

# Occupational Health and Safety Working with Swine

When working with swine, you should be familiar with the following safe practices and potential health risks:

## Physical Injury

Bites, scratches, and kicks are potential hazards associated with research animal contact. They may be prevented or minimized through proper training in animal-handling technique. Personnel working with large domestic animals might sustain crushing injuries when the animals kick, fall, or simply shift their body weight.

## Staying Healthy

Wash your hands after animal handling and use. The most common way to contract a zoonotic infection is to place the infectious material directly in your own mouth. Always wash your hands after handling an animal or anything that the animal has touched. Never smoke, drink, or eat in the animal room, or before washing your hands.

Wear protective clothing and appropriate personal protective equipment

## Allergy to Animals

Personnel may be allergic to any animal species. The allergens are proteins that are excreted in the animals' saliva, urine, and/or from various glands associated with the skin. A person who is already allergic to one allergen (animal or otherwise) has a greater chance of becoming allergic to a new allergen than a person that has no allergies at all.

The most effective way to control and prevent allergies is to minimize exposure to the allergens.

## Brucellosis

The incidence of brucellosis in agricultural species in the United States is low because of eradication efforts of the disease. Foci of infection persist in swine populations. Although zoonotic transmission of the disease from swine has not been a problem in the laboratory, *Brucella suis* of swine may achieve importance since the use of swine in the laboratory has increased significantly.

Human infection with *Brucella* is characterized by fever, headache, chills, myalgia, nausea, and weight loss. Subclinical and inapparent infection can occur.

## Influenza

Humans are considered the reservoir for human-influenza viruses. Influenza-virus infections with different antigenic strains occur naturally in many animals, including avian species, swine, horses, mink and seals. Animal reservoirs are thought to contribute to the emergence of new human strains of human influenza viruses, perhaps by reassortment of animal strains with human strains.

Transmission is by the airborne route and by direct contact. Influenza is an acute disease of the respiratory tract characterized by fever, headache, myalgia, prostration, coryza, sore throat, and cough. Viral pneumonia and gastrointestinal involvement manifested by nausea, vomiting, and diarrhea may also develop.

## **Campylobacteriosis**

Organisms of the genus *Campylobacter* have been recognized as a leading cause of diarrhea in humans and animals in recent years. Numerous cases involving the zoonotic transmission of the organisms in laboratory animals have been described. Young animals readily acquire the infection and shed the organism. Young animals often are implicated as the source of zoonotic transmission.

The organism is transmitted by the fecal-oral route via contaminated food or water, or by direct contact with infected animals.

*Campylobacter* produces an acute gastrointestinal illness, which, in most cases, is brief and self-limiting. The clinical signs of *Campylobacter enteritis* include watery diarrhea, sometimes with mucus, blood and leukocytes; abdominal pain; fever; and nausea and vomiting. Unusual complications of the disease include typhoid-like syndrome, reactive arthritis, hepatitis, interstitial nephritis, hemolytic-uremic syndrome, febrile convulsions, meningitis, and Guillain-Barré syndrome.

## **Leptospirosis**

This is a contagious bacterial disease of animals and humans due to infection with *Leptospira interrogans* species. Domestic livestock are among the animals that are considered reservoir hosts. Leptospire are shed in the urine of reservoir animals, which often remain asymptomatic and carry the organism in their renal tubules for years.

The usual mode of transmission occurs through abraded skin or mucous membranes, and is often related to direct contact with urine or tissues of infected animals.

Clinical symptoms may be severe, mild or absent, and may cause a wide variety of symptoms including fever, myalgia, headache, chills, icterus and conjunctival suffusion.

## **Salmonellosis**

Enteric infection with *Salmonella spp.* has a worldwide distribution among humans and animals.

The organism is transmitted by the fecal-oral route, via direct contact with infected animals.

Salmonella infection of animal origin produces a sudden onset of fever, myalgias, cephalalgia, and malaise. The main symptoms consist of abdominal pain, nausea, vomiting, and diarrhea. Dehydration may be serious. The presence and severity of symptoms depends on the infecting dose. Typically there is watery diarrhea for about ten days, possibly leading to dehydration, with abdominal pain and low-grade fever. Septicemia and focal infections occur as secondary complications. Focal infections can be localized in any tissue of the body, so the disease has diverse manifestations.