

## Dog & Cat Parasites

With good sanitation and proper veterinary care, you're very unlikely to see these conditions in laboratory workers.

Enteric bacteria, such as campylobacter, are common in dogs and cats, especially in puppies and kittens. These agents are discussed in a separate information sheet.

These guidelines address transmission of intestinal acarids and hookworms from dogs and cats to people and recommend counseling of dog and cat owners and well-timed preventive anthelmintic treatments for pets.

### Ascarids and Hookworms

Ascarids ( *Toxocara* spp.) and hookworms ( *Ancylostoma* spp. and *Uncinaria stenocephala* ), the common intestinal roundworms of dogs and cats, can cause larva migrans syndromes in persons who accidentally ingest eggs or larvae or have direct skin contact with hookworm larvae in soil contaminated with the feces of infected animals.

Pups and kittens are often infected by transfer of larvae from their dams in utero ( *T. canis* ) or via milk ( *A. caninum* , *T. cati*, and to a lesser extent, *T. canis* ), and the tissue-migrating and early intestinal stages of these worms may cause severe, sometimes life-threatening, disease in the first few weeks of the animal's life. Furthermore, pups and kittens may have patent intestinal infections as early as the first 2 (hookworms) to 3 (ascarids) weeks of life, and may contaminate their environment with huge numbers of infective eggs and larvae.

The prevalence of these infections varies with climatic conditions; however, they are present in all parts of the contiguous United States and must be viewed as a potential public health hazard.

### Zoonotic Transmission and Human Disease

When zoonotic ascarids and hookworms infect humans, the parasites rarely mature in the intestine; rather, the larval worms migrate in the host's tissues (larva migrans). The characteristics of the particular tissues and organs in which the larvae migrate determine the signs and symptoms humans have.

The common ascarid of dogs, *T. canis* , has long been recognized as a cause of larva migrans syndromes in children. The ascarid of cats, *T. cati* , can also cause disease in humans, although for reasons partly related to the "toilet behavior" of cats, it does so less frequently than *T. canis* . When the eggs are accidentally ingested, they hatch, and infective-stage larvae migrate through human liver, lungs, and other organs and tissues where they produce damage and induce allergic responses. Infection may leave children with permanent visual or neurologic damage.

Hookworms of dogs and cats, *A. caninum* , *A. braziliense*, *A. tubaeforme* , and *U. stenocephala* , can also infect people when larvae in soil are ingested or directly penetrate the skin on contact.[ Cutaneous larva migrans syndromes, characterized by progressive, intensely pruritic, linear eruptive lesions caused by prolonged migration of the larvae in the skin, are the most common manifestation of zoonotic hookworm infection. *A. caninum* larvae may penetrate into deeper tissues, however, and induce symptoms of visceral larva migrans or migrate to and partially mature in the intestine, inducing eosinophilic enteritis.

Table 1. Drugs\* for the treatment of ascarid and hookworm infections in dogs and cats  
 FDA Approved for use in:

<b>Name</b>	<b>Route of Administration</b>	<b>Range of Efficacy+</b>	<b>Species</b>	<b>Minimum Age/Weight</b>
dichlorophene/toulene	oral	A,H,T,D,	dogs, cats	> or = 2.5 lbs
dichlorvos	oral	A,H,W	dogs, cats	> or = 10 days or 1 lb
diethylcarbamazine citrate	oral	A	dogs,cats	none
febantel	oral	A,H,W	dogs, cats	> or = to 1.5 lbs
febantel/praziquantel	oral	A,H,W,T,D	dogs,cats	> or = to 2 lbs
febantel/praziquantel/pyrantel pamoate	oral	A,H,W,T,D,E,	dogs	> or = to 3 weeks or 2 lbs
fenbendazole	oral	A,H,W,T	dogs	none
ivermectin/pyrantel pamoate	oral	A,H	dogs	> or = 6 weeks
mebendazole	oral	A,H,W,T	dogs	none
milbemycin oxime	oral	A,H,W	dogs	> or = 8 weeks
n-butyl chloride	oral	A,H	dogs,cats	> or = 4 weeks
oxibendazole/diethylcarbamazine	oral	A,H,W	dogs	>8 weeks and >1 lb
piperazine salts	oral	A	dogs,cats	> or = 6 weeks

pyrantel pamoate	oral	A,H	dogs	> or = 2 weeks
pyrantel pamoate/praziquantel	oral	A,H,T,D	cats	> or = 4 weeks > or = 1.5 lbs.

\* Marketed in the United States

+Efficacy for intestinal helminths:A = ascarids ( *Toxocara* and *Toxascaris* spp.); H = hookworms( *Ancylostoma* and *Uncinaria* spp); W = whipworms ( *Trichuris vulpis* ); T = Taeniid tapeworms; D = Flea tapeworms ( *Dipylidium caninum* ); E = *Echinococcus granulosus*

Special considerations or contraindications:

1. Do not use in conjunction with other cholinesterase-inhibiting drugs.
2. Do not use in heartworm-infected animals.
3. Do not use in dogs with reduced renal function.
4. Do not use in pregnant animals.
5. Do not use in dogs with hepatic dysfunction.
6. Not effective against *Uncinaria*.
7. Some salts not for use in unweaned pups.