



Common Parasites of Dogs

Dog Health is important. Flea control helps. Fleas bring parasites and disease to your dog. Roundworms, tapeworms, giardia, and coccidia are common intestinal parasites in dogs and puppies. Understanding the life cycles of these and other parasites of the digestive system will help in providing the correct treatment and prevention. The following information should help dog owners in the diagnoses, prevention and treatment of the common parasites of the digestive system.

1. Roundworms

Roundworms, often called "ascarids," are the most common parasite of the digestive tract in dogs and cats. Most puppies are infested with roundworms and when we look at the life cycle, we will understand why. There are 3 types of roundworms that affect dogs and cats and each has transport hosts. These transport hosts are small rodents, beetles & earthworms. All of these roundworms are widely distributed in North America. They are of considerable importance in young animals and in kennels. Because they can cause disease in humans, they are also very important to our health as well. The adult roundworms all live in the small intestine of the host, and their eggs look very similar. All the roundworms are prolific and an infested animal can pass millions of eggs in the feces each day. The roundworms differ, however, in their life cycles. These differences are very important when we look at how we can eliminate these parasites from our pets. They can come in the form of larvae. Animals become infected if they eat something contaminated with infected feces.

Most puppies are born infected with *T. canis* - one kind of roundworm. This is the reason all puppies must be wormed before or when you get one. An animal can acquire a *T. canis* infection several ways: ingestion of eggs, ingestion of a transport host, or by larvae through the uterus or milk. First let us follow the ingestion of infective eggs.

How are roundworm infestations in pets diagnosed?

Adult worms are usually 3-4 inches long, although some *T. canis* roundworms can be up to 7 inches. Adults may be seen in the feces or vomit. The worms are round on cross-section (hence the catchy name) and look a bit like spaghetti. The worms or the eggs can be in the dog's stool.

How are roundworm infestations in pets treated?

There are many wormers that kill roundworms. Most wormers, however, kill the adult worms but do not affect the migrating or encysted larvae. This is why most manufacturers of wormers advise repeating the worming 2-4 weeks after the first treatment. By that time, most larvae that were migrating during the first treatment have come back to the intestine where they can be killed by the second treatment.



***Puppies:** Initiate treatment at 2 weeks; repeat at 4, 6, and 8 weeks of age. For a puppy at increased risk, also treat at 10 and 12 weeks, and then monthly until the puppy is 6 months old. Thereafter, use a heartworm preventive medication that is also effective against hookworms and roundworms.

Nursing Dams: Treat concurrently with pups.

Adult Dogs: Treat regularly for prevention. Also monitor and eliminate parasites in pet's environment.

Newly Acquired Animals: Worm immediately, after 2 weeks, and then follow above recommendations.

* Drs. Foster and Smith suggest that owners of newly acquired puppies should obtain the deworming history of their new pet and contact their veterinarian to determine if additional deworming is needed.

How can I prevent my pet from becoming reinfected?

A fecal examination should be performed at the time the puppies are weaned, 4-8 weeks after the last treatment of an infestation, at the time of your pet's annual physical exam, and before females are bred. Some owners choose to worm their animals on a regular basis.

Many veterinarians suggest animals be wormed on at least an annual basis. Many heartworm preventives such as Heartgard Plus and Interceptor treat or control infections with roundworms and are an important addition to a roundworm prevention program. Look at your preventive package to check its efficacy against roundworms.

2. Tapeworms

Tapeworms are flat worms that are segmented. They consist of a head, neck, and then a number of segments. The head usually has suckers or muscular grooves that enable the tapeworm to attach itself to the animal's intestine.

Each tapeworm segment has its own reproductive organs. New segments are continually formed in the neck region of the worm while those at the end of the tapeworm are cast off as they mature. These mature segments contain large numbers of eggs which are often grouped into packets. The segments may often be seen near the anus of the dog or cat. These segments may move if recently passed or, if dried, they look like grains of uncooked rice or cucumber seeds. Tapeworm infections are usually diagnosed by finding these segments on the animal.

All of the adult forms of these tapeworms live in the cat's or dog's digestive system. It is interesting that tapeworms have no digestive systems themselves, but absorb nutrients through their skin. Dogs and cats may remain infected for a year or more, and the tapeworms can grow to be over 6 feet long.

Control of tapeworm is centered around preventing dogs and cats from eating parts or all of the intermediate hosts & keeping fleas off of them. Animals should not be fed offal or uncooked meat. Rodent populations should be controlled.

Diagnosis of an infection with tapeworm is generally made through finding the segments of the tapeworm or eggs in the feces.

What is the treatment for tapeworm infection and what prevention measures can be used?

You need to get the medication need from your Vet. Praziquantel is often the treatment of choice for broad fish tapeworm infections in dogs and cats. Although not FDA approved for this use in dogs and cats, it is a common and accepted practice to use the medication for this purpose. Recommended dosages vary. Humans are treated with praziquantel or niclosamide. Prevention of *D. latum* tapeworm infections can be accomplished by not allowing pets access to raw or undercooked fish.

3. Giardia

Giardia are protozoa (one-celled organisms) that live in the small intestine of dogs and cats. Giardia are found throughout the United States and in many other parts of the world. Infection with Giardia is called "giardiasis." There are many things we do not know about this parasite.

A dog becomes infected by eating the cyst form of the parasite. In the small intestine, the cyst opens and releases an active form called a trophozoite. These have flagella, hair-like structures that whip back and forth allowing them to move around. They attach to the intestinal wall and reproduce by dividing in two. After an unknown number of divisions, at some stage, in an unknown location, this form develops a wall around itself (encysts) and is passed in the feces. The Giardia in the feces can contaminate the environment and water and infect other animals and people.

What are the signs of a Giardia infection?

Most infections with Giardia are asymptomatic. In the rare cases in which disease occurs, younger animals are usually affected, and the usual sign is diarrhea. Usually the infected animals will not lose their appetite, but they may lose weight. The feces are often abnormal, being pale, having a bad odor, and appearing greasy. In the intestine, Giardia prevents proper absorption of nutrients, damages the delicate intestinal lining, and interferes with digestion.

Can Giardia of dogs infect people?

This is another unknown.

How do we diagnose giardiasis?

Giardiasis is very difficult to diagnose because the protozoa are so small and are not passed with every stool. If your dog has any symptoms see the Vet immediately. He can run stool sample tests where they run special diagnostic procedures.

If we find Giardia, how do we treat it?

Here we go again; treatment is controversial too. There is a question about when to treat.

If Giardia is found in a dog without symptoms should we treat the animal?

Since we should not know if *G. canis* can infect man, vets often err on the side of caution and treat an asymptomatic infected animal to prevent possible transmission to people. There are several treatments for giardiasis; some of them have not been FDA approved to treat giardiasis in dogs.

4. Coccidia

Coccidia are small protozoans (one-celled organisms) that multiply in the intestinal tracts of dogs and cats, most commonly in puppies and kittens less than six months of age, in adult animals whose immune system is suppressed, or in animals who are stressed in other ways (e.g.; change in ownership, other disease present). Regardless of which species is present, we generally refer to the disease as coccidiosis. As a puppy ages, he tends to develop a natural immunity to the effects of coccidia. As an adult, he may carry coccidia in his intestines, and shed the cyst in the feces, but experience no ill effects. Puppies usually get coccidia from being near their mother's feces which is infected with the organism. Most puppies who are ill from coccidia are, therefore, two weeks of age and older.

What are the symptoms of coccidiosis?

The primary sign of an animal suffering with coccidiosis is diarrhea. The diarrhea may be mild to severe depending on the level of infection. Blood and mucous may be present, especially in advanced cases. Severely affected animals may also vomit, lose their appetite, become dehydrated, and in some instances, die from the disease.

What is the treatment of coccidiosis?

It should be mentioned that stress plays a role in the development of coccidiosis. It is not uncommon for a seemingly healthy puppy to arrive at his new home and develop diarrhea several days later leading to diagnosis of coccidia. If the puppy has been at the new home for less than thirteen days, then he had coccidia before he arrived. Remember, the incubation period (from exposure to illness) is about thirteen days. If the puppy has been with his new owner several weeks, then the exposure to coccidia most likely occurred after the animal arrived at the new home. Fortunately, coccidiosis is treatable. See your Vet! Drugs such as sulfadimethoxine (Albon®) and trimethoprim-sulfadiazine (Tribrissen®) have been effective in the treatment and prevention of coccidia.

How is coccidiosis prevented or controlled?

Because coccidia is spread by the feces of carrier animals, it is very important to practice strict sanitation. All fecal material should be removed. Housing needs to be such that food and water cannot become contaminated with feces. Clean water should be provided at all times. Most disinfectants do not work well against coccidia; incineration of the feces, and steam cleaning, immersion in boiling water, or a 10% ammonia solution are the best methods to kill coccidia. Coccidia can withstand freezing. Cockroaches and flies can mechanically carry coccidia from one place to another. Mice and other animals can ingest the coccidia and when killed and eaten by a dog, for instance, can infect the dog. Therefore, insect and rodent control is very important in preventing coccidiosis.

**The coccidia species of dogs and cats do not infect humans.