



American Academy of Pediatric Dentistry

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U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
CWF Comments
Division of Oral Health
National Center for Chronic Disease Prevention
and Health Promotion (NCCDPHP),
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On behalf of the nearly 8,000 members of the American Academy of Pediatric Dentistry (AAPD), we are pleased to offer the following comments on the Proposed HHS Recommendation for Fluoride Concentration in Drinking Water for Prevention of Dental Caries. Founded in 1947, the **American Academy of Pediatric Dentistry (AAPD)** is a not-for-profit membership association representing the specialty of pediatric dentistry. The AAPD's 7,800 members are primary oral health care providers who offer comprehensive specialty treatment for millions of infants, children, adolescents, and individuals with special health care needs. The AAPD also represents general dentists who treat a significant number of children in their practices. As advocates for children's oral health, the AAPD develops and promotes evidence-based policies and guidelines, fosters research, contributes to scholarly work concerning pediatric oral health, and educates health care providers, policymakers, and the public on ways to improve children's oral health. For further information, please visit the AAPD Web site at www.aapd.org.

Importance of Community Water Fluoridation

The AAPD shares the goal of the Health and Human Services Department of attaining optimal community water fluoridation levels. Additionally, the AAPD is in agreement with the recommendation of the HHS that optimal community water fluoridation should be continued, initiated, or increased.

The AAPD policy on the use of fluoride affirms that fluoride is a safe and effective adjunct in reducing the risk of caries and reversing enamel demineralization and encourages public health officials, health care providers, and parents/ caregivers to optimize fluoride exposure. Prospective field trials of water fluoridation in four pairs of treatment and control cities in the United States and Canada, begun in 1945, resulted in

a 50% to 75% reduction in caries in children in the fluoridated communities.¹ This is notably beneficial to those populations who are most at-risk for dental caries as community water fluoridation makes optimally fluoridated water accessible to the entire community, regardless of socio-economic status, racial or ethnic background or knowledge of good oral practices.² The benefit of community water fluoridation in reducing the cumulative caries experience was reinforced with the strong evidence found by the Centers for Disease Control and Prevention (CDC), which developed the *Guide to Community Preventive Services*.³

This universal access to fluoridated water is particularly important in light of the findings of the Surgeon General's Report on Oral Health which identified disparities that negatively affect the oral health of those without the knowledge or resources to achieve good oral care. Those who suffer the worst oral health include poor Americans, especially children and the elderly. Members of racial and ethnic groups also experience a disproportionate level of oral health problems.⁴

The AAPD policy statement on community water fluoridation clearly states that the adjustment of the fluoride level in community water supplies to optimal concentration is the most beneficial and inexpensive method of reducing the occurrence of caries. The AAPD agrees with HHS that it is in the best public health interest of our nation to:

1. continue efforts to insure that all Americans have access to optimally fluoridated water, and
2. identify that concentration which provides for the greatest benefit in decreasing the incidence of tooth decay and building healthy bones, while
3. minimizing the occurrence of dental fluorosis,
4. continue to review the most current scientific data related to fluoride consumption and its effect on the incidence of both dental caries and fluorosis
5. increase the number of research studies on the incidence of dental caries, dental fluorosis, and fluoride intake, focusing on younger populations at higher risk of fluorosis to obtain the best available information to support effective efforts to improve oral health.

¹ Milgrom, P, Reisine, S. Oral health in the United States: the post-fluoride generation. *Ann Rev Public Health* 2000;21:403-36.

² Horowitz, HS. The effectiveness of community water fluoridation in the United States. *J Public Health Dent* 1996; 56(5)(spec Iss):253-8.

³ Truman, BI, Gooch, BF, Sulemana, I, Gift, HC, Horowitz, AM, Evans, CA, et al. (2002). Reviews of evidence on interventions to prevent dental caries, oral and pharyngeal cancers, and sports-related craniofacial injuries. *Am J Prev Med* 23(Suppl 1); 21S-54S.

⁴ US Department of Health and Human Services. *Oral health in America: a report of the Surgeon General*. Rockville, MD: US Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health; 2000.

Trends in Availability of Fluoride Sources

According to the Food and Nutrition Board of the Institute of Medicine Dietary Reference Intakes, Adequate Intake for optimal health for fluoride from all sources (fluoridated water, food, beverages, fluoride dental products and dietary fluoride supplements) is set at 0.05 milligram per kilogram of body weight per day.⁵ The tolerable upper intake level (UL), or maximum intake level that should not produce unwanted effects on health, for fluoride from all sources is set at 0.10 milligram per kilogram of body weight per day for infants, toddlers, and children through eight years of age. If an individual consumes one liter of water fluoridated at 1 part per million he/she will receive 1 milligram of fluoride. Children under six years of age, on average, consume less than one-half liter of drinking water a day. Therefore, children under six years of age would consume, on average, less than 0.5 mg of fluoride a day from drinking optimally fluoridated water at 1 ppm.⁶ On the other hand, it is understood that children receive fluoride from other sources, including the ingestion of fluoride toothpaste. It is important to note that additional forms of fluoride have become more prevalent since the original recommendations for the optimal level of community water fluoridation (0.7 – 1.2 ppm) in the 1940s.

Kumer (2008) also notes that, due to the diffusion effect, the effectiveness of community water fluoridation is expanded to communities that do not have fluoridated water – primarily due to the processing of food with fluoridated water. Thus, the discontinuation of water fluoridation would have an adverse affect on non-fluoridated communities as well as fluoridated communities.⁷

The use of fluoridated products, such as fluoridated toothpaste, also serves to protect against caries and increase the overall exposure to fluoride of individuals. The AAPD strongly encourages HHS to engage in activities to raise the awareness of the public in the appropriate use of these products.

Fluorosis

Available data, as reviewed in the proposed recommendation, indicate an increase in fluorosis, particularly in areas where the levels of fluoride present in the water surpass current HHS recommendations. Particularly at risk are non-breast fed infants under the age of one year due to the use of fluoridated water (over 0.7 ppm) in mixing powdered infant formula.

⁵ Institute of Medicine, Food and Nutrition Board. Dietary reference intakes for calcium, phosphorus, magnesium, vitamin D and fluoride. Report of the Standing Committee on the Scientific Evaluation of Dietary Reference Intakes. Washington, DC: National Academy Press; 1997.

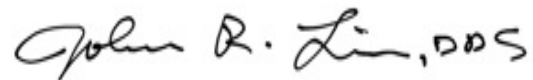
⁶ American Dental association. Fluoridation facts. Chicago: ADA; 2005.

⁷ Kumer, JV. (2008) Is water fluoridation still necessary? *Adv Dent Res* 20:8: 8-12.

**Proposed HHS Recommendation for Fluoride Concentration in Drinking Water
for Prevention of Dental Caries**

The AAPD endorses the revision of these recommendations based on the review of data related to the optimization of fluoride levels in community water and respectfully requests that HHS support continued surveillance of fluoridation levels and their effect on the incidence both of caries and moderate to severe fluorosis.

Sincerely,

A handwritten signature in black ink that reads "John R. Liu, DDS". The signature is written in a cursive style with a large, stylized initial 'J'.

John R. Liu, DDS
President