

FLUORIDE IN ANN ARBOR WATER

INFORMATION AND UPDATES

Fluoride and Drinking Water

Fluoride is a naturally occurring mineral that can help prevent cavities - especially in children. Fluoride works by strengthening tooth enamel and even by reversing some early tooth decay. Fluoride can be found in water, soil, air, and rocks.

Water fluoridation involves the addition of small amounts of fluoride to public water supplies in order to reduce the prevalence of cavities. Fluoride is also used in dental products such as toothpaste and mouthwash.

Brief History of Fluoridation in Michigan

Fluoridation has long been hailed as one of the greatest public health achievements in recent history. In 1945, Grand Rapids, MI was the first city in the US to add fluoride to their water system. Eleven years after Grand Rapids added fluoride to their drinking water, cavities in children were cut in half. Currently, fluoride is added to approximately 41% of Michigan's public water supplies.

Water Fluoridation in Ann Arbor

Ann Arbor's city council decided to fluoridate in 1951. Since then, the city council has maintained its decision and continues fluoridation of the city water. The costs of fluoridation are minimal: the total cost is around \$20,000/year, or about 0.2% of the total operating budget. Ann Arbor, like most US cities, targets 0.7 mg/L of fluoride in the drinking water for dental health. Adding fluoride is not required by state or federal regulatory agencies and remains a community decision.

Is Fluoride Toxic?

Only for large doses over a long period of time. Fluoride levels of 4 mg/L can lead to fluoride accumulation in bones. However, high levels of exposure will not result from drinking fluoridated water or using dental products with fluoride. Municipal governments fluoridate at much lower concentrations - around 0.7 mg/L. Throughout a lifetime, these levels are far below levels that might be toxic.

Fluoride and Health

To date, the Centers for Disease Control and Prevention (CDC) and numerous other bodies conclude there is **no concrete evidence of harm to health** due to low levels of fluoride in water. The safety of community water fluoridation has been and continues to be thoroughly evaluated by scientists and public health organizations worldwide. Experts who evaluate the safety of fluoride conclude there is no evidence of harm to health caused by fluoride at the levels recommended by the CDC. However, mild dental fluorosis, a condition where tooth color changes slightly due to consumption of fluoride, can sometimes occur.

Cost of Water Fluoridation for Ann Arbor Residents:

\$0.76 per household per year



FLUORIDE Q&A

1 Why doesn't Europe fluoridate their water?

Many countries in Europe no longer add fluoride to water. One common reason is that some European nations add fluoride to their diets in other ways - such as adding fluoride to salt and milk. Other countries - such as Switzerland, Finland, and the Netherlands - **have naturally high levels of fluoride in their water**, so adding more would not increase the dental hygiene benefits that many areas in the US have seen by adding fluoride to water. Though some countries introduce fluoride through other means, approximate 24 countries worldwide and 372 million people get fluoride through their water.

2 Isn't fluoride from toothpaste/mouthwash enough?

Fluoridated water and dental products like fluoridated toothpaste work together to prevent tooth decay. Fluoride in water helps consistently maintain low levels of bacteria throughout the day while dental products with typically higher fluoride concentrations help make tooth enamel stronger and remove plaque. Adding fluoride to community water is a cost effective way of preventing cavities in addition to fluoride in dental products. In fact, data show that communities without fluoridated water have higher cavity rates than those who fluoridate, even after fluoride-containing toothpaste became common. Brushing with fluoridated toothpaste is still very important, although it's necessary to make sure young children don't swallow these higher concentrations of fluoride.

3

Does Ann Arbor measure fluoride levels in water before adding more?

Every community in the United States adding fluoride to public water systems measures the fluoride levels. Community water sources have instruments that check levels of fluoride so that the amount of added fluoride can be changed if necessary. In some areas such as the Northwestern US, fluoride is removed from source waters so that the levels meet the CDC target of 0.7 mg/L. Learn more through the CDC's Water Fluoridation Reporting System (WFRS).

4

I heard about a study on fluoride and IQ. What should I take away?

A study published by a Canadian university in 2019* identified an association between fluoride intake during pregnancy and IQ scores in children. The study found that fluoride exposure during pregnancy may be associated with childhood intellectual development. This study was exploratory and used measures of fluoride intake that are not yet validated. High levels of fluoride intake appeared to lower IQ scores in boys but the association was not significant in girls. This study has prompted responses from many scientists, some of whom have expressed concern over the study methods. **Other studies have found no link between fluoride and IQ** and fluoridation of water is still fully supported by health organizations.

*Green, R. et al. "Association Between Maternal Fluoride Exposure During Pregnancy and IQ Scores in Offspring in Canada" (2019). doi:10.1001/jamapediatrics.2019.1729

WHERE CAN I READ MORE?

American Dental Association, Mouth Healthy program:

<https://www.mouthhealthy.org/en/az-topics/f/fluoridation>

The Mouth Healthy program helps people find information on teeth health and dental care. It also provides information on fluoride and how fluoride affects the mouth throughout life.

Centers for Disease Control and Prevention (CDC), Community Water Fluoridation:

<https://www.cdc.gov/fluoridation/index.html>

This page provides information on community water fluoridation basics, guidelines, and statistics.

Fluoridation Status Reports for Michigan:

https://nccd.cdc.gov/DOH_MWF/Reports/FlStatus_Rpt.aspx

This page shows the fluoridation status of Michigan counties and the fluoride concentration for the counties that fluoridate.

National Institute of Dental and Craniofacial Research:

<https://www.nidcr.nih.gov/health-info/fluoride/the-story-of-fluoridation>

This page provides more information the history of fluoridation .

“The American Dental Association (ADA) remains committed to fluoridation of public water supplies as the single most effective public health measure to help prevent tooth decay”

- 2019 ADA Official Statement

Other supporting organizations include: World Health Organization, U.S. Public Health Service, Centers for Disease Control and Prevention, American Medical Association and American Academy of Pediatrics.