Guideline on fluoride therapy

Originating Committee
Liaison with Other Groups Committee
Review Council
Council on Clinical Affairs

Adopted
1967
Reaffirmed
1972, 1977
Revised

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.

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

Background/literature review
The use of fluorides for the prevention and control of dental caries is documented to be both safe and highly effective. Optimizing fluoride levels in water supplies in many ways is an ideal public health measure because it is effective, relatively and inexpensive and does not require conscious daily cooperation from individuals. Daily fluoride exposure through water supplies or supplemental tablets supplementation and monitored use of fluoride toothpaste after 6 months of age (“pea-size” amount on brush) should be recommended for all children as a can be effective primary preventive procedures. Before supplements are prescribed, it is essential to review all dietary sources of fluoride (e.g., 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. The use of fluoridated toothpaste in children who cannot
expectorate predictably carries an increased risk of dental fluorosis. Professional fluoride treatments should be based on caries risk. Clinical studies have shown the effectiveness of a professionally applied topical fluoride treatment. Eight percent stannous fluoride solution, 1.23% acidulated phosphate fluoride (APF) solution or gel and 5% sodium fluoride varnish are agents used for professionally applied fluoride treatments. Home protocols should be advised for children considered at higher caries risk may require additional fluoride therapies.

### Recommendations

#### Systemically administered fluoride supplements (Table 1)

Fluoride supplements should be considered for all children drinking fluoride deficient (<0.6 ppm) water. Before supplements are prescribed, it is essential to know the fluoride concentration of the patient’s drinking water. Review of all sources of drinking water (eg, home, day care, school) is essential to determining the patient’s response to fluoride. Once the fluoride level of the water supply or supplies has been determined evaluated, either through contacting public health officials or water analysis, as well as evaluating other dietary sources of fluoride and/or its removal through the use of in-house filtration systems assessing the infant’s, child’s or adolescent’s caries risk, the daily fluoride supplement dosage schedule can be recommended determined using the Dietary Fluoride Supplementation Schedule (Table 1).

<table>
<thead>
<tr>
<th>Age</th>
<th>Less than 0.3 ppm F</th>
<th>0.3 – 0.6 ppm F</th>
<th>More than 0.6 ppm F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth – 6 mo</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6 mo – 3 y</td>
<td>0.25 mg</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3 – 6 y</td>
<td>0.50 mg</td>
<td>0.25 mg</td>
<td>0</td>
</tr>
<tr>
<td>6 y up to at least 16 y</td>
<td>1.00 mg</td>
<td>0.50 mg</td>
<td>0</td>
</tr>
</tbody>
</table>

### Professionally applied topical fluoride treatment

Professional topical fluoride treatments should be based on caries-risk assessment. Eight percent stannous fluoride solution, 1.23% acidulated phosphate fluoride (APF) solution or gel and 5% sodium fluoride varnish are agents for professionally applied fluoride treatments; for a specific treatment, either may be prescribed. APF is more widely used because of better stability, patient acceptance and ease of application.
Clinical studies have shown the effectiveness of a professionally applied topical fluoride treatment. There is no evidence that a pumice prophylaxis is not an essential prerequisite to this treatment. 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. However, the use of because ingestion of fluoridated toothpaste in children who cannot expectorate consistently carries an increased risk of dental fluorosis, this risk. Therefore, the risk of fluorosis must be weighed against the benefit of caries prevention in determining the use of a fluoridated dentifrice toothpaste by a child. Parents/caregivers should be counseled on the frequency of tooth-brushing and use of no more than a “pea-size” amount of toothpaste.

Children at high risk for caries (ie, children with orthodontic/prosthodontic appliances, with reduced salivary function, who are unable to clean teeth properly, who are at dietary risk, who have mothers or siblings with caries or who have high oral levels of Streptococcus mutans - cariogenic bacteria) or children who are caries active have active caries should be considered for additional fluoride treatment therapy. Home fluoride programs using fluoride mouth rinses or brush-on fluoride gels should be used at least daily. recommended for use by school-aged child at high risk for caries. If a high caries risk patient cannot or will not comply with home fluoride therapy, frequent professional fluoride treatments may be substituted.

References


