

# University of Louisiana at Lafayette

## Information on Zoonotic Diseases



### Species Specific Information—Laboratory Rodents

This guide is designed to inform individuals who work with animals about potential zoonoses (diseases of animals transmissible to humans), personal hygiene, and other potential hazards associated with animal exposure. This information sheet is directed toward those involved in the care and use of laboratory rodents (including rats, mice, hamsters, guinea pigs, and gerbils). Contact \_\_\_\_\_ if you have any more questions.

### Potential Zoonotic Diseases

Colony-born rodents are generally docile but may occasionally inflict injury such as a bite or scratch. While rodents may carry organisms that may be potentially infectious to humans, the major health risk to individuals working with laboratory rodents is the development of an allergy. The development of disease in the human host often requires a preexisting state that compromises the immune system. If you have an immune-compromising medical condition or you are taking medications that impair your immune system (steroids, immunosuppressive drugs, or chemotherapy) you are at higher risk for contracting a rodent disease and should consult your physician. The following is a list of some of the potential rodent zoonoses.

**Lymphocytic choriomeningitis:** Lymphocytic choriomeningitis (LCM) is caused by the arenavirus commonly associated with hamsters but does infect mice. LCM is rare in laboratory animal facilities, and more common in the wild. Transmission to humans is through contact with infected tissues including tumors, feces, urine, or aerosolization of any one of these. Disease in humans is generally flu-like symptoms that range from mild to severe.

**Campylobacter:** This is a gram-negative bacterium that is thought to occur by the fecal-oral route through contamination of food or water, or by direct contact with infected fecal material. The organism has also been isolated from houseflies. Campylobacter is shed in the feces for at least six weeks after infection. Symptoms are acute gastrointestinal illness: diarrhea with or without blood, abdominal pain, and fever. It may cause pseudo-appendicitis and, rarely, septicemia and arthritis. Usually, it is a brief self-limiting disease that can be treated with antibiotics.

**Leptospirosis:** This is bacteria found in many animals but is most associated with livestock and dogs. The source of infection can be from any of the following: rats, mice, voles, hedgehogs, gerbils, squirrels, rabbits, hamsters, reptiles, dogs, sheep, goats, horses, and standing water. Leptospire are in the urine of infected animals and are transmitted through direct contact with urine or tissues via skin abrasions or contact with mucous membranes. Transmission can also occur through inhalation of infectious droplet aerosols and by ingestion. The symptoms include an annular rash with flu-like symptoms. Cardiac and neurological disorders may follow, and arthritis is a common result.

**Hantavirus Infection:** Hantavirus occurs mainly among the wild rodent populations in certain portions of the world. A hantavirus infection from rats has very rarely occurred in laboratory animal facility workers. Rodents shed the virus in their respiratory secretions, saliva, urine, and feces. Transmission to humans is via inhalation of infectious aerosols. Symptoms include fever, headache, myalgia (muscle aches), petechiae (rash), and other hemorrhagic symptoms including anemia and gastrointestinal bleeding.

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**Other Bacterial Diseases:** Several other bacterial diseases are possible, though rarely spread through working with laboratory rodents. These include *yersinia* and *tularaemia*.

### Allergic Reactions to Rodents

By far the greatest occupational risk to working with rodents is allergic reactions or developing allergies. Individuals who have other allergies are at greater risk. Animal or animal products such as dander, hair, scales, fur, saliva, body waste, and urine contain powerful allergens that can cause skin disorders and respiratory symptoms. The primary symptoms of an allergic reaction are nasal or eye symptoms, skin disorders, and asthma. Contact \_\_\_\_\_ if you develop allergic symptoms.

For more information refer to [Preventing Asthma in Animal Handlers](#).

### How to Protect Yourself

- **Wash your hands.** The single most effective preventative measure that can be taken is thorough, regular hand washing. Wash hands and arms after handling any animal. Never smoke, drink or eat in the animal rooms or before washing your hands.
- **Wear gloves.** When working with rodents wear appropriate gloves for the task and wash your hands after removing gloves.
- **Wear respiratory protection.** Respiratory protection should be worn when there is a medical history or symptoms of allergies. Respiratory protection should be worn when there is a risk of aerosol transmission of a zoonotic agent. Initial Medical Evaluation for respiratory clearance is performed through Student Health Services. Fit testing is also performed through Student Health Services, once clearance is completed through either Student Health Services or an approved Health Clinic on contract with the University of Louisiana at Lafayette.
- **Wear other protective clothing.** Lab coats should be available and worn when working with rodents. Disposable gowns may also be worn to protect transfer while working in the lab with rodents. Always avoid wearing street clothes while working with animals. Proper laundering of lab coats, scrubs, or any other type of approved clothing is required. Please check with the lab standard operating procedures or the Research Project Manager on the frequency of the laundering required.
- **Report allergic symptoms.** If you develop allergic symptoms contact the Research Project Manager, should you develop allergic symptoms and follow all emergency contact protocol.
- **Seek Medical Attention Promptly.** If you are injured, promptly report the accident to your supervisor, even if it seems relatively minor. Minor cuts and abrasions should be immediately cleansed with antibacterial soap and then protected from exposure to rats and mice.
  - Fill out an electronic incident report (DA 2000 or DA 3000)
    - In all cases that are true emergencies (life or limb threatening), the priority is to get the employee immediate medical care. Call the University Police Department at 337-482-6447, or DIAL 911. UL Lafayette Police officers are trained first responders.

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- Student Health Services does not treat employees or visitors for accidents, on-the-job injuries, or worker's compensation cases.
  - [DA 3000](#) (non-employees accident/incident report form)
  - [DA 2000](#) (employees, student aids & volunteers accident/incident report form)
  - For assistance completing the DA2000 form, use the [Root Cause Analysis Guidance](#).
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- **Tell your physician you work with rodents.** Whenever you are ill, even if you're not certain that the illness is work-related, always mention to your physician that you work with rodents. Many zoonotic diseases have flu-like symptoms and would not normally be suspected. Your physician needs this information to make an accurate diagnosis. Questions regarding personal human health should be answered by your physician.