



OUTDOOR DRINKING WATER QUALITY

Fact Sheet

The drinking water in your home is usually safe unless there are “boil” or “no drink” advisories in your community. However, drinking untreated water in the outdoors is different. Even though water taken from lakes, rivers, mountain streams and ponds can look clear and fresh, it can still contain things that can make you sick, even in the winter. So, while camping and being out on the land, it is important to protect yourself and your family.

UNTREATED WATER

What can harm us in untreated water are invisible micro-organisms called pathogens like bacteria, viruses and protozoa. These can cause symptoms like:

Nausea Fever Diarrhea Hepatitis

Two common pathogens found in outdoor water are Giardia, which causes diarrhea often called “Beaver Fever”, and Cryptosporidium, which also causes diarrhea. These often get in the water from feces of animals.

DRINKING WATER SOURCES

When you choose your water source carefully, the water will most likely be less contaminated. You will still need to treat the water but your treatment will be more effective.

HERE ARE THE BEST WATER SOURCES

- ❖ On short trips, use water from home or another safe source.
- ❖ Water quality usually improves in the mountains as you gain altitude.
- ❖ Well water, fast-moving rivers and the deepest parts of lakes are the best spots to obtain water. Avoid stagnant water, shoreline water, and water close to human habitations and campsites.
- ❖ During the winter, it is best to use an open water source or obtain water through a hole in the ice.
- ❖ Check the safety of the ice first! Melting ice and snow consumes fuel and takes extra time.
 - Eating snow or ice directly can lead to chilling and hypothermia and could also cause stomach cramps and headaches.

- Beware of coloured snow - it indicates the presence of algae that could cause diarrhea if ingested.
- Even in winter, all water should be purified.

WATER DISINFECTION

The three overall categories for disinfecting water are boiling, chemical purification and filtration. Often, a combination of two methods is the safest.

PREVENTION

Here are some things that you should know to protect yourself and your family while enjoying the outdoors!

- ❖ Avoid drinking water from visibly polluted streams, lakes, rivers and ponds.
- ❖ Disinfect all untreated drinking water regardless of how clean it looks (see the table below).
- ❖ Use only safe drinking water for brushing teeth and cleaning fruit and vegetables if eaten raw.
- ❖ Periodically clean tanks and containers used to store drinking water. Remember to rinse them thoroughly!
- ❖ Water treated with chlorine or iodine remains drinkable for several days without refrigeration but water treated by other means should be used within two days.
- ❖ Have your common water sources (i.e. at hunting cabins etc) tested periodically by a provincial or private laboratory. Even if it passes these laboratory tests, it is always wise to disinfect surface water.





First Nations Environmental Health Innovation Network

Disinfection may also give the water a funny taste. If you don't like it, try using flavoured drink crystals or concentrated citrus juice to mask the taste of the disinfectant. Add drink powders or juice only after the treatment time has elapsed.

TREATMENT

It is still possible that even after doing all the right things that you may get sick. So, if you feel sick, it is a good idea to keep a water sample of what you drank and see a doctor or nurse as soon as possible.

PURCHASING EQUIPMENT AND SUPPLIES

Wilderness shops are good places to purchase disinfections tablets or solutions and water filters and for getting advice. When buying a filter, it is also wise to buy some of the replacement parts so that you can fix it if it breaks during your trip. Remember, you need water to survive so the added expense could actually save your life!

RESPECTING THE ENVIRONMENT

To preserve the quality of the water in the outdoors, it is your responsibility to follow regulations about wilderness practices. Here are a few tips to get you started:

- ❖ Bury human waste in catholes 4-8" deep at least 200 feet from water, camp, and trails.
- ❖ Bathe and wash at least 200 feet from all water sources. Use only small amounts of biodegradable soap.
- ❖ Scatter dishwater away from lakes and streams after all food particles have been removed.

FOR MORE INFORMATION

Contact [Health Canada](#)

Call us Toll-Free at 1-866-960-5223 for more environmental health resources.

The information given has been adapted from the following sites and documents:

[Health Canada Canadian Drinking Water Guideline-Water Talks](#)

[Health Canada Drinking Water Away from Home](#)

[Health Canada Drinking Water in the Great Canadian Outdoors](#)

	DIRECTIONS	ADVANTAGES	COMMENTS
BOILING	Bring to a rolling boil for 1 minute, allow to cool (add 1 minute for each 300m or 1000ft above sea level). If the water is cloudy, filter it first, then boil it.	Kills all known pathogens	Boiling will give your water a flat taste that can be improved by pouring the water quickly back and forth from one clean container to another, by letting the water cool, or by adding a pinch of salt per litre of water.
FILTRATION AND CHEMICAL PURIFICATION: The reason both methods are combined is because filtration can get rid of bacteria and protozoa (if pore size is 0.1-3 microns) and chemical purification can get rid of viruses.			
DIS-INFECTION TABLETS	Pass the water first through a filter with a pore size of 0.5 micron (absolute) or less first. Use tablets as directed. You may need to allow extra time for the water to stand if the water smells, is cloudy or cold.	Usually effective against most pathogens	Use 2 containers; one for treating the water and the other for carrying the purified water.
CHLORINE BLEACH	Pass the water first through a filter with a pore size of 0.5 micron (absolute) or less first. Add 2 drops (0.1mL) per litre of water (double the amount of drops if the water smells, is cloudy or cold). Shake with the cap closed and with the cap loose so water leaks out to clean the mouth of the container. Let stand at least 30 min (double the amount of time if the water smells, is cloudy or cold).	Usually effective against most pathogens	Use 2 containers; one for treating the water and the other for carrying the purified water.
TINCTURE OF IODINE (2%)	Pass the water first through a filter with a pore size of 0.5 micron (absolute) or less first. Add 6 drops (0.3mL) per litre of water (or 10 drops if the water is cloudy or cold). Shake with the cap closed and with the cap loose so water leaks out to clean the mouth of the container. Let stand at least 30 min (or several hours if the water is cloudy or cold...you can also warm the water first to decrease standing time).	Usually effective against most pathogens	Use 2 containers; one for treating the water and the other for carrying the purified water. Because of potential health concerns (thyroid problems or iodine sensitivity), iodine use is recommended for no more than three weeks per season. Both the iodine crystals and the iodine solution are toxic and should be kept out of the reach of children. Children and pregnant women are particularly sensitive to iodine so they should avoid it.