The Occupational Health and Safety Program is designed to inform individuals who work with animals about potential zoonoses (disease of animals transmissible to humans), personal hygiene, and other potential hazards associated with animal work. This information sheet is directed toward those involved in the care and use of laboratory rodents.

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 rodents is the development of an allergy. The development of disease in the human host can be intensified by a preexisting state that compromises the immune system. If you have an immune-compromising medical condition (e.g., pregnancy, diabetes) or you are taking medications that impair your immune system (e.g., steroids, immunosuppressive drugs, or chemotherapy), you are at higher risk for contracting a rat or mouse disease and should consult your physician. The following is a list of known and potential rat or mouse zoonosis.

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

**Leptospirosis**
A bacterium found in many animals, including laboratory rodents. Leptospires 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 by ingestion. Disease in humans presents flu-like symptoms ranging from mild to severe.

**Rat Bite Fever**
Rat Bite Fever is caused by *Streptobacillus moniliformis* or *Spirillum minus*, normal flora in the oral pharynx of rodents, weasels, gerbils, and squirrels. These animals may be asymptomatic carriers of the bacteria. Transmission is normally via the bite of an infected animal; the bacteria are shed in urine or bodily secretions as well. Symptoms of disease in humans include fever, lymphadenopathy, swelling at the site of the wound, and may cause arthritis if left untreated. Incubation period is generally one to three days but may be up to six weeks.

**Hantavirus Infection**
Hantavirus occurs among wild rodent populations in certain portions of the world. Rats and mice have been implicated in outbreaks of the disease. A hantavirus infection from rats has 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. Hantavirus infection via laboratory-animal exposure is characterized by fever, headache, myalgia, petechiae, and other hemorrhagic symptoms including anemia and gastrointestinal bleeding.

**Other Bacterial Diseases**
There are several other bacterial diseases that are possibly, though rarely, spread through working with rodents. These include Yersinia, Salmonella, and Reoviruses such as rotavirus. Good hand washing and appropriate use of gloves are adequate measures to protect from these diseases.

**Allergic Reactions**
By far the greatest occupational risk to working with rodents is allergic reaction or developing allergies. Those workers that have other allergies are at particular risk. Animal or animal products such as dander; hair; scales; fur; saliva; and body wastes, urine in particular, contain powerful allergens that can cause both respiratory and skin disorders. Common symptoms of allergic reaction are nasal or eye symptoms, skin disorders, and asthma.
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 rats and mice. Never smoke, drink, or eat in the animal rooms or before washing your hands.

- Wear gloves. When working with rats and mice, wear appropriate gloves for the task.

- Wear respiratory protection. N95 respirators should be worn at all times when changing bedding and/or where there is a risk of aerosol transmission of allergens or zoonotic agent.

- Wear other protective clothing. Lab coats should be available and worn when working with the rodents. Avoid wearing street clothes while working with animals.

- Seek medical attention promptly. If you are injured on the job, 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 bandaged. For more serious injuries or if there is any question, you should report to an occupational health physician for evaluation.

- Tell your personal physician you work with rats/mice. 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 rats/mice. 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.

- Be your own best advocate. If your health status changes, such as developing an illness that compromises your immune system, taking new medications that impact your immune system, developing a chronic illness, or being advised by your physician that you are at high risk of developing infection, or should not be exposed to carcinogenic, toxic, or other potentially hazardous compounds (for example during a pregnancy), tell your physician that you work with animals and ask for their advice. In addition, notify your supervisor, or get in touch with EHS for further advice whether changes at your workplace are necessary due to changes in your health status.

Please sign and date to verify you have read the above information then return this form to Environmental Health and Safety. In addition to the above information, I have also received a copy of the UO Occupational Health Program and the NIOSH document *Preventing Asthma in Animal Handlers*.

Name (Print) ______________________________ Signature ____________________________

Name of PI/Supervisor: ______________________________

Trainer (Print) ______________________________ Signature ____________________________ Date ________

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