



# From the First Tooth Fluoride Varnish

## Fluoride Varnish

The quality of evidence for the efficacy of high-concentration fluoride varnish in preventing dental decay in children at moderate to high risk for decay is high.<sup>i</sup> The application of fluoride varnish has been proven to be an effective method of reducing early childhood decay by protecting teeth, re-mineralizing tooth enamel and arresting the progression of early decay.<sup>ii</sup> Fluoride varnish can be safely applied to children as early as the eruption of the first tooth. Since applying fluoride varnish is a quick and easy procedure, it can be easily integrated into well-child visits and delegated to clinical support staff.

Fluoride varnish is a resin or synthetic base that contains a high concentration of fluoride. Fluoride varnish sets quickly on contact with teeth in the presence of saliva. Some fluoride remains on teeth as a temporary layer of calcium fluoride-like material on the enamel surface. The fluoride in the material releases when the pH drops in response to acid production and becomes available to re-mineralize enamel. This layer slowly disappears over the following months and needs repeated applications of the varnish to maintain effectiveness as a primary prevention strategy. Fluoride varnish enhances enamel re-mineralization with the initial fluoride uptake in early carious lesions.<sup>iii</sup>

## Periodicity of Fluoride Varnish Applications

Multiple applications of fluoride on the primary tooth maintain the preventive benefit, as the effectiveness diminishes over time. This is especially important with children at high risk for dental caries. Most guidelines recommend at least three professional applications of topical fluoride per year at three-to four month intervals for high risk children.<sup>iv v vi vii</sup> Research also shows that a threshold effect of at least 4 applications is required to obtain a detectable preventive benefit.<sup>viii</sup>

## Application of Fluoride Varnish

Assessing the child's risk and oral health evaluation will determine the need for fluoride varnish



### Materials

- Gloves 0.25ml dose of fluoride varnish (applicator brush is included within the packaging of many fluoride varnish products)
- 2 x 2 gauze square (recommended)
- Disposable mouth mirror (optional)



## Positioning

- Establish a knee-to-knee position with the medical provider and the parent/caregiver.
- Have the child's head in the medical provider's lap.
- Allow the parent to place the child's legs around his/her waist. The parent/caregiver may further assist by holding the child's hand.



## Application

- Remove the applicator brush from the holder.
- Stir the varnish to assure proper mixture.
- Using gentle finger pressure, open the child's mouth.
- Use gauze square to wipe the child's teeth dry and remove obvious food particles that may be present (recommended).
- Using the applicator brush, apply the fluoride varnish to the teeth.
  - Apply a thin layer of the varnish to all surfaces of the teeth. It is not necessary to apply varnish to open areas of decay.
  - Once the varnish comes in contact with the saliva, the varnish will set.

## After the Fluoride varnish is applied:

- Do not brush your child's teeth today
- Start brushing your child's teeth tomorrow
- Do not feed your child hard, sticky or hot foods.

## Post Application Instructions

- Remind the parent/caregiver that the child should not brush his/her teeth tonight. Return to brushing two or more times per day tomorrow.
- Remind the parent/caregiver to feed the child a soft diet for the remainder of the day. This will allow the fluoride varnish to stay in place the optimal length of time.
- Refer the parent/caregiver with the Baby Teeth Matter brochure that has these post application instructions at [fromthefirsttooth.org](http://fromthefirsttooth.org).

<sup>i</sup> Center for Disease Control and Prevention. 2001 Recommendations for using fluoride to prevent and control dental caries in the United States. *Morbidity Weekly Reports* 50(RR-14):1-42. <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5014a1.htm>

<sup>ii</sup> Engaging Primary Care Medical Providers in Children's Oral Health, National Academy for State Health Policy, 2009

<sup>iii</sup> Fluoride Varnish Policy Statement, Association of State and Territorial Dental Directors, Adopted: February, 2010

<sup>iv</sup> American Dental Association, Council on Scientific Affairs, Professionally applied topical fluoride: evidence-based clinical recommendations. *J Am Dent Assoc.* 2006;137(8):1151-9

<sup>v</sup> American Academy of Pediatrics, Section on Oral Health. Preventive oral health interventions for pediatricians. *Pediatrics.* 2008; 122 (6): 1387-94

<sup>vi</sup> Weinstraub JA, Ramos-Gomez F, Jue B, Shain S, Hoover CI. Fluoride varnish efficacy in preventing early childhood caries, *J Dent Res* 85(2) 2006

<sup>vii</sup> Marinho, VC, Higgins, JP, Logan, S, Sheiham A. Fluoride varnish for preventing dental caries children and adolescents. *Cochrane Database Syst Rev.* 2002 (3):CD002279

<sup>viii</sup> Bhavna T Pahal, BDS, MPH, PhD, R. Gary Rozier, DDS, MPH, Sally C Sterns, PhD, Rocio B, Quinonez, DMD, MS, MPH Effectiveness of Preventive Dental Treatment by Physicians for Young Medicaid Enrollees, *Pediatrics*, 2011;127, (3), e682-e689