Water Storage & Purification

AllSecure
STORAGE & PREPAREDNESS LLC

The need for pure water in the body is greater than almost any other need. Experts tell us that 3 days without water and our bodies will degenerate and die. Contaminated water though, will kill you in less than 24 hrs. In many disasters, many more die from water born illness that from the initial disaster.

We lose water from respiration, perspiration, and elimination. These all can contribute to dehydration and death. A few points to remember when water is low or not available:

1. Don't ever in cold weather eat ice or snow without melting it first, if you don't have access to external heating.
2. Keep exercise and activity to a minimum and in hot weather move at night.
3. Eating food will cause the body to dehydrate faster when water supply is low.

Dangers in water:

A. Biological-protozoas, bacteria, viruses
B. Chemical-heavy metals, salts, fuels, pollutants, chemicals

Storing water:

A. Store 1 gal. per person, per day, with minimal activity. 14 gal. minimum for 2 weeks per person or 1 55 gal barrel for a family of four.
B. families with small children, (sanitary) pets, those living in hot climates (100+) and those performing physical labor, (1 qt. of water per hr in hot climates) need to double their water storage.
Store in food grade, clean containers. Use a variety of sizes for easy use and Transport. Purchasing some bottled water is a good idea too.

Water sources:

A. Water heater
B. Rain water
C. Toilet flush tank
D. Creeks, rivers, ponds

Non-usable sources:
(should be used to flush toilets only)

A. Waterbed water
B. Hot tubs
C. Swimming pools
(note: Chemicals do not boil out and some may be toxic. Possibility of distilling)

Steps of purification:

A. Clarify or strain
B. Disinfect
C. Filter
D. Remove contaminates if using chemically polluted water.

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You should have at least two different methods of water purification. NEVER RELY ON A COMMERCIAL FILTER ONLY. They can break, clog, or go past their manufactured life span. Most diseases are water borne, especially after natural disasters, and in refuge camps. Sanitation and water purification is a must.

Clarifying is removing or straining out any suspended particles. Bacteria can hide in any piece of debris making disinfection harder or impossible.
Use coffee filters, layers of paper towels, tightly woven cloth or water filter bags. (Commercial water filter bags are great and very cost efficient.)
Allow water to settle and pour or scoop off the top water.

Disinfecting is killing or removing pathogens (bugs) that can cause illness and disease: Boiling, pasteurizing, distilling, solar disinfection, chlorine bleach, iodine, silver, stabilized oxygen.

Boiling is the safest method. Kills most micro organisms that cause illness. Clarify before boiling. A rolling boiling 3-5 min is recommended. (Does not remove contaminants like heavy metals, salts and most metals)

Pasteurization-heat water to 160 degrees for 20 min. This kills everything boiling does and it takes half the heat. Kills all bacteria, viruses, parasites, giardia, eggs, worms, cholera, salmonella, and the things that cause typhoid, E. Coli, Hep. A, and rotavirus.
A Water Pasteurization Indicator (WAPI) is the tool for pasteurizing water and costs under $10.

Water distilling-removes contaminants that boiling and chemicals can't. Removes heavy metals, salts, and other chemicals. It is a slow process and requires a lot of energy. Will not remove substances with lower boiling point than water (gas, petroleum, alcohol etc.)

Solar Disinfection (Sodis) uses UV rays to eliminate harmful pathogens. Fill container ¾ full and shake for 20 seconds. Finish filling. Place transparent container of filtered water in direct sun for 5-6 hrs. Increase exposure to 2 consecutive days if heavy cloud cover. Will not remove chemicals, tastes, or smells. Will not treat large volumes of water.

Chlorine Bleach-Clarify water before treating. 16 drops of liquid chlorine bleach to one gal. of water. Let stand 30 min. Should have a slight chlorine smell. (No added soap or fragrances in bleach) Remember that liquid bleach has a short shelf life, only 6-12 months. Chlorine does not remove contaminants such as heavy metal, salts, and chemicals.

Powdered Chlorine (Sodium Dichloro-s-triazinetrione). This is powdered chlorine bleach and stores for 10-12 yrs. Purchase only 99% with 1% inert ingred. This is really powerful, please be careful. ¼ tsp. for a 55 gal. barrel. Slight smell of chlorine should be present after 24 hrs. If not, repeat process. As always, clarify before treating. Again, this does not remove contaminants.

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Iodine treatment-Chemical halogen available in 5-7 % solution, 10% solution, tablets, crystals and 2 % tincture. Must remain in water for a certain period of time to work. Amount needed varies with water temp., PH, and strength of solution. Not recommended for pregnant women or for long term use.

In case of dehydration from sweating or loss of fluids from excessive diarrhea, a dehydration solution is great to have on hand. This can save your life:

1 tsp salt (optional 1/2 tsp salt & 1/2 tsp lite salt (has potassium)
8 tsp sugar (molasses for potassium can also be used)
1 qt water

Sanitation

Sanitation is a must! We have seen this over and over in natural disasters. In Honduras, when the hurricane hit that country 3000 people died. 1 month later over 21,000 had died from water borne disease.

Have a camping portable toilet or they make a lid that fits on a bucket. Use 13 gal. plastic sacks inside for solid waste. Tape bag to out side of bucket and always use plastic gloves when handling waste. Urine can be in a separate container and poured in a shallow hole. Bury sacks deep enough that animals can't dig them up and all latrines should be at least 75 steps from any water supply.

Have a good supply of toilet paper, feminine produces, hand wipes, germ-x or diluted bleach for sanitizing. You can make or buy reusable feminine products from the net for long term needs (highly recommended). Plan on 5 gals of waste per person weekly. Use deodorizer - sanitizer in the bucket to control odors.