

## Occupational Health – Zoonotic Disease Fact Sheet

### GIARDIASIS

#### **KEY FACTS:**

- Giardiasis is a diarrheal disease caused by a microscopic parasite called *Giardia lamblia*.
- Giardia is present throughout the world and can be found in every region in the United States.
- Once outside the body, Giardia can sometimes survive for weeks or months.

**SPECIES:** Humans and mammals (dogs, cats, cattle, deer, and beavers, etc.)

**CAUSATIVE AGENT:** *Giardia lamblia*, also known as *Giardia intestinalis*

**TRANSMISSION:** Only the cyst form is infectious by the oral route; trophozoites are destroyed by gastric acidity. Most infections are sporadic, resulting from cysts transmitted as a result of fecal contamination of water, food, or other items. Anything that comes into contact with feces from infected humans or animals can become contaminated with the Giardia parasite. People become infected when they swallow the parasite.

**DISEASE IN ANIMALS:** Giardia infections in dogs and cats may be inapparent or produce weight loss and chronic diarrhea or steatorrhea, which can be continuous or intermittent, particularly in puppies and kittens. Calves with clinical giardiasis have been reported. Feces are usually soft, poorly formed, pale, and contain mucus. Gross intestinal lesions are seldom evident, although microscopic lesions, consisting of villous atrophy and cuboidal enterocytes, may be present.

**DISEASE IN HUMANS:** Sign and symptoms can vary and many infections are asymptomatic. In some cases, acute or chronic diarrhea, mild to severe, with bulky, greasy, frothy, malodorous stools, free of pus and blood can occur. Infected individuals also can experience upper abdominal discomfort, cramps, distention, excessive flatus, nausea, and dehydration. Other, less common symptoms include itchy skin, hives, and swelling of the eye and joints. According to the Centers for Disease Control and Prevention, in children, severe giardiasis might delay physical and mental growth, slow development, and cause malnutrition.

**DIAGNOSIS:** Diagnosis is by identifying cysts or trophozoites in feces or duodenal fluid. Unless they can be examined within an hour, specimens should be preserved immediately in a fixative. Three stool specimens should be examined at intervals of 2 days or longer. Only molecular testing, such as PCR, can be used to identify the subtypes of Giardia. *Please review current literature before prescribing diagnostic testing as recommendations may have changed.*

**TREATMENT:** Susceptible to metronidazole, tinidazole, nitazoxanide, quinacrine, furazolidone, paramomycin, and albendazole. *Please consult your physician for treatment as recommendations may have changed.*

**PREVENTION/CONTROL:** Practice good hygiene and use protective clothing when handling animals. Prevention requires safe water supplies, sanitary disposal of human feces, adequate cooking of foods to destroy cysts, protection of foods from fly contamination, washing hands after defecation and before preparing or eating foods, and, in endemic areas, avoidance of foods that cannot be cooked or peeled. To prevent and control unintended infections, use uninfected animals for research, and isolate any animals used in clinical trials. Additionally, only conduct projects in laboratories with proper engineering controls and train staff members in the proper use of required personal protective equipment when they are in spaces containing live agent.

More information on giardia can be found on the Centers for Disease Control and Prevention website at: <https://www.cdc.gov/parasites/giardia/>