

Internal Parasites: Coccidia

The Basics of Coccidia

Many people have heard of Coccidia. These parasites exist as single celled organisms and can only be seen with a microscope. They live in the intestines of both dogs and cats. The disease produced by these protzoa is referred to as "Coccidiosis."

Coccidia can occur in pets of any age, but most often they inhabit the lower gastrointestinal tract of puppies and kittens less than six months of age. Coccidia occurs most often in younger animals because their immune systems have not sufficiently developed to resist this parasite.

When Coccidia occur in older pets, these pets tend to have suppressed immune systems, either from a severe infection, certain types of diseases, metabolic disorders, or because they are stressed.

Coccidia Species

- *Isospora canis* affects dogs.
- *I. ohioensis*, *I. burrowsi*, and *I. neorivolta* in dogs.
- *I. felis* and *I. rivolta* in cats.

The Life Cycle of Coccidia

When first coming into the world, puppies and kittens do not have Coccidia. Instead, they become exposed to it from their mother's feces. It is normal for tiny remnants of feces to remain on an animal after elimination. With all the comotion, feeding, licking, and playing in a litter of puppies or kittens, it is impossible for one not to ingest some fecal remnants by accident.

The mother's feces contain infective cysts called oocysts. These oocysts have thick walls that resist drying and allow them to survive in an environment a long time.

When swallowed by a puppy or kitten, the oocysts open in the intestines and release eight sporozoites. Each sporozoite finds an intestinal cell and reproduces inside it to create a new form known as a merozoite. The cell ruptures and releases these merozoites which spread and infect new cells. This cycle continues throughout the intestines.

At a certain point, some merozoites transform into male and female forms. When these two forms combine, an oocyst soon forms. Then the puppy or kitten begins to release oocysts in its stool. The oocyst matures and sporulates in the outside environment. They are now infective to any animal swallowing them.

Transmission of Coccidia

New infections of Coccidia occur when an animal ingests infective oocysts. These oocysts can survive in the open environment for some time. They come from the stool of an infected animal. Most often, puppies and kittens become infected from accidentally ingesting small amounts of fecal material from their mothers. Animals can also become infected from contact with contaminated ground and then cleaning themselves and licking any infective oocysts sticking to their fur.

Symptoms of Coccidia Infection

Typically, the incubation time of Coccidia is around thirteen days (i.e. the time from exposure to Coccidia to when animals first display symptoms). For this reason, most puppies do not show any signs until they are at least two weeks old. Symptoms from Coccidia can be severe in young growing animals.

- Diarrhea is the primary sign. It may or may not have blood or mucus.
- Vomiting is possible in severe cases.
- Lack of appetite may occur in more severe infections.
- Extensive vomiting and diarrhea may easily lead to dehydration.

As the population of Coccidia grows, the intestine can become seriously affected and inflamed. This leads to diarrhea and in puppies and kittens can quickly lead to serious dehydration. Left untreated, puppies and kittens can possibly die from severe infections.

On the opposite side, most often animals display few or no signs of infection. They seem to handle the infection without major problems. The degree of the disease depends primarily upon the number of oocysts ingested in the beginning and the spread of the early infection which is affected a great deal by the immune system of the dog or cat.

Treatment and Prevention of Coccidia

Older pets have a natural immunity to Coccidia. This is the reason older pets rarely become infected without substantial secondary reasons like stress or infection. Animals of any age have a greater susceptibility to Coccidia when they are stressed.

Cats and dogs with Coccidia may receive antibiotics to control secondary infections. They may also receive medication and dietary recommendations to help control diarrhea or nausea. This is to help them feel more comfortable and to help allow their natural immune system eliminate the Coccidia infection.

To minimize your pet's exposure to Coccidia, pick up any fecal matter in your yard and do not allow it near any food or water. Ensure all water is clean. Control rodents and cockroaches as these creatures have been known to transfer Coccidia from one area to another. Most importantly, keep your pets healthy and happy so their immune systems can better protect them from ANY parasites or diseases.

To identify a Coccidia infection in your pet, we must conduct a fecal parasite test. We prepare and centrifuge a stool sample from your cat or dog and then examine it microscopically to identify any oocysts in the sample.

In puppies, we recommend checking two or three fecal samples, each three or four weeks apart, to ensure your puppy does not have Coccidia. We advise checking two samples in other dogs that you suspect may have been exposed to Coccidia. The first tested sample should be from two weeks after the suspected exposure as this parasite requires that amount of time from exposure to when oocysts will appear in the stool.

Possibility of Human Infection from Coccidia

People can become infected with species in the Isospora genus and other similar single celled parasites such as Toxoplasma and Cryptosporidium among others. When these parasites affect the intestines and produce related symptoms, a person can be diagnosed with Coccidiosis.

Contact your physician for more information about human concerns from Coccidia.

