

## IF YOU WORK WITH FARM ANIMALS

Q fever, a potentially serious human disease caused by the rickettsia *Coxiella burnetii*, was formerly quite common in individuals who drank unpasteurized milk and in slaughterhouse workers exposed to the tissues of freshly slaughtered cattle, sheep, and goats. We now know that the organism is shed abundantly from the placental membranes of sheep. This route of exposure has been the cause of recent cases of Q fever pneumonia in laboratory workers. Sheep used in reproductive research or other studies should be examined serologically for possible infection. Personnel working where exposure is possible may be screened for acute Q fever. Personnel with past exposure should take extra precautions. Gloves, masks and protective clothing are required for individuals working with pregnant sheep and goats. Infected persons can be effectively treated with antibiotics.

Erysipelas in pigs can be transmitted as a severe focal skin infection to man, and pigs showing skin lesions should be handled with care. Similar in appearance though less severe, skin lesions are also seen on the hands after contact with sheep and goats infected with contagious ecthyma, "Orf," and vesicular stomatitis.

## IF YOU WORK WITH BIRDS, BATS, RABBITS, FISH, OR AMPHIBIANS

Unusual research species pose other risks. Birds have diseases such as psittacosis and avian tuberculosis. Only inspected and properly quarantined birds should be used in research studies or teaching demonstrations.

Rabies can also be a threat from bats. Personnel working with this species are advised to have the pre-exposure rabies prophylaxis.

Those working with rabbits should be conscious of possible allergic reactions.

Aquarium related cuts and abrasions require careful first aid because of exotic bacterial flora in the water. Salmonella is frequently harbored in turtles and other reptiles and amphibians.

## IF YOU WORK WITH HAZARDOUS AGENTS

There should be methods for monitoring exposure to potentially hazardous biological, chemical, and physical agents. Protective devices should be used when possible and other safety practices consistent with current safety guidelines should be adopted. Potentially hazardous chemicals in the animal laboratory and care room may be found in disinfectants, cleaning agents, pesticides, and as feed and bedding contaminants.

Hands should be washed after handling chemicals, infectious materials, animals, and before leaving the laboratory. A biological safety cabinet should be used when handling infectious materials and a fume hood when handling toxic materials. All work surfaces should be decontaminated daily. All contaminated materials should be decontaminated by autoclaving or chemical disinfection before washing, reuse or disposal.

If you are female of childbearing age, you should confer with the occupational medicine physician or EHS prior to possible exposure of toxic chemicals by inhalation.

For further information about working with hazardous agents, contact Environmental Health and Safety at (405) 744-7241.

## IN CASE OF EMERGENCY:

See a physician if any of the following occur:

- You are bitten by an animal;
- You are scratched by an animal; or
- You are experiencing unusual symptoms.

Any injury on the job should be immediately reported to your supervisor. If medical treatment is necessary report to University Health Services during normal working hours (8 am to 5 pm). If injury occurs after hours, report to AMC Urgent Care Plus, 1909 West 6th Street (405)-385-0029. AMC hours are 9 am to 9 pm Monday through Saturday, and 10 am to 6 pm Sunday. In case of an emergency requiring immediate medical attention please dial 911 and/or report to Stillwater Medical Center's emergency room.



## ENVIRONMENTAL HEALTH AND SAFETY

### OCCUPATIONAL HEALTH & SAFETY PROGRAM FOR PERSONNEL WITH ANIMAL CONTACT

The Occupational Health and Safety Program plays an important role in Oklahoma State University's Institutional Animal Care Program. The Occupational Health and Safety Program, which is operated by Environmental Health and Safety, is designed to protect OSU personnel. This brochure is an introduction to the current "Occupational Health and Safety Program for Personnel with Animal Contact." The requirements of this program are based on guidelines in the NIH Guide for the Care and Use of Laboratory Animals.

## WHO SHOULD PARTICIPATE?

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All OSU personnel who work in animal facilities or who have contact with animals or animal tissue need to know about this program. Personnel included are those individuals involved in the direct care of animals and their living quarters and those individuals who have direct contact with animals (live or dead), their viable tissues, body fluids or wastes.

This includes all:

- Animal Resources staff
- investigators
- laboratory workers
- animal caretakers

some personnel in

- maintenance
- physical plant
- security
- housekeeping

as well as some students, consultants, and visitors.

## WHAT IS INCLUDED?

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The Occupational Health Program may include:

- medical evaluation
- tuberculosis screening
- rabies vaccinations
- tetanus-diphtheria vaccinations
- medical examinations and treatment

A tetanus vaccination is strongly encouraged.

## HOW DO YOU ENROLL?

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Contact Environmental Health and Safety at (405) 744-7241 to enroll in the Occupational Health and Safety Program.

## DISEASES COMMUNICABLE FROM ANIMALS TO HUMANS

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Humans usually are not susceptible to infectious diseases suffered by animals. However, there are some important exceptions. Infections of animals may, on some occasions, produce significant disease in people. These infections are called zoonotic diseases. They are transmitted from animals to humans. In many cases the animals show little, if any, sign of illness. A bacterium in the normal flora of a healthy animal may cause a serious disorder in a person exposed to it. While the animals have developed "resistance" to these microorganisms,

humans with no previous exposure to the agent lack this protective immunity. Therefore, one should always be aware of possible consequences when working with each type of animal and then take precautions to minimize the risk of infection. In the event that you do become ill with a fever or some other sign of infection, it is important to let the physician caring for you know of the work you do with animals.

Some of the specific diseases and the animals associated with those disorders are described elsewhere in this brochure. There are some common-sense steps that can be taken to lessen the risk of infection in general. These include cleanliness in routine tasks around animals and hand washing after completion of animal work. For procedures such as necropsy, bedding changes, and tissue and fluid sampling, biological safety cabinets, physical containment devices, full-face respirators, or other personal safety gear should be used as indicated.

The scope of possible zoonotic infections is quite large, and only a few examples will be described here. All personnel should be aware that laboratory animals (particularly rats, rabbits, guinea pigs, hamsters, cats, and nonhuman primates) are sources of potent allergens to sensitized persons. Further details are available from the Environmental Health and Safety Office.

## THINGS YOU SHOULD KNOW... IF YOU ARE FEMALE

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Female animal workers, especially those of childbearing age, without immunity to toxoplasmosis, should not be exposed to possible toxoplasmosis infection from infected species or contact with cats. The risk of congenital toxoplasma infection exists and precautions should always be taken. Cat feces should be avoided. Gloves should be worn when working in areas potentially contaminated with cat feces. Thorough hand washing after handling any potential source of infection is necessary.

Working with hazardous agents, in particular exposure to the possible inhalation of toxic chemicals, in the first trimester of pregnancy is discouraged. If you have concerns please contact University Health Services at (405) 744-7665 as soon as possible for a consultation about pregnancy with the occupational medicine physician.

## IF YOU WORK WITH DOGS OR CATS

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Dogs and cats used in long-term studies at OSU are vaccinated against rabies. An exception is made for those animals used in acute experiments. Even though these animals are under a veterinarian's supervision, some risk of exposure to rabies exists because the observation period may be too short to allow typical development of the symptoms of the disease. All animal caretakers are required to be vaccinated against rabies. Investigators, students, and staff who come in contact with dogs or cats, particularly animals obtained from pounds, are strongly encouraged to have the pre-exposure rabies prophylaxis.

Parasites such as visceral larval migrans from dogs, some tapeworms and sarcoptic mange are a potential risk to those handling infected animals. Those working with cats should be conscious of possible allergic reactions and toxoplasmosis infection. Ringworm, a fungal disease of the skin, is also a common infection in cats and is readily transferable to man. Cat scratch disease is a zoonotic infection characterized by regional lymphadenitis that follows a skin papule at the site of the cat scratch. While the prognosis usually is excellent and the disease in most cases is self-limiting, an examination by an occupational medicine physician is recommended.

## IF YOU WORK WITH RODENTS

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Contact with rodents requires precautions against such diseases as toxoplasmosis, tapeworm infection, lymphocytic choriomeningitis (LCM) and Salmonellosis/Shigellosis, as well as ringworm and other dermatomycoses. Additional concerns for investigators using wild rodents are leptospirosis and bubonic plague. Attention should also be paid to the possibility of allergic reactions. LCM, a rodent neurological virus, is transmissible to man. Care must be taken when handling rodents as well as potentially infected materials, such as bedding and feces, in the laboratory.