



Animal Contact Handbook

For Allergens and Zoonotic Diseases

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Administrative Overview

1. Animal Contact Program Overview

The Animal Contact Program includes medical monitoring and an educational component for all personnel who may be exposed to animals or unfixed animal tissue/fluids at UF facilities or as part of research activities, including applicable field research. Medical monitoring is based on the type and frequency of exposure to animals and consists of a risk assessment, follow-up assessments, and tests/immunizations as needed.

Program requirements are based upon those outlined in the Public Health Services document, Guide for the Care and Use of Laboratory Animals and the National Research Council's Occupational Health and Safety in the Care and Use of Research Animals, as well as the recommendations of the Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC).

2. Eligibility and Participation

The Animal Contact Program includes a medical monitoring and an educational component for individuals with animal contact, defined as those that:

- Handle or work with live animals, or
- Handle unfixed animal tissues or body fluids, including animal waste, or
- Are listed on an Institutional Animal Care and Use (IACUC) protocol, or
- Access Animal Care Services (ACS) managed facilities or vivaria

Exemptions

Individuals working on projects that involve observation of birds or other animals outdoors/in their natural habitat are exempt from the program.

Visitors entering ACS managed facilities or vivaria to perform maintenance/repairs or observe research are not required to participate in the Animal Contact Program provided all the following are met:

- Visits are 5 times or less within a 30-day period
- The Request for Visitors to Observe Animal Research and ACS Director's Instructions Regarding Associated Health Risks forms are signed and approved.
- Visitors are always escorted and wear their issued visitor badge.

Although individuals who may have incidental or infrequent exposure are not required to participate in the program, they should read the Animal Contact Program Handbook and be advised that some persons are at increased risk from animal-associated disease, including:

- Women who are pregnant or planning to become pregnant
- Immunocompromised persons
- Individuals with known animal allergies

3. Responsibilities

The Animal Contact Program at UF is administered by Environmental Health & Safety and UF's occupational health provider (the Student Health Care Center and CareSpot).

Environmental Health & Safety (EH&S) is responsible for the following:

- Maintenance and distribution of the Animal Contact Risk Assessment forms
- Answering questions regarding how to fill out the Animal Contact Risk Assessment forms
- Providing guidance, information, and training to personnel on animal research safety

The **Student Health Care Center (SHCC) and CareSpot** are responsible for the following:

- Reviewing medical questionnaires and determining if medical examinations are needed
- Providing necessary examinations
- Administering appropriate immunizations as necessary
- Providing occupational clearance through MyUFL

Principal Investigators or Supervisors are responsible for the following:

- Identifying eligible participants
- Notifying the HR liaisons regarding job duties that require animal contact
- Ensuring the enrollment of eligible participants in the Animal Contact Program and approving Animal Contact Risk Assessment Forms
- Ensuring that all mandatory training is completed prior to animal exposure

Staff/students/volunteers enrolling in the Animal Contact Program are responsible for the following:

- Completing the Animal Contact Risk Assessment Form and obtaining supervisor/PI signature.
- Submitting the completed form to the SHCC or appropriate medical provider if applicable
- Scheduling necessary medical examinations with the appropriate medical provider. *Renewals may not require an in-person visit.
- Tracking clearance status online in myUFL>My Self Service>My Personal Information>UF Health Assessment
- Completing required trainings

Individual Departments are responsible for submitting the Payment Authorization Form to UF's occupational health provider. Approval can be delayed if the Payment Authorization Form is not submitted in a timely manner.

4. Enrollment

To enroll or renew participation in the program, applicants must:

- 1) Complete the [Risk Assessment Form for Animal Contact](#). **College of Veterinary Medicine Participants only** must use the [Vet Med Specific Risk Assessment for Animal Contact Form](#).
- 2) If selecting options 1 or 2 for *Type of Animal Contact*, submit the form to EH&S by clicking on the *Submit* link on the first page of the form . If selecting options 3, 4 or 5 for *Type of Animal Contact*, submit the form directly to the SHCC (DO NOT submit it to EH&S) by clicking on the *Submit* link at the bottom of the third page.
- 3) Ensure the department or supervisor has submitted the [Payment Authorization Form](#) to the SHCC. Approvals will not be processed until the SHCC has received appropriate payment. Lack of Payment Authorization Form is the most common reason for Animal Contact clearance delays.
- 4) Occupational medicine providers will determine if further clinical interaction or added precautions are needed to protect your health. If an in-person medical assessment is needed, the SHCC staff will instruct the employee to schedule an appointment with Care Spot.
- 5) Track your clearance status online in myUFL>My Self Service>My Personal Information>UF Health Assessment.

Renewals

Follow the same process as outlined above for animal contact renewals. Participants must renew their risk assessment:

- at least every three years
- when there are changes in work assignment (i.e., change in species, contact levels)
- when there are changes in personal health status (development of a chronic illness or condition, immune suppression, pregnancy, development of animal or environmental allergies).

Animal Contact Health Risks



5. Allergies

An allergy is an exaggerated reaction by the body's immune system, most frequently to proteins. In the case of a laboratory animal allergy, the proteins commonly associated with allergic reactions are found in the animal's urine, saliva, and dander. Allergic reactions to animals are one of the most common conditions that adversely affect the health of workers involved in the care and use of animals in research. It has been reported that 10 – 44% of individuals who work with laboratory animals will develop allergy symptoms and an estimated 10% may develop occupational-related asthma.

Allergic reactions can be expressed in several ways including:

- allergic rhinitis - a condition characterized by runny nose and sneezing similar to hay fever
- allergic conjunctivitis - irritation and tearing of the eyes
- asthma - wheezing and shortness of breath
- atopic dermatitis - a skin condition caused by contact with a substance that the individual is allergic to

Allergy to animals is particularly common in workers exposed to cats, dogs, rabbits, mice, rats, gerbils and guinea pigs. Exposure to animal allergens can occur through direct skin contact or more commonly, by inhalation of dust containing allergens from urine, dander, saliva, hair, feathers, bedding, etc. Individuals become sensitized over a period of months or years and may be allergic to just one type of animal, or multiple species. People who have a prior personal history or family history of animal allergies may be more likely to develop allergies when working with animals or entering animal facilities. Preventing the exposure to allergens requires the use of personal protective equipment such as gowns, gloves and respiratory protection.

Methods to Reduce Allergens

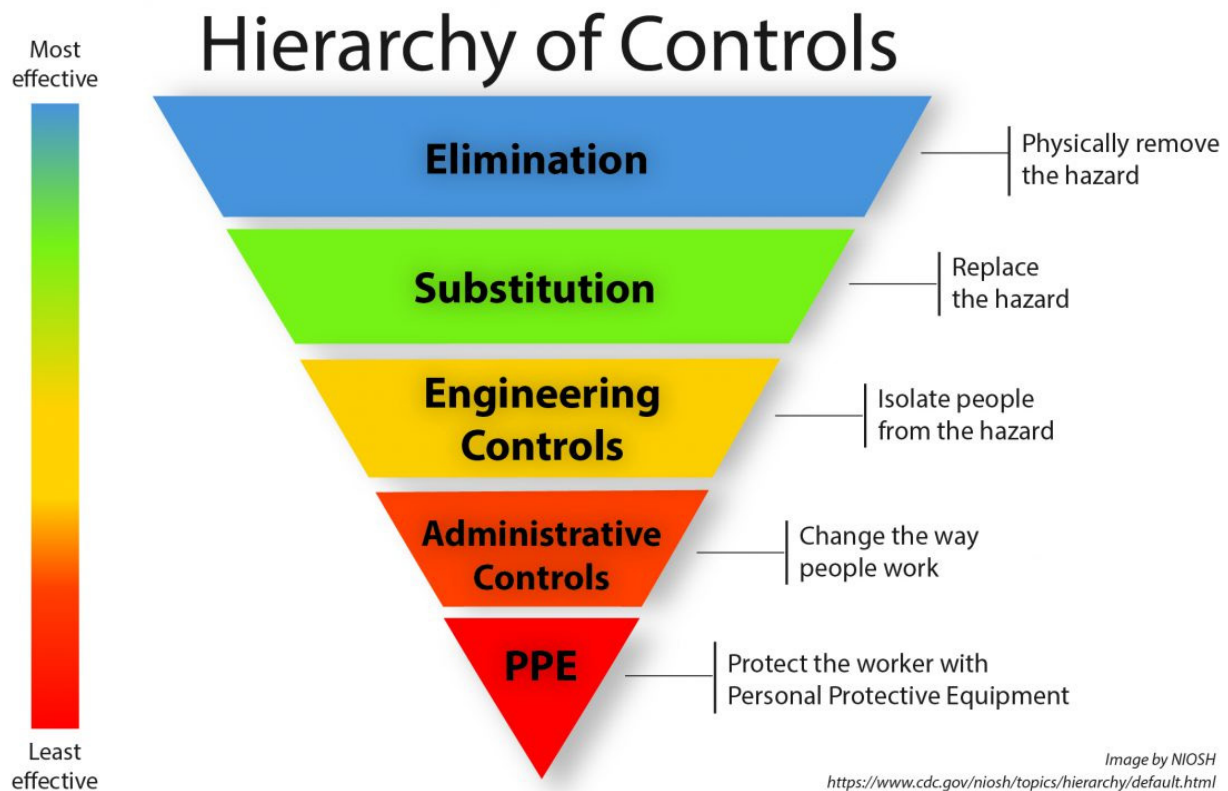
- Manipulate animals within ventilated hoods or biosafety cabinets when possible.
- House and manipulate animals in a designated animal facility rather than in the general laboratory.
- Empty cages only in ventilated hoods or other ventilation-controlled equipment.
- Move animals or soiled cages only through non-public areas and drape the cages or cart with a cloth cover
- Cover street clothes or avoid wearing street clothes (e.g. wear facility-dedicated scrubs) while working with animals indoors.
- Leave work clothes at the workplace to avoid potential exposure problems for family members.
- Reduce skin contact with animal products such as dander, serum, and urine by using gloves, lab coats, and face shields.
- Protect your eyes by using appropriate eye protection.
- Spend as little time as possible in the room where animals are housed.
- Limit animal density where feasible.
- Wash hands after handling animals and before leaving the animal area.

6. Zoonotic Diseases

Diseases that are transmissible from animals to humans are termed as being zoonotic or as having zoonosis(es). All persons with animal contact, including those working only with animal tissues, body fluids, or waste should be familiar with the microorganisms and diseases associated with the species they handle.

Several key species are listed in the subsequent sections (in alphabetical order) as well as the associated common zoonotic diseases. This is not an exhaustive list and includes only common species and associated diseases. Always discuss additional concerns with your supervisor, your personal physician, and/or UF's Occupational Medicine Provider.

The hierarchy of controls is a tool to eliminate or reduce workplace hazards. It ranks controls from the most effective level of protection to the least effective level. To implement control measures, start at the top level and assess the feasibility of each layer before moving onto the next. Although EH&S sets minimum requirements for engineering controls, administrative controls, and personal protective equipment, individual groups must conduct their own hazard assessment to determine the appropriate controls for their scope/hazard.



Amphibians and Reptiles



AMPHIBIANS & REPTILES

Disease/Agent	Description
<p>Mycobacteriosis (Nontuberculous <i>Mycobacterium</i> spp.)</p>	<p>Reptiles and amphibians can carry various atypical <i>Mycobacterium</i> species including <i>Mycobacterium marinum</i>, <i>M. fortuitum</i> and <i>M. chelonae</i>. All can be associated with acute or chronic disease, but many animals can be long-term undetected carriers before clinical disease is detected. Infected reptiles and amphibians might have lumps, sores, or changes in skin color. People can acquire these bacteria via contact with contaminated water or infected animals. Persons infected with nontuberculous <i>Mycobacterium</i> (NTM) may develop “fish tank granulomas” which appear as skin ulcers or nodules, usually on the hands. Immunosuppressed persons can develop lymphadenitis & pulmonary disease similar to tuberculosis or more severe disseminated disease. Prognoses can vary. Treatment is available and varies depending on the individual patient susceptibility and infected body site. Surgical intervention and wound care management may be required, and a poly-antimicrobial course is generally required for a prolonged period of time.</p> <p>For additional information: https://www.cdc.gov/healthypets/pets/reptiles.html https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/mycobacterium.html</p>
<p><i>Aeromonas</i> spp.</p>	<p><i>Aeromonas</i> is a type of bacteria that is commonly found in freshwater ponds and aquariums and can cause disease in fish and amphibians. Infected amphibians might have discolored limbs, weight loss, and open sores. Humans can become infected through open wounds, by drinking contaminated water, or by accidental ingestion through poor hand hygiene. Young children and adults with weak immune systems are most affected and may have diarrhea or blood infections.</p> <p>For additional information: https://www.cdc.gov/healthypets/pets/fish.html https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/aeromonas-hydrophila.html</p>
<p>Salmonellosis (<i>Salmonella</i> spp.)</p>	<p><i>Salmonella</i> bacteria live in the gastrointestinal tracts of healthy reptiles and amphibians and usually will not cause disease in animals. This bacterium can be spread to humans through contact with an animal, its feces, food, or items like food dishes, cages and aquariums. Infection can cause a range of symptoms such as diarrhea, headache, fever and stomach cramps and can even result in severe conditions such as septicemia. Although in most cases salmonellosis is self-limiting and treatable, dehydration and other symptoms can be severe and may require medical intervention and further supportive care.</p> <p>For additional information: https://www.cdc.gov/salmonella/index.html https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/salmonella-enterica.html</p>

How to Protect Yourself from Zoonoses When Handling Amphibians & Reptiles



Engineering Controls

- Sharps and needles, if used, must be disposed of in a biomedical sharps container convenient to the work area. Needles must not be removed from the syringe, bent/sheared or recapped before disposal into the sharps container.
- Perform necropsies or handle tissue of ill animals or suspected-ill animals in a biosafety cabinet or down draft table.



Administrative & Work Practice Controls

- The most effective measure that can be taken to prevent disease transmission is regular hand washing. Wash hands and arms with soap and water after handling any animal or material/equipment in contact with the animal.
- Do not eat, drink, apply cosmetics or use tobacco products while in animal housing areas.
- Handle animals safely to avoid skin abrasions. Thoroughly wash any skin wound and report injuries to AmeriSys at 800-455-2079 (Workers' Compensation).
- Keep animal areas clean and disinfect equipment and surfaces after contact with animals.
- Cover abraded skin, cuts, scrapes, or sores and do not allow wound contact with the animals, or contaminated materials. Persons with infected wounds, indicated by swelling, redness, pain and draining fluids, with or without a fever should seek medical treatment.
- Enroll in the [Animal Contact Medical Monitoring Program](#).
- Persons with specific medical conditions such as a chronic illness, immunodeficiency and pregnancy may be at higher risk of developing disease or complications from a zoonotic disease and should consult with their personal physician before working with animals.



Personal Protective Equipment

- Wear gloves and/or protective sleeves when handling contaminated water, animals, animal tissue, body fluids and waste, and wash hands after contact.
- Wear dedicated protective clothing when handling animals. Never wear protective clothing outside of animal areas.
- Wear eye protection when there is a splash hazard, when handling ill animals, or as specified by the hazard assessment.
- Wear respiratory protection when appropriate (when there are potential health hazards caused by breathing air contaminated with harmful levels of chemical, physical, or biological agents). Those wearing a respirator must be enrolled in the [Respiratory Protection Program](#).

Canines (Domesticated)



Canines (Domesticated)

Disease/Agent	Description
Rabies	<p>Rabies is a fatal viral infection that is transmitted through direct contact (via broken skin or mucous membranes) with saliva or brain/nervous system tissue from an infected animal. Dogs may acquire rabies from contact with bats, raccoons, skunks and other wildlife. Infected animals exhibit neurological symptoms, such as paralysis and behavioral changes, due to acute encephalitis. Dogs that have not been vaccinated for rabies and dogs with undiagnosed neurological disease should be treated with caution to avoid bites and scratches. Transmission to human occurs through bites, scratches, or contact with saliva from an infected animal. Symptoms can appear days to months after exposure with the typical incubation period ranging from 20 to 90 days. Exposed individuals must seek post-exposure rabies prophylaxis from a medical professional immediately as rabies is nearly always fatal once symptoms begin.</p> <p>For additional information: https://www.cdc.gov/rabies/index.html https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/rabies-virus.html</p>
Leptospirosis (<i>Leptospira</i> spp.)	<p>A variety of animals carry <i>Leptospira interrogans</i> and shed the bacteria in their urine. Human infection can occur through direct contact with urine or body fluids of infected animals or through contact with water, soil or animal bedding contaminated with urine from infected animals. Less commonly, transmission can occur through inhalation of aerosolized droplets of contaminated fluids. Primary symptoms in humans include fever, muscle aches, vomiting, jaundice, red eyes, diarrhea and a rash. Secondary disease consists of renal failure, liver failure and meningitis. .</p> <p>For additional information: https://www.cdc.gov/leptospirosis/index.html https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/leptospira-interrogans-material-safety-data-sheets-msds.html</p>
Ringworm (Dermatomycoses)	<p>Many species of animals are susceptible to fungi that cause the condition known as ringworm. The skin lesion usually spreads in a circular manner from the original point of infection, giving rise to the term “ringworm.” Affected animals typically have small areas of hair loss around their ears, face, or legs with scaly or crusty skin. Some animals carrying ringworm will not have any signs of infection. Transmission of the disease is by direct contact with an infected animal. In humans, the disease usually consists of itchy skin, cracked skin, ring-shaped rash, and hair loss.</p> <p>For additional information: https://www.cdc.gov/fungal/diseases/ringworm/index.html</p>
Sarcoptic Mange (<i>Sarcoptes scabiei</i>)	<p>Mange (aka sarcoptic mange or scabies) is a skin disease caused by mites. Dogs can get infested with these mites after direct contact with affected dogs or contaminated bedding and will experience skin irritation with severe itching and self-inflicted wounds, and alopecia (loss of hair). People can get mild skin irritation after contact with infested dogs, but these mites cannot reproduce on humans, so the condition is resolved spontaneously after the mites die in a couple of days. If needed, an over-the-counter cortisone cream can help reduce inflammation and itching.</p> <p>For additional information: https://www.cdc.gov/healthypets/pets/dogs.html</p>

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Canines (Domesticated)

Disease/Agent	Description
<p><i>Capnocytophaga</i> spp.</p>	<p><i>Capnocytophaga canimorsus</i> is a bacterium commonly found in the mouth of healthy dogs and cats which can be transmitted to people through bites, scratches, or close contact with an infected animal. Most people do not become sick, but some may develop a local bacterial infection or life-threatening sepsis. Pre-existing liver disease, alcoholism and immunodeficiency increase the risk of developing a severe infection. Symptoms in humans include blisters, swelling, and redness of exposure site. Infected people may also experience fever, diarrhea, vomiting, muscle pain, and headaches.</p> <p>For additional information: https://www.cdc.gov/healthypets/pets/dogs.html https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/capnocytophaga.html</p>
<p>Gastrointestinal Disease (<i>Salmonella</i>, <i>Giardia lamblia</i>, <i>Escherichia coli</i>, <i>Cryptosporidium</i>)</p>	<p>Several diseases can spread from animals to humans through direct contact or accidental ingestion of fecal matter. Examples include salmonellosis, giardiasis, and cryptosporidiosis. Many animals can be infected without signs, but some can develop diarrhea and weight loss. Any animal with diarrhea should be suspected of having a zoonotic disease. In humans, symptoms can vary from diarrhea, abdominal pain, nausea, and vomiting.</p> <p>For more information: https://www.cdc.gov/healthypets/pets/dogs.html https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment.html</p>
<p>Roundworm (<i>Toxocara</i> spp.)</p>	<p>Roundworm is an internal parasite commonly found in the intestines of dogs. Infected dogs may experience coughing, diarrhea, and enlarged bellies. Roundworm eggs are shed in the feces and people may become infected via accidental ingestion due to poor hand hygiene. If roundworm larvae migrate to the eye, symptoms in humans may include vision loss, eye inflammation, or damage to the retina. If the larvae migrate to various body organs, symptoms may include fever, fatigue, coughing, wheezing, or abdominal pain.</p> <p>For additional information: https://www.cdc.gov/healthypets/pets/dogs.html https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/toxocara-canis-toxocara-cati.html</p>
<p>Tickborne Diseases</p>	<p>Tickborne diseases are spread through the bite of an infected tick and include Lyme disease, Rocky Mountain spotted fever, tularemia, ehrlichiosis, and babesiosis among others. Dogs that spend time in grassy, wooded, or brushy areas are at risk of acquiring ticks or tick bites. Diseases are transmitted to humans via tick bites as well. Symptoms in humans can vary but usually include fever, chills, body aches, and a rash. See a healthcare provider if you have been bitten by a tick and experience any symptoms or develop symptoms consistent with tickborne diseases.</p> <p>For more information: https://www.cdc.gov/healthypets/pets/dogs.html https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment.html</p>

How to Protect Yourself from Zoonoses When Handling Canines



Engineering Controls

- Sharps and needles, if used, must be disposed of in a biomedical sharps container convenient to the work area. Needles must not be removed from the syringe, bent/sheared or recapped before disposal into the sharps container.
- Perform necropsies or handle tissue of ill animals or suspected-ill animals in a biosafety cabinet or down draft table.
- Use restraint devices when appropriate to prevent bites.



Administrative & Work Practice Controls

- The most effective measure that can be taken to prevent disease transmission is regular hand washing. Wash hands and arms with soap and water after handling any animal or material/equipment in contact with the animal.
- Do not eat, drink, apply cosmetics or use tobacco products while in animal housing areas.
- Handle animals safely to avoid skin abrasions. Thoroughly wash any skin wound and report injuries to AmeriSys at 800-455-2079 (Workers' Compensation).
- Keep animal areas clean and disinfect equipment and surfaces after contact with animals.
- Observe signs of illness in animals so that they can receive veterinary care.
- Enroll in the [Animal Contact Medical Monitoring Program](#).
- Persons with specific medical conditions such as a chronic illness, immunodeficiency and pregnancy may be at higher risk of developing disease or complications from a zoonotic disease and should consult with their personal physician before working with animals.



Personal Protective Equipment

- Wear gloves when handling animals, animal tissue, body fluids, animal waste or as required by a risk assessment.
- Wear dedicated protective clothing when entering an animal housing area, handling ill animals, handling animal waste or bedding containing waste, handling animals housed at ABSL1 or higher, handling animals exposed to hazardous chemicals, or as specified by your hazard assessment. Never wear protective clothing outside of animal areas.
- Wear safety glasses to protect your eyes (mucous membrane) when handling ill animals, handling animal tissue or fluids, handling waste or bedding containing waste, handling animals housed at ABSL1 or higher, handling animals exposed to hazardous chemicals, or as specified by your hazard assessment.
- Wear additional mucous membrane protection (surgical mask, face shield, etc.) when performing necropsies or surgery.
- Wear respiratory protection when appropriate (when there are potential health hazards caused by breathing air contaminated with harmful levels of chemical, physical, or biological agents). Those wearing a respirator must be enrolled in the [Respiratory Protection Program](#).

Cats (Domesticated)



Cats (Domesticated)

Disease/Agent	Description
Rabies	<p>Rabies is a fatal viral infection that is transmitted through direct contact (via broken skin or mucous membranes) with saliva or brain/nervous system tissue from an infected animal. Cats may acquire rabies from contact with bats, raccoons, skunks and other wildlife. Infected animals exhibit neurological symptoms, such as paralysis and behavioral changes, due to acute encephalitis. Cats that have not been vaccinated for rabies and cats with undiagnosed neurological disease should be treated with caution to avoid bites and scratches. Transmission to human occurs through bites, scratches, or contact with saliva from an infected animal. Symptoms can appear days to months after exposure with the typical incubation period ranging from 20 to 90 days. Exposed individuals must seek post-exposure rabies prophylaxis from a medical professional immediately as rabies is nearly always fatal once symptoms begin.</p> <p>For additional information: https://www.cdc.gov/rabies/index.html https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/rabies-virus.html</p>
Cat Scratch Disease (<i>Bartonella henselae</i>)	<p>Cat scratch disease is a bacterial infection that can be transmitted by bites, scratches and flea bites. About 40% of cats carry <i>B. henselae</i> at some point in their lives, although most infected cats do not show symptoms of illness. Infection in humans presents as swollen lesions at the infection site, enlarged lymph nodes, fever, and poor appetite. Immunocompromised children are at higher risk of developing severe disease and complications from cat scratch disease</p> <p>For additional information: https://www.cdc.gov/healthypets/diseases/cat-scratch.html https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/bartonella-henselae.html</p>
Ringworm (Dermatomycoses)	<p>Many species of animals are susceptible to fungi that cause the condition known as ringworm. The skin lesion usually spreads in a circular manner from the original point of infection, giving rise to the term “ringworm.” Affected animals typically have small areas of hair loss around their ears, face, or legs with scaly or crusty skin. Some animals carrying ringworm will not have any signs of infection. Transmission of the disease is by direct contact with an infected animal. In humans, the disease usually consists of itchy skin, cracked skin, ring-shaped rash, and hair loss.</p> <p>For additional information: https://www.cdc.gov/fungal/diseases/ringworm/index.html</p>
Gastrointestinal Disease (<i>Salmonella</i> , <i>Giardia lamblia</i> , <i>Escherichia coli</i> , <i>Cryptosporidium</i>)	<p>Several diseases can spread from animals to humans through direct contact or accidental ingestion of fecal matter. Examples include salmonellosis, giardiasis, and cryptosporidiosis. Many animals can be infected without signs, but some can develop diarrhea and weight loss. Any animal with diarrhea should be suspected of having a zoonotic disease. In humans, symptoms can vary from diarrhea, abdominal pain, nausea, and vomiting.</p> <p>For additional information: https://www.cdc.gov/healthypets/pets/cats.html https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment.html</p>

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Cats (Domesticated)

Disease/Agent	Description
<p>Toxoplasmosis (<i>Toxoplasma gondii</i>)</p>	<p>Toxoplasmosis is the disease caused by the intestinal protozoan parasite <i>Toxoplasmi gondii</i>. Cats are commonly infected but typically do not exhibit any disease symptoms. However, they can shed infectious oocysts in their feces and can continue shedding up to 3 weeks after infection. These oocysts are extremely hardy and can survive in the environment for over a year. Humans are infected by accidental ingestion of oocysts in cat feces or contaminated food. Infection is often highest in areas that have hot, humid climates and lower altitudes, because the oocysts survive better in these types of environments. Symptoms in humans are usually quite mild and may be mistaken for a simple cold, however, infection during pregnancy can result in birth defects impacting the nervous system and eyes.</p> <p>For additional information: https://www.cdc.gov/parasites/toxoplasmosis/disease.html https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/toxoplasma-gondii-pathogen-safety-data-sheet.html</p>
<p>Plague (<i>Yersinia pestis</i>)</p>	<p>Free roaming cats and cats that hunt are at risk for developing plague. Cats can be infected from the bite of an infected flea or through oral contact with secretions/tissues of an infected rodent or rabbit. Symptoms in cats include fever, low energy, swollen lymph nodes, cough, and difficulty breathing. Transmission to humans occurs through close contact with infected cats or through inhalation of infectious droplets that a sick cat has coughed. Symptoms in humans depend on the route of exposure but typically include swollen and painful lymph nodes (buboes), fever, chills, headache, and weakness. If the bacteria are inhaled, abrupt onset of pneumonia may ensue (pneumonic plague) and immediate medical attention is required as antibiotics must be administered within 24 hours of symptom onset to reduce the risk of death. Florida has not had a reported case of plague since 1920; most cases reported in the U.S. are from western states.</p> <p>For additional information: https://www.cdc.gov/healthypets/pets/cats.html https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/yersinia-pestis-material-safety-data-sheets-msds.html</p>
<p>Tickborne Diseases</p>	<p>Tickborne diseases are spread through the bite of an infected tick and include Lyme disease, Rocky Mountain spotted fever, tularemia, ehrlichiosis, and babesiosis among others. Cats that spend time in grassy, wooded, or brushy areas are at risk of acquiring ticks or tick bites. Diseases are transmitted to humans via tick bites as well. Symptoms in humans can vary but usually include fever, chills, body aches, and a rash. See a healthcare provider if you have been bitten by a tick and experience any symptoms or develop symptoms consistent with tickborne diseases.</p> <p>For more information: https://www.cdc.gov/healthypets/pets/dogs.html https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment.html</p>

How to Protect Yourself from Zoonoses When Handling Domesticated Cats



Engineering Controls

- Sharps and needles, if used, must be disposed of in a biomedical sharps container convenient to the work area. Needles must not be removed from the syringe, bent/sheared or recapped before disposal into the sharps container.
- Perform necropsy or handle tissue of ill animals or suspected-ill animals in a biosafety cabinet or down draft table.
- Use restraint devices when appropriate to prevent bites or scratches.



Administrative & Work Practice Controls

- The most effective measure that can be taken to prevent disease transmission is regular hand washing. Wash hands and arms with soap and water after handling any animal or material/equipment in contact with the animal.
- Do not eat, drink, apply cosmetics or use tobacco products while in animal housing areas.
- Handle animals safely to avoid skin abrasions. Thoroughly wash any skin wound and report injuries to AmeriSys at 800-455-2079 (Workers' Compensation).
- Keep animal areas clean and disinfect equipment and surfaces after contact with animals.
- Observe signs of illness in animals so that they can receive veterinary care.
- Enroll in the [Animal Contact Medical Monitoring Program](#).
- Persons with specific medical conditions such as a chronic illness, immunodeficiency and pregnancy may be at higher risk of developing disease or complications from a zoonotic disease and should consult with their personal physician before working with animals.



Personal Protective Equipment

- Wear gloves when handling animals, animal tissue, body fluids, animal waste or as required by a hazard assessment.
- Wear dedicated protective clothing when entering an animal housing area, handling ill animals, handling animal waste or bedding containing waste, handling animals housed at ABSL1 or higher, handling animals exposed to hazardous chemicals, or as specified by your hazard assessment. Never wear protective clothing outside of animal areas.
- Wear safety glasses to protect your eyes (mucous membrane) when handling ill animals, handling animal tissue or fluids, handling waste or bedding containing waste, handling animals housed at ABSL1 or higher, handling animals exposed to hazardous chemicals, or as specified by your hazard assessment.
- Wear additional mucous membrane protection (surgical mask, face shield, etc.) when performing necropsies or surgery.
- Wear respiratory protection when appropriate (when there are potential health hazards caused by breathing air contaminated with harmful levels of chemical, physical, or biological agents). Those wearing a respirator must be enrolled in the [Respiratory Protection Program](#).

Cattle, Sheep & Goats



Cattle, Sheep & Goats

Disease/Agent	Description
<p>Ringworm (Dermatomycoses)</p>	<p>Many species of animals are susceptible to fungi that cause the condition known as ringworm. The skin lesion usually spreads in a circular manner from the original point of infection, giving rise to the term “ringworm.” Affected animals typically have small areas of hair loss around their ears, face, or legs with scaly or crusty skin. Some animals carrying ringworm will not have any signs of infection. Transmission of the disease is by direct contact with an infected animal. In humans, the disease usually consists of itchy skin, cracked skin, ring-shaped rash, and hair loss.</p> <p>For additional information: https://www.cdc.gov/fungal/diseases/ringworm/index.html</p>
<p>Brucellosis (<i>Brucella</i> spp.)</p>	<p>Brucellosis is a potential zoonoses in cattle but due to a federal eradication program, disease is uncommon in the United States. Animals with brucellosis usually do not present any overt signs of illness; abortion is the most obvious manifestation of the disease in cattle. Infection may also result in stillborn or weak calves, retained placentas and reduced milk yield. People can become infected via consumption of raw (unpasteurized) dairy products or through direct contact with infected animals, animal tissues or fluids. <i>Brucella</i> spp. are easily aerosolized and have a low infectious dose (10 -100 microorganisms). Slaughterhouse and meat-packing workers have been known to be exposed through inhalation. The bacteria can penetrate damaged skin and mucous membranes through contact with infected animals or animal excretions. Infected people typically have flu-like symptoms that wax and wane (hence the disease in humans is also known as “undulant fever” and the disease can affect the reproductive organs and cause miscarriages. Onset of symptoms can occur anywhere between 5 days to 6 months.</p> <p>For additional information: https://www.cdc.gov/brucellosis/index.html https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/brucella-b-abortus-b-canis-b-melitensis-b-suis-material-safety-data-sheets-msds.html</p>
<p>Leptospirosis (<i>Leptospira</i> spp.)</p>	<p>Leptospirosis is a disease caused by bacteria of the genus <i>Leptospira</i>. Leptospirosis occurs worldwide but is most common in tropical and subtropical climates. It poses a risk for people with jobs that involve contact with animals or their waste such as slaughterhouse workers, veterinarians and people working directly with farm animals or cleaning up after them (such as cleaning barns, stables, or stalls). Symptoms in cattle include reproductive problems, anemia, liver and kidney disease. Transmission to humans occurs by direct contact with urine or body fluids of infected animals or through contact with water, soil or animal bedding contaminated with urine from infected animals. Less commonly, transmission can occur through inhalation of aerosolized droplets of contaminated fluids. Primary symptoms in humans include fever, muscle aches, vomiting, jaundice, red eyes, diarrhea and a rash. Secondary disease consists of renal failure, liver failure and meningitis.</p> <p>For additional information: http://www.cdc.gov/leptospirosis/ https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/leptospira-interrogans-material-safety-data-sheets-msds.html</p>

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Cattle, Sheep & Goats

Disease/Agent	Description
<p><i>Staphylococcus aureus</i> (including methicillin-resistant <i>Staphylococcus aureus</i> or MRSA)</p>	<p><i>Staphylococcus aureus</i> is a common type of a bacteria normally found on the skin of healthy people and animals. Farm animals may experience skin infections but rarely show any symptoms of infection. Human transmission occurs through direct skin contact with animals carrying the bacteria. Staph skin infections typically present as swollen, painful red bumps that resemble pimples or spider bites but can progress into deep, painful abscesses. If left untreated, staph skin infections can progress to pneumonia or sepsis, especially in immunocompromised individuals.</p> <p>For additional information: https://www.cdc.gov/mrsa/index.html https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/staphylococcus-aureus.html</p>
<p>Rabies</p>	<p>Rabies is a fatal viral infection that is transmitted through direct contact (via broken skin or mucous membranes) with saliva or brain/nervous system tissue from an infected animal. Although rabies in farm animal is rare, domesticated animals can be infected from contact with wild animals such as bats, skunks, and raccoons. Infected animals exhibit neurological symptoms, such as paralysis and behavioral changes, due to acute encephalitis and hypersalivation. Transmission to human occurs through bites, scratches, or contact with saliva from an infected animal. Symptoms can appear days to months after exposure with the typical incubation period ranging from 20 to 90 days. Exposed individuals must seek post-exposure rabies prophylaxis from a medical professional immediately as rabies is nearly always fatal once symptoms begin.</p> <p>For additional information: https://www.cdc.gov/rabies/index.html https://www.ksvdl.org/resources/news/diagnostic_insights/may2016/cattle.html</p>
<p>Anthrax (<i>Bacillus anthracis</i>)</p>	<p>Anthrax is a naturally occurring disease caused by spore-forming bacteria. Livestock can become infected through inhalation or ingestion of spores from contaminated water, soil, or plants. Animals do not always demonstrate symptoms, but clinical signs in animals can include fever, seizures, difficulty breathing, and depression. Although anthrax is rare in the U.S., humans can become infected after having contact with infected animals. Transmission can occur through accidental ingestion of spores or penetration through broken skin. Symptoms in humans will depend on the mode of transmission. Blisters, ulcers and skin swelling are typical for cutaneous anthrax. Fever, sore throat, difficulty swallowing, bloody vomit and diarrhea (may be bloody) are symptoms of gastrointestinal anthrax while fever, chest discomfort, shortness of breath, cough, confusion, or dizziness are indicative of inhalational anthrax.</p> <p>For additional information: https://www.cdc.gov/anthrax/basics/index.html</p>
<p>Gastrointestinal Disease (<i>Salmonella</i>, <i>Giardia lamblia</i>, <i>Escherichia coli</i>, <i>Cryptosporidium</i>)</p>	<p>Several diseases can spread from animals to humans through direct contact or accidental ingestion of fecal matter. Examples include salmonellosis, giardiasis, and cryptosporidiosis. Many animals can be infected without signs, but some can develop diarrhea and weight loss. Any animal with diarrhea should be suspected of having a zoonotic disease. In humans, symptoms can vary from diarrhea, abdominal pain, nausea, and vomiting.</p> <p>For additional information: https://www.cdc.gov/healthypets/pets/cats.html https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment.html</p>

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Cattle, Sheep & Goats

Disease/Agent	Description
<p>Q Fever (<i>Coxiella burnetii</i>)</p>	<p>An intracellular bacterium called <i>Coxiella burnetii</i>, which naturally infects some animals such as goats, sheep, and cattle, is the causative agent of Q Fever. Veterinarians, dairy workers, livestock farmers, and researchers at facilities housing sheep and goats are at increased risk for exposure to <i>C. burnetii</i>, especially if working around pregnant sheep, goats or cattle. Infected animals often shed the bacteria with no outward signs of disease, although Q Fever sometimes causes abortion in these animals. The bacteria may persist in the animal and be shed intermittently. In addition to birthing products, the organism may be shed in milk, feces, urine and can be present in blood. Human infection most commonly results from exposure to the amniotic fluid of infected ruminants, especially sheep.</p> <p><i>C. burnetii</i> is highly resistant to heat, drying, many common disinfectants, and can persist for months in contaminated soils. Inhalation of contaminated dusts and aerosols generated by infected animals, their waste products, placental tissues and fluids, and contaminated bedding are typical routes of infection. Only a single inhaled organism may be sufficient to cause infection. Ingestion of contaminated material, contamination of wounds, or needle sticks are other routes of infection. In most individuals, the disease manifests itself as an acute flu-like illness. Fevers are accompanied by general malaise, muscle aches and pains, and very frequently by a cough. Pneumonia, hepatitis, or endocarditis may result, but in most patients, the disease is self-limited and will resolve on its own after ten days to two weeks. Pregnant women who develop Q fever may be at risk for miscarriage, stillbirth, pre-term delivery, or low infant birth weight. Chronic Q fever occurs in less than 5% of acutely infected individuals but is more likely to develop in people with congenital heart disease, a history of valvular heart disease, pregnant women and immunocompromised individuals.</p> <p>For additional information: https://www.cdc.gov/qfever/index.html https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/coxiella-burnetii.html</p>
<p>Orf Virus (Poxvirus, Sheep and Goats only)</p>	<p>Infection in animals is commonly referred to as sore mouth, scabby mouth, or contagious ecthyma. Infected animals develop scabby lesions around their lips, muzzle, and in their mouth. Transmission to humans occurs by direct contact with lesions or indirectly from contaminated objects or surfaces. In humans, symptoms consist of painful nodules and open sores typically found on the hands and arms. High risk activities for infection include:</p> <ul style="list-style-type: none"> • Bottle feeding, tube feeding, or shearing sheep or goats • Petting or having casual contact with infected animals • Handling infected equipment such as a harness • Being bitten by an infected animal <p>For additional information: https://www.cdc.gov/poxvirus/orf-virus/index.html</p>

How to Protect Yourself from Zoonoses When Handling Cattle, Sheep & Goats



Engineering Controls

- Sharps and needles, if used, must be disposed of in a biomedical sharps container convenient to the work area. Needles must not be removed from the syringe, bent/sheared or recapped before disposal into the sharps container.
- Perform necropsies or handle tissue of ill animals or suspected-ill animals in a biosafety cabinet or down draft table.
- Indoor housing must meet ventilation requirements as outlined in UF's [Q FEVER/COXIELLA BURNETII IN SHEEP, GOATS AND CATTLE CONTROL POLICY](#)



Administrative & Work Practice Controls

- The most effective measure that can be taken to prevent disease transmission is regular hand washing. Wash hands and arms with soap and water after handling any animal or material/equipment in contact with the animal.
- All sheep and goats coming to UF must be held in an outdoor, isolated quarantine areas until Q fever negative results are obtained. Sheep and goats are required to have a second Q Fever negative test prior to being housed indoors.
- Do not eat, drink, apply cosmetics or use tobacco products while in animal housing areas.
- Handle animals safely to avoid skin abrasions. Thoroughly wash any skin wound and report injuries to AmeriSys at 800-455-2079 (Workers' Compensation).
- Keep animal areas clean and disinfect equipment and surfaces after contact with animals.
- Observe signs of illness in animals so that they can receive veterinary care.
- Enroll in the [Animal Contact Medical Monitoring Program](#).
- Persons with specific medical conditions such as a chronic illness, immunodeficiency and pregnancy may be at higher risk of developing disease or complications from a zoonotic disease and should consult with their personal physician before working with animals.



Personal Protective Equipment

- Review PPE requirements as outlined in UF's [Q FEVER/COXIELLA BURNETII IN SHEEP, GOATS AND CATTLE CONTROL POLICY](#)
- Wear gloves when handling animals, animal tissue, body fluids, animal waste or as required by a hazard assessment.
- Wear dedicated protective clothing when entering an animal housing area, handling ill animals, handling animal waste or bedding containing waste, handling animals housed at ABSL1 or higher, handling animals exposed to hazardous chemicals, or as specified by your hazard assessment. For sheep and goats housed indoor, required protective clothing includes disposable or onsite laundered coveralls and booties or dedicated footwear. Never wear protective clothing outside of animal areas.
- Wear safety glasses when handling ill animals, handling animal tissue or fluids, handling waste or bedding containing waste, handling animals housed at ABSL1 or higher, handling animals exposed to hazardous chemicals, when entering areas where sheep and goats are housed indoor or as specified by your hazard assessment.
- Wear respiratory protection when conducting surgery on pregnant animals, conducting obstetrical procedures, when entering indoor housing where pregnant animals and/or newborn animals are located, or when conducting necropsies. Those wearing a respirator must be enrolled in the [Respiratory Protection Program](#).

Fish



Fish

Disease/Agent	Description
<p>Mycobacteriosis (Nontuberculous <i>Mycobacterium</i> spp.)</p>	<p><i>Mycobacterium</i> species including <i>Mycobacterium marinum</i>, <i>M. fortuitum</i> and <i>M. chelonae</i> are the group of bacteria that causes the disease mycobacteriosis. All can be associated with acute or chronic disease in fish, but many animals can be long-term carriers before clinical disease is detected. Disease can be transmitted to humans through contact with live fish or through handling contaminated fish tissue. Additionally, contaminated water poses an additional threat where bacterial penetration can be facilitated by skin wounds. Persons infected with nontuberculous <i>Mycobacterium</i> (NTM) may develop “fish tank granulomas” which appear as skin ulcers or nodules, usually on the hands. Immunosuppressed persons can develop lymphadenitis & pulmonary disease similar to tuberculosis or more severe disseminated disease. Treatment is available and varies depending on the individual patient susceptibility and infected body site.</p> <p>For additional information: https://www.cdc.gov/healthypets/pets/fish.html https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/mycobacterium.html</p>
<p><i>Aeromonas</i> spp.</p>	<p><i>Aeromonas</i> is a type of bacteria that is commonly found in freshwater ponds and aquariums and can cause disease in fish and amphibians. Symptoms in fish include discoloration of the fins and internal bleeding. Humans can become infected through open wounds, by drinking contaminated water, or by accidental ingestion through poor hand hygiene. Young children and adults with weak immune systems are most affected and may have diarrhea or blood infections.</p> <p>For additional information: https://www.cdc.gov/healthypets/pets/fish.html https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/aeromonas-hydrophila.html</p>
<p><i>Streptococcus iniae</i></p>	<p><i>Streptococcus iniae</i> is a bacterial pathogen that causes serious disease in fish. Fish dying from streptococcal disease often have a disoriented, whirling motion at the water surface, hence the common name of “mad fish disease.” Fish affected by this disease may have small red areas on their skin and may develop a swollen abdomen and bulging eyes. <i>S. iniae</i> is primarily an opportunistic pathogen in humans, impacting immunocompromised persons. Transmission can occur through open skin abrasions or scrapes while handling fish or cleaning aquariums and generally causes a skin infection at the site of the cut or scrape.</p> <p>For additional information: https://wwwnc.cdc.gov/eid/article/15/12/09-0232_article</p>
<p>Wound Infections and Gastroenteritis</p>	<p><i>Campylobacter</i> spp., <i>Vibrio</i> spp., <i>Escherichia coli</i>, and <i>Salmonella</i> spp. are pathogens which may be transmitted through contact with abraded skin or open wounds or through accidental ingestion due to poor hand hygiene. Contact may result in wound infections and ingestion can result in gastroenteritis with vomiting, diarrhea, and fever. More severe & potentially life-threatening disease and septicemia may occur in immunocompromised persons.</p> <p>For additional information: https://www.cdc.gov/campylobacter/index.html https://www.cdc.gov/vibrio/index.html https://www.cdc.gov/ecoli/ https://www.cdc.gov/salmonella/index.html</p>

How to Protect Yourself from Zoonoses When Handling Fish



Engineering Controls

- Sharps and needles, if used, must be disposed of in a biomedical sharps container convenient to the work area. Needles must not be removed from the syringe, bent/sheared or recapped before disposal into the sharps container.
- Perform necropsies or handle tissue of ill animals or suspected-ill animals in a biosafety cabinet or down draft table.



Administrative & Work Practice Controls

- The most effective measure that can be taken to prevent disease transmission is regular hand washing. Wash hands and arms with soap and water after handling any animal or material/equipment in contact with the animal.
- Do not eat, drink, apply cosmetics or use tobacco products while in animal housing areas.
- Handle animals safely to avoid skin abrasions. Thoroughly wash any skin wound and report injuries to AmeriSys at 800-455-2079 (Workers' Compensation).
- Keep animal areas clean and disinfect equipment and surfaces after contact with animals.
- Cover abraded skin, cuts, scrapes, or sores and do not allow wound contact with the animals, contaminated materials, or aquarium water. Persons with infected wounds, indicated by swelling, redness, pain and draining fluids, with or without a fever should seek medical treatment.
- Enroll in the [Animal Contact Medical Monitoring Program](#).
- Persons with specific medical conditions such as a chronic illness, immunodeficiency and pregnancy may be at higher risk of developing disease or complications from a zoonotic disease and should consult with their personal physician before working with animals.



Personal Protective Equipment

- Wear gloves and/or protective sleeves when handling aquarium water, animals, animal tissues, body fluids and waste, and wash hands after contact.
- Wear dedicated protective clothing such as a water-proof coat or apron when handling animals or aquarium water. Never wear protective clothing outside of animal areas.
- Wear eye protection when there is a splash hazard, when handling ill animals, or as specified by the hazard assessment.
- Wear respiratory protection when appropriate (when there are potential health hazards caused by breathing air contaminated with harmful levels of chemical, physical, or biological agents). Those wearing a respirator must be enrolled in the [Respiratory Protection Program](#).

Non-Human Primate



Non-Human Primates

Research with live non-human primates (NHP) is not allowed at UF. However, source material such as cells, blood, serum, tissue, feces, and body fluids originating from NHPs may present health concerns

Disease/Agent	Description
<p>Herpes B (Macacine herpesvirus 1)</p>	<p>B virus or Herpes B is caused by Macacine herpesvirus 1. The virus is closely related to the human herpes simplex virus and is common among rhesus macaques and cynomolgus monkeys. Similar to herpes simplex in humans, primary infection is characterized by oral or genital ulcers. Often the host species are asymptomatic; in humans, however, the B virus causes severe disease. Symptoms will typically start within one month of being exposed but could appear in as little as 3 to 7 days. An infected person generally exhibits flu-like symptoms in addition to local symptoms at the site of inoculation (itching, tingling, numbness, pain and vesicular rash). As the disease progresses, the virus spreads to the brain and spinal cord causing neurological impairment which often leads to death. The virus is present in saliva, feces, urine and nervous tissue of infected nonhuman primates (NHPs), and is transmitted through bites, scratches, percutaneous inoculation with contaminated materials or via contact with the mucous membranes (eyes, nose or mouth). Without prompt treatment, the mortality rate is approximately 80%. No fatal cases have been reported when first aid is administered immediately (wound/exposure site cleansing) and antiviral post-exposure prophylaxis is prescribed.</p> <p>For additional information: https://www.cdc.gov/herpesbvirus/index.html</p>
<p>Tuberculosis (<i>Mycobacterium tuberculosis</i>)</p>	<p>Tuberculosis (TB) in humans and nonhuman primates (NHPs) is caused by a bacterium called <i>Mycobacterium tuberculosis</i>. Humans are the reservoir species for the bacterium and it is more common for humans to infect non-human primates, although it is possible for NHPs to transmit the bacterium to humans. TB is primarily spread through inhalation of infectious respiratory droplets. All individuals who work with NHPs must be tested for TB annually. This involves a tuberculin skin test or blood test (T-spot). TB infection in humans can be latent (no symptoms, not infectious to others) or active (symptomatic, infectious to others). Most commonly the disease in humans is characterized by flu-like symptoms accompanied by a severe cough that lasts 3 weeks or longer.</p> <p>For additional information: https://www.cdc.gov/tb/ https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/mycobacterium-tuberculosis-complex.html</p>

How to Protect Yourself from Zoonoses When NHP Source Material



Project Registration

- If working with old world monkeys (macaques, baboons, etc.) or samples obtained from them (cells, blood, serum, tissues, feces, and body fluids), a Biohazard Project Registration must be submitted through Gator TRACS. The project registration will outline engineering controls, work practices, and required PPE. **NEVER work with NHP source materials without consulting with the Biosafety Office first.**
- Persons with specific medical conditions such as a chronic illness, immunodeficiency and pregnancy may be at higher risk of developing disease or complications from a zoonotic disease and should consult with their physician before working with NHP source materials.

Rodents & Rabbits



Rodents & Rabbits

Commercial rat and mice colonies bred for research are specified pathogen-free (SPF) and are typically accompanied by a health certificate when purchased from approved sources. As a result, the risk of transmission of zoonotic agents from working with laboratory rodents is very low. However, bite wounds and skin scratches may become infected and must be treated through immediate cleansing and reported to AmeriSys for treatment as needed (review Exposure Reporting section). Even SPF rodents can transmit bacteria through bites and scratches.

Rodents that are housed outdoors, captured from wild populations or that are purchased from a pet store or from a breeder who sells rodents as feed for reptiles may carry zoonotic diseases. Pathogens and the associated diseases related to these animals are listed below.

Disease/Agent	Description
Lymphocytic choriomeningitis virus (LCMV)	<p>The lymphocytic choriomeningitis virus is an <i>Arenavirus</i> carried in rodents that is shed in saliva, urine, feces, and nasal secretions. Disease symptoms in rodents are typically sub-clinical. In humans, infection can be sub-clinical, or present as a self-limiting, flu-like illness. In some instances, meningitis or other serious disease can result. Importantly, the virus can cause devastating effects in a developing fetus. Pregnant women should be cautioned about exposure to non-SPF rodents. Transmission of LCMV to humans occurs through direct contact of non-intact skin or mucous membranes to contaminated materials, rodent bites, inhalation of aerosols, and needle sticks.</p> <p>For additional information: https://www.cdc.gov/vhf/lcm/ https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/lymphocytic-choriomeningitis-virus.html</p>
Leptospirosis (<i>Leptospira</i> spp.)	<p>Leptospirosis is a disease caused by bacteria of the genus <i>Leptospira</i>. Leptospire are found in many animals, and rodents are an important reservoir species. Transmission occurs by direct contact with the urine of infected animals through non-intact skin or mucous membranes. Less commonly, transmission can occur through inhalation of aerosolized droplets of contaminated fluids. Infected rodents do not exhibit signs of disease and can shed the bacteria throughout their lifetime. Primary symptoms in humans include fever, myalgia, vomiting, diarrhea and a rash. Secondary disease consists of renal failure, liver failure and meningitis. The disease is treatable with antibiotics.</p> <p>For additional information: http://www.cdc.gov/leptospirosis/ https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/leptospira-interrogans-material-safety-data-sheets-msds.html</p>
Rat Bite Fever (<i>Streptobacillus moniliformis</i>)	<p>Rat Bite Fever caused by <i>Streptobacillus moniliformis</i> or <i>Spirillum minus</i> is a bacterial infection of rodents that is transmitted through bites, scratches, or direct contact with their urine, saliva and feces. Additionally, transmission can occur through the ingestion of contaminated food or water. Human infection is characterized by flu-like symptoms, followed by joint pain and a rash on the hands and feet. The disease can be readily treated with oral antibiotics.</p> <p>For additional information: https://www.cdc.gov/rat-bite-fever/ https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/streptobacillus-moniliformis.html</p>

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Rodents & Rabbits

Disease/Agent	Description
<p>Tularemia (<i>Francisella tularensis</i>)</p>	<p>Tularemia, also known as “rabbit fever,” is a disease caused by the bacterium <i>Francisella tularensis</i>, which is typically found in wild rodents, rabbits, and hares. Nearly all cases in humans occur in rural areas and are caused by the bites of ticks and biting flies or from handling infected rodents and rabbits. Symptoms depend on the exposure route and may include skin ulcers, swollen/painful lymph nodes, inflamed eyes, sore throat, mouth sores, joint pain, sudden fever, progressive weakness, diarrhea, chest pain, and difficulty breathing.</p> <p>For additional information: https://emergency.cdc.gov/agent/tularemia/facts.asp https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/francisella-tularensis-material-safety-data-sheets-msds.html</p>
<p>Hantavirus</p>	<p>Hantaviruses are a family of viruses spread mainly by rodents and can cause varied disease syndromes depending on the location around the world. Hantaviruses in the Americas are known as “New World” hantaviruses and may cause hantavirus pulmonary syndrome (HPS). Other hantaviruses, known as “Old World” hantaviruses, are found mostly in Europe and Asia and may cause hemorrhagic fever with renal syndrome (HFRS). Rodents shed the virus in their urine, droppings, and saliva and the virus is transmitted to humans by breathing in contaminated air or by touching contaminated surfaces. Early symptoms of disease include fatigue, fever, muscle aches, headaches, dizziness, chills, and gastrointestinal problems. Late symptoms include shortness of breath and fluid filled lungs. The mortality rate is 38%.</p> <p>For additional information: https://www.cdc.gov/hantavirus/index.html https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/hantavirus.html</p>
<p>Gastrointestinal Disease (<i>Campylobacter</i>, <i>Salmonella</i>, <i>Giardia</i>, etc.)</p>	<p>Rodents can be the source of gastrointestinal disease, mainly caused by <i>Campylobacter</i>, <i>Salmonella</i>, and <i>Giardia</i> spp., which can be transmitted through ingestion of or contact with contaminated items such as feces. Animals infected with these diseases may have diarrhea, but some may show no symptoms of disease. Any animal with diarrhea should be suspected of having a zoonotic disease. In humans, these agents cause acute gastroenteritis, characterized by diarrhea, vomiting, abdominal pain and fever.</p> <p>For additional information: https://www.cdc.gov/salmonella/ https://www.cdc.gov/parasites/giardia/</p>

How to Protect Yourself from Zoonoses When Handling Rodents and Rabbits



Engineering Controls

- Sharps and needles, if used, must be disposed of in a biomedical sharps container convenient to the work area. Needles must not be removed from the syringe, bent/sheared or recapped before disposal into the sharps container.
- Perform necropsies or handle tissue of ill animals or suspected-ill animals in a biosafety cabinet or down draft table.
- Use restraint devices when appropriate to prevent bites or scratches.



Administrative & Work Practice Controls

- The most effective measure that can be taken to prevent disease transmission is regular hand washing. Wash hands and arms with soap and water after handling any animal or material/equipment in contact with the animal.
- Do not eat, drink, apply cosmetics or use tobacco products while in animal housing areas.
- Handle animals safely to avoid skin abrasions. Thoroughly wash any skin wound and report injuries to AmeriSys at 800-455-2079 (Workers' Compensation).
- Keep animal areas clean and disinfect equipment and surfaces after contact with animals.
- Observe signs of illness in animals so that they can receive veterinary care.
- Enroll in the [Animal Contact Medical Monitoring Program](#).
- Persons with specific medical conditions such as a chronic illness, immunodeficiency and pregnancy may be at higher risk of developing disease or complications from a zoonotic disease and should consult with their personal physician before working with animals.



Personal Protective Equipment

- Wear gloves when handling animals, animal tissue, body fluids, animal waste or as required by a hazard assessment.
- Wear dedicated protective clothing when entering an animal housing area, handling ill animals, handling animal waste or bedding containing waste, handling animals housed at ABSL1 or higher, handling animals exposed to hazardous chemicals, or as specified by your hazard assessment. Never wear protective clothing outside of animal areas.
- Wear safety glasses to protect your eyes (mucous membrane) when handling ill animals, handling animal tissue or fluids, handling waste or bedding containing waste, handling animals housed at ABSL1 or higher, handling animals exposed to hazardous chemicals, or as specified by your hazard assessment.
- Wear additional mucous membrane protection (surgical mask, face shield, etc.) when performing necropsies or surgery.
- Wear respiratory protection when appropriate (when there are potential health hazards caused by breathing air contaminated with harmful levels of chemical, physical, or biological agents). Those wearing a respirator must be enrolled in the [Respiratory Protection Program](#).

Exposure Reporting



7. Exposure Reporting


Workers' compensation or workers' comp is a form of insurance providing wage replacement and medical benefits to employees injured in the course of employment. Workers' compensation medical care coverage applies to all employees who are authorized to perform their assigned job duties – no matter what time of day or what day of the week it is.

When a non-emergency, work-related injury or illness occurs and medical treatment is necessary, the individual and/or the supervisor must promptly call the Workers' Compensation case management vendor (AmeriSys) at 1-800-455-2079 first. **Treatment for any non-life-threatening work-related injury or illness must be authorized by AmeriSys prior to obtaining medical treatment.**

In the event of a medical emergency, call 911 immediately. After emergency treatment is received, report the incident to AmeriSys by calling 1-800-455-2079.

In addition to reporting to AmeriSys, an [EHS Injury and Incident Report Form](#) must be completed for all injuries, incidents, and near misses.

EMERGENCY CONTACTS

<p>Fire/Emergencies 911</p> <p>EH&S 352-392-1591</p> <p>UF Police 352-392-1111</p> <p>Needlestick Hotline 352-265-2727</p> <p>AmeriSys (Workers' Comp) 1-800-455-2079</p> <p>Other: _____</p>	<p>Is the injury serious or life threatening?</p> <p>Yes No</p> <p>Call 911 Apply first aid</p> <p>Report injuries to AmeriSys by calling 1-800-455-2079.</p> <hr/> <p>Report all incidents to: </p> <p>UF Environmental Health and Safety UNIVERSITY of FLORIDA</p>
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