



WATER

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Every day Americans drink more than one billion glasses of water! We also depend on water in our homes to clean, cook, and bathe. If you are like most people, you trust that your water is safe. This is mostly true. Public drinking water in the U.S. is generally safe. However, there are times when your home water supply may not be safe. Using unsafe water to drink or prepare food can make you sick.

If you have a well or other private water supply, it's up to you to keep your drinking water safe. About 95% of rural residents use private wells to supply drinking water. These wells, which tap into local groundwater, are designed to provide clean, safe drinking water. However, improperly constructed or poorly maintained wells can create a pathway for fertilizers, bacteria, pesticides, or other materials to enter the water supply. Once in groundwater, contaminants can flow from your property to a neighbor's well, or from a neighbor's property to *your* well.

Health Effects and Sources of Contaminated Water

What may be in drinking water that is not safe!

Bacteria and Viruses

Bacteria and viruses can cause diseases. Drinking water with these germs may cause upset stomachs, diarrhea, or more serious illnesses. It can be worse for children, pregnant women, and sick or older people. Just one drink of water with these germs can make you sick.

Nitrate

Nitrate gets in to water from animal and human waste, and from fertilizer. Too much nitrate in you drinking water can cause "blue baby" syndrome in infants under 6 months old. Some experts believe nitrate may also result in birth defects and miscarriages. Baby food or formula made with drinking water needs to be safe.

Lead

Lead is a metal that can get into water from your pipes. Too much lead can cause children to have learning and behavior problems and other illnesses.

Other Harmful Chemicals

Other harmful chemicals can get into drinking water. Pesticides may get into your water supply by

washing off lawns and fields or leaking from storage containers. Gas or oil can seep into the ground and get into drinking water. Even very small amounts of some chemicals can cause health problems when found in the water, such as damage to kidneys, liver or other organs. Some cause cancer and others can cause problems if you are pregnant.

Children may have more problems than adults because of their immune systems, their bodies are still developing, and for their size, they drink more liquid than adults.

Detection of Contaminated Water

If your water comes from a private well, you cannot see, smell, or taste most problems so you need to have your water tested at a laboratory at least *every year*. Well water should at least be tested for bacteria and nitrate. You may want to have your water tested for other pollutants, like pesticides, if you have had problems in the past. A good source of information on well water quality may be your neighbors. Ask them what their tests have revealed. A more complete water analysis for a private well will tell you about its hardness; corrosivity; and iron, sodium, and chloride content. Call your county health department to find out how to have your water tested; you can find the phone number in your local phone directory under your county name or in the government section. Or call the State Department of Health at (801) 538-6101 to find the number of your county health department. You can also call EPA's Safe Drinking Water Hotline toll-free at (800) 426-4791.

Reducing Contaminated Water Problems

Contaminants often have no odor or color and therefore are hard to detect. Contaminants can put your health at risk, and it is difficult and expensive to remove them. Once your water becomes contaminated, the only options may be to treat your water after pumping, drill a new well, or get your water from another source.

One problem that can be fixed is backflow. Backflow of contaminated water into your water supply can occur if your system undergoes sudden pressure loss, if the well fails or, backflow can also occur if you are on a public water system, if there is a line break in the system. The simplest way to guard against backflow is to leave an air gap between the water supply line and any reservoir of "dirty" water. For example, if you are filling a swimming pool with a hose, make sure that you leave an air gap between the hose and the water in the pool. Toilets and washing machines have built-in air gaps.

Where an air gap cannot be maintained, a backflow prevention device such as a check valve or vacuum breaker should be installed on the water supply line. For example, if you are using a pesticide sprayer that attaches directly to a hose, a check valve should be installed on the faucet to which the hose is connected. Inexpensive backflow prevention devices can be purchased from plumbing suppliers.

Also, remember that well water equipment doesn't last forever. Every ten to fifteen years, your well will require inspection by a qualified well driller or pump installer. You should keep well construction details, as well as the dates and results of maintenance visits for the well and pump. It is important to keep good records so you and future owners can follow a good maintenance schedule.

If you have lead pipes there are several things you can do to reduce water contamination. When you haven't used your water for a while (like when you wake up in the morning or get home from work), you need to clear out the pipes by letting the cold water run until you feel the temperature change

especially if you are going to drink the water. Also, never use hot water from the tap for cooking or drinking because the heat helps dissolve the metals faster; use cold water and warm it on the stove.

If you have an unused well on your property, ask the local health department how to seal it. Unused wells that have not been properly filled and capped can let pollution into groundwater and make your drinking water unsafe.

Sources: *Help Yourself to a Healthy Home: Protect Your Children's Health* and *Home*A*Syst: An Environmental Risk-Assessment Guide for the Home*. Funding for this brochure from Healthy Indoor Air for America's Homes: CSREES, EPA, MSU.

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