

Policy on the Role of Dental Prophylaxis in Pediatric Dentistry

Review Council

Council on Clinical Affairs

Latest Revision

2012

Purpose

The American Academy of Pediatric Dentistry (AAPD) presents this policy to assist practitioners in determining the indications and methods for dental prophylaxis including removal of tooth deposits, as well as facilitating patient education and clinical examination.

Methods

This policy was originally developed by the Clinical Affairs Committee and adopted in 1986. This document is an update of the previous version, revised in 2007. The revision included a new systematic literature search of electronic databases (PubMed® and Google Scholar) using the terms: dental prophylaxis, toothbrushing, professional tooth cleaning, and professional dental prophylaxis in children, followed by hand searches. Papers for review were chosen from a list of 22 relevant articles. When data did not appear sufficient or were inconclusive, recommendations were based upon expert and/or consensus opinion by experienced researchers and clinicians.

This document was originally developed by the Clinical Affairs Committee and adopted in 1986. This is an update from the last revision in 2007.

Background

There are several approaches that dentists and dental hygienists use professionally to remove plaque, stain, and calculus from patients' teeth. The toothbrush prophylaxis is a procedure wherein primarily a toothbrush and toothpaste are used to remove plaque from tooth surfaces.¹ The rubber cup prophylaxis is a procedure in which primarily a dental polishing paste is applied to tooth surfaces with a rotary rubber cup or rotary bristle brushes to remove plaque and stains from teeth.² Dental scaling is a procedure in which ultrasonic or hand instruments are used to remove dental calculus and stain. Full mouth debridement may be necessary as a preliminary treatment for those who are not able to perform daily toothbrushing. By cleaning the tooth surfaces through these various approaches, the dental prophylaxis also facilitates the clinical examination and introduces dental procedures to the child. Additionally, the accompanying preventive visit demonstrates proper oral hygiene methods to the patient and/or caregiver. The benefits of various prophylaxis options are shown in Table.

An historical reason for routine rubber cup prophylaxis at preventive visits was the belief that it was necessary before topical fluoride application.³ Over the years, there have been numerous reports showing plaque and pellicle are not a barrier to fluoride uptake in enamel and, consequently, there is no evidence of a difference in caries rates or fluoride uptake in subjects who receive rubber cup prophylaxis or a toothbrush prophylaxis before fluoride treatment.⁴

The potential for abrasives causing tooth wear and loss of the fluoride-rich zone of enamel gained attention in the late 1960s and 1970s^{5,6} and has been cited as a consideration for decreasing the need for pumice prophylaxis. As a result of these findings, the selective polishing procedure⁷ and the toothbrush prophylaxis procedure have gained popularity. Selective polishing procedures involve individual evaluation of each patient so that only specific teeth that have indications (e.g., stain) receive a rubber cup pumice prophylaxis. The toothbrush prophylaxis has gained acceptance in the professional and the dental insurance industry as a way to remove plaque, provide oral hygiene education, and facilitate the clinical examination. The clinician should select the least aggressive technique that fulfills the goals of the procedure and minimizes the loss of enamel.

A patient's risk for caries/periodontal disease, as determined by the patient's dental provider, should help determine the interval of the prophylaxis. An individualized preventive plan increases the probability of good oral health by demonstrating proper oral hygiene methods and techniques and removing plaque, stain, calculus, and the factors that influence their buildup. Patients who exhibit higher risk for developing caries and/or periodontal disease should have recall visits at intervals more frequent than every six months.

Policy Statement

Professional prophylaxis is indicated to:

- Instruct the caregiver and child or adolescent in proper oral hygiene techniques.
- Remove microbial plaque, extrinsic stain, and calculus.
- Facilitate the examination of hard and soft tissues.
- Introduce dental procedures to the young child and apprehensive patient.
- Assess patient cooperation.

Table. BENEFITS OF PROPHYLAXIS OPTIONS

	Plaque removal	Stain removal	Calculus removal	Education of patient/parent	Facilitate examination
Toothbrush	Yes	No	No	Yes	Yes
Rubber cup	Yes	Yes	No	Yes	Yes
Hand instruments	Yes	Yes	Yes	Yes	Yes
Ultrasonic scalers	Yes	Yes	Yes	Yes	Yes
Flossing	Yes	No	No	Yes	Yes

A patient’s risk for caries/periodontal disease helps determine the interval for recall. Those who exhibit higher risks should have recall visits more frequently than every six months.

References

- Ramos-Gomez F, Crystal YO, Ng MW, Tinanoff N, Featherstone JD. Caries risk assessment, prevention, and management in pediatric dental care. *Gen Dent* 2010;58(6):505-17; quiz 518-9.
- Wilkins EM. *Clinical Practice of Dental Hygiene*. 10th ed. Lippincot Williams and Wilkins, Baltimore, Md; 2009:728-35.
- Knutson JW. Sodium fluoride solutions: Technique for application to teeth. *J Am Dent Assoc* 1948;36(1):37-9.
- Ripa LW. Need for prior tooth cleaning when performing a professional topical fluoride application. A review and recommendations for change. *J Am Dent Assoc* 1984;109(2):281-5.
- Stookey GK. In vitro estimates of enamel and dentin abrasion associated with a prophylaxis. *J Dent Res* 1978; 57(1):36.
- Biller IR, Hunter EL, Featherstone MJ, Silverstone LM. Enamel loss during a prophylaxis polish in vitro. *J Int Assoc Dent Child* 1980;11(1):7-12.
- Darby ML, Walsh MM. *Dental Hygiene: Theory and Practice*. 3rd ed. Saunders, St. Louis, Mo.; 2010:515.