

Working with Mice and Rats

Animal Use Medical Screening (AUMS):

All personnel working with animals, their tissues, or working in areas where animals are housed must submit an Animal Use Medical Screening (AUMS) form every 3 years to screen for exposure to possible health hazards in the work environment. Complete the form online at:

<https://www.ehs.washington.edu/research-lab/animal-use-medical-screening-aums>

Potential zoonotic diseases from mice and rats:

Zoonotic disease from laboratory rodents is very rare in the laboratory environment because they are screened for zoonotic disease agents and maintained with preventative practices. However, for zoonotic potentials from agents found in wild rodents or sometimes in rodents purchased from pet stores, see *Appendix A: Zoonotic Disease Potentials from Mice and Rats* below.

Preventative measures:

- Tetanus booster should be obtained every 10 years.
- Only trained personnel should handle the mice and rats.
- Wear appropriate clothing and personal protective equipment (PPE). Wear protective gloves when handling the animals. Wash hands thoroughly upon completion of the tasks with the animal and upon removal of the glove/PPE. Use antiseptic hand sanitizer between glove use if needed, until you can get to handwashing facilities.

Injuries:

Needlestick injuries or bites can happen when performing injections or handling the animals.

- See the [EH&S Exposure Response Poster](#).
- 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 Center at 206-685-1026. After hours or if the clinic is unavailable, go to the [UWMC Emergency Department](#). For incidents at Harborview, call the Harborview Employee Health Services at 206-744-3081. After hours, go to the [Emergency Department at Harborview](#).
- Report injuries on the UW Online Accident Reporting System (OARS) at: <http://www.ehs.washington.edu/workplace/accident-and-injury-reporting>

Illness:

- If you develop signs or symptoms that you think may be related to your work with animals and/or research work, contact the Employee Health Center.
- If you see your own provider, inform him/her that you work with these animals and any other pertinent information regarding your research work. Inform Employee Health after seeing your

healthcare provider.

- Report work-related illness on the UW Online Accident Reporting System (OARS) at: <http://www.ehs.washington.edu/workplace/accident-and-injury-reporting>

Allergies:

If you suspect you may be experiencing allergy symptoms, such as runny nose and sneezing (allergic rhinitis), irritation and tearing of eyes (allergic conjunctivitis), asthma, or skin rash (atopic dermatitis), contact the Employee Health Center. 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. See more in the [EH&S Lab Animal Allergy Pamphlet](#).
- Precautions and methods of control to prevent exposure to animal allergenic substances can be found in the NIOSH alert online, [Preventing Asthma in Animal Handlers](#)

References:

- UW Research and Occupational Health webpage: <https://www.ehs.washington.edu/research-lab/research-occupational-health>
- University of California Davis Zoonosis Information by Species webpage: <http://safetyservices.ucdavis.edu/ps/occh/acuohp/pem/zis>
- Washington State University Zoonotic Diseases webpage: <https://iacuc.wsu.edu/zoonotic-diseases/>
- U.S. Air Force Zoonotic Diseases webpage: <http://www.phsource.us/PH/ZD/index.htm>

Contacts:

- [UW Employee Health Center](#): 206-685-1026
- Harborview Employee Health Services: 206-744-3081
- For questions on AUMS: 206-221-7770
- For questions on UW Online Accident Reporting: 206-543-7388

Appendix A: Zoonotic Disease Potentials from Mice and Rats

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Zoonotic Disease Potentials from Mice and Rats

Disease/ Infective Agent	Reservoir/source of infection	Transmission	Disease in people
Cestodiasis, <i>Rodentolepis nana</i>	A dwarf tapeworm often carried by pet store mice and rarely found in laboratory mice.	Ingestion of eggs	Heavy infections result in abdominal distress, enteritis, anal pruritis, anorexia, and headache.
Hantavirus	RNA viruses that can cause a variety of diseases world-wide. In North America, they can be found in the urine, droppings and nest material of wild rats and mice.	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.	Fever, muscle aches, fatigue, sometimes followed by a hard time breathing, headaches, dizziness, chills nausea, vomiting, diarrhea and abdominal pain.
Leptospirosis, <i>Leptospira</i> spp.	Bacteria found in many animals including rats, mice, voles, hedgehogs, gerbils, squirrels, rabbits, hamsters, reptiles, dogs, sheep, goats, horses, and in standing water. Most commonly associated with livestock and dogs.	Shed in the urine of infected animals. Transmission can occur through direct contact with urine or tissue via skin abrasions or mucous membranes, and inhalation of infectious droplet aerosols and by ingestion.	Flu-like symptoms, mild to severe. Death has been reported.
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. LCMV is a known teratogen.	Contact with tissues including tumor, feces, urine, and aerosolization of all of the above. Spread of LCMV among animals via contaminated tumors and cell lines can occur.	Flu-like symptoms, mild to severe. Neurologic symptoms may develop in about half of adults infected.
Rat bite fever	Fever caused by the bite of a rat infected with <i>Streptobacillus moniliformis</i> .	Bite of an infected rat	Fever, lymphadenopathy, swelling at site of wound. Incubation period is usually 1-3 days but may be up to 6 weeks. May cause arthritis in untreated patients.
Salmonella, <i>Salmonella</i>	This 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.	Commonly shed in the feces	Common symptoms are diarrhea, fever and abdominal cramps, within 12 to 72 hours post-infection