

Zoonoses Associated with Rabbits

This document provides information on diseases that can be passed from rabbits and related lagomorphs to people. Often these diseases do not make the animal appear sick but can cause serious illness in humans. Persons with specific medical conditions such as a chronic illness, immunodeficiency and pregnancy may be at higher risk of developing disease or complications from a zoonotic disease and should consult with their physician before working with animals.

The majority of rabbits housed at UI are bred and raised under strict hygienic conditions and are free of pathogens that could be transferred to people. These rabbits are called “specific pathogen-free” or “SPF” rabbits. Rabbits that are housed outdoors, captured from wild populations or that are purchased from a pet store may carry zoonotic diseases. Zoonotic diseases specifically associated with rabbits include pasteurellosis, ringworm, mycobacteriosis, cryptosporidiosis and external parasites.

Rabbits can transmit bacteria through bites and scratches. One of the common agents involved is *Pasteurella multocida*, a bacterium that resides in the oral cavity and upper respiratory tract of rabbits. Human infection is generally characterized by local inflammation with occasional abscess formation and ascending infection.

Dermatophytosis is a fungal skin infection commonly known as “ringworm” and is seen in both animals and people as scaly round areas of hair loss. Transmission of ringworm is by direct skin-to-skin contact with an infected animal. *Cheyletiella parasitovorax* and related species are non-burrowing skin mites of rabbits which can be transmitted to people by handling and touching infested animals causing a transient dermatitis. Symptoms in both rabbits and people are moderate hair loss and scaly skin. Other possible external parasites such as fleas, ticks and lice are occasionally transmitted by close contact with an infested rabbit or handling infested bedding.

Cryptosporidiosis is an intestinal protozoal infection acquired by contact and accidental ingestion of fecal material from infected animals. Rabbits infected with this disease typically have diarrhea but some animals may show no symptoms of disease. Any animal with diarrhea should be suspect of having a zoonotic disease.

Pygmy rabbits (*Brachylagus idahoensis*) may be infected with *Mycobacterium avium* complex (MAC). Transmission of MAC to persons primarily occurs through aerosolization and inhalation of the agent in contaminated soil however direct contact and accidental ingestion of urine and feces of infected pygmy rabbits is another potential route of infection. Persons infected with MAC may develop lymphadenitis & pulmonary disease similar to tuberculosis or more severe disseminated disease. Immunodeficient persons have increased susceptibility to disseminated MAC infection and should consult with their personal physician before working with pygmy rabbits. Other potential zoonotic diseases of wild rabbits that have not been identified in the pygmy rabbit are tularemia, plague, salmonellosis, and campylobacteriosis,

Individuals with exposure to animals and animal environments may develop allergic reactions to animal proteins (allergens). Approximately 20-30 percent of individuals working with laboratory animals will develop an allergic reaction to animal proteins and 5-10 percent of individuals will develop asthma. Personnel may be exposed to allergens through inhalation and contact with skin, eyes and mucous

membranes. Animal allergens may be present in animal dander, hair, skin, urine, saliva, serum and any contaminated feed or bedding materials. Risk factors for developing an allergic reaction include history of previous allergies to animals. The signs and symptoms of an allergic reaction are nasal discharge and congestion, conjunctivitis, tearing and eye itching, skin redness, rash or hives and lower airway symptoms (coughing, wheezing and shortness of breath). Individuals with symptoms suggestive of an allergic reaction related to a workplace allergen should report their concerns to their supervisor and consult a physician.

Transmission of zoonotic diseases from animals is primarily by direct contact, indirect contact with insect vectors and contaminated inanimate objects, or inhalation of aerosolized materials. We can protect ourselves from most diseases by using the following basic hygiene procedures:

- Do not eat, drink, apply makeup or use tobacco products while handling animals or in animal housing areas.
- Thoroughly wash any bite and scratch wounds and report injuries.
- Wear gloves when handling ill animals, animal tissues, body fluids and waste and wash hands after contact.
- Wear respiratory protection when appropriate.
- Wear dedicated protective clothing such as a lab coat or coveralls when handling animals. Launder the soiled clothing separate from your personal clothes and preferably at the animal facility.
- Report ill animals so that they can receive prompt veterinary care.
- Keep animal areas clean and disinfect equipment after using it on animals or in animal areas.

Most importantly, familiarize yourself about the animals that you will be working with and the potential zoonotic diseases associated with each species. If at any time, you suspect that you have acquired a zoonotic disease, inform your supervisor and seek medical care.

If you have further questions, contact:

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