Fluoride Varnish Fact Sheet

Background
Fluoride varnish has been used in Europe and Canada as a caries prevention therapy for over 30 years. Recently in the United States the use of fluoride varnish has increased for caries prevention because it is the ideal topical fluoride application for young children.

Fluoride Content and Uptake into Enamel
There are 3-4 fluoride varnishes available for use in United States. Durafluor (Medicom), Duraphat (Colgate), and Cavity Shield (OMNII) are commonly used. Fluoride varnishes contain a concentrated dose (e.g. 5% NaF) of fluoride suspended in a natural resin base. The resin base forms a sticky layer and hardens on contact with saliva allowing prolonged contact and maximizing fluoride uptake in to enamel. It is recommended that the varnish remain on tooth surfaces for up to 4-6 hours for optimal absorption.

Caries Prevention
Fluoride's ability to inhibit or even reverse the progression of dental caries is well documented. [1] Furthermore, the Centers for Disease Control and Prevention finds the quality of evidence for the efficacy of fluoride varnish in preventing and controlling dental caries in children is Grade I. [2] (highest quality)

Use for Preschool children
Results of a study of children ages 6 to 44 months support both the use of fluoride varnish to prevent tooth decay in very young children and the practice of parents taking their children for their first dental visit at age one. Children who did not receive any fluoride varnish were twice as likely to develop tooth decay as those who received one application and four times as likely as those received it twice.[3]

Use and Frequency of Application
Criteria for application of fluoride varnish include presence of:

- Carious lesions
- White spot lesions
- History of tooth decay

Populations believed to be at an increased risk for dental caries are those with low socio-economic status, those without dental insurance or access to dental services, and medically compromised children. [4] The most widely accepted frequency of fluoride varnish application is twice per year.

Safety and Patient Acceptance
Fluoride varnishes deliver a higher concentration of fluoride than APF gels or other topical fluorides; however, *smaller* amounts of varnish are used. Fluoride varnish is

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[1] Centers for Disease Control and Prevention. Recommendations for using fluoride to prevent and control dental caries in the United States. MMWR 2001;50(No. RR-14) [p.2]
[2] Centers for Disease Control and Prevention. Recommendations for using fluoride to prevent and control dental caries in the United States. MMWR 2001;50(No. RR-14) [p.21]
[3] http://pub.ucsf.edu/today/cache/news/200601302.html
[4] Centers for Disease Control and Prevention. Recommendations for using fluoride to prevent and control dental caries in the United States. MMWR 2001;50(No. RR-14) [p.5]

simple to apply, has a non-offensive taste, and sets quickly. Application can be done in less than one minute and does not require special dental equipment.

Costs

Fluoride varnish is economical; the average cost per child is $1.18.[5] In 2002, the cost of dental treatment for 18,872 children on AHCCCS ages 1-5 was $15,500,000. Fluoride varnish applications could reduce these costs.

[5] North Carolina Dental Screening and Varnish Project. Into the Mouth of Babes. 8/03