

Properly Filter Your Water

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✓ Fact Checked

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STORY AT-A-GLANCE

- › If you care about your health, filtering your household water is more a necessity than an option
- › Drinking water is becoming increasingly toxic worldwide, thanks to aging water pipes and chemical pollution. Water treatment plants cannot filter out all of the toxins now entering the water
- › One of the most pernicious toxins in American water supplies is fluoride. While fluoride isn't healthy for anyone, pregnant women and households mixing formula for babies should take extra care to avoid fluoridated water
- › A 2017 analysis of water samples from 50,000 water utilities in 50 states revealed more than 267 different kinds of toxins in U.S. tap water. To find out what's in your tap water, check out the EWG Tap Water Database
- › Ideally, filter the water you use both for drinking and bathing, as immersing yourself in contaminated water may be even more hazardous to your health than drinking it

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Each year, red flags over toxic drinking water are raised across the U.S., with reasons varying from location to location. One major problem is aging water pipes, which have become an increasingly common source of toxic exposure.¹ In fact, in a 2013 report,² the American Society for Civil Engineers warned that most of the drinking water infrastructure across the nation is “nearing the end of its useful life.”

The American Water Works Association estimates it would cost more than \$1 trillion to update and replace all the water pipes in the U.S. – money that many water utilities do not have. Water pollution is another grave concern, as water treatment plants cannot filter out all of the toxins now entering the water, from firefighting chemicals³ and agricultural chemicals,⁴ to drugs and microcystins, nerve toxins produced by freshwater cyanobacteria.⁵

Filtering Your Water Is a Health Priority

While the U.S. has many water quality concerns, it doesn't really matter where you live anymore, as many dangerous chemicals find their way into the ecosystem, spreading from one continent to another.⁶ The take-home message is that, if you care about your health, filtering your household water is more a necessity than an option these days.

Ideally, filter the water you use both for drinking and bathing, as immersing yourself in contaminated water may be even more hazardous to your health than drinking it. Chemicals absorbed through your skin go directly into your blood stream, bypassing your digestive- and internal filtration systems.

Unfiltered water can also expose you to dangerous chlorine vapors and chloroform gas, which can cause dizziness, fatigue, asthma, airway inflammation and respiratory allergies.

Chlorine can vaporize from every toilet bowl in your home and every time you wash your clothes or dishes, or take a shower or bath, so if you get your water from a municipal water supply and don't have a whole house filter, be sure to open windows on opposing sides of your home to cross ventilate. Keep the windows open for five to 10 minutes a day to remove these gases.

At-Home Water Filtration Is a Must for Clean Pure Water

Most water supplies contain a number of potentially hazardous contaminants at varying levels. Among the worst are disinfection byproducts (DBPs). In water treatment facilities

that use chlorine or chloramines to treat and purify the water, toxic DBPs form when these disinfectants react with natural organic matter like decaying vegetation in the source water.

These byproducts are over 1,000 times more toxic than chlorine, and of all the toxins and contaminants present in your water, such as fluoride and miscellaneous pharmaceutical drugs, DBPs are likely the most hazardous.

Trihalomethanes (THMs), one of the most common DBPs, are Cancer Group B carcinogens, meaning they've been shown to cause cancer in laboratory animals. They've also been linked to reproductive problems in both animals and humans, such as spontaneous abortion, stillbirths and congenital malformations, even at lower levels. These types of DBPs may also:

- Weaken your immune system
- Disrupt your central nervous system
- Damage your cardiovascular system
- Disrupt your renal system
- Cause respiratory problems

What's Really in Your Water?

If you have well water, it would be prudent to have your water tested for arsenic and other contaminants. If you have public water, you can get a local drinking water quality report from the Environmental Protection Agency (EPA).⁷

The EPA regulates tap water in the U.S., but while there are legal limits on many of the contaminants permitted in municipal water supplies, more than half of the 300-plus chemicals detected in U.S. drinking water are unregulated,⁸ and some of the legal limits may be too lenient for safety.

For a more objective view of your water quality, check out the Tap Water Database⁹ created by the Environmental Working Group (EWG). In a 2017 analysis, water samples from nearly 50,000 water utilities in 50 states revealed more than 267 different kinds of toxins in U.S. tap water. Of the 267 chemicals detected:

- 93 are linked to an increased risk of cancer
- 78 are associated with brain and nervous system damage
- 63 are suspected of causing developmental harm to children or fetuses
- 38 may cause fertility problems
- 45 are linked to hormonal disruption

Alarmingly, nearly 19,000 public water systems had lead levels above 3.8 parts per billion, which would put a formula-fed baby at risk of elevated blood lead levels. Other chemicals of concern include:

- Chromium-6, an industrial chemical that is not regulated under the Safe Drinking Water Act but is found in drinking water in all 50 states at levels above those that may pose a cancer risk
- 1,4-dioxane, an industrial solvent, was widely detected at levels above what the EPA says could pose a cancer risk
- Nitrates, stemming from industrial agriculture, were also found at potentially risky levels

Choosing a Water Filtration System

Unless you can verify the purity of your water, seriously consider installing a high-quality, whole-house water filtration system. Ideally, filter the water both at the point of entry and at the point of use. This means filtering all the water that comes into the house, and then filtering again at the kitchen sink and shower. As for the type of filtration system to get, there are a variety of options, most of which have both benefits and drawbacks. Here are a few of the most common options:

- **Reverse osmosis (RO)** – In addition to removing chlorine, inorganic and organic contaminants in your water, RO will also remove about 80% of fluoride and most DPBs. Drawbacks include the need for frequent cleaning, to avoid bacterial growth.

Your best alternative is to use a tankless RO system with a compressor. The expense is another factor, as you may need the assistance of a plumber to get the system up and running. RO will also remove many valuable minerals and trace elements along with harmful contaminants.

- **Ion exchange** – Ion exchange is designed to remove dissolved salts in the water, such as calcium. This system also softens the water and helps prevent the creation of scale buildup. The ion exchange system was originally used in boilers and other industrial situations before becoming popular in home purifying units, which usually combine the system with carbon for greater effectiveness.

While advantages include a high flow rate and low maintenance cost, Sciencing points out the disadvantages, which include “calcium sulfate fouling, iron fouling, adsorption of organic matter, organic contamination from the resin, bacterial contamination and chlorine contamination.”¹⁰

- **Granular carbon and carbon block filters** – These are the most common types of countertop and undercounter water filters. Granular activated carbon is recognized by the EPA as the best available technology for the removal of organic chemicals like herbicides, pesticides and industrial chemicals. One of its downfalls is that the loose material inside can channel, meaning the water creates pathways through the carbon material, thereby escaping filtering.

Carbon block filters offer the same superior filtering ability but are compressed with the carbon medium in a solid form. This eliminates channeling and gives the ability to precisely combine multiple media in a sub-micron filter cartridge. By combining different media, the ability to selectively remove a wide range of contaminants can be achieved.

Ideally, you want a filtration system that uses a combination of methods to remove contaminants, as this will ensure the removal of the widest variety of contaminants. One of the best filtration systems I've found so far is the [Pure & Clear Whole House Water Filtration System](#), which uses a three-stage filtration process consisting of a micron sediment pre-filter, a KDF water filter and a high-grade carbon water filter.¹¹ Here's a picture of what the setup looks like.



Avoid Fluoridated Water

One of the most pernicious toxins in American water supplies is fluoride. While it's not healthy for anyone, pregnant women and households mixing formula for babies should take extra care to [avoid fluoridated water](#), as bottle-fed babies are at significant risk of getting too much fluoride. Even low doses of this chemical have been shown to alter thyroid function and childhood brain development, and lower IQ in exposed children.

Fluoride is also a mitochondrial poison that sabotages your mitochondria's ability to create cellular energy, and an enzymatic reactor, meaning it reacts with enzymes in your body. Moreover, fluoride leaches lead out of old pipes, which further magnifies its neurological risks. Unfortunately, fluoride is a very small molecule, making it difficult to filter out once added to your water supply.

Any simple countertop carbon filter like Brita will not remove it. If you have a whole-house carbon filtration system that has a large volume of carbon, it may reduce the fluoride, as fluoride removal is in direct proportion to the amount of fluoride and the time it's in contact with the media. It's just not going to get it all. Among the more effective filtering systems for fluoride removal are:

- Reverse osmosis
- Water distillation (which, like RO, also removes beneficial minerals). You then would need to restructure the water through chilling and/or vortexing. I do not recommend using distilled water on a regular basis, however, as it may cause mineral deficiencies
- Bone char filters and biochar

Clearly, the simplest, most effective, most cost-effective strategy is to not put fluoride in the water to begin with. To learn more about fluoride, I highly recommend getting a copy of Dr. Paul Connett's book, "[The Case Against Fluoride](#)."

The Importance of Living Water for Optimal Health

In addition to filtering your water, consider drinking more "living" or "structured" water. In his book, "The Fourth Phase of Water," Gerald Pollack, Ph.D., reveals the importance of H₃O₂ (opposed to H₂O, which is regular water). This structured water, also known as exclusion zone or EZ water, has very unique properties.

It's more viscous, dense and alkaline than regular water; has a negative charge, and can hold and deliver energy much like a battery. In fact, this is the kind of water found in your cells, and it helps recharge your mitochondria. Water becomes more structured when you apply energy into it. Chilling also works. Two simple ways to structure your water are:

- Cooling the water to 39 degrees F (about 10 degrees C)
- Creating a vortex in the water by stirring it with a spoon

Another alternative is to collect already structured water. Natural deep springs are an excellent source. The deeper the better, as structured water is created under pressure. There's a website called FindaSpring.com¹² where you can find natural springs in your area. Do your homework before setting off to collect water, however, as you may not be allowed to collect water from all springs, even if they're listed.

None of the springs in Florida, for example, are set up to be legally used as sources of potable water. You may also want to check and see if there have been any chemical spills in the area that might affect the purity of the water. A workaround can be to check whether your local state park has a potable well you can use, as they typically draw water from the same sources as the springs.

Sources and References

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- ¹¹ [How Stuff Works, Charcoal Water Filters](#)
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