



Office of Research Administration

University of Missouri – St. Louis

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ORA POLICY AND PROCEDURE:

UM-St. Louis Animal Care and Use Occupational Health and Safety Program

Information for Personnel Involved in Laboratory Animal Care and Researchers Who Work With Laboratory Animals

PERSONAL HYGIENE

Personal hygiene is very important to the health and safety of laboratory animal users and the animals themselves. The following measures shall be followed by all who are exposed to laboratory animals:

1. There shall be no eating, drinking or smoking in areas where animals are used or housed. Do not apply cosmetics or contact medication in areas of animal housing or use.
2. Wash hands thoroughly before and after handling animals. Hands should also be washed each time one leaves the animal facility or a laboratory where animals are handled. Use common sense: do not touch facial areas (especially nose or mouth) after handling animals.
3. Always wear a laboratory coat over street clothes when working with laboratory animals. Do not wear laboratory clothing worn for handling animals outside of laboratory areas. Launder laboratory coats frequently to reduce the possibility of contamination.
4. Clean work surfaces touched by animals at least daily, and after any contamination by animal material.
5. Laboratory animals should not be housed overnight in any areas except specifically designated animal rooms. Any exceptions to this policy must be approved in advance by the IACUC and the Manager of Animal Welfare.
6. Wear gloves at all times when handling animals or animal-associated materials. This is particularly important when changing animal bedding.

7. Researchers or students involved in inoculating animals, drawing blood, or collecting body fluid or necropsy tissues should wear disposable gloves during the entire procedure. Syringe needles should be disposed of directly into appropriate sharps containers without recapping. Containers used to collect blood or tissue should be treated as contaminated with infectious material.
8. If handling infectious animals or animals treated with hazardous materials, or litter from animals in either of these categories, be sure to follow the special handling precautions prescribed by the Office of Environmental Health and Safety. If applicable, these special instructions will be posted prominently in rooms housing animals to which they apply.

HEALTH SURVEILLANCE OF ANIMAL USERS AND ANIMAL CARE WORKERS

Animal care unit employees are required to have annual physical exams. These exams may be obtained through the employees' personal physicians. Any expenses related to animal care or use not covered by the employee's medical insurance will be born by the Animal Welfare Program of the University of Missouri-St. Louis. Employees should alert their physicians that they work with animals, and indicate the species of animals involved. They should specifically inquire about the potential for developing allergies to animals and seek their physician's advice about appropriate action. They should also make certain that their tetanus vaccinations are current, and obtain a tetanus booster if they have not done so within the past five years.

Students, investigators, research assistants, and animal caregivers not employed in the UM-St. Louis animal care unit are advised very strongly to have annual physical exams. They should inform their physicians that they work with animals, indicating species. They should inquire about the potential for developing allergies to animals and seek their physician's advice about appropriate action. They should also make certain that their tetanus vaccinations are current, and obtain a tetanus booster if they have not done so within the past five years.

SEEK MEDICAL ATTENTION FOR INJURIES

For an injury requiring an emergency response (i.e., ambulance, paramedics), dial 911.

For minor injuries:

- 1) During regular school hours, students and employees can receive minor emergency medical attention from University Health Services, 125 Millennium Student Center, extension 5671.
- 2) When University Health Services is not open, contact the Campus Police, ext. 5155, for on-site assistance.

For more serious injuries or other problems resulting from animal use,

- (1) *University employees*, including animal care workers and researchers, should seek medical attention for job-related injuries at a facility of Concentra Health Services, which implements the University Workers' Compensation Program

The nearest Concentra Health Services treatment facility is the Airport **Concentra Medical Center, 7927 Lindbergh Boulevard in Hazelwood**, phone **314-831-8511**.

- (2) *Students* should seek medical attention from their personal physicians or at an emergency treatment center. The most accessible emergency rooms are:
 - a. Christian Hospital Northwest on Graham Road in Florissant and
 - b. DePaul Hospital off St. Charles Rock Road in Bridgeton.
 - c. Treatment is also available at Concentra Medical Center, **7927 Lindbergh Boulevard in Hazelwood**, phone **314-831-8511**.

REPORTING ACCIDENTS OR INJURIES

Students should report injuries related to the handling or use of animals to the faculty or staff member supervising their activities. The faculty or staff member should have the student prepare a **Form UM200** Injury Report (obtained from University Health Services or from Human Resource Services) to be filed with the Office of Environmental Health and Safety. A copy of the report should be forwarded to the Manager of Animal Welfare.

University employees should report injuries related to the handling or use of animals to their supervisor. The employee and the supervisor will complete a **Form UMWC1** Report of Injury Form (obtained from University Health Services or from Human Resource Services). The Report of Injury should be filed with the Human Resource Services. A copy should be sent to the Manager of Animal Welfare.

ANIMAL BITES AND OTHER WOUNDS CAN CAUSE SERIOUS INFECTIONS OR REACTIONS

Even the most docile animal may bite a handler unexpectedly. One can minimize the chances of animal bites by handling animals gently, avoiding loud noises that might induce startle responses, and allowing an apparently agitated animal a few minutes to calm down before handling. Reasonable precautions notwithstanding, animal bites will occur.

If you are bitten by an animal, treat the bite like any puncture wound. Allow bleeding to clean the wound, then wash the wound thoroughly and bandage it. The bacteria injected with an animal bite and the tissue damage caused by the bite can cause a serious, painful tissue response. Therefore, it is a good idea to seek medical attention. **If you have not had a tetanus vaccination within the past five years, arrange for a tetanus booster as soon as possible.** Report the injury to your instructor or supervisor.

ANIMALS CAN CAUSE SEVERE ALLERGIC REACTIONS IN SOME PEOPLE

Be aware that some laboratory animals (particularly rats, rabbits, hamsters, voles, and cats) are highly allergenic. Take precautions to avoid development of an allergy or allergic reactions: Wear gloves and lab coats when handling animals; avoid direct exposure to animal material, including animal urine; avoid inhaling contaminated material by wearing masks when changing cages or working with animals; make sure cages and litter are changed frequently.

People with a family history of hay-fever, asthma, or other allergies should be especially cautious and try to minimize their exposure to laboratory animals, because animal exposure increases the chances they will develop asthma. General rhinitis (runny nose and sneezing similar to hay fever) and allergic conjunctivitis (itchy and tearing eyes) are potential signs of allergic reactions and should be heeded regardless of family history.

If you begin to display signs of allergy related to animal exposure (rhinitis, conjunctivitis, dermatitis, or asthma), **seek medical advice immediately.**

SPECIAL PRECAUTIONS FOR HAZARDOUS AGENTS

At present no toxic, infectious, or radioactive materials (TIRM) are used in any research projects involving animals in our animal facilities. Should any protocols for use of TIRM be approved, animal care workers will be instructed in the proper handling of animal wastes and bedding by a representative from the Office of Environmental Health and Safety. Principal Investigators have the responsibility of informing their research staffer laboratory assistants of the use of TIRM and educating them of the proper safety precautions to be exercised in animal handling areas and laboratories. The Office of Environmental Health will also provide training, as required.

Standard Operating Procedures (SOPs) detailing any special handling instructions or precautions should be posted in animal rooms and labs where TIRM or animals treated with TIRM are handled.

Anyone who handles TIRM or animals exposed to them should exercise standard hygienic precautions. Work with toxic or radioactive materials only in an approved fume hood. Bench surfaces exposed to TRIM should be decontaminated after use. Materials contaminated by infectious materials should be autoclaved or disinfected chemically before reuse or disposal.

SOME DISEASES CAN BE COMMUNICATED FROM ANIMALS TO HUMANS

In most cases, humans are not susceptible to diseases of animals. However, there are exceptions: some animal infections can cause serious human disease. Infections of animals that cause human diseases are called zoonotic diseases. In zoonotic diseases, the infected animal may not show any significant signs of illness (because of previously developed immunity and/or evolution of resistance to common infectious agents). In humans, however, the infection may be debilitating because humans are not natural hosts and because we have no protective immunity from previous exposure. Anyone working with animals should be aware of the potential for zoonotic disease and take common-sense precautions to minimize risk. If you become ill with a fever or

some other sign of infection, it is important to inform your physician that you work with animals so the possibility of zoonotic disease can be considered.

One obvious precaution to guard against infection is personal hygiene. Wear laboratory coats and other appropriate clothing when working with animals. **Wash hands before and after** handling animals or animal bedding. **Wear gloves**.

Any animal user or worker who experiences flu-like symptoms that persist for an unusual period of time, or other unexplained persistent malaise, should consult a physician. Alert the physician that you work with laboratory animals and identify the species. Describe any unusual events that may have occurred. Students or employees should report any such illnesses to their supervisor and to the Manager of Animal Welfare.

PARTICULAR DISEASE CONCERNS WITH VARIOUS ANIMALS

Various rodents (e.g., rats, mice, voles, hamsters, guinea pigs, gerbils) can be potential sources of several zoonotic diseases: toxoplasmosis, tapeworm infection, fungal diseases such as ringworm, and lymphocytic choriomeningitis, which is a viral disease transmissible to humans. Wild-caught rodents can also be a source of leptospirosis and bubonic plague. Most laboratory rodents are bred in-house or obtained from commercial sources that screen for common pathogens.

Therefore, the risk of transmission of zoonotic diseases to humans is small. However, animals brought in from wild populations or from uncertain sources can be potential reservoirs of disease and should be treated accordingly!

Salmonella and/or *Shigella* can be harbored by various rodents. *Salmonella* is also common in turtles and other reptiles and in amphibians.

Birds are potential sources of avian tuberculosis and psittacosis. Random-source birds to be used in research projects or teaching activities must be inspected for these diseases and quarantined before use.

Rabies can be a significant hazard to researchers performing field studies involving mammals or to students or staff working with wild mammals brought into the laboratory. Researchers, students, and animal care workers who will be involved in field studies of mammals or in care or use of wild mammals brought into the laboratory must read the document *University of Missouri-St. Louis Animal-Human Rabies Exposure Policy* and sign the associated training documentation form. You are very strongly advised to obtain prophylactic pre-exposure rabies vaccinations before working with wild mammals in the field or the laboratory; anyone electing not to obtain pre-exposure rabies vaccination must sign a waiver absolving the University of Missouri of liability before commencing work with wild mammals.

INFORMATION FOR PERSONNEL WORKING WITH CATS

Individuals who work with cats should be particularly conscious of the potential for allergic reactions. Ringworm fungus is transferred easily between cats and humans and should be guarded against.

Cat scratch fever is a zoonotic disease typified by localized swelling of lymph nodes following a skin papule at the site of a cat scratch. The disease is usually self-limiting. However, it is a good idea to see a physician in the event of a cat scratch.

The cats currently housed at UM-St. Louis were bred in a closed colony. These animals are not vaccinated for rabies because they have no exposure. Hence, there is no risk to animal care workers or researchers. Cats that may be brought into the colony in the future will be purchased from pathogen-free sources and will not pose a rabies hazard.

Should some researcher begin to use random-source cats, the animals will be housed in a separate facility from the closed colony or pathogen-free animals. Random-source cats destined for long-term studies will be vaccinated against rabies when they arrive at the quarantine facility. Animal care workers, researchers, research technicians, and students who will handle random-source cats will be given the opportunity to be vaccinated against rabies at Concerta Medical Center. Workers are strongly encouraged to obtain pre-exposure rabies prophylaxis and biannual boosters if they work with cats from outside the closed breeding colony unless the cats are certified pathogen-free.

Females who work with or around cats should be aware of the risk to a fetus of congenital *Toxoplasma gondii* infection. Exposure to and infection with *Toxoplasma gondii* during pregnancy can lead to transplacental infection of the fetus, resulting in stillbirth or neurological and tissue abnormalities that usually cause death in early childhood. The closed cat colony that now exists at UM-St. Louis does not show signs of toxoplasmosis, but it is **not guaranteed to be Toxoplasma-free**. Pathogen-free animals similarly are expected to be free of *Toxoplasma gondii*, but they should be treated as possible sources of infection. Random-source animals are high-risk potential sources of toxoplasmosis.

Many adults show immunity to *Toxoplasma* as a result of infections acquired from pet cats or by eating inadequately cooked infected meats. You may not be aware that you have been infected because *Toxoplasma* infections are often asymptomatic, and clinical toxoplasmosis is often mistaken for "flu". Female animal care workers of child-bearing capacity who might, in the course of their work, come in contact with cat litter or feces or surfaces contaminated with cat feces are encouraged to be tested to determine their immunological status for *Toxoplasma*. Any female having significant contact with cats who has not been screened for immunity to *Toxoplasma gondii* should assume she is non-immune. Additional information on toxoplasmosis is available from the Manager of Animal Welfare. **Pregnant non-immune women should assume that all cats are reservoirs of toxoplasmosis** and take precautions accordingly. Wear gloves and a lab coat when working in areas or handling objects potentially contaminated with cat feces. Wash hands thoroughly after handling a potential source of infection. If possible, avoid cat feces completely; if cat feces cannot be avoided, wear gloves, protective clothing and a respirator when handling cats, cat feces, or cat litter.