

Water-borne Infections in British Columbia

What are water-borne infections?

Water-borne infections are any illnesses caused by drinking water contaminated with certain germs or, “pathogens,” like bacteria, viruses, or parasites. Examples include *E.coli*, *Campylobacter*, *Salmonella*, *Giardia*, and *Cryptosporidium*.

How are water-borne infections spread?

Water-borne infections happen when animal or human waste (feces) containing these pathogens gets into the drinking water systems. This is more likely when public and private drinking water systems get their water from surface water sources, such as rain water, creeks, ponds, rivers or lakes.

Water can be contaminated when infected animals, pet, or human feces get into drinking water. Infected animals can include pets, livestock, poultry, or wild animals like beaver, deer and rodents. Runoff of human waste from landfills, septic fields, sewer pipes, or residential or industrial developments can also infect surface water.

What is an outbreak?

When many people get sick from an infection it is called an ‘outbreak’. Outbreaks can happen when the source of drinking water is not properly treated or when water storage tanks or reservoirs become infected with pathogens.

Occasional cases of water-borne infections that occur outside of an outbreak are difficult to identify, because most of the types of illness spread by water can also be spread by food or directly from other people or animals.

What are the symptoms of water-borne infections?

Many people who get infected with a more common water-borne infection will have no symptoms at all, and probably will not even know they have been infected. Over time, the pathogen

moves through your digestive system and leaves your body through your feces.

If you do get sick, how you feel depends on the type of infection. For many water-borne infections, you start feeling sick 2 to 10 days after drinking the infected water. You might have diarrhea, stomach cramps, nausea, vomiting, and a fever. If you have fever, swollen glands, or changes in your vision, see your health care provider.

Who is more likely to get sick?

People who have a greater chance of getting sick include:

- people with weakened immune systems, such as persons who HIV/AIDS, persons who have had an organ or bone marrow transplant, or who have had cancer treatment;
- babies and young children;
- pregnant women;
- older adults; and
- people with a chronic disease.

People with increased sensitivity to water-borne illnesses can have severe reactions and serious complications, including death. Speak to your healthcare provider if you have a weakened immune system and you are concerned about the quality of the water in your community. You might be told to boil drinking water or install a water treatment system. For more information, see [HealthLinkBC File #56 Preventing Water-borne Infections For People with Weakened Immune Systems](#).

Although the risk is relatively low of getting Toxoplasmosis through drinking water, this disease is a concern for pregnant women. For more information, see [HealthLinkBC File #43 Toxoplasmosis](#).

What should I do if I think I have a water-borne infection?

See your health care provider as soon as possible if:

- you are very sick;
- your symptoms do not go away within a few days; or
- you have a weakened immune system.

Notify your local public health unit so that the source of infection can be located and controlled.

How can I keep from getting a water-borne infection?

Do not drink water directly from lakes, streams, rivers, springs or ponds, which may be infected by the feces of infected wild animals, pets, or humans.

If your community has a boil water advisory or notice, or you are concerned about the quality of the water in your community, see [HealthLinkBC File #49b Disinfecting Drinking Water](#).

If you have concerns about the quality of the water you are drinking, contact your local environmental health officer.

Who is in charge of safe drinking water?

It is the responsibility of the local water supplier to provide safe drinking water. A water supplier is the local agency or person that owns and operates the community's system for collecting and delivering drinking water.

The water supplier may be your local or regional government. Many smaller public drinking water systems in British Columbia are owned and run by private persons or water companies.

If you own your home and have your own water supply, such as a well, then you are your own water supplier.

No matter who the water supplier is, they must take responsibility to be sure drinking water is properly treated before delivering it to those who drink it. For more information, see [HealthLinkBC](#)

[File #05b Should I Get My Well Water Tested?](#) or contact your local environmental health officer.

How do water suppliers protect me from water-borne illnesses?

Water suppliers use primary disinfection to kill or remove disease-causing pathogens from water. Primary disinfection methods might include one or more of the following methods: filtration, chlorination, ozone, or ultraviolet light. After primary disinfection is done, a low concentration of disinfectant is maintained in water, known as secondary disinfection, to protect it as it travels through the water distribution system to your home.

Should I treat my water?

Always treat your water if:

- Your community is given a ‘boil water’ notice.
- You get your drinking water directly from a stream, river, lake, creek or a shallow or improperly constructed well.
- Samples of your water test positive for “fecal coliform” or *E. Coli* bacteria, indicating that human or animal waste is present. This is a cause for concern because many pathogens are spread through feces.
- A flood, earthquake, or other disaster has disrupted the water supply in your community.
- You are traveling in an area where water is not well treated.
- You have a weakened immune system. For more information see [HealthLinkBC File #56 Preventing Water-borne Infections For People with Weakened Immune Systems](#).

Boiling is the best way to kill bacteria, viruses and parasites. Generally, water must be boiled for at least 1 minute, and this must be increased to 2 minutes if you are at an altitude of over 2000m. For more information, see [HealthLinkBC File #49b Disinfecting Drinking Water](#).



BC Centre for Disease Control
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