



***Giardia* Infection**

Giardiasis (GEE-are-DYE-uh-sis)

What is giardiasis?

Giardiasis (GEE-are-DYE-uh-sis) is a diarrheal illness caused by a one-celled, microscopic parasite, *Giardia intestinalis* (also known as *Giardia lamblia*). Once an animal or person has been infected with *Giardia intestinalis*, the parasite lives in the intestine and is passed in the stool. Because the parasite is protected by an outer shell, it can survive outside the body and in the environment for long periods of time.

During the past 2 decades, *Giardia* infection has become recognized as one of the most common causes of waterborne disease (found in both drinking and recreational water) in humans in the United States. *Giardia* are found worldwide and within every region of the United States.

How do you get giardiasis and how is it spread?

The *Giardia* parasite 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. *Giardia* is found in soil, food, water, or surfaces that have been contaminated with the feces from infected humans or animals. You **can** become infected after accidentally swallowing the parasite; you **cannot** become infected through contact with blood. *Giardia* can be spread by:

- Accidentally putting something into your mouth or swallowing something that has come into contact with feces of a person or animal infected with *Giardia*.
- Swallowing recreational water contaminated with *Giardia*. Recreational water includes 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.
- Eating uncooked food contaminated with *Giardia*.
- Accidentally swallowing *Giardia* picked up from surfaces (such as bathroom fixtures, changing tables, diaper pails, or toys) contaminated with feces from an infected person.

What are the symptoms of giardiasis?

Giardia infection can cause a variety of intestinal symptoms, which include

- Diarrhea
- Gas or flatulence
- Greasy stools that tend to float
- Stomach cramps
- Upset stomach or nausea.

These symptoms may lead to weight loss and dehydration. Some people with giardiasis have no symptoms at all.

How long after infection do symptoms appear?

Symptoms of giardiasis normally begin 1 to 2 weeks (average 7 days) after becoming infected.

How long will symptoms last?

In otherwise healthy persons, symptoms of giardiasis may last 2 to 6 weeks. Occasionally, symptoms last longer.

Who is most likely to get giardiasis?

Anyone can get giardiasis. Persons more likely to become infected include

- Children who attend day care centers, including diaper-aged children
- Child care workers
- Parents of infected children
- International travelers
- People who swallow water from contaminated sources.
- Backpackers, hikers, and campers who drink unfiltered, untreated water
- Swimmers who swallow water while swimming in lakes, rivers, ponds, and streams
- People who drink from shallow wells

Contaminated water includes water that has not been boiled, filtered, or disinfected with chemicals. Several community-wide outbreaks of giardiasis have been linked to drinking municipal water or recreational water contaminated with *Giardia*.

What should I do if I think I may have giardiasis?

See your health care provider.

How is a *Giardia* infection diagnosed?

Your health care provider will likely ask you to submit stool samples to check for the parasite. Because *Giardia* can be difficult to diagnose, your provider 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*. Although *Giardia* can infect all people, young children and pregnant women may be more susceptible to dehydration resulting from diarrhea and should, therefore, drink plenty of fluids while ill.

My child does not have diarrhea, but was recently diagnosed as having giardiasis. My health care provider says treatment is not necessary. Is this true?

Treatment is not necessary when the child has no symptoms. However, there are a few exceptions. If your child does not have diarrhea, but is having nausea, fatigue (very tired), weight loss, or a poor appetite, you and your health care provider 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 treating children who have no 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.

If I have been diagnosed with giardiasis, should I worry about spreading

the infection to others?

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

1. Wash your hands with soap and water after using the toilet, changing diapers, and before eating or preparing food.
2. Do not swim 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.
3. Avoid fecal exposure during sexual activity.

How can I prevent a *Giardia* infection?

Practice good hygiene.

1. 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.
2. Protect others by not swimming if you are experiencing diarrhea (essential for children in diapers).

Avoid water that might be contaminated.

1. Do not swallow recreational water.
2. Do not drink untreated water from shallow wells, lakes, rivers, springs, ponds, and streams.
3. Do not drink untreated water during community-wide outbreaks of disease caused by contaminated drinking water.
4. Do not use untreated ice or drinking water when traveling in countries where the water supply might be unsafe.

For information on recreational water-related illnesses, visit CDC's Healthy Swimming website at <http://www.cdc.gov/healthyswimming>.

In the United States, nationally distributed brands of bottled or canned carbonated soft drinks are safe to drink. Commercially packaged non-carbonated 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.

For information on choosing safe bottled water, see the CDC fact sheet entitled "Preventing Cryptosporidiosis: A Guide to Water Filters and Bottled Water," available by visiting <http://www.cdc.gov/ncidod/dpd/parasites/cryptosporidiosis/>

If you are unable to avoid using or drinking water that might be contaminated, then you can make the water safe to drink by doing one of the following:

- Heat the water to a rolling boil for at least 1 minute, OR
- Use a filter that has an absolute pore size of at least 1 micron or one that has been NSF rated for "cyst removal."
- If you cannot heat the water to a rolling boil or use a recommended filter, then try chemically treating the water by chlorination or iodination.

Using chemicals may be less effective than boiling or filtering because the amount of chemical required to make the water safe is highly dependent on the temperature, pH, and cloudiness of the water.

For information on choosing a water filter, see the CDC fact sheet entitled "Preventing Cryptosporidiosis: A Guide to Water Filters and Bottled Water," available by visiting http://www.cdc.gov/ncidod/dpd/parasites/cryptosporidiosis/factsht_crypto_prevent_water.htm.

Avoid food that might be contaminated.

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

Avoid fecal exposure during sexual activity.

If my water comes from a well, should I have my well water tested?

You should consider having your well water tested if you can answer "yes" to any of the following questions:

- **Are members of your family or others who use your well water becoming 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 contaminated with feces 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 used to specifically identify *Giardia* are often 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 generally testing your well for fecal contamination by testing it for the presence of coliforms or *E. coli* instead of *Giardia*. Although tests for fecal coliforms or *E. coli* do not specifically tell you whether *Giardia* is present, these tests will show whether your well water has been contaminated by fecal matter.

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, it is possible that the water may also be contaminated with *Giardia* or other harmful bacteria and viruses. Contact your county health department, your county cooperative extension service, or a local laboratory to find out who offers water testing in your area. If the fecal coliform test comes back positive, indicating that your well is fecally contaminated, discontinue drinking the well water and contact your local water authority for instructions on how to disinfect your well.

This fact sheet is for information only and is not meant to be used for self-diagnosis or as a substitute for consultation with a health care provider. If you have any questions about the disease described above or think that you may have a parasitic infection, consult a health care provider.

