

What's New?

Winter is finally over and that means lots of outdoor activities for us and our four legged friends. Last month we addressed the parasites that mosquitoes can carry and the hazard that they pose to our animals. We also touched on the common internal parasites in the Fort Wayne area. This month I want to go deeper into discussion on the health problems that internal parasites, fleas and ticks pose to you and your pet as well as the preventative measures that can be taken to keep all of us safe.

Overview

Most living beings on Earth have at least one parasite that can cause harm to them. By definition a parasite is a small organism that lives on or in a larger organism called the host at the expense of its host. Most parasites will complete their entire life cycle in one host. However, some parasites, like heartworms and tapeworms, require a second host called an intermediate host to complete a portion of their life cycle before they can infect their primary host.

For most people, being exposed to a parasite from an animal does not cause health problems because their immune system kills the larva as it migrates through their host's tissues. However, this migration can cause an inflammatory response. This inflammatory response occurs in muscles, connective tissue and/or skin. An infected person may only suffer mild to moderate discomfort. If, however, the parasite migrates to the liver, lung and/or brain, the effects can be very severe and even life-threatening. For people that do not have a normally functioning immune system, the migrating larva can cause more severe damage to the body than those without pre-existing health conditions and possibly death. Human populations most at risk include children under the age of five, the elderly, pregnant women, cancer patients, transplant patients, HIV/AIDS patients and those who are taking drugs to suppress their immune system. Because humans are at risk of parasite infection, the Centers for Disease Control

(www.cdc.gov) and an organization of doctors, veterinarians and other health professionals called Companion Animal Parasite Counsel (www.petsandparasites.org) recommend having your pets stools checked for parasites twice a year and be on a broad spectrum parasite control program all year long.

Parasites of Concern

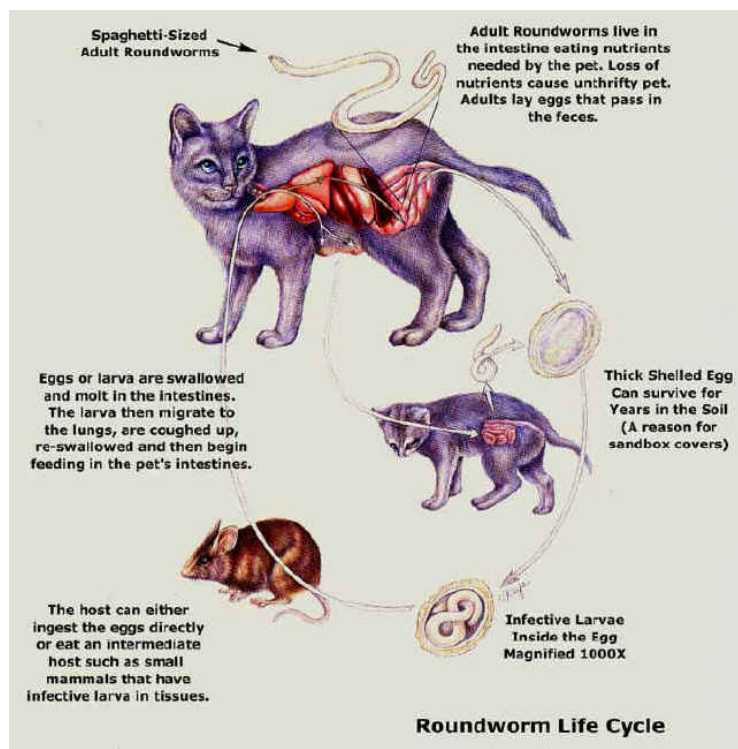
The three most common known internal parasites of the dog and cat are roundworms, hookworms and tapeworms. However, there are other parasites that pose a threat. These include coccidia and Giardia.

Roundworms

Roundworms are commonly seen in puppies and kittens. They are often found in stools and vomit. Our pets become infected with the parasite from their mother during the first few days that they nurse from her. Puppies and kittens with large worm burdens can look pot-bellied, thin and be very sluggish. Animals will start passing the worm eggs in their stool 4



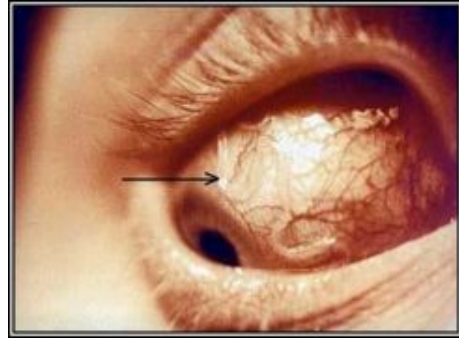
weeks after they consume the eggs or larva from their mother's milk or dirt from



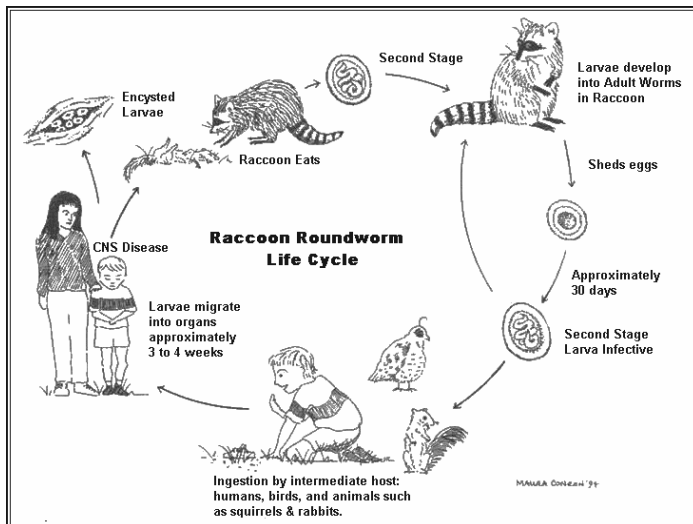
contaminated areas, such as a park or even your yard.

Unfortunately, children can be exposed to roundworms by playing in contaminated yards and sand boxes. Good hand washing and keeping sand boxes covered will reduce the risk of exposure. Since humans are not the normal

host for the animal roundworm, they tend to migrate to our tissues, rather than our digestive and respiratory tracts. Heavy larva infections can cause liver and lung damage in humans, but the larva can also migrate to the eye causing blindness, as shown in the picture, and to the brain resulting in brain damage, retardation and death.



Another animal in the Fort Wayne area that poses a roundworm threat to children is the raccoon. The raccoon roundworm behaves in a different manner than the roundworm of dogs and cats. Raccoons are very careful not to eat food items that are contaminated with feces, which explains why they wash their food before eating. So, for the raccoon

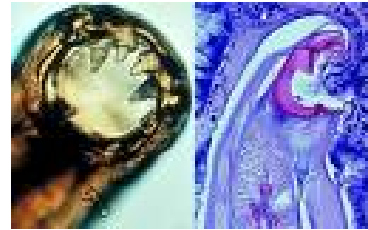


roundworm (*Balilisascris*) to infect its host, it has to cause the raccoon's prey to become easier to catch. It does this by migrating in the brain tissue causing fatal form of encephalitis. Raccoons prefer to defecate on vertical surfaces and at the bases of trees. Since they eat a varied diet, their feces

typically contain a large quantity of seeds. Therefore, to a very small child, the feces resemble granola bars and other familiar food items. Since small children do not have aversion to eating unfamiliar items, they may eat the raccoon feces and in turn consume the roundworm's eggs. If you discover raccoon feces in your yard, pick up the feces using a shovel or plastic bag and drench the contaminated area with boiling water. The heat of the water will kill the eggs. Dispose of the feces in the trash or down the toilet.

Hookworms

Hookworms, as the name implies, have one or several teeth-like plates in their mouth. They use these hooks to attach to or bite the host's intestine. Hookworms can be very deadly to dogs and cats if they become infected with enough of them. As mentioned before, the worm actually bites the intestinal wall and sucks blood. They can be dislodged by the activity of the host's gut, because of this they will bite repeatedly causing multiple bleeding ulcers in the intestinal tract.

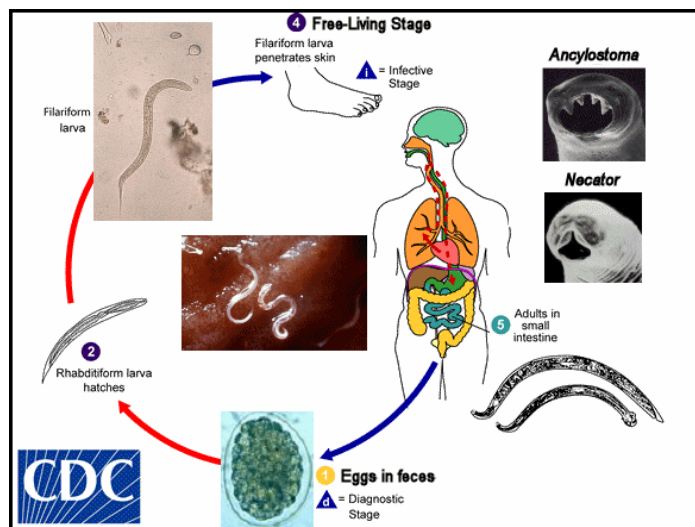


Dogs and cats with large hookworm infections will be thin, have poor hair coats and may have runny mucoid or bloody stools. I have seen dogs and cats die because their hookworm burden was not properly taken care of.



Like roundworms, the life cycle of this parasite poses a health threat to humans in the same environment. The eggs are also shed in the feces. Within 2-3 days, they hatch and the larvae migrate just under the surface of the soil. Once the larvae sense a warm body, they migrate into the skin. In the dog and cat, they continue to migrate through the body tissues until they reach the intestines.

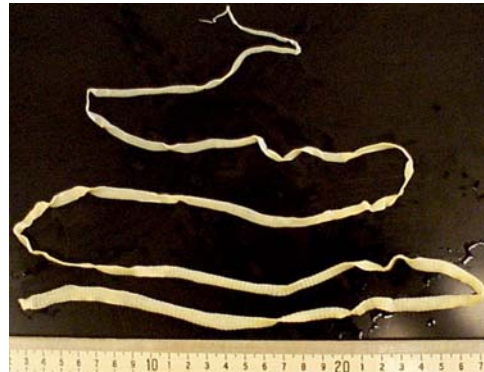
Here they form a cyst in the intestinal wall until they are mature. At that time they migrate into the intestine, where they lay eggs, and the life cycle starts over again. If the warm body is a human, the larvae migrate around in the skin causing a very red, blistered and itchy reaction. These



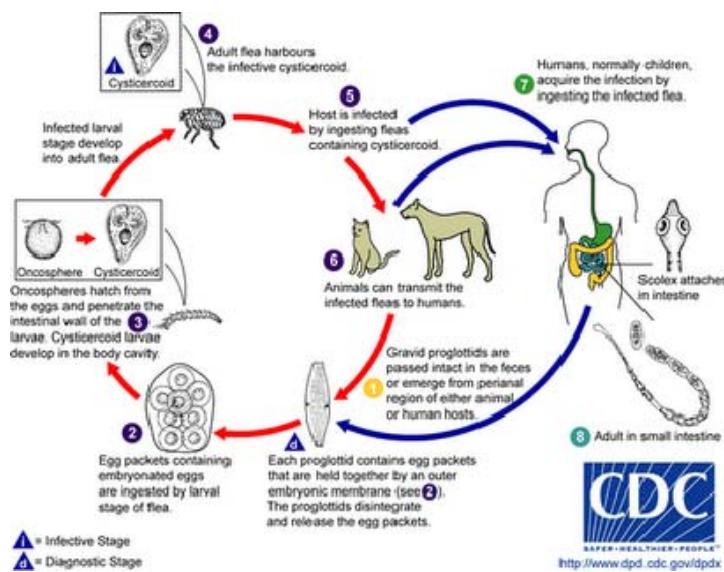
migration tracts are prone to secondary bacterial infections and can cause severe complications in people who do not have a well-functioning immune system.

Tapeworms

Tapeworms are a unique internal parasite in that they require an intermediate host to complete their lifecycle. The intermediate host (either fleas or rodents) eats dry “packets” containing the tapeworm eggs or objects contaminated with the eggs. Once inside the host, the eggs hatch and form structures call hydrated cysts. Then, when a dog or cat eats the intermediate host, the hydrated cysts rupture in the intestinal tract adult worms form. Usually there are only a few adults that form at one time.



The adults mature and form segments where the eggs develop and mature. Once the end of a worm reaches the colon, its segments break off with each bowel movement the host

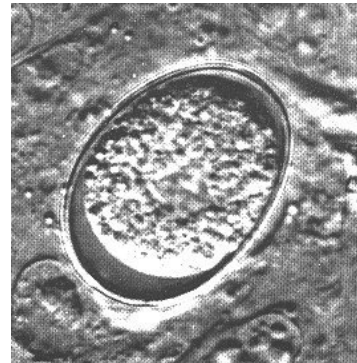


has and therefore the eggs are released into the environment. The tapeworm segments resemble small flat worms that “crawl” on the feces or the animal’s rear end. Once the segments are dried, they resemble dried rice.

Since small children tend to eat non-food items, they can easily consume the dried egg packets and, in turn, the hydrated cysts can form in them, like in the secondary hosts. Some species of tapeworms can form very large hydrated cysts resembling tumors in the abdominal and chest cavity as well as in the brain. Because of their large size, these cysts can cause organ failure and if they rupture instant death will occur.

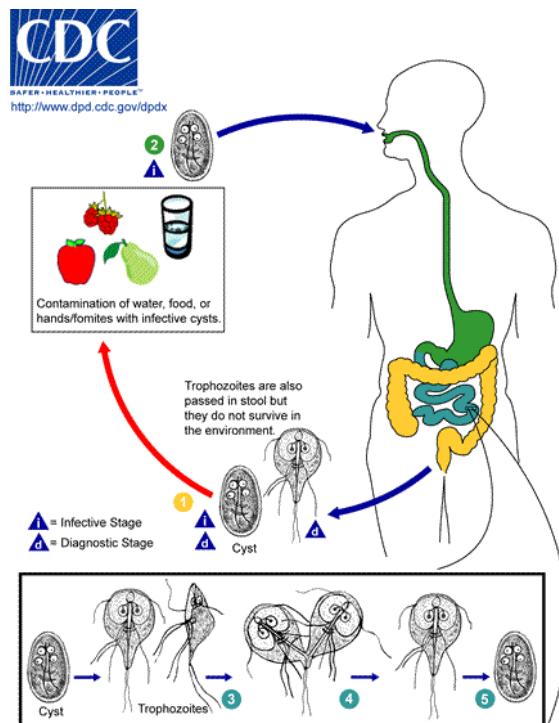
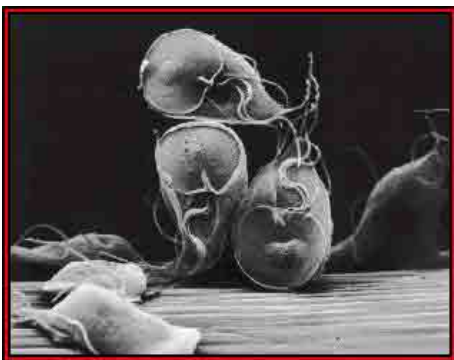
Coccidia

Coccidia is a protozoan (one celled organism) that is shed in the feces of rabbits. In infected young and elderly dogs and cats, mucoid feces are often seen. In adult dogs and cats there will be no physical evidence of this parasite in their stools. We, therefore, identify this parasite through routine fecal screens. This parasite is also not controlled by any routine monthly parasite control program. It poses a minimal threat to people with healthy immune systems. For those whose immune systems are not functioning well, they can cause diarrhea and vomiting.



Giardia

Giardia is another protozoan parasite that is found in standing water. This parasite also causes diarrhea, intestinal cramping and vomiting. The infected animal or person can get very ill from this parasite. Unlike coccidian, Giardia can cause illness even in healthy animals or humans. The parasite is easily identified with a test performed on the feces.



What Can I Do?

The best prevention is control. At Southtown Veterinary Clinic, we recommend year around monthly parasite control. All monthly “heartworm” control products also help prevent roundworms and hookworms. Some help control fleas as well, which will reduce the chance of your animal contracting tapeworms. To make sure that these parasites are adequately controlled, we also recommend a minimum of twice a year fecal exams. This will help us to monitor your pet’s monthly control program which helps ensure that the risk to the people in the environment is minimal. We can help you determine which product is best for you and your pet to reduce the risk of parasite exposure.



Dr. Carol Fretz, DVM

