

# Zoonotic Diseases in Cats and Dogs

By Virginia Clemans, DVM

Zoonotic diseases are diseases that can be transmitted to people by animals. These diseases can be caused by internal parasites, external parasites, fungal infections, and dog and cat bites. Let's look at some of these diseases and find out how they are transmitted to humans and how they can be prevented.



## Internal Parasites

**Giardia** is the most common intestinal parasitic disease in humans in the United States. It is caused by a one-celled organism that can live in the intestinal tract of many species of wild and domestic animals. Dogs, cats, or humans infected with giardia may have diarrhea and/or weight loss, or may have no symptoms at all. The signs, if present, may be intermittent.

Direct transmission from pets to humans is not considered to be a source of infection, but giardia can be transmitted indirectly via handling of contaminated feces or soil. Drinking contaminated water is usually the way giardia is transmitted, so drinking water from rivers or streams may be a problem for campers, hikers, and pets who use water for recreational purposes. Diagnosis is made by laboratory analysis of feces and an effective treatment is available. You can prevent giardia by not drinking water directly from lakes, ponds, and streams. Also, adults and children should wash their hands before eating and after handling dog or cat feces.

**Roundworms** and **hookworms** can also be a problem in humans, particularly children. Roundworms are spread when a person accidentally ingests an infective egg. If you touch the ground or soil that contains the eggs, and then touch your mouth and swallow the eggs, you can get the disease. Roundworm occurs primarily in children, who pick up and eat contaminated dirt. Most cases occur because of lack of personal hygiene. Hookworms are another intestinal parasite of dogs and cats that can cause disease in people. Transmission occurs when the larvae are accidentally ingested. The larvae can also penetrate the skin. Most cases of hookworm have been traced to the soft, wet sand at beaches or moist soil under buildings.

Roundworm and hookworm infection can be detected by examination of the feces. Prevention involves the control of parasitic infections in our pets with regular testing and the use of dewormers. You should remove dog and cat feces from the environment on a daily basis. The best way to prevent infection is to wash your hands after handling dog or cat feces, after gardening, or before eating, and always wear shoes in areas that you think may be contaminated.

**Toxoplasmosis** is another single-celled organism that lives in the intestinal tract of rodents, cats, other animals and, potentially, humans. People become infected most

commonly by eating undercooked meat. Infection can also occur by accidentally ingesting the organism after handling cat feces or while gardening. Women who are pregnant or considering becoming pregnant should see their physician regarding toxoplasmosis, particularly if they have cats as pets. In pregnant women, the disease can cause miscarriage, stillbirth, and serious birth defects. The best prevention is good personal hygiene. Cat litter boxes should be changed on a daily basis and pregnant women should avoid handling any cat feces or cat litter.

## External Parasites

**Fleas** are wingless insects that feed on the blood of animals, including dogs, cats and people. Biting fleas can cause a wide range of signs in dogs and cats, from mild to moderate itching to extreme itching, hair loss and skin sores. People who are bitten by fleas usually have red, irritating, itchy bumps on their ankles and lower legs. If you're allergic to flea saliva, you may have intense itchy reactions that can last for days. The fleas that bite dogs and cats prefer dogs and cats to people. Humans are usually bitten only when the flea burden on the pet becomes overwhelming or when the pet is absent.

There are many effective flea-control medications available that are designed to rid pets and the environment of biting fleas, eggs, and larvae. Your veterinarian can help you choose products that are safe for both your pet and your family. When treating your pet for fleas, be sure to follow package directions carefully for the best and safest results.

**Ticks**, besides being annoying to dogs and cats, can transmit diseases to people. These diseases include Lyme disease and Rocky Mountain spotted fever. There is no evidence of direct transmission of these diseases from pets to people. However, if ticks are found on your dog or cat, then there are ticks in the environment and you are at risk of tick bites and tick-borne disease. People can be bitten by ticks that fall off a pet and by sharing exposure to ticks in the environment. Tick bites and disease transmission increase in warm weather, when ticks are most active.

Treatment is available for tick-borne diseases in animals and humans. The best means of prevention is to avoid tick bites, so avoid tick-infested areas and wear long pants, long sleeves, socks, boots, and repellent when traveling in areas that are habitats for ticks. Pets can be protected by some of the same products used to prevent fleas. Transmission of disease by feeding ticks requires a minimum of 12 to 24 hours of attachment, so ticks should be removed daily from pets and humans.

## Fungal Infections

**Ringworm** is a fungal infection of the hair, nails and skin caused by a unique fungus that has adapted to living on animals. The infection is commonly known as ringworm because of the typical circular shape of the skin lesions seen on the skin of humans. There is no "worm" involved, however. Among animals, ringworm is most commonly seen on cats, but dogs and horses can be infected as well. Some animals show no disease signs, while others may have patches of hair loss, scaling, and itching. Few animals show the classic circular, red crusty patches seen in humans.

Cats, dogs and humans most commonly come into contact with the organism from the soil, from infected bedding or brushes, or from other animals. People can even spread

the infection to their pets. An exact diagnosis in animals and people is made by appearance of the skin lesions and fungal cultures.

There are a variety of anti-fungal creams, lotions, shampoos, and oral medications available for both pets and people. If ringworm is identified on your pet, all bedding, combs, and brushes must be thoroughly cleaned and disinfected. The fungal spores remain infective for up to 18 months, so remove as many as possible by vacuuming floors, surfaces, and vents. Steam-cleaning carpets is also necessary. Avoid contact with stray animals, particularly if they show signs of ringworm infection. The best way to prevent ringworm transmission is diagnosing your pet early and following your veterinarian's instructions completely when treating your pet.

## **Dog and Cat Bites**

Most dog and cat bites are not severe but, depending on the location of the bite and the severity of the wound, bites can result in infection and damage to bones and soft tissues. Aside from people who handle dogs routinely, such as veterinarians, most dog bites occur in children under the age of 12. The damage inflicted by dog and cat bites is a function of both the physical trauma associated with the wound and the bacteria that spread from the animal's mouth into the wound. Your pet's mouth contains many bacteria that can cause disease if it gets into a wound. The majority of bites result in small wounds, but even the smallest wound can become infected.

Signs of infection in people and animals include pain, swelling, redness, and/or drainage from the wound. All animal bites should be vigorously cleaned with soap and water. A physician should see all bite victims, and animals bitten by another animal should be seen by a veterinarian. Following a bite, many people and pets are treated with antibiotics to prevent infection.

Bites can be avoided by taking measures to prevent the interactions that lead to bites. People who have pets should learn proper methods of obedience training, and children should be taught to avoid loose or unfamiliar dogs or cats. Young children should always be supervised when playing with dogs or cats, and no child should be left alone with a dog or cat. Remember, most bites involve children, and bite victims can suffer from long-term negative physical and emotional effects.

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See also: [Preventing Dog Bites on Children](#)