

Fluoride Varnish Manual for Health Professionals



Oral Health Division
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Introduction

The application of fluoride varnish to the tooth surface is an effective way to prevent and in some cases stop tooth decay. Fluoride varnish provides a thin coating of 5% sodium fluoride that is available in a choice of flavors, white or yellow colors and varying package sizes. After the varnish is applied to the tooth surfaces, it forms a sticky layer, which hardens when it comes in contact with saliva. Fluoride is then absorbed into the enamel of the tooth from the hardened varnish. It is recommended that the varnish be allowed to remain on the teeth for up to five hours for optimal absorption. According to the Federal Drug Administration, fluoride varnish falls under the category of drugs and devices that presents minimal risk and is subject to the lowest level of regulation.

Purpose

The purpose of applying fluoride varnish is to retard, arrest, or reverse the process of tooth decay in children at high to medium risk for dental caries. Most studies have shown 25-45% reductions in the decay rate with the use of fluoride varnish.

Evidence-Based Reviews

American Dental Association: Professionally Applied Topical Fluoride. Evidenced Based Clinical Recommendations.

Access at: <http://jada.ada.org/content/137/8/1151.full.pdf+html>

ASTDD: Fluoride Varnish: An Evidenced Based Approach

Access at: <http://www.astdd.org/docs/Sept2007FINALFlvarnishpaper.pdf>

Fluoride Varnish and Medical Providers

Fluoride varnish provides physicians, nurse practitioners, and physician assistants with a way to support and strengthen the dental health of their patients through the superior method of fluoride application, especially for children under the age of six years. Fluoride varnish is applied with a small brush and hardens immediately upon contact with saliva. Minimal training is needed and no special equipment is required.

Online Training Resources

Smiles for Life National Oral Health Curriculum

The American Academy of Pediatrics has endorsed the child-focused modules of the Society for Teachers of Family Medicine *Smiles for Life* National Oral Health Curriculum. This curriculum is designed to educate primary care clinicians in the promotion of oral health for all age groups. Course 2 discusses children's oral health and Course 6 provides the rationale and procedures for fluoride varnish application.

Access *Smiles for Life* at: <http://www.smilesforlifeoralhealth.org/>

American Academy of Pediatrics' *Protecting all Children's Teeth Oral Health (PACT)* – A Pediatric Oral Health Training Program

Access *PACT* at: http://www.aap.org/oralhealth/pact/ch3_sect1.cfm

Determining Who is at Greatest Risk

The child's probability of being at risk for dental decay is determined using the AAP Fluoride Risk Assessment Tool. Developed by the American Academy of Pediatrics (AAP) and tested in pediatric practices, the Oral Health Risk Assessment Tool is easy to incorporate into your practice. Here is the link to a tutorial to help you understand how best to use the tool as well as the various risk factors, protective factors, and clinical findings www.aap.org/oralhealth/RiskAssessmentTool.html.

In cases where there is not optimal water fluoridation, fluoride varnish can be an adjunct to oral supplementation. Fluoride varnish application is indicated for infants and children with a medium to high risk of developing cavities.

Risk factors to consider when identifying a child's risk for developing tooth decay are:

- History of dental decay in mother, child and/or other family members;
- High sugar/complex carbohydrate diet (For example, uses a bottle at night with liquids other than water, frequent cariogenic snacking);
- Visible plaque, white spots and/or decay;
- Low socioeconomic status;
- Special health care needs;
- Premature/Low birth weight;
- Medications: sugar based or that cause dry mouth; or,
- Lack of community water fluoridation.

Low Risk

Children with a low risk of cavity formation who consume optimally fluoridated water or children who receive routine fluoride treatments through a dental office would not need fluoride varnish applied in the medical setting. Do not use on individuals with a known allergic reaction to colonophony (colonphonium) or pine nuts.

Key Advantages of Fluoride Varnish

- Does not require special dental equipment.
- Minimal ingestion during and after treatment.
- Does not require a professional dental cleaning prior to application.
- Is easy and quick to apply.
- Dries immediately upon contact with saliva.
- Is safe and well tolerated by infants, young children, and individuals with special needs.
- Is inexpensive.
- Requires minimal training.
- Medicaid does reimburse physician application of varnish.

Needed Supplies

- Disposable gloves
- Gauze sponges (2 x 2)

- Fluoride varnish tube and small disposable fluoride applicator brush.
- Unit dose packages with applicator. **Recommended.**
- Paper towels or disposable bibs to place under the child's head (optional).

Fluoride Varnish Ordering Information

A site that compares fluoride varnish products and quotes:

<http://www.dentalcompare.com/Restorative-Dentistry/4888-Fluoride-Varnishes/>

Positioning the Child

Infant:

Knee to Knee:

- Place the child on the parent's lap with the child's head on the parent's knees and the child's legs around the parent's waist.
- Position yourself knee-to-knee with the parent and treat the child from behind the head.

Examination table:

- Place the infant on an exam table and work from *behind* the head.

Young child:

Place the child in a prone or sitting position and work from above the head as with an infant.

Varnish Application

Open the mouth

- Open mouth with gentle finger pressure.

Dry the teeth

- Wipe teeth with gauze sponge to remove excess saliva with a gauze sponge.
- Use fingers and sponges to isolate the dry teeth.
- Usually you can keep only a few teeth dry at time. Infants are easiest because they have only anterior teeth.

If you are using Fluoride Varnish in tubes

- Massage the fluoride tube to fully assure that the fluoride is evenly distributed within the varnish medium.
- 1 – 2 pea sized drops (about 0.3 ml) of varnish for children with 1 – 8 teeth is sufficient; and,
- 2 – 3 drops (about 0.5 ml) for older children.

If you are using Fluoride Varnish in single unit dosage containers

- Stir the varnish thoroughly before applying the varnish to the teeth.

Time Saving Tip

The provider may dispense the varnish on the backside of the glove hand that is not being used for varnish application. This eliminates the time taken to reach the fluoride varnish dispenser.

Apply the varnish

- Apply a thin layer of the varnish to all surfaces of the teeth.
- Avoid applying varnish on large open cavities where there may be nerve tissue involvement.
- Once the varnish is applied, you need not worry about moisture (saliva) contamination. The varnish sets quickly.

Post-application instructions

- Eat soft foods for the rest of the day. Crunchy foods should be avoided for 5 hours.
- Do not brush or floss until the next morning.

Important Things to Remember

- The child may fuss, however, the varnish application is not uncomfortable.
- Tell the parent that the teeth will not be white and shiny until the next day.
- Refer to a dentist in order to establish a dental home.
- Fluoride varnish must be applied multiple times in a year to be effective.
- A child with white spot lesions or active caries should definitely receive multiple applications.

The Dental Home

The establishment of the dental home is the goal for all children by the age of one. If a child has not seen a dentist after initial fluoride varnish application and returns to the medical practice, reapply fluoride varnish and stress importance of obtaining a dental home.

Information for Consumers

Fluoride Varnish Q&A

http://www.health.state.ny.us/prevention/dental/fluoride_varnish_faq.htm

Additional Resources

National Maternal and Child Health Oral Health Resource Center
Women, Infants, Children and Adolescents Oral Health Information

<http://www.mchoralhealth.org/PDFs/ResGuideFIVarnish.pdf>

American Academy of Pediatrics: Preventive Oral Health Intervention for Pediatricians

<http://aappolicy.aappublications.org/cgi/reprint/pediatrics;122/6/1387.pdf>

Bright Futures Oral Health Pocket Guide

<http://www.brightfutures.org/oralhealth/pdf/BFOHPocketGuide.pdf>

American Academy of Pediatric Dentistry: Caries-risk Assessment and Management for Infants, Children, and Adolescents - (Chart)

http://www.aapd.org/media/Policies_Guidelines/G_CariesRiskAssessment.pdf

CDC Fluoride Varnish:

<http://www.cdc.gov/fluoridation/other.htm#3>

SCDHEC Oral Health Division

<http://www.scdhec.net/oralhealth/>