

Fluoride Could Be Putting Your Fetus' Neurological Development at Risk

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STORY AT-A-GLANCE

- › Research suggests that exposure to fluoridated water during your pregnancy may lead to severe consequences for your fetus, such as behavioral problems
- › Children who drink fluoridated water may have delayed cognitive development as they grow. Published studies suggest that drinking fluoridated water may result in lower IQ compared to other children who had lower exposure to fluoride
- › Investing in a water filtration system capable of removing fluoride is your safest choice if your local water source is still being fluoridated
- › Making your own toothpaste can help minimize your exposure to fluoride, protecting your and your child's health in the long run

Water fluoridation may be one of the most non-essential¹ health practices forced onto the public. Under the guise of improving dental health, many of us are now aware of the dangers of fluoride, as it acts as an endocrine disruptor,² and can impair learning and memory.³

Now, published research suggests that water fluoridation can affect children's health even while they're still in the womb. For pregnant mothers or new parents, this is crucial information you need to know, as fluoride can drastically impact your child's development.

Study Reveals Alarming Findings on Fluoride's Effects on Children's Behavior

The featured study,^{4,5} published in the JAMA Network Open, investigated the potential effects of fluoride during prenatal development. The study involved 229 pregnant women (plus their unborn children), mostly Hispanic and from low-income communities living in Los Angeles, California. According to The New York Times:

"The authors of the study ... believe it is the first to examine links between prenatal fluoride exposure and child development among families living in the United States, where fluoride is often added to community water supplies to prevent dental cavities."

During their third trimester, the mothers' urine samples were collected and analyzed to detect their fluoride levels.⁶ Once their children turned 3 years old, the children's intelligence were evaluated on factors such as attention problems, emotional reactions and aggressive behavior. Their likelihood of developing anxiety problems, attention-deficit/hyperactivity disorder and autism spectrum disorder (ASD) were also evaluated.

After statistical analysis was complete, researchers observed that children whose mothers had higher levels of fluoride in their urine were 1.83 times more likely to develop neurodevelopmental problems. Specifically, the inability to regulate emotions and increased risk of ASD were associated with higher exposure of fluoridated water. The researchers concluded:⁷

"In this prospective cohort study of mother-child pairs in Los Angeles, California, prenatal fluoride exposure was associated with increased neurobehavioral problems. These findings suggest that there may be a need to establish recommendations for limiting fluoride exposure during the prenatal period."

Fluoride Intake Could Have a Downstream Effect on Children

The authors of the JAMA Network Open study contend that their research is the first one in the U.S. to review the effects of fluoride on child neurobehavior.⁸ However, that's not all that fluoride can do to children. What happens when they're exposed to fluoride as they grow up?

In an earlier study⁹ published in Environmental Health Perspectives, researchers found a correlation between fluoride exposure in utero and subsequent reductions in cognitive function in children at the ages of 4 and 6 years through 12.

The participants were mother-child pairs from Mexico, whose main source of fluoride was fluoridated salt¹⁰ (as Mexico does not have a water fluoridation program).¹¹ The mothers' urine samples were collected every trimester to serve as baseline reference once their children had grown.

For the first test group (children aged 4), neurocognitive areas such as general cognition, motor skills, memory and numerical abilities in children were evaluated. For the second test group (children aged 6 to 12), areas such as vocabulary and abstract reasoning were evaluated.

Throughout the follow-up visits, the children were evaluated by a psychologist who wasn't informed about their fluoride exposure, and what the researchers found was nothing short of shocking. According to their observations,¹² each 0.5 mg/L increase in fluoride over 0.8/L in the mother's urine was associated with a 2.5-point reduction in IQ, and a 3.15-point reduction in general cognitive scores in the child.

What Will It Take to Convince Doctors About the Dangers?

This is just the tip of the iceberg of fluoride's effects on children. The Fluoride Action Network (FAN) has prepared an enormous summary of 78 studies investigating the effect of fluoride on IQ in children, which can be found on their website.¹³ I recommend you take your time going through each of the studies, as it highlights just how dangerous this ubiquitous toxin is for public health.

But it's not just children who are in danger of water fluoridation, as adults can be affected, too. According to a study published in *Environmental Geochemistry and Health*,¹⁴ fluoridated water can have a toxic effect on skeletal health, specifically knee osteoarthritis (KOA). Researchers noted:

"In conclusion, excessive fluoride dose in drinking water could increase the risk of KOA. Especially, the population with aged <60, male and obesity more likely to having KOA when they're exposed to the same higher fluoride."

Just how does fluoride cause knee osteoarthritis? This same question was investigated in a 2001 study,¹⁵ which involved participants diagnosed with endemic fluorosis. Radiological testing showed that fluoride predominantly caused osteophytes (bone spurs) in the knee joints.¹⁶ Bone spurs form when your body tries to repair skeletal damage. As they continue growing, they can press on nerves and other body parts, causing pain during movement.¹⁷

Dental fluorosis is another concern for adults. It's characterized by white or brown spots on your teeth, which range from tiny flecks to clearly visible spots. In fact, the Cleveland Clinic believes dental fluorosis is quite common, affecting 1 in 4 Americans between the ages of 6 and 49.¹⁸ If you notice these spots on your teeth, most likely you've been highly exposed to fluoridated water since you were young.

With this breadth of published evidence, more doctors should be convinced, and even campaign, against water fluoridation. However, many are still brushing off the findings. In the featured NYT article,¹⁹ the American Dental Association is still standing by with their recommendation to "brush twice a day with fluoride toothpaste and drink optimally fluoridated water."

If you're pregnant (or already breastfeeding) and your doctor says that you shouldn't worry about fluoridated water, it would be wise to look for a new one dedicated to protecting your health.

Is Your Local Water Supply Fluoridated?

Clearly, not putting fluoride in our water supply in the first place is the best way to avoid this toxin. To help the public with this monumental task, FAN has taken the mantle, raising awareness about the dangers of water fluoridation. In fact, FAN intends to go the whole way. They've gone to court under the Toxic Substances Control Act (TSCA) of 1976, with the intention of ending this outdated public health practice throughout the U.S.²⁰

For additional information about the fluoridation levels in your water supply, the NYT recommends contacting your local water utility contractor, as well as visiting the U.S. Centers for Disease Control and Prevention's (CDC) "My Water's Fluoride" website.²¹

If you find that your local area's water supply is still being fluoridated, investing in a filtration system for your home is the next best course of action. This is especially important if you're currently pregnant or breastfeeding a toddler.

Filtering Your Water Is Your Best Protection Against Fluoride

According to FAN,²² water-filtering systems capable of removing fluoride include reverse osmosis, deionizers and activated alumina absorption media. Distillation, while not a form of filtration, will also remove fluoride. Carbon filters such as PUR and Brita cannot filter out fluoride, and neither can water softeners.

Unless you can personally verify the purity of your water, I recommend you invest in a high-quality, whole-house water filtration system. Ideally, filtration should occur both at the point of entry and end where water comes out. This means filtering the water coming in from the main pipe, then filtering again at exit points, such as the shower and kitchen sink. Once you have a filtration system in place, I recommend only using this water when making infant formula.

Each filtration method has benefits and drawbacks, so it's important to choose the correct one that fits your budget. Here are the most common options:

- **Reverse osmosis (RO)** — This filtration system can remove 80% of fluoride and disinfection byproducts, as well as chlorine, inorganic and organic contaminants in

your water. However, the main drawback to RO systems is the need for frequent cleaning to avoid bacterial growth.

Your best alternative is to use a tankless RO system with a compressor. Consider the expense as well because you may need the assistance of a plumber to set up the entire system. RO will also remove many valuable minerals and trace elements, along with the harmful contaminants already mentioned.

- **Ion exchange** – The philosophy behind this design is to remove dissolved salts in the water, such as calcium. Ion exchange filters also soften the water, which help prevent scale buildup. Originally, this system was used in boilers and other industrial applications before becoming popular for domestic use, and it's usually combined with carbon for better results.

While an ion exchange system has a high flow rate and low maintenance cost, an article from Sciencing²³ 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."

- **Granular-activated carbon filters** – You may be familiar with these filters, as these are the most common types of countertop and undercounter systems available. Granular-activated carbon is made from organic carbon filtration materials, such as coconut shells, coal or wood. This allows the filters to remove organic contaminants and chemicals such as hydrogen sulfide and chlorine.²⁴

Granular-activated carbon is also recognized by the EPA as the best option for removing synthetic organic materials, which virtually include all pesticides.²⁵ Other toxic substances it can filter include fuel, naphthalene and benzoic acid.²⁶ One of its disadvantages is that carbon can only remove trace amounts of hydrogen sulfide. Furthermore, the filters require periodic replacement when taste and odor problems appear.²⁷

If you can combine a granular-activated carbon filter with bone char, the results may be even better. In a study²⁸ published in Membranes, researchers noted that

combining the two systems had "100% fluoride removal efficiency."

The Importance of Using Filtered Water for Infants

Dental fluorosis is also a worrying concern for infants because it can begin well before their teeth begin to show. According to research²⁹ published in Paediatrics and Child Health, toddlers aged 15 to 24 months are at greatest risk, particularly their secondary teeth. Once fluorosis sets in, symptoms include pitted teeth and enamel striations.

To protect your child's health, breastfeeding is still the best way to nourish them as it contains very little, if any, fluoride. However, if breastfeeding is not an option and you have to opt for infant formula, remember to prepare it with filtered, non-fluoridated water.

Avoid Another Leading Source of Fluoride – Toothpaste

In a review³⁰ from the National Academies Press, toothpaste and other fluoride-containing dental products are a major source of fluoride exposure. Thus, it would be wise to avoid these products, and take your time researching for non-fluoridated varieties.

Remember to check for other toxic ingredients found in mass-produced toothpaste as well, such as triclosan, sodium lauryl sulfate, propylene glycol, diethanolamine, parabens and microbeads.

To minimize your fluoride exposure further, consider making your own toothpaste, which is easily done and inexpensive, too. You can make a simple toothpaste at home by combining a couple tablespoons of organic coconut oil and baking soda with a pinch of Himalayan salt. Adding a tiny amount of peppermint essential oil will give your homemade toothpaste that minty aroma most people are familiar with.

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