Rethinking Fluoride in Public Water Supplies

Applying fluoride products topically – brushing with fluoridated toothpastes or using fluoridated mouth rinses, for example – is a safe, proven method for protecting teeth from cavities and decay. Topical fluoride treatments applied by a dental professional can also be beneficial for maintaining good dental health. These preventative measures are encouraged for people of any age, but especially for children.

However, there are many important differences between topical applications of pharmaceutical-grade fluoride (sodium monofluorophosphate or sodium fluoride) and the ingestion through public water supplies of fluoride in the form of fluorosilicic acid, an industry waste product.

Adding Fluoride to Drinking Water is Not Necessary for Optimal Dental Health

- Fluoride is not an essential nutrient. No peer-reviewed study has ever indicated that humans require fluoride, even for dental health.

- Contrary to widely held beliefs, it is well documented that ingested fluoride shows little benefit compared to topical fluoride use in preventing tooth decay. The United States Centers for Disease Control (CDC) acknowledges that "fluoride's predominant effect is posteruptive and topical."

- Over the past 50 years there has been a significant decrease in tooth decay in the general population in all western countries, regardless of whether or not they fluoridate their water.

Adding Fluoride to Drinking Water May Cause Unintended Negative Health Consequences

- The American Dental Association (ADA) advises parents to avoid preparing baby formula with fluoridated water or giving infants fluoridated water to drink. It also recommends reduced levels of fluoride exposure for children under 6 years of age.

- Fluoride can lead to decreased brain function in humans, including lower IQ in children. The National Toxicology Program (NTP) of the National Institutes of Health conducted a rigorous and systematic review of the published scientific literature on the association between fluoride exposure and its impacts on neurodevelopment and cognition. They concluded with moderate confidence that higher levels of fluoride exposure are associated with lower IQ in children.

- In the United States, 41% of adolescents from age twelve to fifteen have dental fluorosis, a condition that produces mottling and discoloration, and less frequently, pitting of the teeth. Dental fluorosis occurs when teeth are forming, from infancy through 8 years of age, and may be indicative of additional damage to the skeletal system and internal organs.

- A study by the National Cancer Institute looking at cancer risk in humans found an increased incidence of a rare form of bone cancer in males under the age of 20 who lived in areas with fluoridated water. According to the National Research Council, fluoride can diminish bone strength and increase the risk of bone fracture.

(over, please)

• Fluoride has been identified by the National Research Council as an endocrine disruptor that may reduce thyroid function in some individuals, which may lead to health issues such as depression and weight gain. Recent studies indicate that exposure to fluoride can increase the severity of diabetes.

Adding Fluoride to Drinking Water is of Special Concern for Vulnerable Populations

• A growing body of scientific evidence indicates that certain at-risk populations such as infants, young children, breast-feeding women and individuals with renal disease, nutrient deficiencies and diabetes should not consume fluoridated water in any amount.

• Purchasing unfluoridated water is an expense that many low-income households cannot afford. Therefore, many families cannot follow the American Dental Association's recommendation that infants and young children not drink fluoridated water.

• Delivering unproven substances through the public water supply, with no dosage control and without the public's knowledge or consent is unethical.

Adding Fluoride to Drinking Water is Not Cost-Effective for Municipalities

• Each year municipalities spend millions of dollars purchasing various forms of fluoride as well as sodium hydroxide (lye) and other chemicals to fluoridate their water.

• The corrosive nature of fluoride negatively impacts water delivery infrastructure. Extra expenses are incurred in the maintenance and replacement of prematurely aged pumps and pipes, the adjustments of water pH and the more frequent flushing of systems.

• Most of the fluoride added to water supplies quite literally goes down the drain. Over 99% of water is used for flushing toilets, taking showers and washing dishes and clothes, etc.

• Fluoridated toothpastes and mouth rinses are widely available and inexpensive. Programs to distribute these topical fluoride products to the public can be more cost effective and provide greater health benefits.

References:

National Toxicology Program (NTP). 2024. NTP monograph on the state of the science concerning fluoride exposure and neurodevelopment and cognition: a systematic review. Research Triangle Park, NC: National Toxicology Program. NTP Monograph 08

Carton, Robert J. July 2006. Review of the 2006 United States National Research Council Report: Fluoride in Drinking Water. Quarterly Journal of the International Society for Fluoride Research. Guest Editorial. 163-172.

Clinch, Carol. 2010. Costs of Artifical Water Fluoridation..

Ozsath, David L. Fluoride and environmental health: a review. Reviews in Environmental Science and Biotechnology, Special Issue: Mineralogy, Speciation and Environmental Health. 2008: Volume 8, Number 1, 59-79.

Fluoride and IQ: The Studies. Fluoride Action Network. Updated January 2011.

National Research Council. 2006. Fluoride in Drinking Water: A Scientific Review of EPA's Standards. Washington, D.C.: National Academies Press. 507 pp.

U.S. Department of Health and Human Services. January 2011. Proposed HHS recommendation for fluoride concentration in drinking water for prevention of dental caries. Federal Register 76(9):2383-8.

GRASSROOTS Environmental Education

Produced by Grassroots Environmental Education, a non-profit organization
Main office: 184 Main Street, Port Washington, New York 11050

DW 11-24