

Zoonoses

Zoonoses are diseases transmitted from animals to man. The Zoonosis Control Division of the Texas Department of Health promotes public health through the prevention and control of these diseases. Although there are over 150 recognized zoonoses, those of significance in Texas include:

- Rabies
- Animal bites
- Lyme borreliosis
- Rocky Mountain Spotted Fever
- Ehrlichiosis
- Murine Typhus
- Plague
- Mosquito-borne Encephalitis
- Brucellosis
- Toxocariasis
- Salmonellosis

Rabies

Rabies is a viral infection of the nervous system that may affect almost any warm-blooded animal. This disease is present in many wild animal populations in Texas, especially skunks, bats, coyotes, and foxes. Man is usually exposed to rabies by direct contact (bites) with rabid wildlife or, more commonly, by contact with dogs or cats which have acquired the infection from rabid wildlife.

Although rabies is almost always fatal, vaccination is highly effective in preventing it. Control of rabies depends on public awareness of the signs and hazards of the disease, stringent enforcement of animal control regulations, and upon immunization of dogs and cats.

Animal Bites

Injuries to humans by biting animals are a significant public health problem in Texas; more people are affected by animal bites, especially dog bites, than by any other zoonotic disease. Serious injury, viral and bacterial infections, psychological trauma, and even death can be complications of animal bites.

The number of animal bites can be reduced if the public practices responsible pet ownership, by controlling stray animals, and by enforcement of animal control laws and ordinances. Young children are especially vulnerable to animal bites and should be properly protected.

Lyme Borreliosis

Lyme borreliosis or Lyme disease is the most frequently diagnosed tick/insect-borne disease in the United States and in Texas. In humans, infection is initially characterized by flu-like symptoms and a circular rash but can ultimately result in chronic joint and nervous system problems.

Control of Lyme disease consists of avoiding tick and flea bites, thorough self examinations followed by prompt removal of attached ticks when engaging in outdoor activities, and keeping pets free of fleas and ticks since domestic animals can be responsible for bringing arthropods into the home environment.

Rocky Mountain Spotted Fever

Rocky Mountain spotted fever is a serious rickettsial disease that is transmitted by several different species of ticks. Man usually contracts the illness either from the bite of an infective tick or by crushing infected ticks between his fingers. The initial symptoms of Rocky Mountain spotted fever are flu-like headaches, fever, chills, and muscle aches. A rash often appears a few days later. This disease can be fatal, so prompt medical care is important.

People can protect themselves by avoiding tick bites and by keeping pets tick-free. Prompt removal of attached ticks, using tweezers, may prevent disease transmission.

Ehrlichiosis

Human ehrlichiosis, caused by the recently discovered rickettsia, *Ehrlichia chaffeensis*, has been described as A Rocky Mountain spotted fever without the spots@. This tick-borne disease is usually relatively mild; symptoms may include fever, headache, joint pain, muscle aches, nausea and vomiting.

Prevention of human ehrlichiosis is the same as the prevention of the other tick-borne diseases.

Murine Typhus

Murine or flea-borne typhus is also a rickettsial disease. Human disease occurs when a flea bite wound is contaminated with infected fecal material shed while a flea feeds. Symptoms include severe headache, fever, fatigue, muscle aches and in about half of the cases, a rash. This disease is endemic in South Texas.

Prevention of murine typhus is maintained through an effective flea control program, followed by the elimination of rodents. Pets should be regularly and routinely treated for fleas.

Plague

Plague, which is endemic in rodent populations of West Texas, is a bacterial disease

that is transmitted to man by fleas or by direct contact with infected animals. This dreaded disease is characterized by the sudden onset of fever and other flu-like symptoms and painful, swollen lymph nodes. If adequate treatment is not received, infection results in death.

Public awareness and avoidance of potential hazards in endemic areas are effective preventive measures.

Encephalitis

Encephalitis is an infection of the central nervous system that may be caused by one of several mosquito-borne viruses (Eastern equine, Western equine, Venezuelan equine, St. Louis, and California group). In Texas, cases in horses often precede reports of human cases. Signs in horses include fever, incoordination, restlessness, walking in circles, leaning on objects (head pressing), standing with legs spread wide or front legs crossed, facial paralysis (dropping lower lip), and the inability to swallow. The frequency of fatalities for the various viruses range from 25 % to 90%; the Eastern equine encephalitis virus produces the highest mortality rate.

The control of mosquito-borne encephalitis can be achieved through effective mosquito control and personal protection against mosquito bites. Vaccines are available for prevention of the disease in horses.

Brucellosis

Brucellosis is primarily a bacterial illness of livestock but can be spread to people who work with animals or those who eat unpasteurized dairy products, especially cheese. In humans, the disease is characterized by malaise and recurring fevers.

Human illness can be prevented by pasteurization of all dairy products but ultimate control is dependent on the eradication of the disease in animals.

Toxocariasis

Human infection with the larvae of canine or feline roundworms is known as visceral larva migrans (VLM), ocular larva migrans (OLM), or collectively as toxocariasis. An estimated 10,000 new cases of roundworm infections occur in children every year, most often as a result of eating dirt contaminated with animal feces. Most human infections are mild enough to go unnoticed and apparently produce no permanent damage. However, sometimes infection results in severe and even fatal disease. Common symptoms include abdominal pain, headache, weakness, lethargy and wheezing.

All cases of toxocariasis come from pets. In the United States, the majority are associated with dogs, particularly puppies. Proper prevention includes public education and an intense schedule of therapy to ensure that deworming puppies is accomplished before the shedding of roundworms begins.

The common roundworm of raccoons can also infect man and other animals, although it is harmless to raccoons. This parasite, called *Baylisascaria procyonis*, has been implicated in cases of serious eye disease or central nervous system disorders and can cause death. Thus, contact with raccoons or exposure to their feces should be avoided. Hunters, trappers, and wildlife rehabilitators should wash their hands after handling raccoons. Wild raccoons should be discouraged from inhabiting buildings or other areas used by humans.

Salmonellosis

Salmonellosis is a bacterial infection of the intestines characterized by sudden onset of fever, headache, abdominal pain, diarrhea, and nausea. Human infection results from eating foods that are contaminated with *Salmonella* bacteria.

The public can help prevent Salmonellosis by purchasing only inspected food animal products and pasteurized milk and egg products. Thoroughly a cook all food, especially poultry, egg and meat dishes. Food handlers should practice good personal hygiene and store food properly.