

Fluoride:

Questions Parents Ask

This page provides answers to some of the many questions that parents ask about fluoride and fluoridation. We've divided it into sections to make it easier to find the answers you're looking for.

Basic Facts about Fluoride

What is fluoride, and what is it used for?

The [National Institutes of Health](#) identifies fluoride as a mineral. Decades of research show that fluoride strengthens the enamel coating of teeth, helping to protect it from cavities. Cavities are caused by a disease known as “tooth decay.” And tooth decay is [the most common chronic disease](#) of children.

What exactly is fluoridated water?

Fluoride exists naturally in lakes, rivers, and groundwater. It is even found in oceans. The cities of El Paso, Texas, and Jacksonville, Florida, already have enough fluoride in their water to prevent cavities. But most communities add a little more to reach the recommended level of fluoride ([0.7 milligrams per liter](#)). When a local water system adds a little fluoride to reach the recommended level, this is called “water fluoridation.”

Why is fluoride added to drinking water?

As the previous answer explains, fluoride is a natural mineral that exists in all sources of drinking water. Having the right amount of fluoride in the water supply makes sure its preventive benefits are [available to everyone](#). This matters because many families lack insurance or may live far from the nearest dentist who accepts their insurance plan.

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So the benefit of fluoridated water is that it helps to prevent cavities, right?

In water and all other forms, fluoride lowers the risk of cavities. But the benefits go much further than that.

By preventing cavities, fluoridated water helps children avoid the negative things that come from having unhealthy teeth. Untreated cavities can cause pain and infections that may lead to problems eating, speaking, and learning. Children with unhealthy teeth are at a disadvantage in school. A child with recent tooth pain is [three times more likely to be absent](#) from school. And a child with recent tooth pain is [four times more likely to receive lower grades](#).

Does boiling or heating tap water make the fluoride disappear?

No. Fluoride is a mineral that is not eliminated by heating or boiling water. The benefits of fluoride remain even when you use water to make soup, tea, or other foods or drinks.

When did water fluoridation start?

Water fluoridation began in January 1945 in the city of Grand Rapids, Michigan. Within a few years, research trials had begun in a couple cities in New York State and three cities in Ontario, Canada. All of these research trials had the same result — [a big drop in cavities](#). In fact, the success of water fluoridation led the Centers for Disease Control and Prevention to name it [one of 10 “great public health achievements”](#) of the 20th century.

The Benefits

How do we know for sure if fluoridated water still prevents tooth decay? Has this been studied?

Yes, it has been studied closely. In fact, [more than 7,000 studies](#) have been published on water fluoridation. In recent decades, studies continue to show the benefits.

Consider a classroom of 20 children who grew up in a fluoridated community. [A 2018 study](#) shows that these children would experience 26 fewer decayed surfaces of their primary (baby) teeth. And these children would have six fewer decayed surfaces of their permanent (adult) teeth.

I understand the benefit of brushing teeth with a toothpaste that contains fluoride. But how does it help a child to swallow fluoride from a glass of water?

Good question. The swallowed fluoride is naturally drawn to bones and teeth — even while a child's teeth are just starting to form. Fluoride makes a new tooth stronger and better able to resist a cavity once it appears in the mouth. [This video](#) shows you how this happens.

How much does fluoridated water lower the chance of my child getting a cavity?

Water fluoridation reduces cavities by 25%. This reduction is [on top of the benefits your child receives](#) from fluoride toothpaste and other forms of fluoride.

Does fluoridated water also benefit adults?

Yes. Research shows that drinking fluoridated water [also benefits adults](#). This is very good news. As more and more communities have offered fluoridated water, older adults are [more likely to keep their natural teeth](#). Many adults take medications that can cause “dry mouth,” and this [raises the risk for cavities](#). This is why adults — like children — can protect their teeth by drinking fluoridated water and using fluoridated toothpaste.

Would fluoride be necessary if people didn't eat as much sugar as they do?

Eating or drinking a lot of sugar raises a person's risk for cavities. It's a good idea to limit sugar. But that alone won't make cavities go away. Why? Because sugary foods and drinks aren't the only things that raise this risk.

Back when America was founded, sugar used to be expensive and hard to find. And people in the 18th century ate [much less sugar than we do today](#). Even so, people back then had a lot of cavities. That's why many of them

lost all of their teeth. George Washington had [dental problems all of his life](#). Many of his letters talk about his toothaches and swollen gums.

Limiting sugar is important. But getting enough fluoride helps to protect our teeth from the acids and germs that can lead to cavities.

Has any community started water fluoridation and then stopped? If so, what happened — did cavities increase?

Yes, studies have been done in several cities that stopped water fluoridation. Calgary, one of the largest cities in Canada, stopped fluoridation in 2011. Years later, the cavity rate of Calgary children jumped, rising above the rate in [Edmonton](#) — another city that was fluoridated. When children suffer severe cavities in several teeth, they must be [treated under general anesthesia](#) (GA). After Calgary ended fluoridation, its GA treatment rate was 88% higher than the rate in Edmonton. The city council in Calgary was so alarmed at how dental health had worsened that it [voted to resume fluoridation](#).

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Windsor, a Canadian city across the border from Detroit, also learned a tough lesson. In Windsor, the city council stopped fluoridation in 2013. Five years later, a local health official gave the council some very bad news — the number of children with urgent dental needs had jumped by 51%. This led the council to [reverse its decision](#) and resume fluoridation.

If my family brushes with fluoride toothpaste, does that mean we don't need to drink tap water that is fluoridated?

Fluoride in toothpaste and water work together, much like the seatbelts and air bags in a car. The [Centers for Disease Control and Prevention](#) says “the two [fluoride] sources offer more protection than using either one alone.”

Some Canadian parents felt that fluoride toothpaste would substitute for the loss of fluoridated water. But many of them learned the hard way that [losing access to fluoridated water](#) harmed their children's teeth.

How much fluoride should my child get to protect their teeth?

A child gets all the fluoride they need from eating a healthy diet, drinking fluoridated water, and using fluoride toothpaste. Parents do not need to monitor the food or water their children have because these have low levels of fluoride.

It is a good idea to watch your child's use of fluoride toothpaste or fluoride mouth rinse. Dentists suggest this because these products contain much more fluoride. Children should not use a fluoride mouth rinse [until they reach age 6](#). By this age, children are better able to swish and spit out the rinse without swallowing.

The Safety

How can we feel confident that fluoride is safe for children?

Dr. Susan Kressly, president of the largest organization of pediatricians in America, [recently said this](#): "Rigorous reviews of fluoride safety have consistently found no credible evidence linking it to systemic or adverse health issues."

I read somewhere about a report that linked fluoride to lower IQ scores. The report was written by a group called the NTP. What about that report?

That fluoride report came from the National Toxicology Program (NTP). The NTP's report said it found an association between fluoride and lower IQ scores. But there are many key facts that parents should know about the NTP report:

- None of the NTP's studies [come from the United States](#). Most of them were done in China, India, or Iran. A child's IQ score can be affected by many different things. It isn't clear whether these foreign studies looked at the lead, arsenic, or other chemicals that children were exposed to. Lead exposure [is a major problem](#) in China.
- The NTP found a link to IQ scores when the amount of fluoride was [higher than 1.5 mg/L](#). That is more than double the amount of fluoride found in fluoridated water in the United States. In other words, the NTP's findings do not apply to fluoridated water.
- It was found that 70% of the studies in NTP's meta-analysis had a [high risk of bias](#). Most of the studies with a low risk of bias found no link at all between fluoride and IQ scores.

Parents cannot trust the NTP report. It has too many flaws.

Our tap water is not fluoridated. Is there anything I can do besides brushing my child's teeth to make up for that?

Yes, there is. Talk to your child's dentist or pediatrician about getting [fluoride supplements](#). Fluoride supplements are usually taken by a child from 6 months old to age 16. These supplements come in the form of tablets or lozenges.

Does bottled water have enough fluoride to protect teeth?

Most brands of bottled water do not have enough fluoride to make teeth stronger. If bottled water has fluoride in it, check the label — it should say so.

How have leaders in health and medicine reacted to the NTP report?

Many leading health, medical, and dental leaders do not view the NTP report as a reason to fear fluoride. Instead, they have urged families to continue receiving the benefits of this mineral through water and other forms.

- The [American Academy of Pediatrics](#) is the nation's largest organization of pediatricians. After the NTP's report came out, a spokesperson for the Academy said "there's nothing about the research that makes me concerned" about children receiving "low levels of fluoride through use of toothpaste and drinking fluoridated water."
- The [Centers for Disease Control and Prevention](#) (CDC) read the original draft of the NTP report and did not change its views about fluoride, saying: "The safety and benefits of fluoride are well documented and have been reviewed comprehensively by several scientific and public health organizations."
- The [National Academies of Sciences](#) is considered the gold standard for scientific evidence. After reviewing drafts of the NTP report, the National Academies said that NTP's conclusions were not backed up with "clear and convincing" evidence. Not only that, but the National Academies wrote that nothing in the NTP's report cast doubt on the safety of low levels of fluoride, "including those in fluoridated drinking water systems."

"The safety and benefits of fluoride are well documented and have been reviewed comprehensively by several scientific and public health organizations." — CDC

I am unable to breastfeed my child. Is it safe for me to mix infant formula with fluoridated water?

Yes, it is safe. Using fluoridated tap water to mix formula would increase the odds of [mild dental fluorosis](#) for your child's teeth. This is a cosmetic effect — faint white flecks or spots that appear on the enamel of teeth. Normally, someone who has teeth with mild fluorosis does not notice it. Fluorosis does not have a negative effect on the health or function of teeth.

To lessen these odds, parents can sometimes mix formula by using bottled water that has little or no fluoride. These bottled waters usually say “distilled,” “deionized,” or “purified” on their label. The American Dental Association suggests another option — using a [ready-to-feed formula](#).

What about people who have a thyroid condition? Someone on Facebook claimed that fluoride is not good for the thyroid gland. Is that true?

Personal Choice

What about freedom of choice? Should people be forced to drink fluoridated water?

No one is forced to drink fluoridated water. Even if their water company adds fluoride, people who don't want fluoridated water have two options. First, they can buy a filter that removes the fluoride. Second, they can drink bottled water that has no fluoride.

Should personal choice be a factor that is considered by a community?

Freedom of choice is important, but we sometimes place limits on it to protect the public's health and safety. For example, states have laws that make it illegal to use a cell phone while driving a car or truck. Finding the right balance is important.

When we discuss “choice,” we should think about it broadly — not just about the choice of adults. Children do not choose the household they grow up in or how much money their parents have. They do not choose how often they can go to the dentist. Children do not choose whether their parents have dental insurance. This lack of choice means that children's dental health is mostly out of their control. Many communities realize this, and they see fluoridation as a way to give every child a basic form of prevention.

The best available evidence shows fluoride has no harmful effect to the thyroid gland. A study by Canadian researchers found that “fluoride exposure [does not contribute to impaired thyroid functioning](#)” in Canada. Researchers in Australia looked into this same issue. After doing so, they found “[no reliable evidence of an association](#)” between water fluoridation and thyroid problems.

Are there are any other safety concerns about fluoride?

For many decades, a lot of claims have been made that fluoride does harm or might harm health in some way. But those claims don't stand up to the evidence. In a report, [the American Academy of Pediatrics](#) has written this:

“Despite overwhelming evidence supporting the safety and preventive benefits of fluoridated water, community water fluoridation continues to be a controversial and highly emotional issue. Opponents express a number of concerns, all of which have been addressed or disproven by validated research.”

Adding fluoride to drinking water means that everyone receives a health benefit.

Why use food or water as a way to give people fluoride? That seems like an odd approach.

Fluoridation is part of an American tradition. For many years, vitamins and minerals have been added to our foods and drinks to improve health. Consider these examples:

- Vitamin D is added to milk to prevent a disease called rickets.
- Iodine is added to salt to prevent goiter, which affects the thyroid gland.
- Calcium is often added to orange juice for healthy bones.
- Folic acid is added to breads and cereals to strengthen the health of red blood cells.

Adding fluoride to drinking water means that everyone receives a health benefit. And they receive it without having to stand in line, drive to the doctor, or pay an insurance premium. Everyone benefits, including those who lack dental insurance and those who rarely leave home because of age or a disability.

But what if I prefer my water “natural” — without anything added to it, including fluoride?

Fluoride is a mineral that exists naturally in all water supplies — lakes, rivers, and groundwater. So even in a nonfluoridated community, people are receiving a very small amount of fluoride from their tap water. The key is to make sure people get the right amount of fluoride — not too much, not too little.

Even in cities without fluoridation, the local water company adds different things to improve the taste, smell, and quality.

Decisions about Fluoridation

I heard that the legislatures in Utah and Florida had voted to ban water fluoridation. Has the momentum shifted against fluoridation?

Those two states did vote in 2025 to end fluoridation. But there were more states where legislators voted against bills to weaken or end fluoridation. Here's the bottom line. [Most Americans](#) live in communities where the water is fluoridated. Between 2000 and 2022, the number of Americans with access to fluoridated drinking water rose from [162 million](#) to [209 million](#).

I read somewhere online that most of Europe has banned water fluoridation. What about that?

That is not true. [Some areas of Europe](#) have fluoridated water — England, Ireland, and Spain. Many other countries [rely on fluoridated salt](#) to reach large numbers of people. Fluoridated salt is sold in Germany, Switzerland, the Czech Republic, Austria, and some other nations. Italy doesn't fluoridate its water because much of the country has [very high natural levels](#). The Italian levels would exceed the recommended amounts of fluoride.

Other Issues

One of our city council members said the city would save money by ending water fluoridation. Is that true?

It might lower the city's water budget a little bit, but this would pass higher dental care costs onto families. Here's why — losing fluoridation would lead to an increase in cavities. More children would need fillings or other costly treatments. In fact, this is what has happened in the United States and in [Canada](#) after a few cities ended fluoridation.

Many families are living paycheck to paycheck. It creates a crisis when they suddenly must pay a medical or dental bill they were not expecting.

For example, chlorine is added to water supplies to protect people from harmful bacteria that can make them sick.

A community water system is a huge network of pipes. There is no way to allow individuals to pick and choose which things are in the water that comes out of their kitchen faucet. Because the water supply is owned by the community, it makes sense that fluoridation should be a community choice.

Health officials in England have announced that [a new fluoridation program is planned soon](#) for the country's North East region.

Besides the United States and parts of Europe, what other countries have water fluoridation? Are they happy with their decision?

[Australia](#), [Brazil](#), and [Canada](#) are some of the other countries where water fluoridation is an approach that is used to protect teeth. These and other countries are pleased with their decision.

In [New Zealand](#), the Health Ministry praises water fluoridation. Why? Because children in fluoridated areas of the country have 40% fewer cavities than kids in other areas. Singapore was the first Asian country to start a large-scale water fluoridation program. [Singapore's health minister](#) called fluoridation “the most cost-effective public health measure” to prevent cavities. After a water fluoridation was started in Chile, the rate of cavities for 7-year-olds fell by 57%.

Losing fluoridation would lead to an increase in cavities. More children would need fillings or other costly treatments.

Why would some people make false claims about fluoride's safety?

Some people truly believe what they say. They might not realize that the concern they heard about fluoride is not backed by real evidence. Some of them may believe in a conspiracy of some kind. Others who voice concern about fluoride may be hoping to sell things to the people they scare — water filters, books, herbal supplements, and so on.

How much does it cost for a local water company to provide tap water that is fluoridated?

In most water systems, fluoridation costs [less than \\$5 per resident, per year](#). The best news is that fluoridation actually saves more money than it costs. Why? Because local residents have less need to go to the dental clinic to have cavities treated. A major study showed that each person living in a community with fluoridated water saves [\\$32.19 per year](#).

What is dental fluorosis? As a parent, is that something I need to worry about?

[Dental fluorosis](#) is a change in the appearance of the tooth enamel. When teeth have fluorosis, faint white flecks or spots appear on the enamel. These spots usually aren't visible to that person or to their friends and family. Often these spots aren't seen until a dental professional looks closely into the mouth with special lighting.

Fluorosis does not cause pain, and it does not affect the health or the function of teeth. In the United States, nearly all fluorosis is mild — not easy for people to notice. To see what fluorosis looks like, [click on this link](#), scroll down to “Fluorosis,” and click on the downward arrow.

Fluorosis happens when a child consumes too much fluoride during the tooth-forming years. After age 8, children cannot get teeth with fluorosis. Usually, fluorosis occurs because a young child repeatedly swallows fluoride toothpaste. This is why parents are encouraged to be in the bathroom when children put toothpaste on their brush. Parents should remind their children to spit out any extra toothpaste that is in their mouth.

There is a silver lining — teeth with fluorosis are at lower risk of getting cavities. Also, [research shows](#) that as a child grows into an adult, the fluorosis on their teeth becomes even less noticeable than before.

I don't drink tap water much because I don't like how it tastes. Does fluoride add a taste or smell to tap water? What are my options?

If you don't like the way your tap water tastes or smells, consider buying a filtered pitcher. Some brands of pitchers are available for less than \$30. These pitchers work by using a filter, usually made of activated carbon. This filter within the pitcher removes things from tap water that can make it taste or smell bad. Be sure to read the pitcher's label to make sure that it does not remove fluoride.

Does fluoride add a taste or smell to tap water?

No. Fluoride doesn't have a taste or a smell.

I want my child to grow up with healthy teeth and a healthy smile. What can someone like me do to get my community to start or keep water fluoridation?

You don't have to be wealthy or well connected to make a difference. [This Michigan mom](#) talked to a reporter about seeing her child's teeth become unhealthy after her city stopped fluoridation. She helped to push her city to make a plan for adding fluoride once again to water.

If this issue comes up in your city, contact your city council member (or another official who makes these decisions). Even if you think they're just talking and won't make a new decision, it is still good to contact them. Just sharing your point of view as a parent can be powerful. You don't need to share a lot of numbers and facts. But there are [several trustworthy websites](#) where you can find basic information about fluoridation.

Someone told me that fluoride is not essential for children to have good health — that it's not a nutrient. Is that true?

No, that is not true. Experts recognize fluoride's role as a nutrient. Fluoride was described as a nutrient in a 1997 report by the [National Academies of Sciences](#). And the World Health Organization included fluoride in its 2005 manual called [Nutrients in Drinking Water](#).

