Oral Health
Resources & Information for
Kansas Medical Professionals

Prepared as a supplement to the *FP Essentials* 304 Oral Health (September, 2004) monogram produced by the American Academy of Family Physicians Home Study Program

Provided by United Methodist Health Ministry Fund, a grant maker in oral health since 1998, to encourage the expansion of oral health preventive measures.
Thank you for your interest in oral health. One of our goals has been to make sure the mouth is included when assessing the health and well being of people, particularly children. We hope you find this supplement to the AAFP Home Study Monogram helpful in your practice. There is a focus on fluoride varnish; but we have also included information about, and resources on, other aspects of oral health.

Assisting patients with dental referrals

Kansas Association for the Medically Underserved
785-233-8483
www.kspca.org
[information on Community Health Centers and other clinics providing dental services]

Kansas Dental Association
5200 SW Huntoon
Topeka KS  66604
785-272-7360
www.ksdental.org
[information on special KDA program for persons with handicapping conditions, Kansas Mission of Mercy (free annual dental clinics) and local dental societies (referrals)]

Kansas Medicaid
Call 800-436-5286
[information on available Medicaid providers]

Is your community water supply fluoridated?
For a current list of Kansas communities with fluoridated water, visit the Kansas Public Health Association website:
www.kpha.us  [Select documents of interest, then Water Fluoridation Report]

Quick Reference Guide

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Kansas office practice issues concerning fluoride varnish

Scope of Practice
Fluoride varnish may be applied by dentists, registered dental hygienists, physicians, physicians’ assistants, A.R.N.P.s, and registered nurses under Kansas law.

Medicaid/HealthWave Reimbursement
This information does not apply to providers with dental provider numbers.

To secure up-to-date information about billing guidelines and reimbursement for application of fluoride varnish in a medical practice, you must contact the KMAP (Kansas Medical Assistance Program) dental fiscal agent, Doral at 800-436-5288.

For medical providers, current dental terminology (CDT), code D1203 Topical application of fluoride, Child prophylaxis not included, should be utilized. Current reimbursement rate is $17.00. Application of fluoride varnish must be done by an authorized and enrolled Medicaid provider. Medical providers allowed to bill and be reimbursed by Medicaid for D1203 are general practice physicians, general pediatricians, family practice physicians, nurse practitioners and physician assistants. Medical providers should bill on their standard HCFA forms.

D1203 is allowed three times per calendar year for medical providers. Applications in excess of this limit are not reimbursable.

Because billing and reimbursement issues are complicated and can vary due to the type of medical providers, medical providers should contact the medical fiscal agent, EDS (800-933-6593) or FirstGuard (800-250-4413) to clarify issues before starting fluoride varnish applications. Up-to-date information can be secured from Doral (800-436-5288) and the Dental Office Reference Manual (available through Doral) for dental providers.

Private Payors
Private third party payers have their own rules about reimbursing for fluoride varnish. Their current general practice is not to reimburse medical providers for applying fluoride varnish. Please check with your provider representative for specific policy information.
Online training for fluoride varnish
This self-paced online training does an excellent job of addressing oral screening and assessment, especially for non-dental professionals. Additional information is available at: meded1.ahc.umn.edu/fluoridevarnish/

Training manual for fluoride varnish
This fluoride varnish training manual from the State of Nevada is available at: health2k.state.nv.us/oral/FVManual.pdf

Child oral health management modules
A series of seven self-contained modules, provided by The National Maternal and Child Oral Health Resource Center is designed to assist health professionals in managing the oral health of infants and young children. The modules are found at: www.mchoralhealth.org/PediatricOH/

Open wide: oral health training
A series of four self-study modules -- Tooth Decay, Risk Factors for Tooth Decay, Prevention of Tooth Decay, and What to Do and How to Do It is offered by The National Maternal and Child Oral Health Resource Center to assist health and early childhood professionals. The series is available at www.mchoralhealth.org/ OpenWide

American Academy of Pediatrics Oral Health
The American Academy of Pediatrics, in partnership with the federal Maternal and Child Health Bureau (MCHB), has implemented the Pediatrics Collaborative Care (PedsCare) Program, Oral Health Initiative. The purpose of the program is to promote improved child oral health by offering physicians the tools and support they need to provide community-based, collaborative care. The goal of the first stage of the initiative is to provide training on oral health care. Further information is available at: www.aap.org/ commpeds/dochs/oralhealth

Bright Futures at Georgetown University
Chairled by Paul Casamassimo, D.D.S., M.S., Bright Futures in Practice: Oral Health is designed for health professionals and educators -- including physicians and nurses. The information can also be adapted for use with families. PDF files of the guide may be downloaded at: www.brightfutures.org/oralhealth

Because pediatricians, family physicians, and other practitioners routinely see very young children, the potential for early recognition of disease and successful intervention is excellent.

A dental screening is not intended to be diagnostic. Any abnormal or suspicious findings should be referred to a dentist for definitive diagnosis.
Fluoride Varnish Information

Fluoride varnish is a sticky, yellow semi-liquid containing fluoride in a resin base mixed with alcohol. Most products contain 5% sodium fluoride (NaF). The alcohol makes the product fast drying (1 minute). It forms a sticky layer on the tooth following application, which hardens on contact with saliva to provide a protective covering of fluoride. The stickiness helps the varnish to adhere to the teeth, including the fissures and interproximal areas.

Fluoride varnish is not intended to adhere permanently to the enamel surface; this method holds a high concentration of fluoride in a small amount of material in close contact with the teeth for many hours. Fluoride varnish remains on the teeth for several hours where the material slowly releases fluoride to the tooth surface, promoting tooth remineralization. Depending on the product used, studies have shown that fluoride varnish releases fluoride for up to 28 weeks.

Fluoride varnish is much like the topical fluoride applications that have been used in the dental offices for many years. Because of the low-level of ingestion, fluoride varnish can be safely used with very young children (children under the age of 6 years).

Decay Prevention
Fluoride varnish has been proven to be highly effective in strengthening tooth enamel as well as remineralizing areas of tooth enamel just beginning to show signs of tooth decay. Statistical studies show that fluoride varnish is at least as effective as other topical fluoride products (gels, foams and rinses) in preventing dental decay. Most studies have shown 25-45% reductions in the decay rate with the use of fluoride varnish. Of special note is the reduction of decay in pits and fissures, as well as on smooth surfaces of teeth.

Fluoride varnishes are believed to be effective because their stickiness helps to keep them in contact with tooth structure for a longer time than topically applied fluoride gels, foams and liquids.

Studies show that all of the fluoride varnish products appear to have bacteriostatic effects on dental plaque. Fluoride varnishes maintain a high level of fluoride in the dental plaque around the teeth for a long period of time.

Conventional topical fluorides have been shown to be most effective in preventing decay on smooth tooth surfaces. Fluoride varnishes are unique in their ability to prevent decay on the chewing surfaces of the teeth.

Topical fluoride makes the outer layer of tooth enamel more resistant to decay. The use of fluoride varnishes is based on the principle that fluoride uptake by the tooth is enhanced when the fluoride is left in contact with the enamel and protected by a waterproof coating.

Indications for the use of fluoride varnish
Fluoride varnishes are primarily used as a decay prevention therapy for young children and persons at a high-risk for tooth decay. Individuals who benefit the most from fluoride varnish include children who have a family history of decay, low levels of fluoride in their drinking water or limited access to dental care.

The fluoride varnish needs to be applied 2-4 times a year and those children who are at higher risk for decay may require more frequent applications. Criteria for the use of fluoride varnish consider the presence of factors that put a child at risk for decay include:

- visible plaque on the front teeth;
- decayed teeth;
- white-spot lesions; or
- a family history of decay.

Fluoride varnishes are also useful in pediatric populations with special needs, such as developmentally disabled children, children receiving head and neck radiation, and children undergoing orthodontic treatment.

Importance of fluoride to the teeth
Demineralization will lead to a white spot lesion (Figure 1). If the process continues, the white spot will progress to dental decay.

Figure 1. Clinical appearance of white spot lesions.
Preventive effects of fluoride
Fluoride helps prevent tooth decay in two ways:

- **Systemic fluoride** (fluoride ingested into the body) concentrates in the developing teeth of children, helping to harden the enamel of teeth before they erupt. When children under the age of six ingest fluoride in small doses, it becomes incorporated in the developing permanent teeth and makes it harder for acids to cause demineralization.

- **Topical fluoride** (fluoride directly applied to tooth surfaces) acts on teeth that have already erupted into the mouth. This type of fluoride works by helping to reduce enamel solubility (demineralization), speed remineralization and disrupt the production of acids by bacteria.

Administration of topical fluoride works best on newly erupted teeth. However, traditional methods of professional topical fluoride treatment (gels, foams and rinses) have been difficult to use with young children. **Fluoride gels require several minutes of contact time on the teeth to be effective.** The gels are difficult to control; they do not adhere to the teeth; and there is danger of nausea and vomiting associated with swallowing the fluoride gel.

**Using disposable trays to contain the fluoride is not recommended with small children.** Small children fear choking and find the trays very unpleasant. Similarly, fluoride rinses are contraindicated for the very young because children do not have the ability to perform the "rinse-and-spit" technique required for administration of fluoride rinses.

Safety of fluoride varnish
Although the concentration of fluoride in varnishes is much higher than that of other topical fluorides, the risk of ingestion and toxicity is very low. This is due to the adherence of the varnish to the teeth and the small amount used per application, less than 0.5 ml of varnish is usually required to coat the teeth of a young child.

Studies have shown that fluoride levels in blood are lower following application of fluoride varnish than with other topical treatments. This means that less fluoride is swallowed. Likewise, studies assessing the urine have shown normal levels of fluoride.

No published evidence indicates that professionally applied fluoride varnish is a risk factor for enamel fluorosis, even among children under the age of six years.

History of fluoride varnish
Fluoride varnishes have been used routinely in Western Europe, Canada and Scandinavia since the 1970s as a decay prevention therapy. The FDA has not yet approved this product as an agent to prevent tooth decay.

**Currently, fluoride varnish is approved by the FDA for use as a cavity liner, or as a root desensitizer.** Decay prevention is regarded as a drug claim, and companies are required to submit adequate clinical trial evidence for review before fluoride varnishes can be marketed as an agent that prevents tooth decay.

Fluoride varnish studies are underway here in the United States to determine its effectiveness as a decay-prevention agent. The American Dental Association (ADA) reviews fluoride products for decay prevention through its Seal of Acceptance program. The ADA has granted its approval to one of the varnish products currently on the market, but the seal cannot be printed on the label until approved by the FDA as a decay preventive agent.

**The use of fluoride varnish for decay prevention is termed an "off-label" use,** which refers to the use of the product for a purpose not specified in the information provided with the product. The off-label use of drugs is a common practice in medicine and the use of fluoride varnishes as decay preventive agents is not contraindicated. Many U.S. dental schools teach the use of fluoride varnishes as a decay preventive agent.

Advantages of fluoride varnish
Fluoride varnish has advantages over other methods of professional topical fluoride administration. The benefits for the use of fluoride varnish include:

- **application technique is quick and easy;**
- a professional cleaning prior to fluoride varnish application is not required;
- fluoride is released for a number of hours after application;
- **better acceptance than other methods of fluoride application;**
- there is no waiting period for eating and drinking after application.
Fluoride varnish is the quickest and easiest of all topical fluorides to apply. Applying the varnish takes less than two minutes, making it ideal for children who are anxious or who have special needs. Unlike other professional topical products, fluoride varnish is not inhibited by dental plaque. Toothbrushing is sufficient to clean the teeth before application; a time-consuming prophylaxis is not required.

*Fluoride varnish is effective in a moist environment; it sets upon contact with saliva. This makes thorough isolation techniques unnecessary.*

No special equipment (fluoride trays, means of expectoration or evacuation) is required for fluoride varnish treatments making this an ideal procedure for medical, as well as dental health care facilities. It can be used in any public health environment by trained personnel to prevent rampant decay in children without access to routine dental care.

Fluoride varnish is effective when there is a question about compliance, such as children who gag or find the taste of other products unacceptable. Fluoride trays are not required (which prevents gagging) and fluoride varnish has a non-offensive taste.

**Disadvantages of fluoride varnish**
The only disadvantage to fluoride varnish is that sodium fluoride varnishes cause a temporary change in tooth color. The teeth will look yellow, but this will go away after thorough toothbrushing.

**Fluoride varnish products**
Fluoride varnish products are available in multi-use or unit-dose containers (Figure 3). A brush, cotton tipped applicator or syringe-type applicator is used to apply the varnish. Disposable brushes are very effective.

Studies have shown that one problem with resin-based fluoride varnish products is that the sodium fluoride separates from the resin base during storage. This causes inconsistent fluoride dosage delivery. Use of the single-dose products appears to correct this problem because the clinician is able to stir the material prior to application of the varnish to insure a consistent dosage of fluoride to all treated teeth.

Unit-dose products are packaged in both 0.25 ml and 0.40 ml sized containers (Figure 3). The smaller amount (0.25 ml) is designed to treat the primary dentition or people requiring limited area coverage. The package containing the larger amount (0.40 ml) is used for mixed dentitions. One of each is used to treat a full permanent dentition.

The brushes are color-coded to identify the amount of material or dosage contained in the package. Packages with the yellow handle contain 0.25 ml of varnish and packages with the red handle contain 0.40 ml of varnish.

**Ordering information for fluoride varnish products available in the United States**
All products referenced here are a 5% sodium fluoride in an alcoholic solution of natural resins

**Cavity Shield** (Item #941)
0.25ml - infants/children yellow handle
0.40ml - mixed dentition red handle
Omni Oral Pharmaceuticals
1500 T-N. Florida Mango Road., West Palm Beach, FL 33409
(800) 445-3386 x. 320
www.omniipharma.com

**Varnish America** (Item #26-960)
0.4 ml packages
Medical Product Laboratories
9990 Global Road, Phila., PA 19115
800-523-0191
www.medicalproductslaboratories.com/

**Duraphat** (Item #F0400954)
Colgate-Palmolive Co.
300 Park Avenue, New York, NY 10022
(800) 226-5428
www.colgate.com

**Duraflor** (Item #1011)
A.R. Medicom
9404 Cote de Liesse, Montreal, Canada H8T 1A1
(514) 636-6262 Fax (514) 636-6266
www.medicom.ca/#

At each fluoride varnish visit, parents should receive dental health education while children receive their fluoride varnish application. This combination of education and preventive treatment helps children develop good lifelong oral health habits.

*Figure 3. Fluoride varnish products are available in multi-use containers or single, unit-dose packages.*
Fluoride varnish protocol

Instructions for applying fluoride varnish for decay reduction vary among the brands of products. Always read and follow manufacturer’s instructions for any product.

Typically the procedure begins by cleaning the tooth surfaces. **Teeth should be "toothbrush clean" before application.** Prior to application of the varnish, the teeth should be dried with gauze or a cotton roll to remove moisture. However, the teeth do not need to be thoroughly dried, because the varnish sets in contact with moisture.

The varnish is applied using a small, disposable brush. Varnishes should be carefully applied, as the material is sticky and can adhere to lips and face.

Following treatment, the child and caregiver are given post-operative instructions. Explain that to obtain the maximum effect of the fluoride varnish, the child’s teeth should not be cleaned the day of the application. The next morning, normal oral care should be resumed.

The caregiver should be advised that varnishes could cause a slight, temporary discoloration to the teeth. The discoloration is temporary and can be removed by tooth-brushing. Some perceptible but clinically acceptable color change may also occur in certain tooth-colored restorative materials.

Adapted with permission from:

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Fluoride Varnish Tasks Summary

**Equipment and Materials:**
- Gloves
- Toothbrush
- Fluoride varnish and applicator
- 2x2 gauze squares and/or cotton rolls
- Paper towel for a patient bib
- Disposable mouth mirror (optional)
- Tongue blade (optional)

**Applying fluoride varnish**
1. Obtain the materials for application of fluoride varnish.
2. Discuss the procedure with the child and caregiver.
   Caregivers should be informed before the varnish is applied that, after treatment, the teeth will look yellow until the varnish is brushed off. Assure them that this discoloring is only temporary. Allow the parent to taste the fluoride varnish, if desired.
3. Position the child. Use the “knee-to-knee” technique for positioning (Figure 4). The child should sit in the caregiver’s lap, facing the caregiver. Then, have the caregiver lower the child’s head into your lap.
4. Clean the teeth (Figure 5). The teeth should be “toothbrush clean” before fluoride varnish is applied. Application after a dental prophylaxis is also acceptable.
5. Prepare the fluoride varnish (Figure 6). For single-dose containers:
   a. Use a 0.25 ml package to treat infants and young children.
   b. (Important) The ingredients in sodium fluoride varnishes can separate over time. Lift the foil to open the package and use the brush tip to thoroughly mix the varnish to assure consistent fluoride levels with each application.
6. Use the cotton gauze to lightly dry the teeth. Because the varnish sets in contact with saliva, thorough drying is not required (Figure 7).
7. Using the disposable brush, apply a thin layer of the varnish to all exposed surfaces of the teeth (Figure 8). The yellowish tint of the varnish allows you to see where the product has been applied. To prevent fluoride ingestion and toxicity, do not over-apply the varnish. Fluoride varnish is extremely viscous. To apply a thin layer, it is helpful to not overload the brush tip.
   NOTE: The varnish dries quickly after application leaving a yellow film on all treated surfaces (Figure 9).
8. The child can drink a small amount of water immediately after the application procedure is finished.

**Figure 4. Positioning the child in the "knee-to-knee" position.**

**Figure 5. Performing a toothbrush cleaning.**

**Figure 6. Preparation of multi-use and single-dose fluoride products.**

**Figure 7. Drying the teeth before varnish application.**

**Figure 8. Following application, the varnish quickly dries to a dull, yellowish film.**

Adapted from *Kids Smile Oral Health Training Program, Kentucky Department for Public Health and the University of Kentucky College of Dentistry*
9. Give the caregiver postoperative instructions. Explain that:
   • To preserve the varnish coating as long as possible, do not brush the teeth until the next day. The varnish can be brushed off the next morning, when normal oral care routine is resumed.
   • Do not take a fluoride supplement the day of treatment. Do not do any other at-home fluoride treatment that day. Drinking of fluoridated water can be continued without interruption.
   • To receive the maximum decay prevention benefit, multiple applications of fluoride varnish are needed. The varnish needs to be reapplied every 3-6 months, depending on child’s risk for developing decay.

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Oral health definitions for non-dental professionals

**Amalgam** - Silver-colored filling material; may also be referred to as a restoration or filling.

**Calculus (Tartar)** - Hardened plaque on teeth, requiring scaling to remove.

**Caries** - Cavities and decay.

**Composite** - A tooth colored filling material; also referred to as a filling.

**Crown** - A gold or porcelain cap that covers a tooth.

**Edentulous** - Having no teeth.

**Endodontics** - Department/process providing root canal treatment for teeth with diseased pulp.

**Fluoride Varnish** – Applied to all the tooth surfaces to retard and arrest the process of decay. It may be applied as soon as the first tooth appears. A small amount of fluoride varnish is painted on the teeth, so there is little risk of toxicity.

**Gingiva** - Gums.

**Gingivitis** - Inflammation of the gum tissue; common reversible gum disease that occurs when plaque is not removed.

**Impacted** - Describes a tooth not visible above the gum line.

**Occlusal** - The chewing or grinding surface of a tooth.

**Plaque** - Soft deposits of bacteria and debris that collect on teeth.

**Pocket** - Abnormally deep space between the gum tissue and the teeth where bacteria can enter, causing gum disease.

**Preventive Dentistry** - Teeth cleaning and instruction to prevent gum disease.

**Prophylaxis** - Prophy; a basic teeth cleaning.

**Pulpitis** - An infection of the nerve inside a tooth.

**Pulpotomy** - Removal of only the pulp tissue in the crown of the tooth, an endodontic procedure.

**Recall** - Appointment for a patient who is returning for maintenance or follow up care.

**Restoration** - Filling used to restore the tooth.

**Root Canal Therapy** - (RCT, endodontic therapy) Removal of the nerve inside a tooth and subsequent filling of this space.

**Sealants** - Sealants are a resin, or hard plastic-like material, applied to the chewing surfaces of the back teeth where decay occurs most often. Dental sealants act as a barrier, protecting the teeth against decay-causing bacteria. [www.ada.org](http://www.ada.org)
Oral Health Fact Sheets
Available at:
www.kdhe.state.ks.us/ohi/fact_sheets.html

• Promoting Awareness, Preventing Pain: Facts on Early Childhood Caries
• Oral Health and Your Baby
• Fluoride Facts
• Baby Bottle Tooth Decay -- Keep Your Baby’s Smile Bright
• Good Food Facts - Keep Smiling!
• Dental First Aid
• Primary Tooth Eruption Table
  > Primary Tooth Eruption (animated demo)
• Permanent Tooth Eruption Table
  > Permanent Tooth Eruption (animated demo)
• How to Brush
• How to Floss
  > How to Brush/Floss (animated demo)
• How to Be A Good Dental Patient

This fact sheet describes the relationship between acute dental problems and learning in children. It discusses lost school time, restricted activity days, learning problems, impaired speech development, reduced self-esteem, and inability to concentrate. The fact sheet is available free from www.ask.hrsa.gov or download at www.mchoralhealth.org/PDFs/learningfactsheet.pdf

Free Pamphlets
"A Healthy Mouth for Your Baby" Free pamphlets in Spanish or English from the Institute of Dental & Cranial Research. www.nidcr.nih.gov

Toothbrush Companies
Although there are numerous manufacturers of toothbrushes, here are three sources provided solely for your convenience, not as a recommendation.

Plak Smacker
(800) 558-6684 • Fax (909) 734-4750
www.plaksmacker.com
Toothbrushes and infant and toddler toothbrushes

Prophy Perfect
(800) 776-3948 • Fax (715) 597-3797
www.prophyperfect.com
Toothbrushes and infant and toddler toothbrushes

Venture Six
(800) 448-3686 • Fax (818) 762-3937
Toothbrushes

Rounded design toothbrushes for toddlers. Handle can also be used as teether.

For general information about Oral Health in Kansas, contact:

Oral Health Kansas
Teresa R. Schwab, Executive Director
800 SW Jackson, Suite 1312
Topeka, KS 66612
785-235-6039
ohks@oralhealthkansas.org

Kansas Department of Health and Environment
Office of Oral Health
1000 SW Jackson, Suite Suite 220
Topeka, KS 66612-1274
785-296-1314
www.kdhe.state.ks.us/ohi

Kansas Dental Association
Kevin J. Robertson, Executive Director
5200 SW Huntoon Topeka, KS 66604
785-272-7360
www.ksdental.org
Fluoride Varnish Facts

What is fluoride varnish?
It is a protective coating that is painted on the teeth to help prevent cavities and even stop cavities that have already started. Cavities cause pain and prevent children from being able to eat, speak, sleep, and learn properly.

Is it safe?
Yes, fluoride varnish may be used on babies as soon as they have their first tooth.

How is it done?
The varnish is painted on the teeth. It is very quick and easy to apply and does not have a bad taste. It is not painful, but your child may cry because a stranger is in their mouth. The teeth may not look as bright and shiny as usual until they have been brushed.

How long will it last?
The fluoride varnish will be most effective if it is applied 3-4 times a year.
Our thanks to
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