

Internal Parasites

This handout gives an overview of some of the internal parasites that can infect your dog and cat. For more detailed information; please don't hesitate to reach out to the clinic.

Are there different types of internal parasites or worms?

There are several types of internal parasites that cause problems in dogs and cats. These include roundworms (*Toxocara cati*, *Toxascaris leonina*), heartworms (*Dirofilaria immitis*), tapeworms (*Dipylidium caninum*, *Taenia* species, and *Echinococcus* species), hookworms (*Ancylostoma*), and whipworms (*Trichuris vulpis*).



Are these infections serious for my pet?

Intestinal worms can be a serious problem in young puppies and kittens. Hookworms can cause anemia and roundworms can lead to poor growth and development. In adults, however, intestinal parasites are only occasionally life-threatening. Debilitated animals or those with a weakened immune system are more likely to experience severe intestinal parasitism and show clinical signs. Heartworm is a life-threatening parasite spread by mosquitoes and causes significant damage to the heart and lungs. Heartworm disease is one of the most serious conditions seen in small animal practice.

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What will happen if my pet is infected by internal parasites?

Roundworms

If a growing kitten/puppy is infected with a large number of roundworms, the worms can stunt growth, cause serious digestive upset, and result in excessive gas formation. These cases often have a characteristic 'pot-bellied' appearance. Roundworms are free-living in the intestines. They do not require an intermediate host to spread from animal to animal but can be transmitted by ingestion of eggs that are shed in the feces of other infected animals.

Hookworms

Hookworms are one of the most significant intestinal parasites of dogs and cats. The hookworm is approximately ½" to 1" (1-2 cm) long and attaches to the lining of the small intestines, where it feeds on blood. As a result of this bloodsucking, hookworms can cause severe anemia. The infective larvae enter the host either by mouth or through the skin, particularly the feet. Eczema and secondary bacterial



infection can result due to irritation as they burrow through the skin.

Whipworms

Whipworms are small, usually only 1" to 2" (25-50 mm) long. They live in the large intestine where they cause irritation and inflammation. Symptoms of whipworm infection include chronic watery diarrhea, bloody diarrhea, and weight loss.

Tapeworms

Tapeworms require an intermediate host, such as a flea, a bird, or certain species of rodents to complete their life cycle. In other words, your pet cannot get tapeworms directly from another dog or cat.

Dipylidium caninum is the most common tapeworm of the dog or cat. It causes few problems in adults but can result in digestive upset and stunting of growth in puppies/kittens. The intermediate host of *Dipylidium* is the flea. Dogs get this type of tapeworm from eating an infected flea.

Taenia species of tapeworms usually infect adult dogs/cats and cause few problems. Puppies are occasionally infected and, depending on the type of worm involved, the large number of worms can cause intestinal blockage. The intermediate hosts for *Taenia* species are small mammals such as rodents and rabbits. Therefore, this parasite is most common in outdoor cats who hunt. Kittens are occasionally infected (mostly when they eat raw prey) and, in heavy infections, large numbers of tapeworms can cause intestinal blockage.

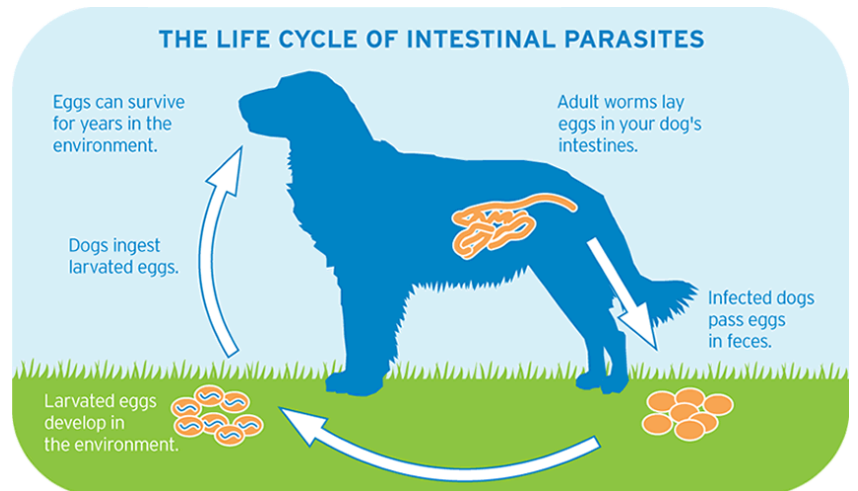
"Echinococcus, another type of tapeworm, is important because it is zoonotic..."

Echinococcus, another type of tapeworm, is important because it is zoonotic, meaning humans can be infected. The adult tapeworm is tiny, only about ¼" (5-6 mm) long. Echinococcus develops inside cysts in various organs in its intermediate hosts: sheep and humans. In humans, these cysts can involve the lungs or brain. Due to its association with sheep, Echinococcus is more common in dogs and cats living close to sheep.



Heartworms

Heartworms are spread by mosquitoes. A mosquito, when feeding on a dog, may inject heartworm larvae into the bloodstream. These larvae mature and ultimately travel to the heart, residing in the major vessels of the heart and lungs. Typical clinical signs of heartworm infection are fatigue, coughing, and poor physical condition. Adult heartworms are large, reaching 6" to 14" (15-36 cm) long.



How are internal parasite infections diagnosed?

Hookworm, roundworm, and whipworm infections are generally diagnosed using a process called fecal flotation, where a small stool sample is mixed with a special solution that causes the eggs to float to the top of the solution. Tapeworm cannot always be detected by fecal flotation and diagnosis is typically made when segments (proglottids) are observed on the feces or around the dog's anus. Heartworm is diagnosed using specific blood tests.

"...a fecal examination/antigen panel and heartworm test should be part of your dog's routine annual health care program."

Sometimes, these internal parasites are not discovered until clinical signs become present. For this reason, a fecal examination and heartworm test should be part of your pet's routine annual health care program.



How can I prevent or treat these parasites?

Prompt treatment for worms should be started when any intestinal parasites are detected. Periodic routine deworming may be appropriate for cats and dogs that are at risk for reinfection and year round deworming may be appropriate in some cases. We recommend deworming every 2 weeks throughout the vaccination process until they reach 16 weeks of age. Controlling fleas will prevent infection of certain types of tapeworm. You can prevent your dog or cat from getting heartworm by using a heartworm preventive. Many heartworm preventives also

protect against certain intestinal worms. We recommend doing a heartworm/lyme blood test (called a 4Dx) before starting any form of prevention. If a dog is started on prevention when they are positive for heartworm, the prevention can cause some serious side effects. Speak with your veterinarian about the most appropriate parasite control program for your pet.

Are there other internal parasites that can affect my dog?

There are several other internal parasites that can affect dogs and cats. Some of these include coccidia, giardia, and lungworm. If you would like more information please let us know.

