

What is giardiasis?

Giardiasis is a diarrheal illness caused by *Giardia intestinalis* (also known as *Giardia lamblia*), a one-celled, microscopic parasite that lives in the intestine of people and animals. The parasite is passed in the stool of an infected person or animal. The parasite is protected by an outer shell that allows it to survive outside the body and in the environment for long periods of time. During the past 2 decades, *Giardia* has become recognized as one of the most common causes of waterborne disease (drinking and recreational) in humans in the United States. The parasite is found in every region of Turkey and throughout the world.

What are the symptoms of giardiasis?

Symptoms include diarrhea, loose or watery stool, stomach cramps, and upset stomach. Sometimes there may be a cyclic stool pattern with the changing to constipation. These symptoms may lead to weight loss and dehydration. Some people have no symptoms and some of the symptoms mimic the stomach diseases (gas, indigestion ...)

How long after infection do symptoms appear?

Symptoms generally begin 1-2 weeks after being infected.

How long will symptoms last?

In otherwise healthy persons, symptoms may last 2-6 weeks. Occasionally, symptoms last longer.

How is giardiasis spread?

Giardia lives in the intestine of infected humans or animals. Millions of germs can be released in a bowel movement from an infected human or animal. You can become infected after accidentally swallowing the parasite. *Giardia* may be found in soil, food, water, or surfaces that have been contaminated with the feces from infected humans or animals. *Giardia* is **not** spread by contact with blood. *Giardia* can be spread:

- By putting something in your mouth or accidentally swallowing something that has come in contact with the stool of a person or animal infected with *Giardia*.
- By swallowing recreational water contaminated with *Giardia*. Recreational water is water in swimming pools, hot tubs, jacuzzis, fountains, lakes, rivers, springs, ponds, or streams that can be

contaminated with sewage or feces from humans or animals.

- By eating uncooked food contaminated with *Giardia*. Thoroughly wash with uncontaminated water all vegetables and fruits you plan to eat raw. See below for information on making water safe.
- By accidentally swallowing *Giardia* picked up from surfaces (such as toys, bathroom fixtures, changing tables, diaper pails) contaminated with stool from an infected person.

Who is at risk?

Everyone. Persons at increased risk for giardiasis include child care workers; children who attend day care centers, including diaper-aged children; international travelers; hikers; campers, swimmers; and others who drink or accidentally swallow water from contaminated sources that is untreated (no heat inactivation, filtration, or chemical disinfection). Several community-wide outbreaks of giardiasis have been linked to drinking municipal water or recreational water contaminated with *Giardia*.

I have been diagnosed with a *Giardia* infection. Should I worry about spreading infection to others?

Yes, *Giardia* can be very contagious. Follow these guidelines to avoid spreading *Giardia* to others.

- Wash your hands with soap and water after using the toilet, changing diapers, and before eating or preparing food.
- Avoid swimming in recreational water (pools, hot tubs, lakes or rivers, the ocean, etc.) if you have *Giardia* and for at least 2 weeks after diarrhea stops. You can pass *Giardia* in your stool and contaminate water for several weeks after your symptoms have ended. This has resulted in outbreaks of *Giardia* among recreational water users.
- Avoid fecal exposure during sex.

What should I do if I think I have giardiasis?

See your family physician.

How is a *Giardia* infection diagnosed?

Your family physician will likely ask you to submit stool samples to see if you have the parasite. Because *Giardia* can be difficult to diagnose, he or she may ask you to submit several stool specimens over several days.

What is the treatment for giardiasis?

Several prescription drugs are available to treat *Giardia*. Consult with your family physician. Although *Giardia* can infect all people, young children and pregnant women may be more susceptible to the dehydration resulting from diarrhea and should drink plenty of fluids while ill.

How can I prevent *Giardia* infection?

Practice good hygiene.

- Wash hands thoroughly with soap and water.
 - a. Wash hands after using the toilet and before handling or eating food (especially for persons with diarrhea).
 - b. Wash hands after every diaper change, especially if you work with diaper-aged children, even if you are wearing gloves.
- Protect others by not swimming if experiencing diarrhea (essential for children in diapers).

Avoid water that might be contaminated.

- Avoid swallowing recreational water.
- Avoid drinking untreated water from shallow wells, lakes, rivers, springs, ponds, and streams.
- Avoid drinking untreated water during community-wide outbreaks of disease caused by contaminated drinking water. In Turkey, nationally distributed brands of bottled or canned carbonated soft drinks are safe to drink. Commercially packaged noncarbonated soft drinks and fruit juices that do not require refrigeration until after they are opened (those that are stored unrefrigerated on grocery shelves) also are safe.
- Avoid using ice or drinking untreated water when traveling in countries where the water supply might be unsafe.

- If you are unable to avoid drinking or using water that might be contaminated, then treat the water yourself by:
Heating the water to a rolling boil for at least 1 minute.

OR

Using a filter that has an absolute pore size of at least 1 micron or one that has been rated for "cyst removal."

If the methods above cannot be used, then try chemical inactivation of *Giardia* by chlorination or iodination. Chemical disinfection may be less effective than other methods because it is highly dependent on the temperature, pH, and cloudiness of the water.

Avoid food that might be contaminated.

- Wash and/or peel all raw vegetables and fruits before eating.
- Use uncontaminated water to wash all food that is to be eaten raw.
- Avoid eating uncooked foods when traveling in countries with minimal water treatment and sanitation systems.

Avoid fecal exposure during sex.

My water comes from a well; should I have my well water tested?

If you answer yes to the following questions, consider having your well water tested.

- Are other members of your family or users of your well water ill?

If yes, your well may be the source of infection.

- Is your well located at the bottom of a hill or is it considered shallow?

If so, runoff from rain or flood water may be draining directly into your well causing contamination.

- Is your well in a rural area where animals graze?

Well water can become fecally contaminated if animal waste seepage contaminates the ground water. This can occur if your well has cracked casings, is poorly constructed, or is too shallow.

Tests specifically for *Giardia* are expensive, difficult, and usually require hundreds of gallons of water to be pumped through a filter. If you answered yes to the above questions, consider testing your well for fecal coliforms or *E. coli* instead of *Giardia*. Although fecal coliforms or *E. coli* tests do not specifically test for *Giardia*, testing will show if your well has fecal contamination.

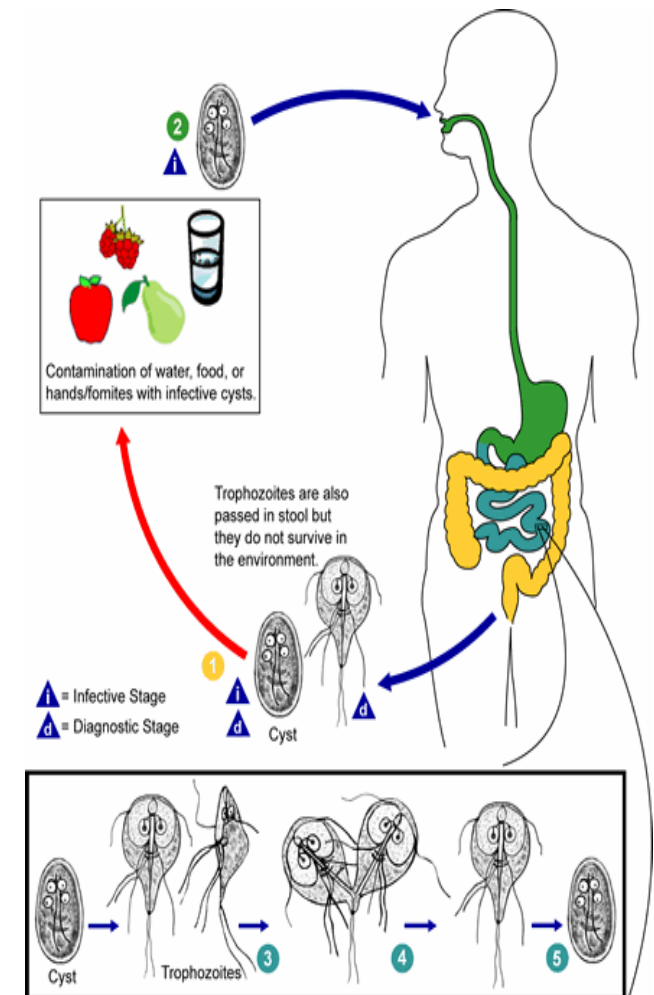
These tests are only useful if your well is not routinely disinfected with chlorine since chlorine kills fecal coliforms and *E. coli*. If the tests are positive, the water may also be contaminated with *Giardia*, as well as other harmful bacteria and viruses. Look in your local telephone directory for a laboratory or cooperative extension that offers water testing. If the fecal coliform test comes back positive, indicating that your well is fecally contaminated, contact your local authority for instructions on how to disinfect your well.

My child was recently diagnosed as having giardiasis, but does not have any diarrhea. My family physician says treatment is not necessary. Is this true?

In general, the answer by the American Academy of Pediatrics is that treatment is not necessary. However, there are a few exceptions. If your child does not have diarrhea, but is having nausea, or is fatigued, losing weight, or has a poor appetite, you and your family physician may wish to consider treatment. If your child attends a day care center where an outbreak is continuing to occur despite efforts to control it, screening and treatment of children without obvious symptoms may be a good idea. The same is true if several family members are ill, or if a family member is pregnant and therefore not able to take the most effective anti-*Giardia* medications.

This fact sheet is for information only and is not meant to be used for self-diagnosis or as a substitute for consultation with your doctor. If you have any questions about the disease described above or think that you may have a parasitic infection, consult your family physician. The information in this handout is prepared depending on CDC web page.

GIARDIA



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