



## Kingsbrook Animal Hospital

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## Giardia in Dogs



### What is Giardia?

*Giardiasis* is an intestinal infection of man and animals caused by a protozoan parasite *Giardia intestinalis* (also known as *Giardia lamblia*).

**"...it is not a "worm", bacteria or virus."**

*Giardia* is a simple one-celled parasitic species; it is not a "worm", bacteria or virus. The parasite occurs worldwide and is a common cause of "Traveler's Diarrhea" in people. Outdoor enthusiasts who inadvertently consume contaminated water may develop "beaver fever", which is another name for giardiasis in people. Other examples of protozoan parasites that can cause enteric (intestinal) disease are Coccidia, Cryptosporidia and Toxoplasma.

Giardiasis can be an important cause of illness, especially diarrhea, in animals and man. However, the majority of dogs infected with *Giardia* do not have diarrhea, vomiting or any other signs of illness.

The *Giardia* organism has two forms. A fragile, feeding form exists in the gut of infected animals, while a hardy cystic form is shed in feces and can survive several months in the environment, particularly in water and damp environments.

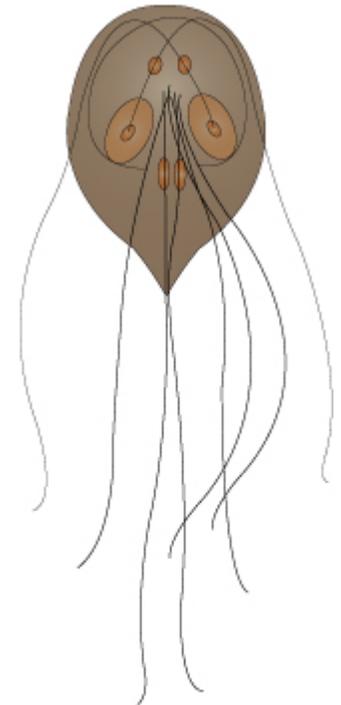
### How do dogs get giardiasis?

A dog becomes infected with *Giardia* when it swallows the cyst stage of the parasite. In susceptible dogs, once the cyst passes into the dog's intestines; it goes through transformation to the *trophozoite* or feeding form and attaches to the intestinal wall to feed. If sufficient numbers are present, clinical signs of damage to the intestinal wall will develop. Trophozoites reproduce by dividing, and some transform into the cystic form. Eventually, the dog passes cysts in its stool.

**"Giardiasis can be transmitted by eating or sniffing the cysts from contaminated ground, or by drinking contaminated water."**

These cysts are immediately able to infect another animal. Giardiasis can be transmitted by eating or sniffing the cysts from contaminated ground, or by drinking contaminated water.

When *Giardia* cysts are found in the stool of a healthy adult dog they may not lead to illness. However, in puppies and debilitated adult dogs, they may cause severe, watery diarrhea that may be fatal if left untreated.



Giardia: 3000 x actual size  
(after Kofold and Christiansen)

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The likelihood of developing disease increases when large numbers of cysts are present in the environment from fecal contamination. Giardiasis is a common occurrence in environments that are densely populated, such as kennels, pet stores, or animal shelters.

## What are the clinical signs of Giardiasis?

These microscopic parasites attach themselves to the intestinal wall and the damage causes an acute (sudden-onset) foul-smelling diarrhea. The stool may range from soft to watery, often has a greenish tinge to it, and occasionally contains blood. Infected dogs tend to have excess mucus in the feces. Vomiting may occur in some cases. The signs may persist for several weeks and gradual weight loss may become apparent.

**"The disease is not usually life threatening unless the dogs' immune system is immature or immunocompromised."**

The diarrhea may be intermittent. Most dogs do not have a fever but may be less active. The disease is not usually life threatening unless the dogs' immune system is immature or immunocompromised.

## How is giardiasis diagnosed?

**"...require a special zinc sulfate flotation solution for detection."**

A routine fecal flotation test may fail to detect these tiny cysts, which are shed inconsistently in the feces, and which often require a special zinc sulfate flotation solution for detection. Occasionally, the parasites may be seen on a direct smear of the feces. If your veterinarian suspects giardiasis, a sample of stool may be analyzed for the presence of *Giardia* specific antigens (cell proteins). This fecal test is called a giardia "elisa" test. Many cases are presumptively diagnosed on the basis of medical history and clinical signs suggestive of giardiasis.

## How is giardiasis treated?

The most common drug used to kill *Giardia* is called fenbendazole ("Panacur"). It is normally given daily for 6 days. Another medication, metronidazole, is potentially useful. Sometimes in refractory cases metronidazole is used in conjunction with fenbendazole. Supportive treatment with other drugs may be needed as supplemental therapy if dehydration or severe diarrhea is present. Some dogs may require prescription diets that are very high in fiber, such as Science Diet W/D.

Some *Giardia* infections can be very difficult to resolve and require several treatments. Cases such as this are usually due to reinfection of the pet from the environment. A study at Kansas State University showed that bathing the pet at least 1–2 times per week to remove *Giardia* cysts clinging to the fur can help prevent reinfection. We also recommend wiping the area under the tail with a baby wipe each time the pet defecates. In long haired dogs, trimming the fur under the tail can also help prevent oocysts from clinging to the area and causing reinfections. While not always possible, it is best to avoid letting the pet out in areas where they have previously defecated. Always pick up feces daily and dispose of appropriately.

It is important to have your pet's stool recheck after treatment is completed to ensure that the giardia have been removed. Most commonly, this is done 3 weeks after treatment, but this may vary in some cases.

## My dog has been treated for giardia, but is fecal tests are still positive. Why?

Some strains of giardia are very resistant to treatment, but more often continually positive giardia tests are the result of re-infections than treatment failure. Here are the most common causes of reinfection:

- 1) Giardia are cysts are clinging to the pets fur. The pet then grooms itself and ingests more giardia. Remember to trim fur under the tail and bathe the area. We recommend bathing at least 1–2 times a week--the more the better. Wiping the area under the tail with baby wipes can also help clean the area.
- 2) Assymptomatic carriers exist. Be sure to test and treat all dogs in the household.
- 3) Be sure to pick up all feces to reduce environmental contamination and pick a new area for elimination that is not previously contaminated once treatment is complete.

## What is the prognosis for Giardiasis?

The prognosis is good in most cases. Debilitated or geriatric animals and those with incompetent immune systems are at increased risk for complications, including death.

## Can my dog give a Giardia infection to me or my family?

*Giardia* can cause diarrhea in humans but there is considerable controversy regarding the ability of dogs to pass it to humans. In the past, it was assumed that cats and dogs, along with wildlife, were an important source of infection for humans.



"...contaminated municipal water supplies are responsible for many outbreaks."

However, scant evidence links infections in humans to dogs and cats. The unsuccessful attempts to definitively infect dogs and cats with human *Giardia* isolates experimentally and the differences displayed by human and canine isolates in laboratory cell culture growth suggest that dogs and cats do not play a major role in the transmission of *Giardia* to humans. However, until these controversies are resolved, it is prudent to err on the side of caution and regard the feces of all infected animals as potentially infective to humans. In particular, people with immunodeficiency, such as AIDS or cancer, or who are undergoing chemotherapy, should use extreme care, especially when handling feces or after administering medications.

Human-to-human transmission is an important way for humans to acquire giardia and contaminated municipal water supplies are responsible for many outbreaks.

For environmental disinfection, you can use chlorine bleach at 1:32 or 1:16 dilutions, or 1–2 cups in a gallon of water (60–120 mls/L). However, be sure that the affected surfaces can be safely treated with bleach. Lysol® and quaternary ammonium compounds (Parvosol®, etc.) are also reported to be effective in killing the cysts. *Giardia* cysts are susceptible to drying so try to keep your environment as dry as possible. For best results, thoroughly clean the pet's living and sleeping areas and then allow the areas to dry out for several days before reintroducing pets.

*This client information sheet is based on material written by: Ernest Ward, DVM*

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