

## Weakened Immune Systems and Water-borne Infections

Here you will find information on water-borne infections and how to help prevent infection in people whose immune systems are weakened.

### Persons who have weakened immune systems include:

- People with HIV infection or AIDS;
- People who have been getting treatment for cancer (i.e. radiation therapy or chemotherapy);
- People who have had an organ or bone marrow transplant and are taking anti-rejection drugs;
- Elderly who may be vulnerable; and
- Infants.

Your doctor can tell you if the precautions described here apply to you.

### Diseases from drinking water

If your immune system is weakened, or if you have a serious illness, you may want to take precautions to make sure the water you drink is as safe as possible.

Drinking water can contain a number of different disease causing organisms, including bacteria, viruses and parasites.

These organisms can exist in the source water and survive through treatment, or they can enter the water supply in the distribution

system. If your immune system is weakened, these organisms can make you more sick than if your immune system is well. Surface water, such as rivers, lakes and streams, is at risk of containing disease causing organisms from animal feces.

Well water can also be contaminated if the well isn't properly built, or if it draws on water on the surface of the ground (shallow wells, or wells that are drilled in fractured rock).

If your immune system is weakened, you should not drink water from surface water sources, and try not to swallow water while swimming.

If there is a boil water advisory in your community, you should boil water for at least one minute before drinking it. You should not drink water out of the tap or use tap water to brush your teeth, rinse your mouth, mix drinks or make ice cubes without boiling it first.

Current water treatment practices in B.C. generally kill bacteria and viruses, but may not kill certain parasites. Water that is safe to drink when it leaves a water treatment plant or deep well may become contaminated in the distribution system.

This can happen if there are openings in storage reservoirs or cross-connections with unsafe water (i.e. untreated irrigation water has been accidentally pumped into city water mains making people sick).

### Water treatment

A full boil for at least one minute is recommended as the best way to kill bacteria, viruses and parasites. At elevations over 2,000 meters (6,500 feet), you should boil water for at least two minutes to disinfect it.

Always boil water for making infant formula.

NOTE: This is not appropriate or effective for water that is obviously heavily polluted, or subject to chemical contamination.

Water treatment devices (jug-type or built-in) are not a simple solution to this complicated problem. The jug filter models are not effective in removing many disease causing organisms. Filters built into the household water system are more effective, and more expensive and require regular, thorough maintenance to continue to work effectively. Check with a reliable, competent supplier who can help you with installation and ongoing maintenance.

If you plan to install a drinking water filter, you will need a system labeled as "Absolute" 1 micron or smaller, or labeled as meeting ANSI/NSF International Standard #53 for removal of parasites.

### Other options

People who don't want to drink water from the tap may also choose to buy bottled water. You can still use tap water for cooking as long as it is brought to a boil, but use bottled water for drinking, brushing teeth, making ice cubes, and in recipes where water is used but not brought to a boil (i.e. cold soups, salad dressings, etc.)

For more information, please contact your local environmental health officer or see the following BC HealthFiles:

[#49a Water-borne Diseases in BC](#)

[#49b How to Disinfect Drinking Water](#)



**BC Centre for Disease Control**  
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