

Policy on Use of Fluoride

Originating Committee

Liaison with Other Groups Committee

Review Council

Council on Clinical Affairs

Adopted

1967

Reaffirmed

1977

Revised

1978, 1995, 2000, 2001, 2003, 2007, 2008, 2012, 2013, 2014*

Purpose

The American Academy of Pediatric Dentistry (AAPD), affirming that fluoride is a safe and effective adjunct in reducing the risk of caries and reversing enamel demineralization, encourages public health officials, health care providers, and parents/caregivers to optimize fluoride exposure.

Methods

An electronic database search using the terms fluoride, fluoridation, acidulated phosphate fluoride, fluoride varnish, fluoride therapy, and topical fluoride was conducted to update this policy. Expert opinions and best current practices also were relied upon for this policy.

Background

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.¹ Epidemiologic data from the last half-century indicate reductions in caries of 55 to 60 percent, and recent data show caries reduction of approximately 25 percent, without significant enamel fluorosis, when domestic water supplies are fluoridated at an optimal level.² Evidence accumulated from long-term use of fluorides has demonstrated that the cost of oral health care for children can be reduced by as much as 50 percent.³ These savings in health dollars accrue to private individuals, group purchasers, and government care programs. An even higher caries reduction can be obtained if the proper use of fluorides is combined with other dietary, oral hygiene, and preventive measures⁴ as prescribed by a dentist familiar with the child's oral health and family history.

A large body of literature supports the incorporation of optimal fluoride levels in drinking water supplies. When fluoridation of drinking water is impossible, effective systemic fluoridation can be achieved through the intake of daily fluoride supplements. Before supplements are prescribed, it

is essential to review dietary sources of fluoride (eg, all drinking water sources, consumed beverages, prepared food, toothpaste) to determine the patient's true exposure to fluoride.^{1,5,6} Fluoride content of ready-to-use infant formulas in the US and Canada ranges from 0.1 to 0.3 mg/L⁷, which provides only a modest source of fluoride. The more important issue, however, is the fluoride content of concentrated or powdered formula when reconstituted with fluoridated water. Considering the potential for mild fluorosis, caution is advised for infants consuming formula that is reconstituted with optimally-fluoridated water.⁸ As the Environmental Protection Agency/Department of Health and Human Services' recommendation⁹ for optimizing community water supplies to 0.7 ppm F is instituted, fluorosis due to reconstituting infant formula with fluoridated water will be less of an issue.

Significant cariostatic benefits can be achieved by the use of over-the-counter fluoride-containing preparations such as toothpastes, gels, and rinses, especially in areas without water fluoridation.¹ Monitoring children's use of topical fluoride-containing products, including toothpaste, may prevent ingestion of excessive amounts of fluoride.^{10,11} Numerous clinical trials have confirmed the anti-caries effect of professional topical fluoride treatments, including 1.23 percent acidulated phosphate fluoride, five percent neutral sodium fluoride varnish, 0.09 percent fluoride mouthrinse, and 0.5 percent fluoride gel/paste.¹²

Policy statement

The AAPD:

- Endorses and encourages the adjustment of fluoride content of domestic community water supplies to optimal levels where feasible.
- Endorses the supplementation of a child's diet with fluoride according to established guidelines^{1,13-15} when fluoride levels in community water supplies are sub-optimal and after consideration of sources of dietary fluoride and the caries risk of the child.

* The 2014 revision was limited to use of fluoridated toothpaste in young children.

- Encourages the brushing of teeth with appropriate amounts of fluoride toothpaste (eg, no more than a ‘smear’ or ‘rice-size’ amount for children less than three years of age; no more than a ‘pea-size’ amount for children aged three to six) twice daily for all children.¹¹
- Encourages the application of professional fluoride treatments for all children at risk for dental caries.
- Encourages dental professionals to inform medical peers of the potential of enamel fluorosis when excess fluoride is ingested prior to enamel maturation.
- Encourages the continued research on safe and effective fluoride products.
- Supports the delegation of fluoride application to auxiliary dental personnel or other trained allied health professionals by prescription or order of a dentist after a comprehensive oral examination or by a physician after a dental screening has been performed.
- Encourages all beverage and infant formula manufacturers to include fluoride concentration with the nutritional content on food labels.
- Encourages dentists and other health care providers to educate parents that infant formula, if constituted with optimally fluoridated water, contains fluoride. Dentists and other health care providers, therefore, should assist parents in determining the infant’s fluoride exposure.
- Recognizes that drinking fluoridated water and brushing with fluoridated toothpaste at least daily are perhaps the most effective method in reducing dental caries prevalence in children.

References

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