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CANINE ROUNDWORM INFECTION

Roundworms (nematodes or Ascarids) are intestinal parasites that live freely in the intestine, feeding off of partially digested intestinal contents. Their name is derived from their tubular or “round” shape.

Toxocara canis and *Toxascaris leonina* are two important species of roundworms in dogs. *Toxocara canis* causes more significant disease and also may be transmitted to humans.

How did my dog get roundworms?

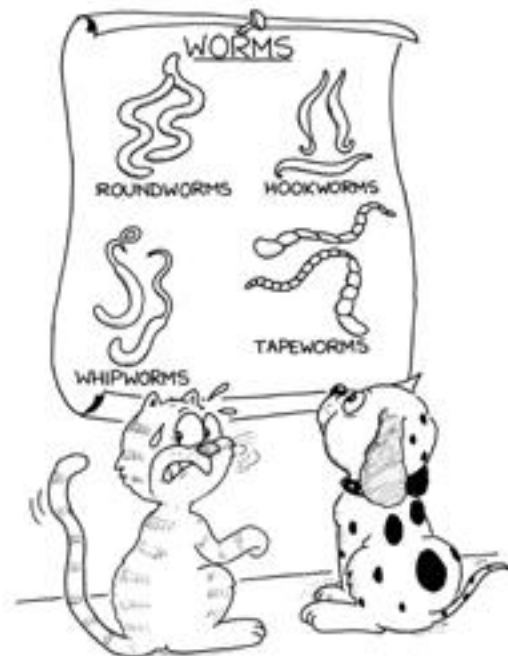
Microscopic eggs are passed from infected dogs in the feces. These are ingested by sniffing or licking infected feces. They are also spread by other animals such as rodents and birds. In these animals, the roundworms are merely transported. They do not mature into adults but if this paratenic host is eaten by a dog, completion of the life cycle will occur and the dog can become infected.

In the dog, the roundworm undergoes a complicated life cycle before mature roundworms are found in the bowel. This involves several stages and also migration through various tissues. Roundworm larvae (immature worms) can encyst in the host's tissues. This is important in the female dog because these encysted larvae will start to develop during pregnancy and ultimately cross the placenta into an unborn puppy. Thus puppies can be born with roundworms and can pass fertile eggs from adult worms in their stools by the time they are approximately eleven days old. Roundworm larvae may also enter the mother's mammary glands and be transmitted through the milk.

Are roundworms a threat to my dog?

Roundworms are most threatening to puppies. The most common consequence of roundworms is growth reduction. Since roundworms feed off of partially digested food, they rob the growing puppy of vital nutrients. These puppies often have a characteristic “pot-belly” that is due to the growing roundworms inside the puppy's abdomen.

The life cycle of *Toxocara canis* is more complicated than that of other nematode worms found in dogs. Roundworm larvae swallowed by adult dogs usually encyst in the dog's tissues. Few



roundworms will mature in the bowel. Consequently few eggs are passed in the stool leading to difficulty in definitive diagnosis and treatment.

How are roundworms diagnosed?

In puppies we consider clinical signs such as stunted growth, potbelly, and recurrent diarrhea as a good indication of roundworm infection. Definitive diagnosis is made by microscopic examination of the dog's feces.

Is it true that children can get roundworm infections?

If the infected eggs of *Toxocara canis* are swallowed by people, the larvae can invade the tissues and become encysted in various organs. Humans act like any other paratenic host. If a large number of infected eggs are ingested, clinical disease may become apparent. This is particularly important if children are infected with roundworms.

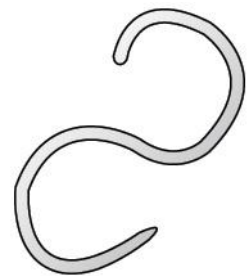
Very rarely, liver problems may result from roundworm larval migration (visceral larval migrans). Even less commonly, the larvae can migrate into the eye and cause blindness (ocular larval migrans).

How are roundworms treated?

Treatment is simple and effective. There are many safe and effective preparations available to kill roundworms in the intestine.

In addition, many heartworm preventives are also effective against intestinal roundworms and help prevent future infections.

Unfortunately, the majority of preparations available today kill only the adult worms and do not affect migrating or encysting larvae. It is therefore important that repeated treatments are administered. Your veterinarian will advise you on the best treatment and prevention plan for your pet.



**Roundworm
(2x actual size)**

What about roundworm eggs shed in the environment?

Initially the eggs are not infective. After a period, which may vary from weeks to months, the eggs develop into infective larvae. Under ideal conditions, this takes approximately four weeks. These infective larvae can remain viable in the environment for a considerable time and are particularly resistant to changes in temperature and humidity.

The best environmental treatment is prevention. Remove your dog's feces as soon as possible to prevent the spread and transmission of roundworms.

What is the most effective strategy I can use to control infection in my dogs, protect my family and reduce contamination of the environment?

1. Deworm pregnant dogs in late pregnancy, after the 42nd day or after six weeks of pregnancy. This will help reduce potential contamination of the environment for newborn puppies.

2. Puppies should be dewormed, starting at about two weeks of age and repeated regularly. Your veterinarian will design the most appropriate deworming schedule for your pets.
3. Adult dogs are susceptible to re-infection with roundworms throughout their lives. Routine deworming and prevention is important.
4. Rodent control is important since rodents can serve as a source of infection.
5. Dogs should be restrained from defecating in children's play areas and there should be prompt disposal of all dog feces, especially in gardens, playgrounds and public parks.
6. Practice strict hygiene particularly with children. Do not allow them to play in potentially contaminated environments.

*This client information sheet is based on material written by Ernest Ward, DVM.
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