

## Water Fluoridation and the Current Recommendations

An Interview with Laura Smith, CEO - Washington Dental Service Foundation

IOH: What's the current wisdom about water fluoridation?

**Laura Smith:** It is the most effective and economical population-based measure for the prevention of caries (decay or cavities). There is long term evidence that water fluoridation reduces caries by at least 20% at a cost of about 50 cents per person per year. Too many children suffer from tooth decay. It's the single most common preventable disease of childhood and can lead to nutrition and speech problems and diminish a child's readiness to learn. The health of seniors can also be negatively impacted by tooth decay and tooth loss. Water fluoridation is a powerful tool for communities to avoid these unnecessary health and developmental problems.

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--Laura Smith,  
Washington Dental Service  
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IOH: How is the WDS Foundation active in water fluoridation?

**Laura Smith:** In Washington State, the Washington Dental Service Foundation has helped communities add fluoride to their water systems and currently we are working nationally with the PEW Foundation on an information campaign to improve the public's level of knowledge regarding this important public health measure.

IOH: Recently the Department of Health and Human Services (HHS) recommended reducing the level of fluoride added to community water systems. What's behind this recommendation?

**Laura Smith:** This change in the level of fluoride recommended by HHS was the result of a report by the Environmental Protection Agency (EPA). This is actually a great demonstration that the public's well being is closely monitored. In the 1960's when water fluoridation was pioneered, water was the primary source of fluoride available. Scientific evidence showed that systemic fluoride was incorporated into tooth enamel during the development of a tooth which made them stronger and more resistant to the acidic assault of bacteria in the mouth, so the tooth was less likely to decay. Topical fluoride also aids in the re-mineralization of the teeth already in the mouth. The new recommended levels of fluoride take into account the availability of other sources of fluoride now available in toothpaste, mouth rinses, and the fluoride applied by oral health professionals.

IOH: Are there issues with too much fluoride?

**Laura Smith:** Yes, fluoride is a naturally occurring mineral and there are places where the natural level is higher than the optimal level. In these areas, the higher level can cause dental fluorosis. This is a discoloration or modeling of the tooth enamel; the teeth are strong but have a modeled discoloration. Rarely with very high levels found in some well water systems the enamel does not form properly. This is not due to added fluoride.

We need to remember that too much of most anything is not good; too much water, salt, or other consumables can have adverse effects; however, that does not mean the smaller right amount is not beneficial.

IOH: So now water systems will be working to lower the limits to the new recommendations, what will the systems with naturally high levels due to respond?

Laura Smith: Communities with naturally occurring fluoride levels above the optimal level remove fluoride. They lower the fluoride level to attain the optimal level.

IOH: Thank you Laura, for your help in understanding the importance of fluoridated drinking water in preventing dental decay, and the new guidelines.

**Editorial comments:** As tooth decay or caries is the number one preventable disease in children, and increasing evidence shows that chronic inflammation and infection (gum disease and decay) in the oral cavity impacts both the health of the mouth and the entire body, we're seeing a vital need to improve oral health across the nation.

After reviewing much of the available literature on water fluoridation, scientific studies, the EPA report, and volumes of papers by anti-fluoridation groups, it is clear that the evidence-based scientific community has demonstrated that the optimal levels of fluoride in public water systems are an important, cost-effective way to protect the public's health. Because water is consumed by everyone, everyone benefits regardless of socio-economic status.

The January recommendation from the Department of Health and Human Services to lower levels of fluoride to .7ppm demonstrates there is continuous monitoring for safety. There is no evidence that water fluoridation adversely affects health, and there is overwhelming evidence that it prevents tooth decay. To help drive this nationwide oral health initiative, the recent reports by the EPA and recommendations of the HHS demonstrate that community water fluoridation is a smart solution that serves the greater public good.