



## Memorial-610 Hospital for Animals

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### Hookworm Infection in Dogs and Cats

Prepared for Your Pet Animal

Hookworms are intestinal helminths (worms) of the cat and dog. Their name is derived from the hook-like mouthparts they use to anchor to the lining of the intestinal wall. They are only about 1/8" (1-2 mm) long and so small in diameter that they are barely visible to the naked eye.

The scientific names for the most common feline hookworms are *Ancylostoma tubaeforme* and *Ancylostoma braziliense*. The dog hookworm is known as *Ancylostoma caninum*.

In general, cats tend to harbor relatively few hookworms when compared to the large numbers found in dogs. Also, feline hookworms tend to be less aggressive bloodsuckers than the canine species.

#### Contributing Factors

Hookworms are more common in warm, moist environments. Conditions of overcrowding and poor sanitation contribute to re-infection.

#### Clinical Signs

Hookworms tend to “graze” along the lining of the small intestine and are considered “tissue feeders.” When they do suck blood, an anti-coagulant substance is injected at the feeding site. Therefore, the animal can suffer blood loss from ingestion by the hookworm, as well as continued bleeding into the bowel. The blood-loss anemia attributed to hookworms is a more significant problem in kittens and puppies than in adults.

Evidence of hookworm infection includes anemia, the presence of digested blood in the stool, a poor haircoat, and weight loss.

#### Causes

Adult hookworms pass hundreds of microscopic eggs in the animal’s stool that are invisible to the naked eye. Larvae (immature worms) will hatch from the eggs and persist in the soil for weeks or months. When larvae are swallowed by the animal, hookworm infection is established. The larvae may also burrow through the animal’s skin and migrate to the intestine, where they may mature and complete their life cycle.

In dogs, prenatal infection (infection prior to birth) may be a significant problem. Puppies may become infected by the placental blood flow and then later through the mother’s milk. Prenatal infection has not been demonstrated to occur in kittens.

#### Diagnosis

To diagnose hookworm infection, a small amount of feces is mixed with a special solution, causing the eggs to float to the top. With a microscope, the eggs are easily identified because of their unique appearance. Since the eggs are produced on a daily basis, hookworm infection is usually fairly easy to diagnose. The number of eggs does not necessarily correlate with the number of worms present. In fact, the number of eggs passed can be greater with light infections (smaller numbers of worms).

#### Treatment

Fortunately, treatment is safe, simple, and relatively inexpensive. After administration of the deworming medication (called an *anthelmintic*), the adult worms are killed. Two treatments are needed; they are typically performed at a 2-3 week interval. Ideally, kittens and puppies are dewormed during their vaccination series.

In rare cases, very young or debilitated animals might require a blood transfusion because of severe anemia.

Environmental treatment of hookworm infested areas mainly entails practicing good hygiene: removing feces daily. Boric acid is effective but will also kill grass and plants, as well as causing irritation of the animal's paws.

### **Prognosis**

With early diagnosis and treatment, the prognosis is good for full recovery from hookworm infection. However, if severe anemia is present, some animals will not survive.

### **Prevention**

Prevention of hookworm infection should include the following measures:

1. All new kittens and puppies should be treated by 2-3 weeks of age. To effectively break the life cycle of the most common intestinal parasites, they should be dewormed on the schedule recommended by the veterinarian.
2. Prompt deworming should be given when any parasites are detected; periodic deworming may be appropriate for animals at high risk for reinfection.
3. Appropriate disposal of cat and dog feces, especially from yards and playgrounds, is important.
4. Strict hygiene is especially important for children. Do not allow children to play in potentially contaminated environments. Be mindful of the risk posed by public parks and non-covered sandboxes. Sandboxes that have fitted covers are popular and are recommended to prevent infection of children with intestinal parasites.
5. Control of rodents is important since they may play a role in transmission of hookworms to cat.
6. Stool should be removed from litter boxes daily, if possible. Always wash hands after handling litter box material.
7. Contact your animal control officials when ownerless animals are found.

### **Transmission to Humans**

Hookworms do not infect humans internally. However, the tiny larvae can burrow into human skin, causing a disease called *cutaneous larval migrans*. Also known as "ground itch," this skin infection does not lead to maturation of the larvae. Because contact of human skin with moist, larvae-infected soil is required, infection rarely occurs when good hygiene is practice.