



Think Before You Drink!

Safe Drinking Water Practices for the Outdoor Enthusiast

Brought to you by the State of Alaska Drinking Water Program
For more information, please visit our website at www.dec.alaska.gov/eh/dw

What is Giardia?

Giardia (je-ar'de-ah) *lamblia*, the cause behind "backpacker's disease," "giardiasis," or "beaver fever," is the most commonly reported human intestinal parasite in the United States. A protozoa, it takes form as a swimming trophozoite or as an infective cyst.

Giardia is found around the world and generally transmitted through water. Soil can be contaminated through fecal matter, whether it's from animal waste or human sewage disposal, and soil runoff can end up in water sources. Lakes, rivers, ponds, and streams can host *Giardia*. You should assume all surface water contains the parasite. By drinking infected and untreated water, you raise your chances of getting infected with *Giardia*. Water that is downstream from fecal waste or water that is not swiftly running has a higher chance of being infected. Treating water is your best chance of filtering out potentially harmful infections.



Where is Giardia found, and how do you get infected?

Symptoms of a Giardia Infection



Trophozoite form of *Giardia lamblia*

- ◆ Abdominal bloating
- ◆ Cramps
- ◆ Excessive Gas
- ◆ Diarrhea and/or greasy stools
- ◆ Vague feeling of discomfort

Treating Giardia

Giardia rarely causes death; however, about 4600 people in the US are hospitalized each year. A big issue with infection is dehydration, as well as nutritional insufficiency due to poor nutrient absorption. If you are ill, or are concerned you are infected, see a physician. *Giardia* is detected via stool samples. Most people are cured with just one course of medication.

Types of Water Treatment

Outdoor travelers should always carry water of known purity. However, this may not always be practical. The following are ways you can treat water in order to prevent possible exposure to *Giardia* and other infectious contaminants. Please note that while your chances of having cleaner water are better when you use a treatment method, whatever you do may not completely eliminate all contaminants. Choose your source carefully!

Boiling

For untreated water, boiling is one technique that can safely eliminate *Giardia*. Boil water for 1 minute. If the water is cloudy, or suspected to be overly contaminated, boil at least 3 minutes.

Water Filters

Portable water filters with pore sizes of less than 1 micrometer are effective against *Giardia*. While filters with resins or carbon granules may be useful for other contaminants, pore size is crucial for filtering out parasites like *Giardia*.

Chemical Treatment

Use chlorine *OR* iodine by mixing the chemical in a clean container with water and letting it stand for 1 hour. If after treatment the water **does not** have a slight chemical odor, repeat the process. Measurements are **per quart**.

CHLORINE

Bleach (5.25%)	2 drops
Halazone	5 tablets

IODINE*

Tincture (2%)	12 drops
Tablets	2 tablets
Crystals	2 ounces

*Very cold or cloudy water will require longer time to sit and disinfect.