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## INTERNAL PARASITES

Dogs and cats can become hosts to many intestinal parasites and a few general statements apply to all parasitic infections:

- At this time there is no one dewormer that can eliminate all species of parasites. Consequently an accurate diagnosis is necessary to treat your pet properly.
- Diagnosis is usually made from a fresh stool sample (passed less than 12 hours) or, in the case of tapeworms, seeing the segments in the stool.
- Many puppies and kittens are infected before birth and, for this reason, will need deworming starting at 4 weeks of age. If hookworms are suspected, stools should be checked starting as early as 2-3 weeks.
- Occasionally, for a heavy parasitic infection, 3 or even 4 treatments may be necessary to eliminate the parasite.

The following is a brief description of the common intestinal parasites with their symptoms, diagnosis, treatment, prevention, and human transmission.

### **ROUNDWORMS:**

This is a common worm of puppies and kittens, but can be seen in any age dog or cat. Diagnosis is made from a microscopic examination of the feces or from a description of the worm if it is seen in the stool or vomitus. Treatment is an oral medication given at 2-3 week intervals. Symptoms will vary from none to marked vomiting and diarrhea, and abdominal swelling. Transmission to puppies can occur in utero. Transmission to puppies and adult dogs and cats occurs by infected feces contaminating the yard. As a result, prevention is accomplished by isolating your pet from infected feces of other animals. Transmission to humans is rare; young children can develop "visceral larval migrans" by eating dirt contaminated with feces. This is of special concern in outside sand boxes which cats may use as a litter box. Visceral larval migrans can cause blindness in children.

### **HOOKWORMS:**

This is also a common worm of puppies and kittens in some parts of the country, but it is not common in Orange County, California. It is seen with equal frequency in adults and puppies. This parasite sucks your pet's blood and can cause a severe anemia. Diagnosis is made from a microscopic examination of your pet's stool. Treatment is an oral medication that is repeated 2 weeks later. Symptoms will vary from none to blood in the stool (dark tar-colored stool) with diarrhea. Severe cases may need a transfusion and hospitalization. Transmission to adults occurs by infected feces contaminating the grass

or soil. Prevention, therefore, requires that the pet be kept away from contaminated areas. Transmission to humans is uncommon and usually shows up as skin lesions.

#### **WHIPWORMS:**

This worm affects dogs only. Diagnosis is also made from a microscopic exam of the feces. Eggs from this parasite pass intermittently, however, so it may be necessary to check multiple fecals before a diagnosis is made. Treatment is an oral medication given at 3 and 12 week intervals. Symptoms vary from none to severe watery diarrhea, vomiting, and marked weight loss. Some dogs require hospitalization for treatment of dehydration, malnutrition, and infection. There is no human transmission.

#### **TAPEWORMS:**

This common worm affects both dogs and cats. Transmission occurs when your dog or cat bites and “eats” a flea. The intermediate form of the tapeworm is inside the flea’s body and it then attaches to the intestine and begins to grow “segments”. In about 3 weeks, these segments begin to pass in the stool. They are approximately ¼ to ½ inch long, flat, and white. After a short time in the air, they dry up to resemble a small yellow flat seed. Diagnosis is made from seeing these segments on the stool or on the pet’s back end rather than a microscopic fecal exam. Treatment is either by oral tablets or by an injection. The tapeworm medication kills existing tapeworms but it does not prevent future infection. The only prevention is strict flea control. There is no direct transmission from dog or cat to a human.

#### **GIARDIA:**

This parasite is not a worm. It is a very tiny single-celled parasite that can live in the intestines of dogs, cats, and man. It is seen most commonly in dogs coming out of kennel-type situations (pet stores, shelters, dog pounds, etc.) but its incidence is increasing. Symptoms include intermittent or continuous diarrhea, weight loss, depression, and loss of appetite. Diagnosis is made from a very fresh fecal specimen that must be collected at the clinic for optimum results. A surprising number of affected animals are “occult”; that is, they are infected but are negative on these tests even with multiple examinations. There is a new test that will discover the antigen rather than the parasite, so we are now able to diagnose this disease more readily. This parasite is still often treated without a confirming diagnosis. Treatment is an oral medication administered at home. Prevention involves careful disposal of all fecal material and cleaning contaminated areas. Humans can become infected with Giardia so special care must be taken to wash hands and utensils.

#### **COCCIDIA:**

This is also a single-celled parasite. It is seen primarily in puppies and kittens, although debilitated adults can also be affected. Transmission occurs by eating the infective stage of the parasite. It then reproduces in the intestinal tract causing no symptoms in mild cases to bloody diarrhea in severely affected pets. Diagnosis is made from a fresh stool sample. Treatment varies greatly. Animals showing no signs of illness are often not treated because a mild case is often self-limiting. Pets with diarrhea are treated at home with an oral medication. Severely affected pets may need hospitalization. Prevention involves disposal of all stools and cleaning the pet’s living area. Coccidia are quite species specific so do not pose a problem for other species.