Guideline on Fluoride Therapy

Originating Committee
Liaison with Other Groups Committee

Review Council
Council on Clinical Affairs

Adopted
1967

Reaffirmed
1972, 1977

Revised
1978, 1995, 2000, 2003

Purpose

The American Academy of Pediatric Dentistry (AAPD) intends this guideline to help practitioners and parents/caregivers make decisions concerning appropriate use of fluoride as part of the comprehensive oral health care for infants, children, adolescents, and persons with special health care needs.

Methods

A thorough review of the scientific literature pertaining to the use of systemic and topical fluoride was completed to revise and update the guideline on fluoride therapy.

Background

Use of fluorides for the prevention and control of caries is documented to be both safe and highly effective.[1-3] Optimizing fluoride levels in water supplies is an ideal public health measure because it is effective and inexpensive and does not require conscious daily cooperation from individuals.[3-4] Daily fluoride exposure through water supplies or supplementation and monitored use of fluoride toothpaste after 6 months of age can be effective primary preventive procedures. Before supplements are prescribed, it is essential to review all dietary sources of fluoride (eg, all drinking water sources such as home, day care, and school, consumed beverages, prepared food, toothpaste) to determine the patient's true exposure to fluoride.[5,6] The use of fluoridated toothpaste in children who cannot expectorate predictably carries an increased risk of dental fluorosis.[5-7] Clinical studies have shown the effectiveness of a professionally applied topical fluoride treatment.[8] Eight percent stannous fluoride solution, 1.23% acidulated phosphate fluoride solution or gel, and 5% sodium fluoride varnish are agents used for professionally applied fluoride treatments [9,10] Children at higher caries risk[11] may require additional fluoride therapies.

Table 1. Dietary Fluoride Supplementation Schedule

Age	<0.3 ppm F	0.3-0.6 ppm F	>0.6 ppm F
Birth-6 mo	0	0	0
6 mo-3 y	0.25 mg	0	0
3-6 y	0.50 mg	0.25 mg	0
6 y up to at least 16 y	1.00 mg	0.50 mg	0

Recommendations

Systemically administered fluoride supplements

Fluoride supplements should be considered for all children drinking fluoride-deficient (<0.6 ppm) water. After the fluoride level of the water supply or supplies has been determined, either through contacting public health officials or water analysis, and after evaluating other dietary sources of fluoride and assessing the infant's, child's, or adolescent's caries risk, the daily fluoride supplement dosage schedule can be determined using the Dietary Fluoride Supplementation Schedule (Table 1).

Professionally-applied topical fluoride treatment

Professional topical fluoride treatments should be based on caries-risk assessment.[3] A pumice prophylaxis is not an essential prerequisite to this treatment.[12] Appropriate precautionary measures should be taken to prevent swallowing of any professionally-applied topical fluoride.

Self- or parentally-applied fluoride

The use of fluoride-containing toothpaste should be recommended as a primary preventive procedure. Because ingestion of fluoridated toothpaste carries an increased risk of fluorosis, this risk must be weighed against the benefit of caries prevention in determining the use of a fluoridated toothpaste by a child.[3] Parents/caregivers should be counseled on the frequency of tooth-brushing and use no more than a "pea-size" amount of toothpaste.[13]

Children at high risk for caries (eg, children with orthodontic/prosthodontic appliances, with reduced salivary function, who are unable to clean teeth properly, at dietary risk, having mothers or siblings with caries, or with high oral

levels of cariogenic bacteria) or children with active caries should be considered for additional fluoride therapy. Home fluoride programs using fluoride mouth rinses or brush-on fluoride gels should be recommended for use by school-aged child at high risk for caries. If a patient at high risk for caries cannot or will not comply with home fluoride therapy, frequent professional fluoride treatments may be substituted.

References

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