



# Frequently Asked Questions on Community Water Fluoridation

## What is fluoride?

Fluoride is nature's cavity fighter with small amounts present in all water sources such as lakes, rivers and wells. Community water fluoridation is simply the addition of fluoride to water to a level that helps prevent tooth decay.

## How does fluoride protect teeth?

While teeth are forming under the gums, drinking water and other beverages with fluoride helps strengthen tooth enamel making it stronger and more resistant to cavities. This provides what is called a "systemic" benefit.

After teeth erupt, fluoride helps rebuild (remineralize) weakened tooth enamel and reverse early signs of tooth decay. When you brush your teeth with fluoride toothpaste, or use other fluoride dental products, you are providing a "topical" benefit because the fluoride is applied to the surface of your teeth.

In addition, the fluoride you take in from drinking water and other beverages continues to provide a topical benefit because it becomes part of your saliva, constantly bathing the teeth and helping to rebuild weakened tooth enamel.

The maximum reduction in tooth decay occurs when fluoride is available systemically and topically. Studies show that community water fluoridation prevents at least 25 percent of tooth decay in children and adults throughout the lifespan.

## What is water fluoridation?

All water contains some naturally occurring fluoride, but often at levels too low to prevent tooth decay. Community water fluoridation is simply the addition of fluoride to water to a level that helps prevent cavities. As of 2014, 74.4 percent of the U.S. population on public water systems, or a total of 211.4 million people, had access to fluoridated water at recommended levels. This is an increase of nearly ten percent since 2000.

The American Dental Association and more than 100 other national and international organizations recognize the public health benefits of fluoridated water in preventing tooth decay.

## Why would communities want to fluoridate tap water? Does it prevent tooth decay?

Communities fluoridate their water supply as a cost-effective public health measure to help prevent tooth decay and cavities in BOTH children and adults. Tooth decay is by far the most common and costly oral health problem in all age groups. It is five times more common than asthma and seven times more common than hay fever in 5-to-17-year-olds. The pain from untreated cavities can cause individuals to lose sleep and have trouble eating, speaking and paying attention at school or work.



A report from the U.S. Surgeon General in 2000 estimated that 51 million school hours are lost per year because of dental-related illness. Without water fluoridation, that number would likely be much higher.

The American Dental Association supports community water fluoridation as the single most effective public health measure to prevent tooth decay. Studies show that community water fluoridation prevents at least 25 percent of tooth decay in children and adults.

The American Dental Association, the American Medical Association, the American Academy of Pediatrics, the World Health Organization and more than 100 national and international organizations recognize the public health benefits of fluoridation for preventing tooth decay. The U.S. Centers for Disease Control and Prevention (CDC) has cited community water fluoridation as one of 10 great public health achievements of the 20th century (along with vaccinations, infectious disease control and motor vehicle safety).

Simply by drinking fluoridated water, everyone in the community is helping to protect themselves from tooth decay.

#### Is water fluoridation safe?

According to the best available scientific evidence, water fluoridation is safe and effective. Thousands of studies and more than 70 years of experience tell us that water fluoridation is effective in preventing tooth decay and is safe for children and adults.

#### What does fluoridation cost?

Fluoridation is one of the very few public health measures that actually saves more money than it costs. An individual can have a lifetime of fluoridated water for less than the cost of one dental filling. The cost of fluoridation varies with the size of the community. The yearly cost is estimated to be \$.50 per person in large communities to \$3 in small communities. For most cities, every \$1 invested in water fluoridation saves \$38 in dental treatment cost.

#### What is enamel fluorosis? Does it harm teeth?

Enamel fluorosis is not a disease but rather affects the way that teeth look. In the vast majority of cases, enamel fluorosis appears as barely noticeable faint white lines or streaks on tooth enamel and does not affect the function or health of the teeth. In fact, in many cases, the effect is so subtle that usually only a dental professional would notice it during an examination. Enamel fluorosis occurs only when teeth are forming under the gums. Once teeth break through the gums, they cannot develop enamel fluorosis.

#### What can be done to reduce the risk for enamel fluorosis?

The vast majority of enamel fluorosis can be prevented by stopping children from swallowing topical fluoride products such as fluoride toothpaste. For children younger than 3 years, parents and caregivers should begin brushing children's teeth as soon as they begin to come into the mouth by using fluoride toothpaste in an amount no more than a smear or the size of a grain of rice. For children 3 to 6 years of age, parents and caregivers should dispense no more than a pea-sized amount of fluoride toothpaste. Teeth should be brushed thoroughly twice a day (morning and night) or as directed by a dentist or physician. Children's brushing should be supervised to ensure that they use the appropriate amount of toothpaste.



### What about mixing infant formula with fluoridated water?

The proper amount of fluoride from infancy through old age helps to prevent tooth decay.

Recent evidence suggests that mixing powdered or liquid infant formula concentrate with fluoridated water on a regular basis may increase the chance of mild or very mild fluorosis. Occasional use of fluoridated water to reconstitute infant formula should not greatly increase the chance of enamel fluorosis. Mild or very mild fluorosis does not affect the teeth's health or function, but appears cosmetically as barely noticeable faint, white markings. While there is a chance of fluorosis, it is a fact that drinking fluoridated water helps reduce tooth decay for children and adults. Parents and caretakers should consult with their dentist or physician about the type of water to use to reconstitute infant formula.

### What about the accusations that fluoridation is associated with bone cancer, lower IQs in children and impaired thyroid function?

The best available scientific evidence does not support these claims. Thousands of scientific studies and more than 70 years of practical experience have shown fluoridation is safe and effective. It is the single most effective public health measure to prevent tooth decay for both children and adults.

### Why should the community vote for water fluoridation?

Water fluoridation is one of few public health measures voted upon by democratic process. It benefits everyone, but especially children and particularly those children who face barriers to access to care — to attaining good oral health. Water that has been fortified with fluoride is similar to fortifying salt with iodine, milk with Vitamin D and orange juice with vitamin C. The process of fluoridation also saves more than it costs. Studies show that community water fluoridation prevents at least 25 percent of tooth decay in children and adults.

### What about bottled water or home treatment systems?

Individuals who drink bottled water as their primary source of water could be missing the decay preventive effects of the fluoridated water available from their community water supply since most bottled water does not contain optimal levels of fluoride. In addition, when you think of all the plastic waste created by individual bottles, you're doing something good for the environment by drinking fluoridated tap water.

Some home water treatment systems such as reverse osmosis systems and distillation units remove a significant amount of fluoride from the water supply, oftentimes to below recommended levels. The ADA encourages drinking fluoridated water at recommended levels to protect against tooth decay.

### Where can I find more information about fluoride?

You can find extensive information in [Fluoridation Facts](#) the ADA's comprehensive publication with facts from over 350 scientific references. *Fluoridation Facts* includes information from scientific research in an easy to use question and answer format on the topics of effectiveness, safety, practice and cost-effectiveness of fluoridation.

For additional information, view ADA's Fluoride and Fluoridation Web pages at [ADA.org/fluoride](http://ADA.org/fluoride).