

Working with Mice and Rats

All personnel working with animals, their tissues, or working in areas where animals are housed must complete an Animal Use Medical Screening Form every 3 years or more often at the discretion of the Occupational Health Nurse. This is a program to identify and provide follow up for individuals who may be at greater risk for developing animal allergies or contracting zoonoses. This form can be accessed electronically at: <http://www.ehs.washington.edu/rbs/resocchealth.shtm>. For questions contact the Employee Health Clinic, located on the ground floor of the Hall Health Building, phone: 206.685.1026.

1. Tetanus booster should be obtained every 10 years.
2. Wear protective gloves when handling the animals. Wash hands thoroughly upon completion of tasks with animals/glove removal.
3. **Allergies:**

It is fairly common for workers to develop allergies to laboratory animals. Those who already have asthma and/or other allergies are at an increased risk.

 - The major sources of rat allergen exposure appear to be from the urine and saliva. The major mouse allergen is found in the urine. If you have suspected allergy symptoms, such as a runny nose and sneezing (allergic rhinitis), irritation and tearing of eyes (allergic conjunctivitis), asthma, or skin rash (atopic dermatitis), contact the Employee Health Clinic at 206.685.1026.
 - Precautions and methods of control to prevent exposure to animal allergenic substances can be found in the NIOSH ALERT "Preventing Asthma in Animal Handlers." This document can be downloaded at: <http://www.cdc.gov/niosh/docs/97-116/> and is to be reviewed with personnel.
4. **Injuries:**

Needle stick injuries or bites can happen when performing injections or handling rodents.

 - Immediately wash area thoroughly with soap and water for at least 15 minutes.
 - Control any bleeding and cover with protective dressing (bandage, etc.).
 - For any injuries, needlestick/sharps injury or for signs/symptoms of wound infection such as redness, swelling or pain, contact the Employee Health Clinic at Hall Health at 206.685.1026. After hours or if the clinic is unavailable, go to the UWMC ER.
 - Report injuries to your supervisor and on the UW OARS (Online Accident Reporting System): <http://www.ehs.washington.edu/ohsoars/index.shtm>
5. **Illness:**

If you develop signs or symptoms that you think may be related to your work with these animals and/or research work, contact the Employee Health Clinic. If you see your own provider, inform him/her that you work with these animals and any other pertinent information regarding your research work. The Employee Health Clinic is located on the ground floor of the Hall Health Building. Phone: 206.685.1026.
6. **Zoonotic diseases:**

Zoonotic disease is very rare in the laboratory environment because laboratory rodents are screened for zoonotic disease agents and maintained with practices that prevent their introduction. However, the following agents are found in wild rodents or sometimes in rodents purchased from pet stores:

- **Lymphocytic choriomeningitis virus (LCMV):** LCMV is an arenavirus found naturally in wild rodent populations and used experimentally in some laboratories. It is now rarely found in laboratory animal facilities, and is among diseases screened for by the University of Washington rodent health monitoring program. Spread of LCMV among animals via contaminated tumors and cell lines can occur. LCMV is a known teratogen.
 - *Transmission:* Contact with tissues including tumor, feces, urine, and aerosolization of all of the above.
 - *Disease in people:* Flu-like symptoms, mild to severe. Neurologic symptoms may develop in about half of adults infected.
- **Cestodiasis:** A dwarf tapeworm, *Rodentolepsis nana*, is often carried by pet store mice and rarely found in laboratory mice.
 - *Transmission:* Ingestion of eggs.
 - *Disease in people:* Heavy infections result in abdominal distress, enteritis, anal pruritis, anorexia, and headache.
- **Leptospirosis:** *Leptospira* spp. bacteria found in many animals but are most commonly associated with livestock and dogs. Reservoir/source of infection to people: Rats, mice, voles, hedgehogs, gerbils, squirrels, rabbits, hamsters, reptiles, dogs, sheep, goats, horses, standing water.
 - *Transmission:* Leptospire are shed in the urine of infected animals. Direct contact with urine or tissues via skin abrasions or contact with mucous membranes has been reported. Transmission can also occur through inhalation of infectious droplet aerosols and by ingestion.
 - *Disease in people:* Flu-like symptoms, mild to severe. Death has been reported.
- **Rat bite fever:** This is caused by the bite of a rat infected with *Streptobacillus moniliformis* or *Spirillum minus*. Laboratory rats are generally free of the disease.
 - *Transmission:* Bite of infected rat.
 - *Disease in people:* Fever, lymphadenopathy, swelling at site of wound. Incubation period usually 1-3 days but may be up to 6 weeks. May cause arthritis in untreated patients.
- **Hantavirus:** Hantaviruses are RNA viruses that can cause a variety of diseases world-wide. In North America, these viruses can be found in the urine, droppings and nest material of wild rats and mice.
 - *Transmission:* the virus is shed in the urine and feces. People are commonly infected when cleaning or working in areas where wild mice or rats live.
 - *Disease in people:* Fever, muscle aches, fatigue, sometimes followed by a hard time breathing, headaches, dizziness, chills nausea, vomiting, diarrhea and abdominal pain
- **Salmonella:** *Salmonella* serotype Typhimurium is a bacteria that has been associated with outbreaks of disease in people linked to pet store rodents. It is not commonly present in modern laboratory rodents.
 - *Transmission:* Salmonella is commonly shed in the feces.
 - *Disease in people:* Diarrhea, fever and abdominal cramps are the common symptoms in people within 12 to 72 hours post-infection.