

Giardiasis

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Giardiasis is a protozoal infection of humans and animals primarily in the upper small intestine. It is caused by an organism called *Giardia duodenalis*.

Most cases of the disease are asymptomatic, but in some instances, symptoms can include chronic diarrhea, abdominal cramps, bloating, frequent loose stools, fatigue and weight loss.

Giardiasis is associated with drinking water from unfiltered surface water sources. The reservoir for the protozoa includes humans and a wide variety of wild and domestic animals. Transmission occurs by fecal contamination of a water source and subsequent hand-to-mouth transfer. It also can be transmitted via contaminated food.

The disease can be prevented by proper personal hygiene. Hand washing before handling food, before eating and after toilet use is especially important. Individuals who work with animals should wear protective gloves and wash their hands after handling animals.

The Disease in Humans

- Most prevalent disease-causing intestinal protozoa worldwide
- Common in day-care centers, nurseries and institutional settings
- Most infections are asymptomatic
- May see acute or chronic diarrhea, bloating, nausea, vomiting
- Protozoal cysts not killed by chlorine and can survive several months in cold water
- Protozoal cysts are present in streams and public water supplies without sand filtration
- People are infected when protozoal cysts are ingested in contaminated water or food
- Person-to-person transmission is most common, but animal-to-person transmission is possible
- Prevention
 - Hand washing before handling food and eating, after toilet use
 - Filtration and protection of public water
 - Sanitary disposal of feces
 - Boil water when necessary

- Control
 - Report to local health authority
 - Isolation of infected individuals or animals if appropriate
 - Disinfection
 - No vaccine available
 - Investigate outbreaks
 - Treat diagnosed cases
- Numerous animals can shed *Giardia* and serve as sources of infection
 - Beaver, muskrats, dogs, cats, sheep, cattle

The Disease in Dogs and Cats

- Infected animals pass the protozoal cyst in their feces; humans are infected when the cyst is ingested
- Puppies and kittens show weight loss, chronic diarrhea, fat or mucous in feces
- Protozoal cysts are susceptible to quaternary ammonium compounds, household bleach, boiling, steam and desiccation

The Disease in Calves

- Clinical cases of diarrhea are reported
- Soft, poorly formed, pale feces containing mucus

Prevention

- Sanitation
- Treatment of diagnosed cases
- Vaccine available for small animals
- Avoid the use of any surface water supply that is not filtered
- Infected dogs and cats
 - Shed protozoal cysts in feces
 - Grooming behavior; protozoal cysts present on the coat of the animal, around the muzzle

- City parks/ponds may contain infected feces from pets or wildlife
- High-risk areas for animals shedding protozoal oocysts
 - Kennels
 - Animal shelters
 - Pet stores
 - Research facilities
 - Teaching facilities
 - Breeding facilities

For more information on this and other topics, see www.ag.ndsu.edu

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