

# Cryptosporidium Infection

## What is *Cryptosporidium*?

*Cryptosporidium* is a parasite that infects the intestines. When you get sick from the infection the illness is called cryptosporidiosis. The most common symptom associated with *Cryptosporidium* infection is diarrhea.

The number of people who have gotten sick because of *Cryptosporidium* infection in B.C. has decreased in recent years.

## How can I become infected with *Cryptosporidium*?

*Cryptosporidium* can be spread by water, food, or fecal-oral transmission from an infected person or animal. Fecal-oral transmission is when contaminated feces particles are ingested. Mammals (e.g. farm animals), birds, fish and reptiles can carry *Cryptosporidium*.

Contaminated water is a major source of the spread of cryptosporidiosis. *Cryptosporidium* can survive in lakes, ponds, creeks and streams. You can become infected if you drink or accidentally swallow water while swimming.

You can also become infected by eating raw or undercooked food contaminated with *Cryptosporidium*.

*Cryptosporidium* can also spread from person-to-person in settings where there is fecal incontinence 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 are the symptoms of cryptosporidiosis?

Cryptosporidiosis may cause frequent watery diarrhea, stomach cramps, nausea, vomiting, mild fever and dehydration. However, you can be infected and have no symptoms.

Symptoms typically start 2 to 10 days after exposure to the parasite, with an average of 7 days. Symptoms usually last for 1 to 2 weeks in people who are otherwise healthy.

In some cases, symptoms can return after you have started to get better.

The infection may last longer in people with a weakened immune system. People with human immunodeficiency virus (HIV), those who have had an organ or bone marrow transplant, and those who have had cancer treatment may get serious infections. Young children and the elderly may be at greater risk of getting dehydrated.

## How is cryptosporidiosis diagnosed and treated?

If you think you have cryptosporidiosis, or any persistent diarrhea or vomiting, see your health care provider. You may be asked to submit a stool sample for testing. *Cryptosporidium* is difficult to detect so you may have to submit more than 1 sample.

Your health care provider will decide if treatment with medication is necessary. People with cryptosporidiosis should drink plenty of fluids to prevent dehydration.

## What should I do if I become infected with *Cryptosporidium*?

*Cryptosporidium* is passed in the feces; therefore people with diarrhea who cannot control their bowel movements should not go to work or school. If you have a *Cryptosporidium* infection do not swim in a body of water used by the public, such as: lakes, ponds, streams, rivers, swimming pools or hot tubs for at least 48 hours after the diarrhea and/or vomiting has stopped, or as instructed by your local health authority. Avoiding this activity will help to ensure that other swimmers do not become infected.

If you are a food handler or health care worker it is possible for you to spread *Cryptosporidium* to others. Do not work while you have diarrhea or have been vomiting, and do not return to work until at least 48 hours after your last loose stool or episode of vomiting, 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, or as advised by your local health authority.

Children in daycares should be supervised by an adult when washing their hands. For more information, see [HealthLinkBC File #85 Hand Washing: Help Stop the Spread of Germs](#).

Even after you feel better, *Cryptosporidium* may still be in your stools for several weeks and you can still infect others.

## How can cryptosporidiosis be prevented?

- If a Boil Water Notice has been issued for your community water system, take the advice seriously and follow the instructions provided
- If you have a weakened immune system, you should discuss your risk of cryptosporidiosis with your health care provider. This includes people born with diseases that severely affect their immune system; people with HIV infection who have a CD4+ count of less than 100 cells/mm<sup>3</sup>; hematological cancer patients; and stem cell transplant recipients. Persons with weakened immune systems who are on surface water systems that are not filtered and disinfected may be at risk at all times. See [HealthlinkBC File #56 Preventing Water-Borne Infections For People with Weakened Immune Systems](#)
- Do not drink untreated surface water from a spring, stream, river, lake, pond or shallow well. It is likely contaminated with animal feces
- When camping do not have a bowel movement within 30 metres of a water source
- Do not drink unpasteurized milk or juices
- Wash your hands before eating and handling food, and after using the toilet, changing diapers, or touching animals
- Make sure children, especially those who handle pets, wash their hands carefully on a regular basis and before eating
- Avoid uncooked food or drinks prepared with untreated water, especially during international travel
- Use safe sex practices and avoid contact with feces during sexual activity
- Always take a cleansing shower before and after using public pools

## How can *Cryptosporidium* be removed from water?

If your water supply comes from an untreated surface water source, 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 *Cryptosporidium* by using the following disinfection methods:

### Boiling

Bring water to a full rolling boil for at least 1 minute. If you are over 2,000 meters (6,500 feet) above sea level, boil water for at least 2 minutes. 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 *Cryptosporidium* cysts, filters must have an absolute pore size of 1 micron or less, and be certified by the National Sanitation Foundation (NSF) or another accredited testing agency for cyst removal.

Most jug-type water filters, will not remove *Cryptosporidium*. Some built-in water filtration systems will remove *Cryptosporidium*, 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. The treatment unit should be certified by the NSF or another accredited testing agency for cyst inactivation.

### Other Treatment

Distillation units and combination (filtration and UV) units are also available. Check with your local water purification suppliers or environmental health officer for more information.

It is important to note that *Cryptosporidium* are resistant to chlorine, so treating water with chlorine is generally not effective in removing the parasite. Ask your water supplier if your water treatment is effective against *Cryptosporidium*. Chlorine disinfection alone is not effective.

## For More Information

For more information on disinfecting water, see [HealthLinkBC File # 49b Disinfecting Drinking Water](#), or contact your local environmental health officer.

For information on the certification of treatment devices, visit the Standards Council of Canada at [www.scc.ca/](http://www.scc.ca/).

For more information on the National Sanitation Foundation (NSF), visit [www.nsf.org](http://www.nsf.org).