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Are You Ready Series: Emergency Water Supply

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We use water for everything. From cooking, cleaning the dishes, cleaning our bodies, brushing our teeth and for drinking. In the event of a natural emergency such as a hurricane or tornado, water can be interrupted for days, even weeks. Water is one of the first items to disappear off the store shelves when a disaster threatens. Usually, before, during and after a disaster, stores will not be able to keep water stocked due to the high demand. Without water to drink, dehydration sets in, the body starts shutting down and then ... well it isn't good. A human can die in a few days without any water. Having safe drinking water is a top priority when it comes to storing supplies in the event of an emergency.

Drinking water is the best way to keep the body hydrated. Caffeinated beverages such as coffees and teas only make the body want for more water. Carbonated beverages are also not a good idea to drink as they dehydrate the body. Potable water is water safe for human consumption. It is free of disease causing microorganisms, poisonous substances, minerals, organic matter, chemical, biological and radioactive substances.

How Much Water Do I Need?

Disaster officials suggest having a 3 day water supply and further recommends having 1 gallon of water per person per day.

[Source – www.fema.org](http://www.fema.org) ^[1]

Play it safe and buy 2 gallons per person. The extra water can always be used for other purposes. *If there are children, nursing mothers, elderly people or pets in your care, more water should be appropriately accounted for. Very hot temperatures can double the amount of water needed, so take this into account as well. If medical emergencies arise, water would be needed as well.* Using disposable cups, plates and utensils will cut down on using water for cleaning.

Safely Storing Emergency Water

Keep your emergency water supply safe. When storing water follow these tips:

- Keep emergency water in a cool, dark place in your home, each vehicle, and your workplace.
- It's best to use bottled water. Use water before the expiration or "use-by" date stamped on the container.
- It's possible to keep water in food-grade containers intended for water storage. Containers must be thoroughly washed, sanitized, and rinsed. Only store clean, ready-to-drink water. Tap water will probably need to be purified. Ask public health authorities or your water provider whether tap water should be used and how to treat it. Do not use milk or juice containers for storing water. Even if you try to thoroughly clean these plastic containers, left over sugars and proteins provide perfect places for bacteria to grow.
- Plastic soft drink containers can be used in a pinch. Clean and sanitize containers before they are used.

[Source – www.cdc.gov](http://www.cdc.gov)

Protect Your Water Sources

If there are reports of broken water or sewage lines or if local authorities advise you there is a problem, steps should be taken to protect your water sources.

To close the incoming water source, locate the incoming valve and turn it to the closed position. Be sure you and other family members know how to perform this important procedure.

How Do I Find More Water?

When water runs out, the race is on to find available and safe drinking water. There are places around the house where safe drinking water can be found.

Safe Sources

- Melted ice cubes
- Water drained from the water heater (if the water heater has not been damaged)
- Liquids from canned goods such as fruit or vegetable juices
- Water drained from pipes
- To use the water in your pipes, let air into the plumbing by turning on the faucet in your home at the highest level. A small amount of water will trickle out. Then obtain water from the lowest faucet in the home.
- To use the water in your hot-water tank, be sure the electricity or gas is off, and open the drain at the bottom of the tank. Start the water flowing by turning off the water intake valve at the tank and turning on the hot water faucet. Refill the tank before turning the gas or electricity back on. If the gas is turned off, a professional will be needed to turn it back on.

Unsafe Sources

- Radiators
- Hot water boilers (home heating system)
- Water beds (fungicides added to the water or chemicals in the vinyl may make water unsafe to use)
- Water from the toilet bowl or flush tank
- Swimming pools and spas (chemicals used to kill germs are too concentrated for safe drinking but can be used for personal hygiene, cleaning, and related uses)

[Source – www.fema.gov](http://www.fema.gov) ^[2]

Rain, clean snow, lakes, ponds and other natural water sources are another type of water source to find drinking water. However, the water must be treated in order to drink. The U.S. EPA states that 90% of the world's natural water supply is contaminated. Drink water that you know is not contaminated. If any water looks suspicious, put it aside and drink the good water first. If the suspicious looking water is going to be used, it should be treated.

When to Treat Water

Water is only as safe as it's source. When there is any doubt about the quality of water to drink, treat it. It is better to be safe than to have the possibility of ingesting unsafe drinking water. Treating the water will eliminate any microorganisms and the possibility of contaminants in the water. Microorganisms such as protozoas, bacteria and viruses can make a person very ill. Some cases of water contamination have even caused death. If someone suspects they have ingested contaminated drinking water, some of the symptoms include:

- Severe Gas

- Diarrheah
- Vommiting
- Severe Abdominal Cramps
- Headache
- Weakness Due to The Above Symptoms

Epidemics such as Cholera and Typhoid have begun as a result of contaminated drinking water. Making sure the water is safe is not only safe for the person consuming it, but also for the people in your local area.

There are three types of treatments for water:

Boiling

Boiling is the easist and safest method of treating water. Boil the water to a rolling boil for 1 full minute, keeping in mind that some water will evaporate. Let the water cool before drinking. Boiled water will taste better if you put oxygen back into it by pouring the water back and forth between two clean containers. This also will improve the taste of stored water.

Distillation

Distillation involves boiling water and then collecting only the vapor that condenses. The condensed vapor will not include salt or most other impurities. To distill, fill a pot halfway with water. Tie a cup to the handle on the pot's lid so that the cup will hang right-side-up when the lid is upside-down (make sure the cup is not dangling into the water) and boil the water for 20 minutes. The water that drips from the lid into the cup is distilled.

Here are a few youtube videos that would be helpful in creating a distiller for water:

[Homemade Water Disstiller](#) ^[3]

[Solar Powered Water Disstiller](#) ^[4]

[Source – www.fema.gov](#) ^[2]

Chemical Treatment

If boiling water is not a possibility, then chemical disinfection is advised for water purity.

Using Bleach

- Filter the water using a piece of cloth or coffee filter to remove solid particles.
- Bring it to a rolling boil for about one full minute.
- Let it cool at least 30 minutes. Water must be cool or the chlorine treatment described below will be useless.
- Add 16 drops of liquid chlorine bleach per gallon of water, or 8 drops per 2-liter bottle of water. Stir to mix. Sodium hypochlorite of the concentration of 5.25% to 6% should be the only active ingredient in the bleach. There should not be any added soap or fragrances. A major bleach manufacturer has also added Sodium Hydroxide as an active ingredient, which they state does not pose a health risk for water treatment. *Make sure the bleach is fragrance free before it is used.*
- Let stand 30 minutes.
- If it smells of chlorine. You can use it. If it does not smell of chlorine, add 16 more drops of chlorine bleach per gallon of water (or 8 drops per 2-liter bottle of water), let stand 30 minutes, and smell it again. If it smells of chlorine, you can use it. If it does not smell of chlorine, discard it and find another source of water.

[Iodine tablets](#) ^[5]

Iodine must be stored in a dark container so that sunlight does not ruin the tablets. Iodine has been shown to be more effective than chlorine treatments and inactivate Giardia. Follow the recommended instructions suggested by the manufacturer. *Beware, some people are allergic to iodine and would not be able to use this form of water purification.* Persons with thyroid problems or on lithium, women over fifty, and pregnant women should consult their physician prior to using iodine for purification. Also, some people who are allergic to shellfish are also allergic to iodine. If someone cannot use iodine, use another method. **Camping Trick:** If a person adds a Vitamin C tablet to the water, the choline taste vanishes. Make sure the purification treatment has finished before adding the Vitamin C.

[Chlorine tablets](#) ^[6]

Chlorine can be used for persons with iodine allergies or restrictions. Follow the instructions recommended by the manufacturer. Chlorine can be used for persons with iodine allergies or restrictions. **Camping Trick:** If a person adds a Vitamin C tablet to the water, the choline taste vanishes. Make sure the purification treatment has finished before adding the Vitamin C.

[Micropur tablets](#) ^[7]

They are the only disinfection system effective against viruses, bacteria, cryptosporidium, and Giardia. Follow the instructions recommended by the manufacturer. These tablets have no residual chemical taste. 1 tablet is used to purify 1 quart of water.

Wells and Aquifers

If there is time before the emergency disaster, attempt to plug or cap the well to reduce the potential for damage and contamination.

[Water Wells – What To Do Before A Flood](#) ^[8]

After the disaster, go to the well or aquifer and check for the possibility of contamination and investigate the area to access the situation. Check the following:

- Surface water running into or collecting near the Well.
- A defective or improperly installed Well Casing, cover or pipe connection which would allow surface water, animals, insects or plant material to enter the Well. (Well casing not sealed).
- Nearby septic systems or manure piles, which as within 30M (100 ft) of the well.
- Openings in the well seal.
- Well casing not being deep enough.
- If any of these has occurred, treat any water that comes from the well.
- A source of contamination not related to the Well Construction.

[Source – www.cdc.gov](http://www.cdc.gov) ^[9]

Water Pumps and Filters

Anytime that water for the home has been interrupted, it is a good idea to use a good water pump to prevent from ingesting harmful parasites. If you are out in nature and need to purify water, try and find a running water source as opposed to a standing water source. Using a water purification tablets in conjunction with a water pump is a good way of making sure that water is potable and ready to drink. Water pumps have been known to not remove viruses and at times giardia cysts, therefore if at all possible, treat the water if there is any doubt.

[Water pumps](#) ^[10] come in all shapes and sizes. The better the water pump, the better the water is not always the case. Here are some things to look for when purchasing a water filtration system.

- Find a filtration system that captures bacterias and have effective filters to capture cryptosporidium and giardia.
- Output or how long it takes to produce an amount of water and how how much physical effort is involved from pumping.
- Try and find a filter that can attach directly to your bottle.

Read about reviews ^[10] of the different types of [water filters](#) ^[11] to find the best one that fits your needs.

Water is essential to maintaining health and body regulation. Emergency experts suggest having a 3 day water supply in the case of an emergency. There may be times when the emergencies last longer than three days, so plan accordingly. Keep water stored in a dark area in food grade containers. Have a list of water sources in the home that can be used in the event that more safe water is needed. Using the three types of water treatment (boiling, distilling or chemically treating) can assist in eliminating any harmful organisms, bacterias or viruses. Treat any outside water source as if it is unsafe. Using a water pump or water filter can treat the water effectively to make it a safer water source. If these water suggestions are used appropriately, you and your family will have "some quality H2O."

Related Articles

[Are You Ready Series: Emergency Medical Supply](#) ^[12]

[Drinking Water Unsafe at Thousands of Schools](#) ^[13]

[Military Water Supply – E book](#) ^[14]

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URLs in this post:

[1] Source – www.fema.gov/plan/prepare/water.shtm

[2] Source – www.fema.gov/plan/prepare/watermanage.shtm

[3] Homemade Water Disstillor: <http://www.youtube.com/watch?v=1oHrDdrXDro>

[4] Solar Powered Water Disstillor: <http://www.youtube.com/watch?v=4sqRvUzqDCE>

[5] Iodine tablets: http://www.amazon.com/Potable-Water-Purification-Iodine-Tablets/dp/B001949TKS/ref=sr_1_1?ie=UTF8&s=sporting-goods&qid=1258341939&sr=8-1

[6] Chlorine tablets: <http://www.thereadystore.com/water-storage/emergency-water-purifiers/potable-aqua-namp-pa-plus-water-purification-tablets>

[7] Micropur tablets: http://www.amazon.com/Katadyn-Micropur-Purification-Tablets-count/dp/B000H3DNF4/ref=sr_1_7?ie=UTF8&s=sporting-goods&qid=1258345596&sr=1-7

[8] Water Wells – What To Do Before A Flood:

http://www.env.gov.bc.ca/wsd/plan_protect_sustain/groundwater/wells/factsheets/PFRA

[9] Source – www.cdc.gov:

http://www.cdc.gov/healthywater/emergency/safe_water/wells/

[10] Water pumps: <http://www.thereadystore.com/water-storage/emergency-water-filters>

[11] water filters: http://www.thebackpacker.com/gear/water_filters/

[12] Are You Ready Series: Emergency Medical Supply :

http://readynutrition.com/resources/medical-emergency1_09112009/

[13] Drinking Water Unsafe at Thousands of Schools:

http://www.msnbc.msn.com/id/33008932/ns/health-kids_and_parenting/

[14] Military Water Supply – E book: <http://www.scribd.com/doc/13055345/military-water-supply>

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