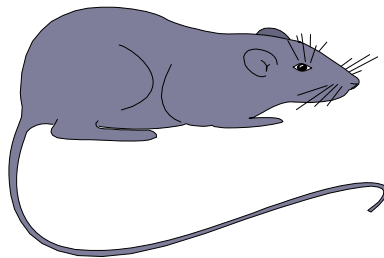


THE UNIVERSITY OF TEXAS
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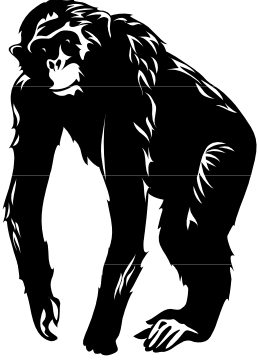
Employee Health
Environmental Health and Safety

Occupational Health Program
for
Persons with Animal Contact



UT M.D. ANDERSON CANCER CENTER

OCCUPATIONAL HEALTH PROGRAM FOR PERSONS WITH ANIMAL CONTACT



If you work or study in areas of the Cancer Center where laboratory animals are kept, **THIS INFORMATION IS FOR YOU.**

Many different categories of workers at M.D. Anderson have animal

contact. Veterinary employees are easy to identify as having animal contact, but contract workers, students, and visitors may also have this type of exposure. All individuals who work or study in locations where animals are housed are required to participate in the occupational health animal contact program. This brochure describes some of the medical surveillance and safety features we use to protect people and animals from acquiring diseases from each other.

Employee Health & Well-being (EH&Wb) administers the occupational health animal contact program. This program is an important facet of M.D. Anderson's highly accredited veterinary medicine programs, and is designed to protect both the employee as well as the laboratory animal. How do you know whether you have enough animal contact to qualify for this program? M.D. Anderson defines "animal contact" in a framework of assessment of total risk to personnel; we consider the time you spend in an animal environment, the animal species involved, the specific hazards posed by common bacteria and viruses carried by that animal species, and the relative risks of procedures you perform on these animals.

This program follows guidelines from the National Institutes of health (NIH), the federal

Centers for Disease Control (CDC), and the Committee on Occupational Safety and Health in Research Animal Facilities. Program components are modified in response to new information or changes in these federal guidelines.

WHO SHOULD PARTICIPATE?

All persons who work in animal facilities, or who have contact with animals or animal tissue are covered by this program, including: all veterinarians; many principal investigators and their research assistants; all animal attendants in the Houston, Bastrop and Smithville veterinary medicine divisions and some employees in Facilities Services, Physical Plant, UT Police Department and Environmental Health and Safety. Employees, students, contract workers, and visitors may qualify for inclusion based on their contact with animals at M.D. Anderson.

The Occupational Health Animal Contact Program includes:

- Preplacement health evaluations
- Immunizations to prevent workers from acquiring contagious diseases from animals (rabies vaccine; hepatitis A and B vaccines, etc.)
- Screening tests to look for certain diseases known to be transmitted in animal settings (PPD skin tests for TB)
- Serological surveillance (blood or urine testing) to determine whether at-risk workers have become infected with diseases as a result of their exposure to animals
- Limiting access to animal areas which might pose an unacceptably high medical risk to individual workers who have preexisting medical conditions which magnify the usual hazard level posed by exposure to animals.

Other tests or procedures may be recommended for persons who will have

contact with species known to be infected with unusual or very hazardous organisms.

HOW DO I ENROLL?

Your supervisor or Employee Health & Well-being will normally notify you if you need to participate; however, if you know you have animal contact and no one has talked to you about this program, please call Employee Health & Well-being for more information: (713) 745-6900.

IN CASE OF EMERGENCY:

All animal bites, scratches, or injuries that break the skin and are likely to be contaminated with excreta or secretions are considered emergencies. Contact your supervisor, the veterinarian on call, and Employee Health & Well-being immediately if one of these events occurs to you.

If you are ill with fever or other symptoms of an infection and you also have animal contact, let your own doctor know that you are exposed to animals at work. Employee Health & Well-being would like you to report any unusual or prolonged illnesses to our offices, also.

A wallet card is available for you to carry with you at all times if you have animal contact at M.D. Anderson. This card identifies you as having animal contact, and gives the emergency numbers of the occupational health specialist in Employee Health & Well-being. This is important information that your treating physicians should be made aware of.

SAFE ANIMAL WORK PRACTICES

Here are some common sense steps that you should take to reduce your risk of acquiring an illness from laboratory animals:

1. Handle all animals as if they are contagious; be careful at all times.

2. Always wear all of the personal protective equipment (gloves, gowns, mask, etc.) that you are told to wear.
3. Wash your hands before and after animal contact.
4. Do not eat, drink, or put anything in your mouth while in the animal areas. Keep your hands away from your face.
5. Do not put on makeup, lotions, or put in contact lenses while in areas housing animals.
6. When possible, keep your face turned slightly away from the animal's mouth.
7. To help prevent bites, scratches, and injuries:
 - Recognize that the animal may be frightened or in pain
 - Never let your guard down
 - Get help when moving or lifting large animals
 - Use chemical restraints (sedation) whenever possible
8. Report any sick animals or animals with unusual behavior to your supervisor.
9. Take care to avoid cuts when using sharp objects. DO NOT RECAP NEEDLES.

Accidents happen to even the most careful workers. Know what first aid to use if you have an accident or exposure, and always report exposures immediately to your supervisor.

THINGS YOU SHOULD KNOW

IF YOU ARE PREGNANT OR IF YOU AND YOUR PARTNER ARE ATTEMPTING TO CONCEIVE A CHILD:

All persons, male and female, who are trying to have children should use extraordinary care to prevent toxic chemicals or infections from entering their bodies. Women who are pregnant are at particular risk if they acquire an infectious disease called

TOXOPLASMOSIS. Toxoplasmosis is caused by a protozoan agent and is carried by cats, and some other species of animals. Pregnant women who have never had this infection and contract it during pregnancy can pass it on to their babies. Although the disease is very mild in healthy adults, it can cause devastating illness in the fetus. Gloves should be worn when working in any areas potentially contaminated with cat feces.

Wash hands thoroughly after handling any potentially infected materials. Some women have had mild toxoplasmosis before becoming pregnant, and will have antibodies which help protect the fetus from acquiring this infection. Women who are pregnant or planning children can ask to



have this antibody test performed by their obstetricians. Working with hazardous agents in settings where the risk of having the agent enter your body (this is called “biological exposure”) can’t be eliminated or controlled is a special risk for both men and women of childbearing age. If you have questions and concerns about pregnancy or fathering a child, contact Employee Health & Well-being at (713) 745-6900 and ask to speak to the occupational health physician.

IF YOU HAVE A CHRONIC ILLNESS

If you are being treated for a chronic illness, be sure to notify Employee Health & Well-being before you plan to have animal contact. Diseases that lower your immunity, such as HIV infection and cancer, as well as drugs that lower immunity, like prednisone, may put you at increased risk of contracting a zoonotic infection. Exposures to certain animal species may be unsafe for you.

WHAT IF I AM NOT AN EMPLOYEE, BUT WILL HAVE ANIMAL CONTACT IN THE FUTURE?

Students, contractors and visitors must receive training and vaccinations before they will be allowed to have animal contact. Contact both Employee Health & Well-being and Environmental Health and Safety at least two weeks in advance of your planned assignment around animals.

TRAINING

Training is a critical part of the occupational health animal contact program. Your supervisor or principal investigator is responsible for training you before you work with animals. This training is done in cooperation with Employee Health & Well-being, and Environmental Health and Safety. Be sure you understand all procedures before you have animal contact.

DISEASES TRANSMITTED FROM ANIMALS TO HUMANS

Humans do not usually “catch” infectious diseases suffered by animals. However, there are some important exceptions. Infections of animals may sometimes cause very serious disease in people. These infections, which begin in animals but are then transmitted to humans, are called **zoonotic diseases, or zoonoses**. In many cases, the animals do not look or act sick. Although the animals have developed resistance to their own bacteria and viruses, humans with no previous exposure to these infectious agents lack protective immunity. The infections which can cross species barriers like this often cause fatal illness in humans. Be aware of the bacteria and viruses carried by each species of laboratory animal, and take precautions to prevent infection.

THE FOLLOWING ILLNESSES CAN OCCUR AFTER EXPOSURE TO MANY DIFFERENT KINDS OF ANIMALS:

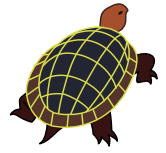
ANIMAL ALLERGY

Allergy to animals can develop in anyone who has animal contact, or who breathes the same air as animals. Symptoms of animal allergy include sneezing, red or itchy eyes, hives, and wheezing and shortness of breath. Report these symptoms immediately to your supervisor and to Employee Health & Well-being if they occur. Any symptoms that cause difficulty in breathing should be treated in an emergency room as soon as possible. Animal allergy is the most common work-related illness seen in animal workers.

We recommend that you always wear all appropriate personal protective equipment to reduce the risk of exposure to animal dander.

DIARRHEAS

Many species of animals carry both bacteria that can cause diarrhea, such as **salmonella, shigella, and campylobacter**, and protozoa like **amoebae**. Turtles are commonly infected with salmonella. Report any diarrheal illness that lasts longer than 24 hours to your supervisor and to Employee Health & Well-being. Employees with diarrhea should be at home until their symptoms disappear.



RABIES

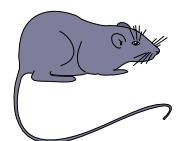
Rabies is a fatal disease of the brain that is rare in the United States because of widespread vaccination of dogs and cats against the disease. At present, animal rabies occurs in the US in raccoons, bats, foxes, and coyotes. Rabies can occur in large animals, such as cattle and horses, but is much less common in these species. All animal workers are eligible for rabies vaccine, which will prevent a person from getting rabies from an infected animal. Avoid all contact with these wild species and immediately report any exposures, including touching that does not result in a bite or scratch.



DISEASES ASSOCIATED WITH SPECIFIC ANIMAL SPECIES

If you work with rodents (e.g. mice, rats, hamsters)

Rodents can carry infectious agents which cause a number of human diseases, including **lymphocytic choriomeningitis** (a type of brain infection), **toxoplasmosis**, and **rat bite fever**. Wild rodents can carry **leptospirosis, plague, and hantavirus infection**. Wild rodent

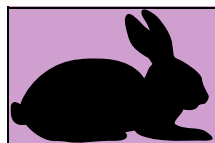


control is an important part of veterinary programs. Follow all safety precautions when working with these animals.

Nude or “spf” mice have been bred to have defective immunity to infections. They are very vulnerable to any illness that personnel might have. It is very important to avoid exposing them to any type of contagious illness.

If you work with rabbits:

This species is a common cause of allergic reactions in people. **Tularemia**, an infection of rabbits which can be transmitted to humans and can cause fevers, has been largely eliminated from laboratory rabbits.



If you work with birds and other small animals we haven't mentioned yet:



used in research studies.

Unusual research animals also pose risks. Birds have diseases like **psittocosis**, which can cause fevers and many other symptoms in humans. Only inspected and quarantined birds should be

If you work with nonhuman primates (monkeys, chimpanzees, baboons)



Primate facilities have special zoonosis risks, because so many primate diseases are transmissible to humans.

Zoonoses from nonhuman primates can sometimes cause very serious illnesses. **Tuberculosis** can be transmitted back and forth between primates and people. In all primate colonies, TB screening is required for both the animals and the people who work with them. Common human

viruses such as **measles** and **herpes simplex** can be a risk to primates, if they come into contact with these human infections. **Hepatitis A, B, C, and D/E** have been seen in primates and can be cross-transmitted between primates and people.

Herpesvirus B (B-virus infection) is carried by many Old World monkeys, such as rhesus. This is the most hazardous virus that nonhuman primates can transmit to people. B virus is found in otherwise healthy monkeys; almost all monkeys in captivity are infected by the time they are juveniles. B virus infection can cause a rare, but fatal, brain infection in man. Any bite, scratch, or other break in the skin can let B virus into your body. The virus is found in monkey saliva, urine, and body fluids; it can resist drying and can be found on surfaces such as cages and floors, also. Report all monkey exposures immediately.

Every area at M.D. Anderson Cancer Center that houses nonhuman primates has a “bite and scratch” station where first aid and cleaning of injuries should be done. All injuries must be recorded in the “bite and scratch” log, in addition to being reported on an employee accident form. First aid procedures are posted at these stations. Know the location of the bite stations. Protective clothing, including leather gloves and face shields, as well as the use of chemical restraint when handling primates, should help prevent exposures.

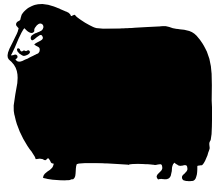
Simian immunodeficiency virus (SIV), a relative of the AIDS virus, is found in the African green monkey and other African primates. It is used in some research protocols as a model for HIV-like illness. This virus can infect other nonhuman primates in experimental settings; several laboratory workers in the US have also become infected, although none of these people are ill.

The Houston, Bastrop and Smithville veterinary facilities handle animals with other

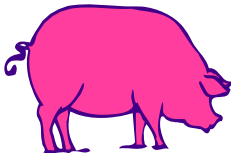
types of retroviruses in addition to **HIV** (the AIDS virus) and **SIV**. The guidelines to prevent retrovirus infections are similar, regardless of the specific virus. Needle sticks and injuries with sharp objects contaminated with retrovirus secretions are most likely to cause infection in people.

If you work with large animals (sheep, goats, pigs, cows, horses)

Q Fever is a potentially serious human disease caused by the infectious agent *Coxiella burnetii*.



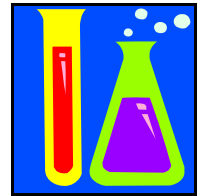
This illness was common when people drank raw milk, and in slaughterhouse workers exposed to meat from freshly killed cattle, sheep, and goats. Q fever organisms are shed in large quantities from the placenta of sheep during the birthing process. Sheep used in research or other experimental studies should be assumed to be infected with Q fever; persons working where exposure is possible should take precautions to avoid infection. The organism is very contagious, and stays alive for long periods of time in dust and soil. Epidemics of Q fever have occurred in medical centers where sheep and people shared the same heating/air conditioning system. Persons who work with these animals and who develop “flu” or pneumonia-type symptoms should report their illnesses to Employee Health & Well-being.



Erysipelas in pigs can be transmitted to people as a severe skin infection; pigs showing skin problems should be handled with care.

New research / new diseases / new questions

The development of new cancer therapies and new vaccines to prevent disease often involves animal testing. We make every effort to inform you fully about possible health risks as these new experiments are performed. Our goal is to provide safety guidelines for each project that fully protect your health as you work.



Helpful links for additional information on zoonotic diseases:

Toxoplasmosis: <http://www.cdc.gov/toxoplasmosis/>

Rabies: <http://www.cdc.gov/rabies/>

Lymphocytic Choriomeningitis: <http://www.cdc.gov/ncidod/dvrd/spb/mnpages/dispages/lc mv.htm>

Rat Bite Fever: http://www.cdc.gov/nczved/dfbmd/disease_listing/ratbitefever_gi.html

Leptospirosis: http://www.cdc.gov/ncidod/dbmd/diseaseinfo/leptospirosis_g.htm

Plague: http://www.cdc.gov/ncidod/diseases/submenus/sub_plague.htm

Hantavirus: <http://www.cdc.gov/ncidod/diseases/hanta/hps/index.htm>

Tularemia: <http://www.cdc.gov/Tularemia/>

Psittacosis: http://www.cdc.gov/ncidod/dbmd/diseaseinfo/psittacosis_t.htm

Tuberculosis: <http://www.cdc.gov/tb/>

Measles:

http://www.cdc.gov/ncidod/diseases/submenu/sub_measles.htm

Hepatitis:<http://www.cdc.gov/hepatitis/index.htm>

Herpes B-

virus:<http://www.cdc.gov/ncidod/diseases/bvirus.htm>

Q Fever:

http://www.cdc.gov/ncidod/diseases/submenu/sub_q_fever.htm

Simian Immunodeficiency Virus:

<http://content.nejm.org/cgi/content/extract/330/3/172>



Questions:

Call: Employee Health & Well-being
(713) 745-6900

Environmental Health & Safety
(713) 792-2888

References:

1. Committee on Occupational Safety and Health in Research Animal Facilities. Occupational Health and Safety in the Care and Use of Research Animals. National Academy Press, 1997.
2. NIH safe handling guidelines.
3. Heidelbaugh, ND, Murmane, TG, and Rossner, WW (ed). Health Hazards in Veterinary Practice, second edition. American Veterinary Medical Association, 1989.

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