Drinking Water after a Flood

When should I disinfect my drinking water?

Disinfecting is a process to destroy disease-causing organisms. The need to disinfect your drinking water is largely dependent on its source and who is providing the water to your home.

- **Water Supply System** - If your water supply has been affected by a flood and a public notification has been issued (e.g. a 'Boil Water Notice'), you may need to disinfect your drinking water.

- **Private Well** - If you get water from your own well on your property and flood waters were over the top or around the well casing, disinfect your drinking water. Do this after the flood waters have receded and then have a sample analyzed for microbiological contaminants.

- **Surface Water** - If you get your water directly from a stream, creek, spring, lake or pond, you disinfect your water supply all the time. Untreated surface waters are always at risk of carrying germs and the water should be boiled or otherwise disinfected prior to consumption.

*Please note - flood waters can contain chemical hazards that disinfection alone may not remove. Please contact your local health protection office for further information.

Why should I disinfect my drinking water?

Disinfecting drinking water kills bacteria, viruses, and parasites, many of which can infect people and cause sickness. Sickness from water is often caused by E.coli, Campylobacter, Salmonella, Amoebic dysentery, Giardia (beaver fever), Cryptosporidium, and Toxoplasma.

These germs can enter the drinking water when animal or human feces get into drinking water. Open waters, such as lakes and streams, are more likely to be contaminated than deep groundwater supplies. The closer water is to the surface, the greater chance of contamination. Floods introduce more contaminants into surface water than what is normally found.

What should I buy store-bought water for?

Use disinfected or store-bought water for:
- Making baby formula,
- Brushing your teeth,
- Making coffee or tea,
- Cleaning raw vegetables and fruit,
- Making drink mixes such as juice concentrates or drink crystals,
- Making ice cubes, and

- Bathing children: This is to reduce the chance that your child will swallow water that may be contaminated. Give sponge baths using clean water.

What is the best way to disinfect water?

The best way to kill bacteria, viruses, and parasites is to bring water to a full boil for at least one minute; at elevations over 2,000 meters (6,500 feet), boil water for at least two minutes. Cool and store the water in clean containers made for food or water. Boiling may not make heavily-polluted water safe.

Can I use bleach to disinfect water?

Yes, use unscented household bleach. Avoid scented, colour-safe, non-chlorine and bleaches with added cleaners.

Bleach will kill viruses and bacteria, but may not kill parasites, such as Giardia or Cryptosporidium, which require boiling. If you are unsure about the safety of your water, even after it has been treated with bleach, do not consume it.

Bleach works best when added to water that is about 20˚ C (68˚ F). To treat your water, add two drops (0.1 ml) of unscented household bleach (about 5.25% chlorine) to 1 litre of water. Mix the bleach and water together, cover it and let it stand for at least 30 minutes before drinking. You should notice a slight chlorine smell after the 30 minutes. If you don't, add another two drops, then let the water to stand for another 15 minutes.

If the water is cloudy or colder than 10˚ C (50˚ F), add four drops (0.2 ml) of unscented household bleach (about 5.25% chlorine) to 1 litre of water. Mix the bleach and water together, cover it and let it stand for one to two hours before drinking. If the treated water has a strong smell or taste of chlorine, leave the container open for a few hours. You can also pour it back and forth from one clean container to another several times. The longer the treated water stands, the better the disinfection.

If you are using chlorine tablets, follow the directions on the package.

Can I use iodine to disinfect water?

Yes, iodine can be used but only for a short period of time. If you use iodine for more than one to two months, you could develop thyroid problems. Pregnant women should not use iodine drops to disinfect water, it could harm the unborn baby.

Iodine works best when added to water that is about 20˚ C (68˚ F). To treat water, add five drops (0.25 ml) of 2% Tincture of Iodine to 1 litre of water. Mix the iodine and water together and let it stand for at least 30 minutes before drinking.

If the water is cloudy or colder than 10˚ C (50˚ F), use the same amounts, but let it stand for 40 minutes before drinking. If you are using iodine tablets, follow the directions on the package.

What if the water is still cloudy or murky after boiling or chemical disinfection?

If the water is cloudy or murky, pour it through a clean cloth or coffee filter. Let any remaining particles settle to the bottom, then pour the water into clean containers made for food or water. The water might still look a little cloudy. If you are ever unsure about the safety of your water, even after it has been treated, do not consume it.

Should I consider filtration or other treatment methods?

If your drinking water requires treatment for more than one to two months, consider installing a filtration system or using another source, such as bottled water. If you are going to install a filtration system, use a reliable supplier who can help with installation and ongoing maintenance.

To remove some types of contaminants, such as Giardia, filters must have an absolute pore size of 1 micron or less, and be certified by the National Sanitation Foundation (NSF).

Jug-type water filters (such as Brita®), are not designed to remove contaminants from an unsafe water supply and will not remove Giardia. Some built-in water filtration systems will remove Giardia, but they need regular maintenance to work well.

Other types of water treatment, such as distillation and UV units, are also available. Check with local water purification suppliers, or your local environmental health officer, for more information.