



Protect yourself from water related ailments while hiking or travelling abroad

Because you never know what's in the water, it makes sense to always protect yourself with a quality water system. A pristine stream may be safe one day and contaminated the next. It all depends upon what's happening upstream. Microorganisms generally come from human and animal waste and are spread by rain and run-off. The EPA reports that 90% of the world's fresh water supply is contaminated.

"We highly recommend treating water from every source in the backcountry. You don't know what's upstream - not just people but animals - and you can get infected." Center of Disease Control and Prevention

When you are travelling abroad, do not forget that drinking another country's water can be dangerous or just make you sick. Read signs carefully. Some taps, including those on trains and airplanes, are not for drinking. If there's any hint of nonpotability — a decal showing a glass with a red "X" over it, or a skull and crossbones — do not drink it.

Remember: if the tap water is not safe to drink in the area you are visiting, do not use it to reconstitute juice or to rinse fresh fruits and vegetables.

Stick with bottled or boiled water, carbonated soft drinks, beer, wine, boiled coffee, and tea.

Do not use ice, even in the better hotels and restaurants. Tap water may have been used in the preparation.

Only brush your teeth with bottled water and keep your mouth shut when you are in the shower, even an accidental spray may get you sick.

Priority One: Good Hygiene -Hand washing is one of the most important practices in preventing illness from infections while travelling. Wash hands often with soap and water or alcohol-based hand rubs to remove potentially infectious materials from the skin and help prevent disease transmission. Avoid touching your eyes, nose, and mouth.

Water Treatment Methods

Below we describe ways to make sure water is safe to drink.

Bottled Water - Bottled water from a trusted source is a recommended alternative to tap water. Before drinking, be sure all bottled beverages have fully sealed caps. If seals are not intact, the bottles may have been refilled.

Boiling Water - Boiling water is the best method for making water safe to drink. Boiling water as recommended will kill bacterial, parasitic, and viral causes of diarrhea. Adding a pinch of salt to each quart will improve the taste.

Water Treatment Tips - Seek calm, clear water. Because it is less turbid, calm water (a lake, a pool, a slow-moving stream) will likely contain less sediment or silt. Such water passes through a filtering media more swiftly and reduces the chance of clogging. Avoid drinking untreated water shortly after a heavy rain, when streams are "on the rise. Avoid collecting water on ice. Bacteria can live for months in ice. Choose snow. Always filter water (particularly at lower elevations) near meadows or pastures where animals have grazed or near popular, established campsites. Always avoid collecting water from water sources near agricultural activity, heavy industry, mines or their nearby tailing ponds. In less developed international locales where surface water is exposed to all manner of human and animal activity (such as remote villages, primitive farming communities and heavily concentrated population centers), treating water with a purifier is a must.

Directions for Boiling Water

Boil water vigorously for 1 minute and allow it to cool to room temperature (do not add ice).

At altitudes greater than 6,562 feet (>2,000 m), boil water for 3 minutes or use chemical disinfection after water has been boiled for 1 minute.





Chemical Disinfection

If boiling water is not possible, chemical disinfection with iodine or chlorine dioxide tablets is another method for making water safer to drink. Cryptosporidium (a parasite that can cause diarrhea) and other coccidian parasites (e.g., Cyclospora, Toxoplasma) might not be killed by this method. When crypto is a serious concern (inquire locally), more reliable options are microfilters, UV light or boiling. Cloudy water should be strained through a clean cloth into a container to remove any sediment or floating matter, and then the water should be treated with iodine or chlorine dioxide.

Directions for disinfecting water with iodine or chlorine dioxide

- Follow the tablet manufacturers' instructions.
- If water is cloudy, double the number of tablets.
- If water is extremely cold, less than 5° C (41° F), an attempt should be made to warm the water, and the recommended contact time (standing time between adding a chemical disinfectant to the water and drinking the water) should be increased to achieve reliable disinfection.
- Note: Be sure the tablet size is correct for a liter of water.

Using Iodine tablets as directed on the label for short-term emergency drinking water disinfection is not likely to be deleterious to women or the fetus, but it is recommended that women check with their doctors before using Iodine tablets during pregnancy.

Portable Water Filters and purifiers

- SteriPEN - It uses ultraviolet light to deactivate the unseen nasty bugs (viruses included) that could be lurking in water. Short-wave UV light (specifically, UVC, which transmits "germicidal" attributes) zaps, or "disrupts," their DNA, rendering them unable to reproduce and thus cause illness.
- MSR MIOX (short for mixed oxidant) is an inventive, battery-operated device brews up an electronically charged salt-based solution (essentially chlorine) that, when poured into water, neutralizes any pathogens.
- Katadyn Exstream - This squeeze bottle is equipped with a replaceable cartridge connected to the straw-like sip tube. When the bottle is squeezed, water is pushed through a 3-stage treatment process: 1) a filter, using pleated glassfiber with 1-micron pores, 2) tiny beads of iodinated resin, to deactivate viruses and 3) carbon molecules, to promote clean-tasting water. It is designed for single-person, on-the-go use, typically day trips only.
- Katadyn Mini Filter - Its small size fits in a coat pocket or waist pack, making the Mini ideal for travel, business trips and day hiking and solo backpacking. Ceramic microstrainer removes bacteria and protozoans, including giardia and cryptosporidia. Silver impregnation inhibits bacterial growth inside filter pores

Prefilters are attached to the ends of some filter intake hoses. They help keep larger debris from reaching the filter media.

For those who take a very conservative, safety-first approach to water, many people advocate "redundancy"—carrying a backup treatment system. A filter could be lost; batteries could fail; device could be broken. Chemicals such as the Iodine tablets or chlorine dioxide tablets, (which many people find have a more agreeable taste) offer that layer of security with negligible weight.

