

Giardia in Cats-Causes, Symptoms & treatment

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At a glance:

- **About:** Giardia is a parasitic protozoal infection of the small intestine affecting many mammals.
- **Transmission:** Fecal-oral route via contaminated water, food, environment, fomites (inanimate objects) and direct contact with an infected animal or person.
- **Symptoms:** Foul smelling, greasy and watery diarrhea.
- **Diagnosis:** Fecal flotation, fecal smears, SNAP giardia test or ELIZA.
- **Treatment:** Antibiotics for symptomatic cats.
- **Also called:** Beaver Fever



What is giardia?

Giardia is a protozoan (single-celled organism) parasite which is found in the small intestine of many mammals and birds including humans and cats. *Giardia duodenalis* (also known as *G. lamblia*) can infect a wide range of mammals and can be divided into several **assemblages** (subpopulations) with preferred hosts.

- **A1** – Humans and a wide range of mammals including cats and dogs
- **A2** – Humans
- **A3** – Hoofed wild animals
- **B** – Wide range of mammals, including humans and cats
- **C** – Dogs and other canids
- **D** – Dogs and other canids
- **E** – Hoofed animals
- **F** – Cats
- **G** – Rodents

One study in Australia found the prevalence of Giardia in healthy cats to be 2%, although those numbers may be up to 12% in crowded conditions such as shelters and catteries. Kittens and young adult cats are most commonly infected as well as cats living in crowded environments and cats who are immunocompromised such as those with feline immunodeficiency virus or feline leukemia virus.

A large number of cats may be infected with Giardia and display no clinical signs, so many pet owners are unaware their cat is infected. The geographical distribution of Giardia is worldwide and it is the most common parasite to infect humans and a common cause of diarrhea in travellers.

Transmission:

Transmission of Giardia occurs via the fecal-oral route. There are a number of ways that infective cysts can be

passed from the feces and into the next host. The feces of an infected animal (or human) contain large numbers of infective giardia cysts which can contaminate the environment and waterways.

Common modes of infection:

- **Drinking water** which is contaminated with cysts is one of the most common ways that giardia is spread.
- **Fur:** If the cat's fur or paws come into contact with infected feces in the environment, such as digging in a litter tray or a garden bed and then licks his coat.
- **Food:** If the cat consumes food containing infective cysts, for example, food which has been contaminated during preparation from a person who has the cysts on their hands or is washed in dirty water or on equipment which is contaminated with cysts (dirty chopping board for example).
- **Fomites:** If the cat comes into contact with objects containing which could be transferred to the cat's coat which is then licked, or the object is licked directly.
- **Direct contact** with an infected animal or person.

There are two stages to the life cycle. Trophozoites which is found in the small intestine and cysts which are passed out of the cat in the feces.

1. Trophozoites are the active motile (swimming) form and it is at this stage that it lives in the intestines feeding and reproducing. The trophozoites have flagella, which are long hair like structures which enables the protozoa to move around. During the feeding stage, the parasite replicates in the small intestine by binary fission (this is the asexual reproductive process where one cell divides into two cells).
2. The trophozoites move towards the colon where they produce a cyst wall. The trophozoite within the cyst divides once, and this mature cyst now contains two trophozoites. This cyst is carried away by the passing fecal stream and leaves the body in the feces. [1] It can take as little as three days post infection for cysts to appear in the feces. These cysts are extremely hardy and can survive for several months in cool, moist environments.

Symptoms:



Most cats are asymptomatic, even so, just like cats with clinical signs, asymptomatic cats may shed cysts in their feces. Clinical signs are most likely to be seen in younger animals from multi-cat households/environments or those with concurrent illness. The parasite has a one to two week incubation period.

If large numbers of trophozoites develop the cat will develop symptoms which include:

- **Acute, chronic or intermittent diarrhea.** Stools are foul smelling, often yellowish, foamy/frothy and greasy.
- **Abdominal pain**
- **Vomiting** (occasionally)

Diarrhea may be self-limiting, however, in cats with prolonged diarrhea, dehydration and lethargy can occur due to loss of fluids.

Diagnosis:

Fecal flotation (zinc sulfate solution) may be used to detect cysts. Cysts may not be present in the stool of a cat with diarrhea.

Fecal smears may detect the active trophozoites. These are more likely to be seen moving around in watery stools and cysts are more commonly found in firm stools. A negative sample doesn't necessarily rule out giardiasis. Three stool samples should be studied over a period of 7 – 10 days before a definite diagnosis is made.

IDEXX Laboratories have a SNAP Giardia test kit which is available for in-house testing. The sensitivity of this test is 90%.

ELIZA This test is either be performed in your veterinarian's office or sent off to a laboratory for testing.

Treatment:

There are a number of medications which may be used to treat clinically affected cats, however no drugs been approved for treatment of giardia in cats in the USA.

Flagyl (Metronidazole)

Antibiotic which is most commonly used to treat giardiasis in cats. This medication also has the benefit of having anti-inflammatory properties also. This medication is suspected of being teratogenic (can increase the risks of congenital malformation) so should not be used in pregnant cats. Side effects may include loss of appetite and hypersalivation, presumably due to the bitter taste of this medication.

Dosage:

15-25mg/kg

Drontal Plus, Panacur (Fenbendazole)

An anthelmintic (antiparasitic drug to kill worms), this may be used particularly if concurrent infection with parasitic worms is suspected. Metronidazole and Fenbendazole may be used in conjunction with each other.

Dosage:

50mg/kg

Furoxone (Furazolidone)

This is another antibiotic and antiprotozoal which may be used to treat giardiasis in cats. This medication can cause vomiting and diarrhea and should not be used in pregnant cats.

Dosage:

4mg/kg twice daily

Additional supportive care may also be required such as fluids to treat dehydration and nutritional support. Try to encourage your cat to drink as much water as possible to replace lost fluids.

Subclinically infected cats usually don't require treatment.

Can I catch giardia from my cat?

This answer is still not entirely known so it is safe to err on the side of caution and assume it is possible to catch giardiasis from cats and practice strict hygiene. This is even more important for children or immunocompromised people who are at greater risk.

As you can see from the 'assemblages', cats can be infected with A1 or F, whereas humans are infected with A1, A2 and B. So it is feasible that if your cat has become infected with A1, it could be transmitted to humans. It is unlikely that a cat infected with F could pass it on. Regardless, it is always better play safe and assume infection is a possibility and make appropriate safeguards when dealing with an infected cat.

Preventing reinfection:

The reinfection rate of Giardia is extremely high and steps must be taken to not only treat the cat but decontaminate the environment and practice hygiene.

- **Disinfecting the environment** with a 1:16 bleach solution. Let it dry for 10 minutes and then go over the area with plain hot water.
- **Keep the environment dry** as the cysts are easily desiccated.
- **Isolate infected cats while they are sick.** Before re-introducing them to other pets, they should be bathed to remove any cysts which may be on their coat.
- **Wash food and water bowls daily** in hot, soapy water. Use a disposable sponge or cloth when doing so. Allow to fully dry.
- **Remove feces from litter trays as quickly as possible**, place in a bag in the bin.
- **ALWAYS wash your hands after handling infected animals** or their objects (litter trays, food bowls).
- **Try to keep cats indoors if possible.** If your cat is allowed outside, be aware that the environment can remain contaminated under the right conditions for several months, obviously it is not possible to disinfect gardens, so try to stop cats or people digging in possibly contaminated areas.
- **Treat all cats concurrently** if re-infection in multi cats households is occurring. Environmental decontamination should also be carried out, disposable litter trays used and once infection is under control, brand new litter trays and scoops should be purchased.
- **Litter trays should be thoroughly emptied and disinfected** regularly, especially during an outbreak. Allow to air dry in the sun for 30 minutes if possible. If not, add boiling water, swish and then dry with paper towels.