Texas Cooperative EXTENSION
The Texas A&M University System

Making Drinking Water Safer from Bacterial Contamination in Emergency Situations

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Public Water Supplies

Health departments and officials responsible for public water supplies use many safeguards to protect the sanitary quality of your drinking water. However, this protection may break down during emergencies caused by natural disasters, such as hurricanes. Water supplies to your home may be shut off or become dangerous to use. *You must then know what to do to provide a safe and adequate supply of water for your family.*

Private Water Supplies

If you have your own water supply, such as a well, cistern, spring or other private source, ask your health department or local county office of Texas Cooperative Extension to inspect it for sanitary quality and to show you how to keep it safe. You should also have your water tested for the presence of disease-causing bacteria such as total or fecal coliforms or *E.coli*. There are many diseases associated with the consumption of water contaminants by these and other bacteria. If properly constructed and maintained, you should have confidence that, under normal conditions your water is safe to drink. However, under emergency or disaster conditions, particularly during floods, these sources may become dangerous to use. Unless you are assured otherwise by test results, *no water should be presumed safe, and all water should be disinfected in such emergencies.*

Emergency Sources

If it is necessary to select an emergency water source, remember that underground water, such as that obtained from wells or springs, is less likely to contain contamination harmful to your health than water from surface sources. However, if underground water is not available, surface water from a creek, river, lake or pond, in that order, should be used if available. Avoid water having a dark color, an odor or containing floating materials since such things may indicate pollution. If possible, surface water should be obtained upstream from an inhabited area and dipped from below the surface. Remember to *disinfect all water when you are unsure of its quality before it is consumed*. Also remember, if your home supply is interrupted, limited amounts of water may be obtained by draining the hot water tank, melting ice cubes or using water in the toilet tank.

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Methods of Disinfection

The following simple procedures, including use of either heat or chemical disinfection and clean containers (to the extent possible), will reduce or eliminate most harmful bacteria that may be present in water obtained under emergency conditions.

Heat

1. Strain water through a clean cloth, coffee filter, or paper towel into a container to remove any sediment or floating matter.
2. Boil the water vigorously for at least 10 minutes.
3. After it cools, the water is ready to use. To improve the taste, you may add a pinch of salt to each quart of boiled water, or pour the water back and forth from one clean container to another several times.

Chemicals

If boiling water is not possible, strain the water as in listed above and disinfect with any one of several chemicals as follows. Choice of chemical is based on availability.

Liquid Chlorine Bleach *(from the home laundry or grocery store)*. Read the label to find percentage of chlorine available and follow this table.

	Drops to be Added per Quart	
Available Chlorine	**Clear Water**	**Cloudy Water**
1 percent	**10**	**20**
4 to 6 percent*	**2**	**4**
7 to 10 percent	**1**	**2**

**Common unscented household laundry bleach*

1. Stir or shake container thoroughly.
2. Let stand for 30 minutes. If a slight chlorine odor is detectable, the water should be safe.
3. If a slight chlorine odor is not detectable in the water, repeat the dosage and let stand for an additional 15 minutes before serving.

Tincture of Iodine *(from medicine chest or first aid kit)*

	Drops to be Added per Quart	
Available Iodine	**Clear Water**	**Cloudy Water**
2 percent	5	10

* Let stand for 30 minutes, after which time, water should be safe to use.

For additional information:

http://waterandme.tamu.edu
http://water.tamu.edu
http://twri.tamu.edu