syndrome*

- Organism name, and synonym: Hantavirus, an RNA virus in the Bunyavirus family. Synonyms: hantavirus, hantavirus pulmonary syndrome (HPS), Sin Nombre Virus (SNV) in North America.
- Reservoir: Wild rodents such as *Peromyscus* (deer mouse) and *Microtus* species in the Americas.
- Mode of Transmission: Inhalation of the virus in the dust from areas where infected rodent excreta (urine and feces) are present is the most common route. Also water contaminated with feces, urine, saliva or blood. Rodent bites may transmit the disease.
- Incubation Period: Average two to four weeks but may be shorter or longer.
- Clinical Disease: Hantavirus Pulmonary Syndrome (HPS) is characterized by a sudden onset fever, pain, vomiting, and onset of respiratory distress and prostration. Mortality rates are high despite symptomatic treatment.
- Epidemiology: Occurs throughout much of North America including the western provinces.
- Communicability: Not thought to be communicable between persons.

- **Diagnosis and Prevention:** Use of personal protective equipment to avoid inhaling the dust particles with virus, and other direct contact in high risk areas should be used. Field biologists and persons working in previously "contaminated" buildings are at risk. Guidelines for protection against infection and for decontaminating facilities are available at the [CDC \(Centers for Disease Control and Prevention\) web site](#).

### *Histoplasmosis*

Is an infectious disease caused by a fungus, *Histoplasma capsulatum*. The infection usually affects the lungs and symptoms can vary greatly. The *Histoplasma* organism thrives in moderate temperatures, rich soil, and moist environments. Droppings from chickens, pigeons, starlings, blackbirds, and bats support its growth. Birds are not infected with it because of their high body temperatures, but they do carry it on their feathers. Bats can be infected because they have a lower body temperature than birds and can excrete the organism in their droppings.

To multiply, *Histoplasma capsulatum* produces small spores called conidia. The conidia of *Histoplasma capsulatum* are only two millionths of a meter (microns,  $\mu\text{m}$ ) in diameter. When these conidia are inhaled, they are small enough that they enter the lungs and start an infection. Many of these infections are easily overlooked because they either produce mild symptoms or none at all. However, histoplasmosis can be severe and produce an illness similar to tuberculosis.

Those who study and monitor bird populations are at high risk of acquiring infection. Prevention of histoplasmosis relies on avoiding exposure to dust in a contaminated environment, wearing protective clothing such as gloves and coveralls.

### *Avian influenza virus*

To reduce your exposure to avian influenza by doing the following:

- do not handle or consume sick birds; or birds that have died from unknown causes;
- avoid direct contact (skin or mucous membranes of your eyes, nose and mouth) with blood, feces; and respiratory secretions of all wild birds;
- wear gloves and protective clothing when handling birds.

### *Tularemia (Francisella tularensis)*

Tularemia (rabbit fever) is a rare but potentially serious disease. Tularemia is spread by drinking surface water contaminated by the waste or secretions of infected animals like hares, beavers and muskrats and from bites from flies that feed on infected wildlife.

Tularemia is usually transmitted by contact with infected animals or their immediate environment, including:

- handling, being bitten by or licked by animals;
- skinning or handling dead animals;
- breathing in air or dust contaminated with the bacteria; or
- eating or drinking contaminated food or water.

While cases of this disease are rare in Yukon, it can be serious. Cleanliness is important, as is protection from exposure to the animal's blood and other body fluids.

- Avoid skinning or handling any animal that appears ill.
- Wear gloves while skinning and gutting the animal.
- Thoroughly wash your hands with soap and hot water after handling animals.
- If animal fluids splash in your eyes or mouth, flush thoroughly with clean water.

- Make sure you cook the meat thoroughly.

Consult your health care provider if you have symptoms after handling wildlife such as fever, swollen glands; or skin rash.

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For complete details on public health concerns and wildlife safety risks consult the booklet [\*Diseases You Can Get From Wildlife: A Field-guide for Hunters, Trappers, Anglers and Biologists \(Western Canada\) 2017\*](#). This was produced by western provincial and territorial governments. It provides information on the most common health risks for humans from wildlife. [https://www2.gov.bc.ca/assets/gov/environment/plants-animals-and-ecosystems/wildlife-wildlife-habitat/wildlife-health/wildlife-health-documents/safety\\_fieldguide2011\\_web.pdf](https://www2.gov.bc.ca/assets/gov/environment/plants-animals-and-ecosystems/wildlife-wildlife-habitat/wildlife-health/wildlife-health-documents/safety_fieldguide2011_web.pdf)

### Exposure Control Plans

Any circumstances that present particular risks of zoonotic infections should be identified before the risks are encountered. This includes immune compromised states (e.g., HIV infection, anti-rejections drugs or steroids, pregnancy, etc.).

**Provincial/Territorial** Occupational Health and Safety regulations commonly define a requirement to develop a written "exposure control plan" for workers required to handle, use or produce an infectious material or organism or likely to be exposed. Responsibility for this rests with the employer. Such a written plan includes: identifying workers at risk, routes of infection, signs and symptoms of disease, vaccination, engineering controls, personal protective equipment, personnel training, safe work practices and procedures, dealing with accidents, and investigating accidents.

### Other Considerations

There are various considerations specific to working with laboratory animals. These are mentioned here but are not elaborated on as currently Yukon University is not involved in research or teaching involving lab animals. For more details on these areas you should consult the CCAC Occupational Health and Safety training modules on the website at <https://www.ccac.ca/en/training/modules/core-stream/occupational-health-and-safety.html>

### Safe Waste Disposal Practices in Animal Facilities or in the Field

Work in animal facilities or with animals in the field commonly involves use of sharp instruments. All sharp items (e.g., needles, scalpels, capillary tubes, etc.) must be handled safely, and placed in designated sharps containers for proper disposal. Needles should never be recapped and re-used. Needles and blades used in research and the manipulation and care of laboratory animals, should be considered potentially infectious. Needles and blades pose a risk to those who use them and to also a health risk to those involved in the handling, transportation and disposal of these items. They must be collected in an approved needle and blade waste container. For field work involving needles or blades, appropriate containers should be brought by the researcher or instructor to collect these items and return to an appropriate disposal site as designated by the University.



### Animal Waste Disposal

Animal carcasses, body parts, organs, tissues, animal waste, blood and other fluids are considered biomedical waste/biohazards as they have the risk of carrying pathogens which can potentially harm humans. All animals,

animal wastes and related materials should be disposed of as per [Yukon Government Solid Waste Regulations: Disposal of Animal Carcasses](#).

In the laboratory setting any solid biohazardous waste material should be placed in appropriate bags/containers, which displays the biohazard symbol. Non-anatomical waste is collected in grey bins with yellow plastic bags (includes blood products but NO sharps/needles). Anatomical waste (animal tissues and any material contaminated with animal tissues) is collected in 20L red pails. Animal carcasses must be placed in bags that are then stored in designated biohazardous freezer located at the YRC. All the data concerning the waste should also be recorded at the same time in the logbook located near the freezer.

### Biohazards as Part of Research Programs

When experiments are planned that will involve biohazardous agents, both the institutional occupational health and safety office, and [Health Canada, Office of Laboratory Security Laboratory Biosafety Guidelines](#) must be consulted.

Yukon University is currently not doing any experiments or teaching involving biohazardous agents. The details provided on the CCAC website for Biosafety Guidelines and Levels of Containment will be included if future research or teaching involves biohazards. These details can viewed on the CCAC website Occupational Health and Safety Modules at <https://www.ccac.ca/en/training/modules/core-stream/occupational-health-and-safety.html>

### Allergies to Animals

Yukon University currently does not have any laboratory facilities housing live animals. This will be considered in the OH&S program if this situation changes for the University. Details on the considerations and requirements regarding laboratory animals and allergies are available at <https://www.ccac.ca/en/training/modules/core-stream/occupational-health-and-safety.html>

### Chemical Safety

Experimental animal facilities routinely contain various chemicals such as detergents, disinfectants, anesthetics, tissue preservatives (e.g., formalin). Most staff will be familiar with safe work practices for use of these chemicals. Yukon University does follow [Canadian Workplace Hazardous Materials Information System \(WHMIS\)](#), which consists of labelling chemicals, provision of material safety data sheets (MSDSs) and employee education programs. A detailed discussion of all the chemicals used in experimental animal facilities, their hazards and safe use is beyond the scope of the current YukonU operations.

### Radiation Safety

Institutions will already have a program in place to ensure work with ionizing radiation, including isotopes injected into animals as part of their research use, is done safely. [Training and licensing of users and facilities are mandated](#). A detailed discussion of the use of radiation in experimental animal facilities, their hazards and safe use is not currently needed for animal care and use programs of Yukon University.

## Reference Material

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[\*Diseases You Can Get From Wildlife: A Field-guide for Hunters, Trappers, Anglers and Biologists \(Western Canada\) 2017\*](#)