

Zoonoses Associated with Horses

This document provides information on various diseases that can be passed from horses to humans. Often these diseases do not make the animal appear sick but can cause serious illness in humans. Persons with specific medical conditions such as an 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 horses. The diseases associated with horses include rabies, ringworm, methicillin-resistant strains of *Staphylococcus aureus*, leptospirosis, salmonellosis, campylobacteriosis, cryptosporidiosis and infections with *Rhodococcus equi*.

Diseases associated with direct contact:

Rabies is a fatal viral infection that can be transmitted by bites, and mucus membrane exposure from an infected animal. Rabies in horses in the Northwest is very rare but horses can be infected from contact with wildlife such as bats, skunks, and raccoons. Infected animals often exhibit neurological symptoms and unusual behavior. There is an effective vaccine available for people and most domestic animals including horses.

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 contact with an infected animal. For prevention, wear gloves when handling infected animals and wash hands after contact.

Methicillin-resistant *Staphylococcus aureus* (MRSA) has been identified in both normal horses and those with clinical symptoms of wound infections. It is possible to contract the infection through direct contact with an infected horse. Once infected, people may or may not develop symptoms. While transmission is unlikely, it is recommended to wash your hands after handling horses and to cover any open wounds that are susceptible to infection.

Diseases associated with vectors or contaminated materials:

Leptospirosis is most commonly associated with eye infections, abortion or kidney disease in horses and is typically shed in the urine of infected animals. People acquire the infection by oral ingestion and contact with contaminated urine, placenta, and fetal tissues. The organism can infect people through abraded skin.

Rhodococcus equi is a bacterium that causes pneumonia in foals and is found in manure and contaminated soil around horse facilities. Inhalation of dust particles laden with virulent *R. equi* is the major route of infection. *R. equi* is an opportunistic pathogen in immunocompromised people and does not cause disease in persons with normal immune function.

Salmonellosis, campylobacteriosis, and cryptosporidiosis are acquired by contact and accidental oral ingestion of fecal material from infected animals. Animals infected with these diseases typically have diarrhea but some animals may show no symptoms of disease. Any animal with diarrhea should be suspect of having a zoonotic disease.

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 horses is primarily by direct contact when handling and grooming horses, contact with contaminated objects such as grooming tools, accidental ingestion of feces or urine or inhalation of aerosolized materials. We can protect ourselves from most diseases by using the following procedures:

- Handle animals appropriately and safely to avoid bites, kicks, and other injuries.
- Thoroughly wash bite wounds and report injuries.
- Do not eat, drink, apply makeup or use tobacco products while handling horses or in horse stalls or pens.
- Wash hands after handling animals or their waste and before eating or drinking.
- Wear clothing appropriate for handling large animals including long pants and shoes or boots that cover your feet (no sandals). Launder the soiled clothing separate from your personal clothes and preferably at the animal facility
- Wear respiratory protection when appropriate.
- 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:

Office of Research Assurances	208-885-6162	Email: IACUC@uidaho.edu
Biosafety Officer	208-885-4054	Email: biosafety@uidaho.edu
Campus Veterinarian	208-885-8958	Email: campusvet@uidaho.edu