

# Zoonotic Diseases

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Most organisms and viruses that cause diseases are very specialized to the species that they infect. Diseases that can affect multiple species are overall fairly rare. The ones that can be passed from animal to man are called zoonoses (\zoe-uh-noe-sees\). Rabies is the most well known of the zoonotic diseases; and for good reason – there is no cure for rabies. Thanks to mandated vaccination strategies, rabies cases in domestic dogs and cats have been all but eliminated. Un-vaccinated strays are still at risk from the feral canine and feline populations that act as a reservoir for the virus. Other zoonotic diseases are less well known, but can be equally dangerous to infected people. Appropriate vaccination protocols, parasite screening, and preventive medicine are key to reducing exposures to these preventable diseases.

There are a few canine intestinal parasites that can infect humans. People can become infected by roundworms by accidental ingestion of contaminated soil. Children are especially at risk. Infection of people by roundworms is usually mild or undetected, but can cause permanent damage if it leads to ocular or visceral larval migrans. These conditions are caused by the larvae migrating through the eyes and organs. While rare, ocular larval migrans can lead to blindness. Hookworms can cause abdominal pain and bloody diarrhea. They also migrate through tissue and cause rashes at the sight of infection. Good hygiene practices and routine parasite screening of pets can reduce the risk of human parasitism.

Ticks are common parasites that carry rickettsial organisms that can cause debilitating illness in people and dogs. Lyme disease, Rocky Mountain Spotted Fever (RMSF), and Ehrlichia are among these types of infections. They can cause acute and chronic disease including fever, joint pain, bleeding, and anemia. It is possible to become infected by handling a tick that carries the organism even if it does not attach to the skin. There are safe monthly topical treatments that will

keep your pet free of ticks. Always check yourself and your children for ticks after camping, hunting, and hiking trips.

Leptosporosis is a bacterial infection that causes kidney and other organ damage. It is spread by contact with the urine of an infected animal. Raccoons are the most significant vector for dog leptosporosis cases. According to the Centers for Disease Control and Prevention, human leptosporosis cases come from contact with infected dogs, swimming in contaminated waters, and rodents. The organism can live outside the host in soil and water for months in ideal conditions. There is an effective vaccine available for dogs in endemic areas.

Ringworm isn't a worm at all. It is a fungal infection of the skin. While the fungus that causes ringworm in dogs is somewhat species specific, it can cause rashes and itching on susceptible people. Another skin parasite that may infect people is called sarcoptic mange (scabies). Scabies is a microscopic mite that burrows into the skin causing itching, redness, and rashes.

Immuno-compromised people like those with HIV, cancer patients, and the elderly are especially at risk for canine zoonoses. Children who have not learned proper hygiene are also susceptible. Parasite prevention, vaccination strategies, and wellness examinations can reduce the chance that our dogs may become sources of human disease. Awareness and hygiene can reduce the risk of exposure from already infected pets.