

# CCU DISEASE HUNTERS

## **GARDIA**

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The following information was taken from the [CDC website](#):

### What it is



*Giardia duodenalis* (*Giardia* for short) is a parasite. Illness caused by *Giardia* is called giardiasis.

*Giardia* lives in the gut of infected people and animals and comes out of the body in poop. *Giardia* can survive for weeks to months outside the body (for example, in soil).

In the United States, more people get sick from *Giardia* than from any other parasite that lives in the gut. Every year, more than 1 million people get sick from *Giardia*.

*Giardia* is found in every region of the United States and around the world.

### Symptoms

Symptoms usually begin by having diarrhea 2 to 5 times per day and feeling more and more tired.

Short-term symptoms include:

- Diarrhea
- Gas
- Smelly, greasy poop that can float
- Stomach cramps or pain
- Upset stomach or nausea
- Dehydration (loss of fluids)

Symptoms usually begin 1 to 2 weeks after becoming infected with *Giardia* and last for 2 to 6 weeks. Occasionally, people have long-term symptoms that can last for years.

**Keep Reading:** [Symptoms of Giardia Infection](#)



## Who is at risk

Anyone can get sick from *Giardia*. However, **children are more likely to get sick** than adults.

You are more likely to get sick if you:

- Are in close contact with someone who is sick from *Giardia*, especially in childcare settings
- Are in an area with limited access to safe drinking water
- Drink [untreated water](#) from springs, lakes, rivers, or shallow wells
- Swallow water from pools, splash pads, lakes, or rivers (for example, while swimming)
- Have a weakened immune system
- Have contact with poop during sex
- Have contact with infected animals or animal environments contaminated with poop

## How it spreads

You can get sick if you swallow *Giardia*.

*Giardia* germs are in poop, so anything that gets contaminated by poop can potentially spread the germs. *Giardia* can spread from one person to another or through contaminated water, food, surfaces, or objects.

*Giardia* spreads easily; swallowing just a few *Giardia* germs can make you sick.

**Keep Reading:** [Giardia Infection: Causes and How It Spreads](#)

## Prevention

You can take steps to avoid getting or spreading *Giardia*:

- Wash your hands with soap and water at [key times](#).
- Avoid swallowing water while swimming.
- [Boil or filter](#) water from lakes, springs, or rivers before drinking or preparing food with it.
- Wait to have sex for several weeks after you or your partner no longer have diarrhea.
- Avoid touching animal poop.
- Clean and disinfect areas where a person or pet recently had diarrhea.



### CCU Disease Hunter Screen information

Undergraduate students at Coastal Carolina University working with Dr Paul E. Richardson have developed a genomic based test to detect the parasite *Gardia* using primer specific for three genes in *Gardia*;  $\beta$ -giardin, Cathepsin L-like protease, and 16s rRNA. Primers were identified from literature that were specific for *Gardia*. In the lab the students refined the method using polymerase chain reaction to amplify small genetic sequences to identify the parasite based on specific size DNA fragments. Water samples were collected, and DNA was isolated from the samples and screened for *Gardia*. If a band of the expected size was present, that was called a positive result.

**Please Note:** This test only detects the presence of the disease in water. At this time, we are studying the factors that are responsible for its presence and what level of parasite is needed to cause disease. This is a research project and not a clinical test. **This test CANNOT determine if there is a threat to the community**, it only determines the presence of the disease in a community. More work must be done before we can make those statements.

### **Primer sources:**

<https://pmc.ncbi.nlm.nih.gov/articles/PMC446313/>

<https://pmc.ncbi.nlm.nih.gov/articles/PMC4835465/>

<https://pmc.ncbi.nlm.nih.gov/articles/PMC4982690/>

If you have any questions, please contact:

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### **Research Website**

<https://professorrichardsonresearch.com/>

