



Community Water Fluoridation

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Safety

Water safety is defined and determined by federal, state, and local regulations. The main federal law that ensures the quality of Americans' drinking water is the Safe Drinking Water Act (SDWA). Under SDWA, the U.S. Environmental Protection Agency (EPA) sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards.

CDC promotes effective public health practices, such as community water fluoridation. While it is not CDC's responsibility to determine what levels of fluoride in water are safe, our understanding about the safety of fluoridation is guided by federal regulations, comprehensive reviews conducted by expert panels, and individual studies.

Nearly all water on earth contains naturally occurring fluoride at levels below, equal to, or above those used in community water fluoridation. Investigation of the decay preventing effects of naturally occurring fluoride in water led to the start of community water fluoridation in 1945. For more than 60 years scientists have made observations and conducted epidemiological and animal studies to determine the effectiveness and safety of fluoride in water.

- **Scientific Reviews about Fluoridation Safety**

Water fluoridation has undergone extensive scientific review to assess its public health benefits and risks. For many years, panels of experts from different health and scientific fields have provided strong evidence that water fluoridation is safe and effective. [Learn more about scientific reviews on water fluoridation.](#)

- **National Academy of Sciences on Fluoride in Drinking Water**

The National Academy of Sciences, including its National Resource Council (NRC), has considered the health effects of fluoride in drinking water on several occasions. Additional information on the NRC and its reports can be found on [National Academy of Sciences \(NAS\) on Fluoride in Drinking Water.](#)

Additional information on the NRC report including a [Report in Brief](#)* and how to order copies of the full report is available at [The National Academies.](#)*

- **Enamel Fluorosis**

The proper amount of fluoride helps prevent and control dental caries (tooth decay). Fluoride ingested during tooth development can also result in a range changes in tooth enamel. Because fluorosis is a condition that occurs when teeth are forming, only children aged 8 years old or younger are at risk. Children older than eight, adolescents, and adults are not susceptible to fluorosis.

- **Recommendations to Reduce the Risk for Enamel Fluorosis**

Enamel fluorosis occurs among some people in all communities, even in communities that do not fluoridate and have a low natural concentration of fluoride in drinking water. All persons are encouraged to know what steps can be taken to reduce the risk for enamel fluorosis.

- **Infant Formula**

The proper amount of fluoride at all stages of life helps prevent and control tooth decay. Recent studies have raised the possibility that mixing infant formula with fluoridated water, particularly for infants exclusively on a formula diet during the first year of life, may play a more important role in enamel fluorosis development than was previously understood. Learn more about infant formula and fluoridation.

- **Health Effects and Environmental Impact**

The safety of fluoride in drinking water at levels recommended for preventing tooth decay has been affirmed by numerous scientific and professional groups.

Scientists have found a lack of evidence to show an association between water fluoridation and a negative impact on people, plants, or animals.

- **Fluoridation Additives**

Three additives—sodium fluoride, sodium fluorosilicate, and fluorosilicic acid—may be used to adjust the natural fluoride levels in water to concentrations that prevent or reduce tooth decay. Learn more about these additives and how they work in water.

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