

Fluoride is a naturally occurring mineral found in drinking water because of its presence in the earth's crust.<sup>1</sup> It helps prevent cavities in children and adults by making the outer surface of teeth (known as enamel) more resistant to the bacteria that cause tooth decay. Fluoride benefits both children and adults alike.



## How does fluoride help protect teeth?

As teeth are forming, before they break through the gums, the fluoride taken in from foods, beverages and dietary supplements makes tooth enamel (the hard surface of the tooth) stronger, making it easier to resist tooth decay. This provides what is called a "systemic" benefit.<sup>2</sup>



After teeth erupt, fluoride helps rebuild or remineralize weakened tooth enamel and reverses early signs of tooth decay.<sup>2</sup> When you brush your teeth with fluoride toothpaste or use other fluoride dental products, the fluoride is applied to the surface of your teeth; this provides what is called a "topical" benefit.

Additional benefits can happen when you take in foods and beverages containing fluoride. This fluoride becomes part of your saliva, constantly bathing the teeth with tiny amounts of fluoride that help rebuild weakened tooth enamel continuing to provide the topical benefit.<sup>2</sup>



## Where do we get fluoride?



Fluoride occurs naturally in varying amounts in water sources such as rivers, lakes and even the oceans. It is also naturally present in certain foods and beverages, but the levels vary widely.<sup>3</sup> To help protect teeth, fluoride is often added to toothpastes and mouth rinses.

1. Water: Nearly all water contains fluoride, but usually not enough to help prevent tooth decay or cavities. Community water systems can add the right amount of fluoride to the local drinking water to prevent tooth decay.<sup>4</sup>

## Water continued...

As of 2020, approximately 72% of the U.S. population served by public water supplies had access to fluoridated water.<sup>5</sup> This simply means that fluoride is added to community drinking water to increase the natural fluoride level up to the recommended level.3 Community water fluoridation is recommended by nearly all public health, medical, and dental organizations including the American Dental Association, American Academy of Pediatrics, US Public Health Service, and World Health Organization.<sup>4</sup>

Community water fluoridation has been identified as the most cost-effective method of delivering fluoride to all members of the community, regardless of age, education or income level.<sup>4</sup>

With over 70 years of documented benefits, fluoridated water keeps teeth strong and has helped reduce tooth decay by approximately 25% in children and adults.<sup>4</sup> The Centers for Disease Control and Prevention (CDC) named community water fluoridation one of 10 great public health achievements in the 20th century, because of its contribution to the dramatic decline in tooth decay in the United States since the 1960s.<sup>4</sup>

- 2. Dietary Supplements: For children living in areas not served by community water systems, dietary fluoride supplements may be prescribed. However, dietary supplements are only necessary if optimal levels of fluoride do not exist in your drinking water and children are at high risk of developing cavities.<sup>3</sup> Your dentist, pediatrician or family physician can answer your questions about your child's specific fluoride needs.
- 3. Toothpaste/Mouth Rinses: Toothpaste helps remove plaque. Plaque can cause gum disease and tooth decay. Fluoride toothpaste not only removes plaque but also provides an extra benefit in preventing tooth decay by making tooth enamel stronger through "topical application." Mouth rinses also provide the same "topical" benefit. The ADA does not recommend mouth rinses for children under the age of six; many children younger than six have not yet fully developed their swallowing reflex and may be more likely to swallow fluoride mouth rinse rather than spitting it out.
- 4. **Professional Application:** If you or your children are at risk for tooth decay getting cavities, your dentist may recommend and apply fluoride directly to your teeth during your dental visit. Topical fluoride applications can be done with a varnish, gel, foam, or rinse, and may be completed by your dentist or your dental hygienist.
- 1 United States Environmental Protection Agency. New Fluoride Risk Assessment and Relative Source Contribution Documents, https://www.epa.gov/sites/production/files/2019-03/documents/fluoride-risk-assess-factsheet.pdf, accessed 07/30/2024.
- 2 American Dental Association, Mouth Healthy. Fluoride, http://www.mouthhealthy.org/en/az-topics/f/fluoride, accessed 07/30/2024.
- 3 American Dental Association, Fluoridation FAQ's, https://www.ada.org/resources/community-initiatives/fluoride-in-water/fluoridation-faqs, accessed 07/30/2024.
- 4 Centers for Disease Control and Prevention, Community Water Fluoridation, http://www.cdc.gov/fluoridation/, accessed 07/30/2024.
- 5 CDC, Scientific Statement on Community Water Fluoridation, reviewed May 2024. https://www.cdc.gov/fluoridation/about/statement-on-the-evidence-supporting-the-safety-and-effectiveness-of-community-water-fluoridation.html, accessed 07/30/2024

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