

Giardia Infection

Giardia is a parasite that infects the intestines of humans and animals. When a person gets sick, the infection is called giardiasis, or 'beaver fever'. Giardiasis is one of the more common infectious causes of diarrhea lasting more than 2 weeks. It is a common cause of diarrhea among hikers in wilderness areas, and travellers who drink water that has not been properly filtered, treated or boiled.

Symptoms:

Giardiasis may cause diarrhea, stomach cramps, gas, bloating, frequent loose and pale greasy stools, nausea, weight loss, and fatigue.

Symptoms start about 1 to 3 weeks after exposure to the parasite. Symptoms can last from 2 to 4 weeks or longer. Often you can be infected and have no symptoms. In some cases, symptoms can return after you have started to get better.

Although rare, giardiasis may cause your body to have trouble absorbing nutrients. This can last for several weeks or months. Some people with Giardia infection can later develop difficulty digesting milk and milk products (also known as lactose intolerance).

HOW CAN I BECOME INFECTED WITH GIARDIA?

Giardia cysts can be spread by water, food, or fecal-oral transmission between infected individuals. Fecal-oral transmission is when contaminated feces particles are ingested.

Contaminated water is a major source of the spread of giardiasis. Giardia cysts can survive in lakes, ponds, creeks and streams. You can become infected if you drink or accidentally swallow water while you swim. You can also become infected by eating raw or undercooked food contaminated with cysts.

Giardia can also spread from person-to-person in settings where there is fecal incontinence (lack of control over bowel movements) and poor hygiene, such as child care centers. The risk is greatest for young children who are not yet toilet trained. These children can also spread the infection to other people in their families.

WHAT SHOULD I DO IF I BECOME INFECTED WITH GIARDIA?

Giardia is passed in the feces, therefore if you have diarrhea, which may be due to infection, you should not go to work or school.

If you have a Giardia infection do not swim in lakes, ponds, streams, rivers, swimming pools or hot tubs while you have diarrhea or are vomiting for at least 48 hours after the diarrhea and/or vomiting has stopped, or as instructed by your local health authority. This will help to ensure that other swimmers do not become infected.

Wash your hands well with soap and water after using the toilet and before eating or preparing foods. Dry your hands with disposable towels.

Giardia Infection - Continued

If you are a food handler or health care worker it is possible for you to spread Giardia to others. Do not work while you have diarrhea or vomiting and do not return to work until at least 48 hours after your last loose stool or episode of vomiting (whichever comes last), or as advised by your local health authority. Wash your hands well and often, which will help lessen the chance of spreading the infection to others.

Children in daycare who have diarrhea can be cared for in a supervised area away from other children until picked up by their parents. Children should not return to daycare until at least 48 hours after their last loose stool or episode of vomiting (whichever comes last). However, check with your local health authority first, as each health authority has their own guidelines for when to return to daycare, school, or work.

Children in daycare settings should be supervised by an adult when washing their hands. To learn about proper handwashing, see Resources.

Even after you feel better, Giardia may still be in your feces for several weeks and you can still infect others.

HOW CAN GIARDIASIS BE PREVENTED?

To help prevent giardiasis, follow this advice:

- + If a Boil Water Notice has been issued for your community water system, take the advice seriously and follow the instructions provided.
- + Do not drink untreated surface water from springs, streams, rivers, lakes, ponds, shallow wells, or ground water at risk of containing pathogens. It is likely contaminated with animal feces.
- + When camping do not relieve yourself within 30 metres of a water source.
- + Do not drink unpasteurized milk or juices.

- + Wash your hands before eating or handling food.
- + Wash your hands after using the toilet, changing diapers, or touching animals.
- + Make sure children, especially those who handle pets, wash their hands carefully before eating and on a regular basis.
- + Avoid uncooked food or drinks prepared with untreated water, especially during international travel.
- + Use safe sex practices and try to avoid contact with feces during sexual activity.

HOW CAN GIARDIA CYSTS BE REMOVED FROM WATER?

If your water supply comes from an untreated surface water source or from ground water at risk of containing pathogens, you will need to disinfect water used for drinking, making ice cubes, washing uncooked fruits and vegetables, making baby formula, brushing teeth or rinsing dentures. You can remove Giardia by using the following disinfection methods:

- + **Boiling:** Bring water to a full rolling boil for at least 1 minute. If using an automatic shut-off kettle, make sure the water has boiled for 1 minute. If you are over 2,000 metres (6,500 feet) above sea level, boil water for at least 2 minutes to disinfect. Let the water cool. Always store your clean water in clean containers made for storing food or water. Boiling will not purify water that is heavily polluted or chemically contaminated.
- + **Filtering:** To remove Giardia cysts, filters must have an absolute pore size of 1 micron or less, and be certified by the National Sanitation Foundation (NSF) International or another accredited third party agency.

Giardia Infection - Continued

Jug-type water filters (such as Brita®), will not remove Giardia. Some built-in water filtration systems will remove Giardia, but they need regular and thorough maintenance to work well.

- + **Ultraviolet (UV) Treatment:** UV units for disinfection are also available. Check with local water purification suppliers or your local environmental health officer for more information. Similar to filters, the UV treatment unit should be certified by NSF International, or another accredited third party agency for cyst removal or inactivation.
- + **Other Treatment:** Distillation units and combination (filtration and UV) units are also available. Check with local water purification suppliers or your local environmental health officer for more information.

It is important to note that Giardia is moderately resistant to chlorine so treating water with chlorine is generally not effective in removing the parasite.

WHEN TO GET HELP

See your family doctor for testing, advice and treatment if you think you have giardiasis. You may be asked to submit a stool sample for testing. Giardia can be difficult to detect so you may have to submit more than 1 sample. Some Giardia infections get better without treatment. Your health care provider will decide if treatment with anti-parasitic medication is necessary.

RELEVANT RESOURCES

- + For more information on disinfecting water, see <https://www.healthlinkbc.ca/healthlinkbc-files/disinfecting-drinking-water> or contact your local environmental health officer.
- + For more information on the National Sanitation Foundation (NSF), visit www.nsf.org.
- + For more information on proper handwashing, see <https://www.healthlinkbc.ca/healthlinkbc-files/hand-washing>

TO LEARN MORE ASK

- + Your family doctor.
- + HealthLinkBC - call 8-1-1 (7-1-1 for deaf or hard of hearing) or go online to www.HealthLinkBC.ca

RECOMMENDED FOLLOW UP

- Follow up with your primary care provider in ____ days.

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Find this information sheet on the BC Emergency Medicine Network website:

www.bcemn.ca/clinical_resource/giardia-infection/