

Putting into Perspective the Health Risks from Drinking Water Contaminants



A world of risk ...

It seems that every time you turn on the television or open a newspaper, you hear about another substance that researchers have found can be harmful to humans. Are we to assume that we are at risk from everything in our environment? The truth is that there are risks associated with many activities in our daily lives. There are different kinds of risk, such as those posed by voluntary personal activities like riding in a car, drinking excessive amounts of alcoholic beverages or taking up skiing. We are also familiar with risks posed by natural disasters, such as flooding, earthquakes or lightning. Exposure to chemical pollutants in our environment—such as in the air we breathe, the water we drink and the food we eat—is yet another kind of risk to which we are subjected. Because of the involuntary nature of exposure to drinking water contaminants, this category of risk tends to be less acceptable to most people.

So how can we keep all of these risks in perspective? This pamphlet better defines risk, provides information on understanding potential health risks from contaminants that could be in your drinking water, and offers ideas for what you can do to minimize your risk.

What is risk?

Simply stated, “risk” is the likelihood that a harmful consequence will occur as a result of exposure to a hazard. An important thing to note in this definition is that for risk to occur there must be both a *source* of risk (the hazard) and an *exposure* to the hazard. Even if you are exposed, it is possible that concentrations may be so low that they would not be expected to pose a health concern.

For example, an industry near your home might use large amounts of a substance that can contaminate drinking water in its manufacturing process (a *source* of risk), but if a release of that contaminant to the environment never occurs, then you are never *exposed* to the hazard.

Am I at risk if my water contains contaminants?

Have you recently received information that has you concerned about the source of your drinking water? Perhaps you had your home’s well water tested and received a report indicating contaminants were found, or maybe you just received a copy of the annual water quality report from your community water supplier showing contaminants were found in the water over the past year. This pamphlet has been developed to explain what risk, if any, these substance may pose to you and your family.

Learning that various contaminants are present in your drinking water can be alarming. However, it is important to realize that **no** drinking water is completely pure, whether it comes from a community water supplier, your own private well or a bottling plant. **All** water contains some minerals, microbes or impurities.

Concern arises when one or more of these substances are present at concentrations that exceed the established national drinking water standards. If someone drinks enough of such water, adverse health effects may occur from prolonged exposure.

Such drinking water standards are developed after consideration of potential health risks from a lifetime of exposure, feasibility and costs of treating contaminated water supplies, as well as the lowest level at which a chemical can be detected in water. When deriving drinking water standards, the U.S. Environmental Protection Agency uses the concept of “reasonable risk” and, after taking into account the above considerations, sets the standard somewhere within a range that is considered acceptable. A list of drinking water standards can be found at www.epa.gov/safewater/mcl.html.

How can we reduce our risk?

By instituting protection measures in the vicinity of your well, you can reduce the likelihood that releases of harmful substances will occur. For instance, by prohibiting the storage of large amounts of hazardous substances such as fertilizers, pesticides, road salt, and petroleum products near your well, you have reduced the possibility of a spill and made an exposure unlikely. Be sure that these items are stored in the proper containers on an impervious surface at a safe distance from your well.



Another important protection measure is educating people about the steps that they can take to protect drinking water. Do your part and speak up if you see or hear about people engaging in risky activities such as dumping used motor oil on the ground or not cleaning up a gasoline spill. All of these actions could potentially contaminate drinking water.

It is important to put risk in perspective. Remember, for risk to occur there must be both a source of the hazard and an exposure. The mere presence of a potential contamination source near your well or even low level detections of contaminants in the drinking water does not necessarily mean that your family's health is or will be at risk.

For more information

The following contacts can provide more information on these topics.

Drinking Water Health Risks (Chemical & Biological Contaminants)

N.H. Department of Environmental Services
Health Risk Assessment
(603) 271-1370
www.des.nh.gov

Drinking Water Testing and Treatment

N.H. Department of Environmental Services
Drinking Water and Groundwater Bureau
(603) 271-2513
www.des.nh.gov

Drinking Water Health Risks (Radiological Contaminants)

N.H. Department of Health and Human Services
Radiological Health
(603) 271-4588
www.dhhs.nh.gov/dphs/radiological/index.htm

Drinking Water Standards

U.S. Environmental Protection Agency
1-800-426-4791 (Drinking Water Hotline)
water.epa.gov/drink/contaminants/index.cfm