

Zoonoses Associated with Swine

This document provides information on various diseases that can be passed from swine 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 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 diseases associated with swine include ringworm, erysipelas, leptospirosis, streptococcosis, campylobacteriosis, salmonellosis, cryptosporidiosis, giardiasis, balantidiasis, influenza and infection with pathogenic *E. coli*.

Diseases associated with direct contact or bites:

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.

Diseases associated with vectors or contaminated materials:

Erysipelas, leptospirosis and streptococcosis are bacterial infections that occasionally infect pigs. Swine influenza is caused by influenza viral strains which primarily infect swine but can be transmitted to people in close contact with infected pigs. People can be infected with these diseases through contact with infected body fluids and tissues, oral ingestion and inhalation of respiratory secretions, contaminated water or materials and tick bites.

Salmonellosis, campylobacteriosis, cryptosporidiosis, giardiasis, balantidiasis and infections with pathogenic *E. coli* are acquired by contact and oral ingestion of fecal material from infected animals. Pigs infected with these bacterial and protozoal diseases typically have diarrhea but some animals may show no symptoms of disease. Avoid direct contact with feces and urine and use gloves and hand-washing to avoid accidental oral ingestion of animal waste. 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 animals is primarily by direct contact, ingestion, 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 procedures:

- Handle animals appropriately and safely to avoid bites and injuries.
- Thoroughly wash any bite wounds and report injuries.
- Do not eat, drink, apply makeup or use tobacco products while handling animals or in animal housing areas.
- Wear gloves when handling ill animals, animal tissues, body fluids and waste and wash hands after contact.
- Wear dedicated protective clothing such as a lab coat or coveralls and boots or shoe covers when handling animals. Launder the soiled clothing separate from your personal clothes and preferably at the animal facility.
- 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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