

## Internal Parasites in Dogs

This handout is designed to give you an overview of some of the internal parasites that can infect your dog. For more detailed information, refer to the separate handouts “Roundworm Infection in Dogs”, “Hookworm Infections in Dogs”, “Whipworm Infections in Dogs”, “Tapeworm Infections in Dogs”, and “Heartworm Infection in Dogs”.



### Are there different types of internal parasites or worms?

There are several types of internal parasites that cause problems in dogs.

These include roundworms, such as *Toxocara cati*, *Toxascaris leonina*; heartworm (*Dirofilaria immitis*); tapeworms, such as *Dipylidium caninum*, *Taenia* species, and *Echinococcus* species; hookworms, such as *Ancylostoma* species, and whipworms (*Trichuris vulpis*).

### Are these infections serious in the dog?

Intestinal worms can be a serious problem in young puppies. Hookworms can cause anemia and roundworms can lead to poor growth and development.

In adult dogs, however, intestinal parasites are only occasionally life-threatening. Debilitated animals or those that have a weakened immune system are more likely to experience severe intestinal parasitism and show clinical signs due to their worms.

**"Intestinal worms can be a serious problem in young puppies."**

Heartworm disease is a life-threatening parasite, spread by mosquitoes and causing significant damage within the heart and lungs. Heartworm disease is considered to be one of the most serious conditions seen in small animal practice.

### What will happen if my dog gets worms?

#### Roundworms

If a growing puppy is infected with a large number of roundworms, the worms can stunt the puppy's growth, cause serious digestive upset, and result in excessive gas formation. These puppies often have a characteristic 'pot-bellied' appearance.

Roundworms are free-living in the intestines. Roundworms do not require an intermediate host to spread from dog to dog, but can be transmitted by ingestion of eggs that are shed in the feces of infected dogs.

### Hookworms

Hookworms are one of the most significant intestinal parasites of the dog. 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 blood-sucking, 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 worms, usually only ¼" (6 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 in order to complete their lifecycle. In other words, your dog cannot get tapeworms directly from another dog or a cat.

*Dipylidium caninum*, the most common tapeworm of the dog, causes few problems in the adult dog but can result in digestive upsets and stunting of growth in puppies. 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 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 host for *Taenia* species is small mammals such as rodents or rabbits.

**"Your dog cannot get tapeworms directly from another dog or a cat."**

*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 of 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 living in close proximity 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.

**"Heartworms are spread by mosquitoes."**

The typical clinical signs of heartworm infection are fatigue, coughing, and poor physical condition. Heartworms are large worms reaching 6–14 inches (15–36 cm) long. They are primarily located in the right ventricle of the heart and adjacent blood vessels.

## How can I prevent or treat these parasites?

Speak to your veterinarian about the most appropriate parasite control program for your dog. Prompt treatment for worms should be given when any intestinal parasites are detected; periodic routine deworming may be appropriate for dogs at risk for re-infection. Controlling fleas will prevent infection of certain types of tapeworm. You can prevent your dog from getting heartworms by using a heartworm preventive.

*Contributors: Ernest Ward, DVM; Catherine Barnette, DVM*

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