

How Safe is Our Drinking Water?

There has been a lot of news during the past 2 years about the safety of our drinking water, in particular the Dakota Pipeline issue with concerns about contamination of Native American's water supply and of course Flint, Michigan and its now infamous lead contamination. What follows is a brief overview of some of the more recent concerns about the safety of our drinking water.

When you consider that humans primarily consist of water, it being fully 55% to 60% of our composition, its purity and safety should be of concern to all of us. While this is of importance for all life on earth, in particular infants, young children and the elderly are more affected simply because of their needs for growth and development and preservation of body water as we age.

In the United States, the reference daily intake (RDI) for total water is about 3.7 liters per day for human males older than 18, and 2.7 L/day for human females older than 18 which includes drinking water, water in beverages, and water contained in food. An individual's thirst provides a better guide for how much water they require rather than a specific, fixed quantity, but this mechanism is not always the best guide as individual preferences vary. Environmental factors such as activity, one's health status, age and climate all play a role in how much water the body needs.

Water is an essential resource for all life on the planet. On Earth only three percent of our water is fresh water, with two-thirds of the [freshwater](#) locked up in ice caps and glaciers. Resources are becoming increasingly scarce with ground water supplies dwindling while demands for its use are divided among agriculture, recreation and drinking water needs.

The Environmental Protection Agency (EPA) is the government agency charged with overseeing and protecting our water supply. The Safe Drinking Water Act was passed in 1974 and contains a list of chemicals deemed dangerous for human consumption. Since 1966 however, no new chemicals have been added, which means that in the last 51 years, the effects of all of the newer chemicals and in particular xenobiotics, have been largely left unstudied and ignored. Unfortunately the Trump administration has begun to press the EPA to make the environmental protection guidelines "less restrictive" to business, which would further add pollutants to the water supply.

From 2010 to 2015 the Environmental Working Group (EWG) reviewed data from the EPA and other U. S. agencies involved with drinking water in all 50 states. They tested for 500 different contaminants and found 267, of which 93 were linked to increased risk of cancer, 63 associated with brain and nervous system damage, 38 that caused developmental deformities in children and fetuses, and 45 associated with hormonal disruption and fertility problems. In 19,000 public water systems, lead levels were detected at 3.8 parts per billion that far exceeds the EPA's recommendations, which is zero. While the 3.8 parts per billion lead levels may be tolerable for adults, lead can be

especially harmful to children at very low doses, thus making it toxic for infants and children.

Among other compounds found are 1-4-dioxane, a synthetic industrial chemical that is highly soluble in water. Used as a stabilizer for chlorinated solvents, it is found in many products such as paint strippers, dyes, greases, varnishes and waxes. It is also found as an impurity in antifreeze and aircraft deicing fluids and in some consumer products such as deodorants, shampoos and cosmetics. 1-4 dioxane is recognized as a carcinogen which does not degrade easily and is commonly found in ground water through out the USA.

Nitrates and organophosphates, components of industrial agriculture fertilizers have become a problem due to their contamination of ground water. These substances have been identified as contributing to the growth of toxic algae that are known to be the cause of the “dead zone” in the Gulf of Mexico, because they deplete the water of oxygen needed for other life forms. Additionally, these substances have been linked to birth defects, bladder and thyroid cancer.

Pharmaceutical drugs are also being found in drinking water at increasingly higher levels, especially over-the-counter drugs, as most water treatment facilities are unequipped to filter them out. Because water treatment facilities are unequipped to remove them, their presence in drinking water can lead to side effects or interact with other medications the person may be on. This is particularly problematic with antibiotics that alter the gastrointestinal biome contributing to dysbiosis that leads to a variety of gastrointestinal problems.

We recommend that you research and compare water filtration systems for your home, as the different systems do not filter out the same substances equally. Consider not using plastic bottles that contain commercial water products as they contain bisphenol-A (BPA) a substance that has been shown to affect blood pressure, brain function, prostate health and contribute to behavioral problems, especially in fetuses, infants and children. Even with BPA free plastic bottles, other chemicals present in the plastic seep into the water and can become endocrine disruptors, affecting hormone balance.

The best prevention is to be proactive and informed. You have a right to know what is in your drinking water and can find out by contacting your local municipal water treatment division or you can access the Environmental Working Group by cutting and pasting this link on your browser https://www.ewg.org/tapwater/#.Wh1_6LaZNSw and click on EWG tap water data base. Just follow the instructions to obtain the information.

Make sure to let your state and federal elected officials that we need to strengthen, not weaken environmental protection rules, especially as they relate to clean water. Remind them that they depend upon it as well for life.

Sources: Mercola.com; Environmental Working Group; Nature Conservancy; Clean Water for America