Guideline on the Role of Dental Prophylaxis in Pediatric Dentistry

Originating Committee
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Purpose

The American Academy of Pediatric Dentistry (AAPD), as an advocate for optimal oral health of infants, children, and adolescents, must educate caregivers and other interested third parties on the indications for and benefits of a dental prophylaxis in conjunction with a periodic oral health assessment.

Methods

This guideline is based on a review of current preventive, restorative, and periodontal literature, as well as the AAPD's Policy Statement on the Use of a Caries-risk Assessment Tool (CAT) for Infants, Children, and Adolescents[1] and the American Academy of Periodontics' (AAP) Periodontal Diseases in Children and Adolescents.[2]

Background

There are several indications for a dental prophylaxis, including:

1. removal of plaque, stain, and calculus;[3]
2. elimination of factors that influence the build-up and retention of plaque;[4-6]
3. demonstration of proper oral hygiene methods to the patient/caregiver;
4. facilitation of a thorough clinical examination;
5. introduction of the child to dental procedures.

Microbial plaque is the primary etiological factor in caries and periodontal disease.[7,8] Although it may be possible to remove most plaque using mechanical oral hygiene aids, many patients do not have the motivation or skill to maintain a plaque-free state for extended periods of time.[9] Clinical studies show that "self-administered plaque control programs alone, without periodic professional reinforcement, are inconsistent in providing long-term inhibition of gingivitis".[9]

The type of professional prophylaxis recommended is based on an individual patient's risk-assessment for caries and periodontal disease. The clinician should use CAT[1] to determine caries risk and the AAP guidelines[2] for periodontal risk. This assessment includes:

1. medical history/current systemic health including medications;
2. age and cooperation of the patient;
3. compliance of the patient and family;
4. past and current caries;
5. family history of caries;
6. past and current periodontal health;
7. family history of periodontal disease;
8. oral hygiene;
9. presence of plaque;
10. presence of gingivitis;
11. presence of calculus;
12. presence of extrinsic stain;
13. local factors that would influence the build-up and retention of plaque.

A prophylaxis can be performed using gauze, cloth, toothbrush, or rubber cup on the incisors of an infant only. Once the molars have begun to erupt, manual or power toothbrush,[10-12] rubber cup, and/or hand instruments, followed by site-specific flossing, may be used. The benefits of each option are shown in Table 1.

The literature cites a number of studies that show a prophylaxis is not necessary prior to the application of topical fluoride.[13-26] Conversely,

Table 1. Benefits of Prophylaxis Options

	Plaque removal	Stain	Calculus	Polish/smooth	Education
Cloth/gauze (C/G)*	Yes	No	No	No	Yes
Toothbrush (TB)	Yes	No	No	No	Yes
Power brush (PB)	Yes	Yes	No	No	Yes
Rubber cup (RC)	Yes	Yes	No	Yes	Yes
Hand instruments (HI)	Yes	Yes	Yes	No	Yes

*Only on the incisors of an infant.

Christensen and Bangerter have shown in vivo that an insignificant amount of the fluoride-rich layer of enamel is removed with a rubber cup prophylaxis.[27]

Recommendations

A periodic professional prophylaxis should be performed to:

1. instruct the caregiver and child or adolescent in proper oral hygiene techniques;
2. remove microbial plaque and calculus;
3. polish hard surfaces to minimize the accumulation and retention of plaque;
4. remove extrinsic stain;
5. facilitate the examination of hard and soft tissues;
6. introduce the young child and apprehensive patient to dental procedures.

In Figure 1, these indicators are known as "rationale factors".

A patient's risk for caries/periodontal disease, as determined by the patient's dental provider, should help determine the interval of the prophylaxis.

Determination of the necessity of a topical fluoride treatment is based upon the AAPD's Clinical Guideline on Fluoride Therapy.[28] If a rubber cup prophylaxis is performed, fluoride pastes and/or fluoride-impregnated rubber cups are recommended,[29] especially if it is not followed by a topical fluoride application.

If no "rationale factor" is present and the infant, child, or adolescent is at low risk for caries and periodontal disease, prophylaxis is performed at the discretion of the clinician.

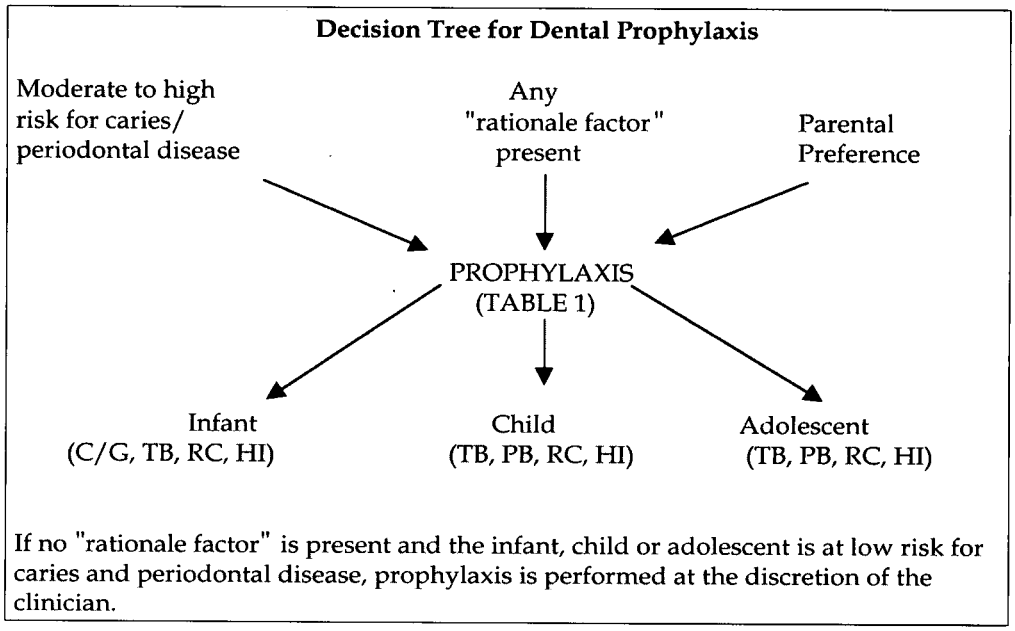

Figure 1.

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