Emergency Water Supply and Storage

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Concerns about water supply and storage top the list of questions I am most frequently asked. To help motivate people who have not yet begun planning for a emergency, I usually suggest two easy starting points: place a pair of shoes under the bed (so that you don't shred your feet on broken glass), and **please** store water.

Water: The Essential Nutrient

From a strictly survival point of view, water is the most important element for your body's survival. A person can lose all reserve carbohydrate and fat, and about half the body's protein without being in real danger. A loss of only 10 percent to 22 percent body weight as water is fatal.

The amount of water lost from the body through urine, water vapor from the lungs, and through perspiration averages 2.5 liters per day. Water loss must be made up by fluids consumed, and by the water produced in the body as a result of metabolic processes.

The effects of dehydration on the body are dramatic. They range from thirst to stronger thirst, sleepiness, apathy, nausea, emotional instability, labored breathing and dizziness, delirium--and finally death. Infants, children, the elderly or physically ill persons are particularly susceptible to dehydration.

FAQ's About An Emergency Water Supply

1. "We live near a stream that runs year round. In the event of an emergency could we take drinking water from the stream?"
    - Answer: Under serious disaster conditions, no water can be presumed safe for consumption. Typhoid fever, dysentery, and infectious hepatitis are diseased associated with unsafe water. Water purification techniques may be effective in removing some, but not all contaminants from water. The only way to guarantee a safe water supply is to store it away yourself--before a disaster.
2. "How much water should I store?"
    - Answer: This is a highly personal decision, but I urge you to store at least three days worth of water for each family member--including pets. A minimum of 1 liter per person per day (for drinking purposes only) is the bare minimum for survival. For our family of 5 people and our dog, we have stored in excess of 40 liters.
3. "How long can water be stored before it should be rotated?"
    - Answer: This is one of the most difficult questions to answer. The shelf life of water depends on the original quality of the water, the temperature at which it is

stored, how much light it is exposed to just to name a few. Many manufacturers of bottled water will include a shelf life on their product.

4. "Some of the water I have stored tastes flat, what should I do?"
    - Answer: Stored water may eventually develop a disagreeable appearance, taste, or odor. Inspect your water supply at least every six months (I inspect ours every three months) to see whether the containers have leaks or if any of the above problems have occurred.
      Under emergency conditions, water that tastes flat can be aerated by pouring the water from one container to another to another about three or four times.
5. "How can the shelf life of water be increased?"
    - Answer: To increase the shelf life of water stored in translucent containers, group the containers together in dark plastic bags to keep out the light. Polyethylene plastics (water, milk, and bleach bottles) can be permeated by hydrocarbon vapors. Store your water supply away from gasoline, kerosene, pesticides, or similar substances.

NOTE: I have stored our water (mostly in four-liter milk jugs) in two different home locations, in case we are unable to access one stash. Approximately half is stored in the basement, while the other half is stored in our upstairs chest freezer. These frozen jugs of water help to improve the efficiency of our half empty freezer, and in the event of a power outage will help to protect the food from thawing. After an earthquake, the jugs can be used in a freezer to provide us with an icebox. (Also see the TOW episode on the garage refrigerator)

Additional Water Sources

In addition to your stored water, there are a number of other possible sources of water in your home:

- **Water drained from the hot water tank if the tank remains upright**.
    - Immediately after a major disaster, we can prevent contamination of our hot water tank supply by shutting off the water valve that leads from the water main into the house. (Also see the excellent Tip o' da Week" on anchoring your heater) To drain the tank, follow these instructions:
        - Turn off the gas or electric supply to the tank.
        - Close the water intake valve into the tank by closing the faucet at the top of the tank.
        - Drain water into a container by opening the faucet at the bottom of the tank. Never turn the gas or electricity back on until the valve is reopened and the tank is full of water.
        - Drain water every six months allowing water to drain until it flows clear. This process will ensure that the tank remains free of mineral and rust deposits and will also save on fuel!
- **Water remaining in the pipes.**
    - If your home is multilevel, you can drain the existing water in the pipes by gravity flow, after the water line into the house has been shut off.

    - Open a faucet on the top floor and drain water from a faucet at the lowest level.
- **Water dipped from the flush tank (not bowl) of the toilet.**
    - Purify water before using. Do not use chemically treated "blue" water.
- **Water from a swimming pool.**
    - This water can be used for hygiene purposes only. If consumed, this water can cause diarrhea due to chlorine content and can even cause permanent kidney damage.

Purifying Water

- If water is polluted, strain through paper towels, paper coffee filters, or several layers of clean cloth into a container to remove any sediment or flaking material. Then boil the water vigorously for 10 minutes, as this will usually make it safe to drink. Add one additional minute for each 10,000 feet of altitude, depending on the area you live in.
- Another method of purification is to strain the water as described above, and then to chemically purify it by adding liquid bleach or tincture of iodine. Do not use granular forms of household bleach as they are poisonous.
- For clear water, use two drops of bleach or three drops of tincture of iodine per liter. If the water is cloudy, then these amounts should be doubled. Store an eye dropper with your emergency supplies, to be used only for this purpose.
- Mix thoroughly by stirring or shaking water in a container. Let the water stand for 30 minutes. A slight chlorine odor should be detectable. If not then the dosage should be repeated and the water allowed to stand for an additional 15 minutes.
- Liquid bleach loses strength over time. For this reason I mark each bleach container with the current date. If the bleach is one-year-old, double the amount. Two-year-old bleach should not be used.
- Water purification tablets will purify one liter of water. The tablets have a shelf life of two years and lose their effectiveness if them get damp.
- Purify enough water to last a maximum of 48 hours. Water allowed to sit for longer than this may become re-contaminated.

A note from the *Epicenter* Webmaster:

Terri's Emergency Planning Manual and Workbook is written with a hands-on approach to earthquake preparedness.

The book features a series of easy-to-read and use checklists, work pages, and suggested plans of action. With foreword by Ross Peterson, coordinator of the North and West Vancouver Emergency Program, this manual/workbook stresses not only quake proofing the home, but coordinating family survival plans with the workplace, school, neighborhood, and car travel.

Five sections provide quick reference to emergency information. Each page has wide margins and headers for additional work space. First aid kits, school plans, Go Bags, infant supplies, emotional preparedness and emergency food storage are just a few of the topics discussed.

If you have ever felt intimated by the stack of pamphlets handed out at preparedness seminars, this book is for you! Nice job Terri!

Terri's book is available from Terri's own web site: http://www.webdirect.ca/denic

Terri's company may be reached at:

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