WEST VIRGINIA CAVITY FREE BY THREE: FLUORIDE VARNISH MANUAL FOR HEALTH CARE PROVIDERS

December 04, 2014
Oral Health Program
West Virginia Department of Health and Human Resources
Bureau for Public Health
Office of Maternal, Child and Family Health
350 Capitol Street, Room 427
Charleston, WV 25301
Phone: (304) 558-5388

Dr. Jason Roush, State Dental Director
Jason.M.Roush@wv.gov

Teresa Marks, Interim Program Manager/Workforce Coordinator
Teresa.D.Marks@wv.gov

Charlene Hickman, Prevention Coordinator
Charlene.M.Hickman@wv.gov

Barbara Nichols, Outreach Worker
Barbara.J.Nichols@wv.gov

E. Barbara Thaxton, Dental Hygienist, Technical Assistance Team
Ella.B.Thaxton@wv.gov
# Table of Contents

1. **INTRODUCTION** .................................................................................................................. 4
2. **IMPLEMENTATION STRATEGY** .......................................................................................... 8
   - AAPD CARIES RISK ASSESSMENT TOOL ................................................................. 9
   - READY...SET...IMPLEMENT!!! .................................................................................. 10
   - 3 SIMPLE STEPS ........................................................................................................ 11
   - FLUORIDE VARNISH APPLICATION GUIDE ......................................................... 12
   - FLUORIDE VARNISH PRODUCTS ............................................................................ 13
3. **CODING AND BILLING** .................................................................................................... 14
   - FLUORIDE VARNISH BILLED IN CONJUNCTION WITH A COMPREHENSIVE WELL-CHILD EXAM ........................................................... 15
   - FLUORIDE VARNISH BILLED IN CONJUNCTION WITH AN OFFICE VISIT ........ 16
   - MEDICAL REIMBURSEMENT TABLE ...................................................................... 17
4. **DENTAL RESOURCES AND PARENT EDUCATION MATERIALS** ............................ 18
5. **ONLINE TRAINING RESOURCES** .................................................................................. 19
6. **ADDITIONAL RESOURCES** ........................................................................................... 20
   - (INFORMATION FOR CONSUMERS): FLUORIDE VARNISH Q&A ............................ 20
   - NATIONAL MATERNAL AND CHILD ORAL HEALTH RESOURCE CENTER
   - AMERICAN ACADEMY OF PEDIATRICS: PROTECTING ALL CHILDREN’S TEETH
   - EVIDENCE-BASED REVIEW
   - AMERICAN ACADEMY OF PEDIATRICS: PREVENTIVE ORAL HEALTH INTERVENTION FOR PEDIATRICIANS
   - BRIGHT FUTURES ORAL HEALTH POCKET GUIDE
   - AMERICAN ACADEMY OF PEDIATRIC DENTISTRY: CARIES-RISK ASSESSMENT AND MANAGEMENT FOR INFANTS, CHILDREN, AND ADOLESCENTS - (CHART)
   - CDC RECOMMENDATIONS FOR USING FLUORIDE
   - WEST VIRGINIA ORAL HEALTH PROGRAM
7. **BABY TEETH MATTER (QUESTIONS AND ANSWERS)** ............................................... 21
8. **SUPPLEMENTAL RESOURCES** ......................................................................................... 23
   - NATIONAL MATERNAL & CHILD ORAL HEALTH RESOURCE CENTER-
     BROCHURES FOR CONSUMERS-EDUCATIONAL MATERIAL IN ENGLISH AND SPANISH ................................................................. 23
   - ARTICLE BY STEVE HOLVE, MD .............................................................................. 29
   - HEALTHCHECK PROGRAM PERIODICITY SCHEDULE ........................................... 32
Introduction
The Fluoride Varnish Training Program was initiated by the West Virginia Children's Health Insurance Program (CHIP) for the express purpose of reducing the rates of early childhood caries in at-risk children throughout West Virginia. The Centers for Disease Control and Prevention (CDC) reports tooth decay (dental caries) as the leading chronic infectious disease for children in the United States. Unfortunately, according to recent oral health surveillance conducted in West Virginia, 34% of preschoolers already have dental caries.

The Fluoride Varnish Training Program is administered by the West Virginia Department of Health and Human Resources, Oral Health Program and is designed to educate primary care providers and their staff on caries risk assessment, fluoride varnish application and facilitation of the age one dental visit. The Oral Health Program recognizes the multiple assessments that need to be accomplished during well-child checkups. Fortunately, it can take less than a minute to conduct a risk assessment and screen for dental disease (especially for infants with just a few teeth), and many oral health tips for families can easily be woven into anticipatory guidance regarding obesity prevention. Additionally, fluoride varnish is typically applied by nurses or medical assistants before or after immunizations and can be delegated as such to those staff after completing the required training.

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 (FDA), fluoride varnish falls under the category of drugs and devices that present minimal risk and is subject to the lowest level of regulation. 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 decay rate with the use of fluoride varnish.
Fluoride Varnish and Medical Providers

Because primary care providers encounter new parents and infants during their well-child care visits, they are uniquely positioned to play a significant role in the prevention of dental caries. It is essential that primary care providers be aware of the infectious pathophysiology and associated risk factors of dental caries in very young patients so they make appropriate decisions regarding timely and effective intervention. The West Virginia Cavity Free by Three: Fluoride Varnish Training Program has been specifically designed to fulfill this need. All primary care providers and staff that treat children are required to complete the Smiles for Life training course in caries risk assessment. The program targets children ages six months to under 36 months (three years) who are at-risk or high-risk for developing dental caries.

Training Protocol

Before primary care providers can qualify for reimbursement, they are required to be certified via the National Smiles for Life Curriculum Course 6: Caries Risk Assessment, Fluoride Varnish & Counseling. The curriculum was developed by the Society of Teachers of Family Medicine Group on Oral Health and is now in its third edition. The module provides primary care clinicians with the necessary theoretical and practical information to begin applying varnish including a review of early childhood caries (ECC), risk assessment, fluoride varnish, application technique, and safety. Completing this module is required for reimbursement and can be accessed by logging onto http://smilesforlifeoralhealth.org.

The training is FREE and offers continuing education credit. Once the Caries Risk Assessment, Fluoride Varnish and Counseling module (Course 6) has been completed, the certificate must be faxed to the West Virginia Department of Health and Human Resources, Oral Health Program at (304) 558-2183 to finalize the credentialing process. Providers will be added to the fluoride varnish database and their names shared with WV Medicaid and all Medicaid HMO’s to be eligible to receive reimbursement for services rendered. Providers can access Smiles for Life at http://smilesforlifeoralhealth.org.
Reimbursement for Services

West Virginia Medicaid and West Virginia CHIP provide coverage for two fluoride varnish applications per year (one every six months). The first application must be provided and billed in conjunction with a comprehensive well-child exam as reported under the CPT codes listed in the Medical Reimbursement Table (shown on page 17). The second fluoride varnish application can be reimbursed during the 12-month subsequent period and may be billed in conjunction with the dental exam code outlined in Section 3 Coding and Billing.
Implementation Strategy
## AAPD Caries-Risk Assessment Tool (CAT)

### Caries-Risk Indicators

#### Clinical Conditions
- No carious teeth in past 24 months
- No enamel demineralization
- No visible plaque or gingivitis

#### Moderate Risk
- Carious teeth in past 24 months
- 1 area of enamel demineralization
- Gingivitis

#### High Risk
- Carious teeth in past 12 months
- More than 1 area of enamel demineralization
- Demineralization (enamel caries “white-spot lesion”)
- Visible plaque on anterior (front) teeth
- Radiographic enamel caries
- High titers of mutans Streptococci
- Wearing dental or orthodontic appliances
- Enamel hypoplasia

#### Environmental Characteristics
- Optimal systemic and topical fluoride exposure
- Consumption of simple sugars or food strongly associated with caries initiation primarily at meal times
- High caregiver socioeconomic status
- Regular use of dental care in an established dental home

#### Moderate Risk
- Suboptimal systemic fluoride exposure with optimal topical exposure
- Occasional (i.e., 1-2) between-meal exposures to simple sugars or foods strongly associated with caries
- Mid-level caregiver socioeconomic status (i.e., eligible for school lunch program)
- Irregular use of dental services

#### High Risk
- Suboptimal topical fluoride exposure
- Frequent (i.e., 3 or more) between meal exposures to simple sugars or foods strongly associated with caries
- Low-level caregiver socioeconomic status (i.e., eligible for Medicaid)
- No usual source of dental care
- Active caries present in the mother

#### General Health Conditions
- Children with special health care needs
- Conditions impairing saliva composition/flow

### Risk Category

**High Risk:** The presence of a single risk indicator in any area of the “high risk”

**Moderate Risk:** The presence of at least 1 “moderate risk” indicator and no “high risk” indicators present results in a “moderate risk” classification

**Low Risk:** The child does not have “moderate risk” or “high risk” indicators

*AAPD, Council on Clinical Affairs, www.aapd.org*
Congratulations on providing preventive oral health services to help improve your patients’ overall health. In follow-up to the training, there are just a few simple steps to prepare you for implementation.

**Determine who will deliver the 3 services**
- Screening/risk assessment (provider):
- Anticipatory guidance/patient education:
- Fluoride varnish:

**Decide when the services will be delivered**
- Well-visits at: 6 mo, 9 mo, 12 mo, 15-18 mo, 24 mo, 36 mo
- Other visits: 

**Create plan for fluoride varnish and family oral health education materials**
- Who will order?
- Where will they be stored?
- For patient visit, which staff will get supplies ready?

Note: Order supplies immediately so they are on hand. Ordering information is in the manual.

**Ensure that dental referral information is in exam rooms or at front desk**

**Establish documentation**
- Electronic Medical Record (EMR): Determine who will modify EMR system to include prompts
- Paper charts: sticker or other prompts

Note: Samples available upon request

**Create process for eligibility determination and billing**
- Medicaid
- West Virginia Children’s Health Insurance Program (WVCHIP)

**Identify and incorporate prompts for providers and patients**

Note: Samples of prompts for providers in manual. Contact us for further ideas.

For Success: Start Today and Prevent Decay!

---

Questions about implementation or other aspects of the program contact
Dr. Jason Roush at Jason.M.Roush@wv.gov

---

Photo credit: WDS Foundation adapted by West Virginia DHHR Oral Health Program & used with permission from WA Dental Service Foundation.
3 Simple Steps: Delivering Oral Health Services During Well-Child Visits

- **Oral Health Screening and Risk Assessment—target children from birth-5 years**

  **Oral Health Screening:**
  - Position the child
    - Infant: knee-to-knee position
    - Older child: position the child on an exam table and work from above the head
    - Have child tilt head back (chin to ceiling)
  - Lift the lip and look in the mouth for
    - Early signs of decay (white spot or line lesions along the gum line)
    - Brown spots on teeth
    - Signs of dental abscess

  **Risk Assessment:**
  - Key factors that determine risk
    - Are decay or white spots lesions visible?
    - Has child ever had any cavities or fillings?
    - Has mother (or primary care giver) had cavities or fillings in the past year?
    - Have any of the child’s brothers/sisters ever had cavities or fillings?
  - Determine if child is at-risk and would benefit from fluoride varnish application
  - Refer child to dentist as necessary

- **Application of Fluoride Varnish**

  **Apply the Varnish:**
  - Dry teeth with gauze (if possible)
  - Apply fluoride varnish to all surfaces of the teeth
  - Once applied, the varnish sets quickly

  **Instruct the Parent:**
  - Eat a soft, non-abrasive diet for the rest of the day
  - Do not brush or floss until the next morning
  - The teeth may be yellow and not shiny until the next day
  - Give the parent tear-off directions for after-care treatment

- **Deliver Anticipatory Guidance to Families**

  **“Lift the Lip” Training:**
  - Show the family how to examine the child using the lap position
  - Ask if they feel comfortable doing this once per month

  **Encourage Families to:**
  - Begin cleaning and brushing teeth with a smear of fluoridated tooth paste every day as soon as the first tooth appears
  - Choose healthy snacks such as fruits, vegetables and cheese; limit snacks that are sugary, starchy or sticky
  - Avoid “grazing” snacking or sipping sweet liquids throughout the day
Fluoride Varnish Application Guide

**Fluoride Varnish**

Apply to children at-risk of tooth decay beginning with the first tooth. Apply 2-4 times/year for maximum benefit. Many providers apply varnish on the same schedule as childhood immunizations.

---

**Supplies Needed:**

- Cotton gauze (2x2)
- Fluoride varnish and applicator
- Latex/vinyl gloves

---

**Steps**

- **POSITION THE CHILD**
  - For an infant or toddler, place the child on the parent’s lap with the head on their knees and the legs around the waist. Position yourself knee-to-knee with the parent and treat the child from above the head
  - Or place the young child on an exam table and work from above the head

- **APPLY THE FLUORIDE VARNISH**
  - Open the child’s mouth
  - Dry the teeth with gauze
  - Apply a thick layer of fluoride varnish to all surfaces of the teeth
  - Once it is applied, the fluoride varnish sets quickly with contact of saliva
  - Repeat the fluoride varnish application every 3-6 months as necessary

- **FOLLOW-UP MESSAGES FOR THE PARENT/CAREGIVER**
  - Teeth may be yellow from the varnish
  - Child should eat a soft, non-abrasive diet for the rest of the day
  - Do not brush or floss until the next morning
# Fluoride Varnish

## Fluoride Varnish Products

<table>
<thead>
<tr>
<th>NAME</th>
<th>MANUFACTURER</th>
<th>SUPPLIER</th>
<th>COLOR</th>
<th>FLAVOR</th>
<th>COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acclean</td>
<td>Schein</td>
<td>Henry Schein Medical &amp; Dental Supply Phone: 800 772-4346 <a href="http://www.henryschein.com">www.henryschein.com</a></td>
<td>Tooth</td>
<td>Bubblegum</td>
<td>$68.99 50-0.5ml $1.38/dose</td>
</tr>
<tr>
<td>Butler White</td>
<td>Butler</td>
<td>Henry Schein Medical &amp; Dental Supply Phone: 800 772-4346 <a href="http://www.henryschein.com">www.henryschein.com</a></td>
<td>Tooth</td>
<td>Bubblegum Melon</td>
<td>$71.99 36-0.5ml $2.00/dose</td>
</tr>
<tr>
<td>Cavity Shield</td>
<td>Omni</td>
<td>Henry Schein Medical &amp; Dental Supply Phone: 800 772-4346 <a href="http://www.henryschein.com">www.henryschein.com</a></td>
<td>Yellow</td>
<td>Bubblegum</td>
<td>$170.99 200-0.25ml $0.85/dose</td>
</tr>
<tr>
<td>Clear Shield-Kolorz</td>
<td>DMG America</td>
<td>Henry Schein Medical &amp; Dental Supply Phone: 800 772-4346 <a href="http://www.henryschein.com">www.henryschein.com</a></td>
<td>Tooth</td>
<td>Bubblegum Watermelon</td>
<td>$258.49 200-0.4ml $1.29/dose</td>
</tr>
<tr>
<td>Duraflor</td>
<td>Medicom</td>
<td>Henry Schein Medical &amp; Dental Supply Phone: 800 772-4346 <a href="http://www.henryschein.com">www.henryschein.com</a></td>
<td>Tooth</td>
<td>Raspberry Bubblegum</td>
<td>$191.99 200-0.25ml $0.96/dose</td>
</tr>
<tr>
<td>Duraflor Halo</td>
<td>Medicom</td>
<td>Henry Schein Medical &amp; Dental Supply Phone: 800 772-4346 <a href="http://www.henryschein.com">www.henryschein.com</a></td>
<td>Tooth</td>
<td>Wild Berry Spearmint</td>
<td>$401.99 250-0.5ml $1.61/dose</td>
</tr>
<tr>
<td>Durashield</td>
<td>Sultan</td>
<td>Henry Schein Medical &amp; Dental Supply Phone: 800 772-4346 <a href="http://www.henryschein.com">www.henryschein.com</a></td>
<td>Light amber</td>
<td>Bubblegum</td>
<td>$225.99 200-0.4ml $1.13/dose</td>
</tr>
<tr>
<td>Enamel Pro Varnish</td>
<td>Premier</td>
<td>Henry Schein Medical &amp; Dental Supply Phone: 800 772-4346 <a href="http://www.henryschein.com">www.henryschein.com</a></td>
<td>Tooth</td>
<td>Strawberry Bubblegum</td>
<td>$65.99 35-0.25ml $1.89/dose</td>
</tr>
<tr>
<td>Fluor Protector (.1% not 5%)</td>
<td>Ivolcar</td>
<td>Henry Schein Medical &amp; Dental Supply Phone: 800 772-4346 <a href="http://www.henryschein.com">www.henryschein.com</a></td>
<td>Tooth</td>
<td>None</td>
<td>$97.99 20-0.4ml $4.90/dose</td>
</tr>
<tr>
<td>Fluorilaq tube 10 ml</td>
<td>Pascal</td>
<td>Smartpractice Phone: 800 522-0800 <a href="http://www.smartpractice.com">www.smartpractice.com</a></td>
<td>Yellow</td>
<td>Bubblegum</td>
<td>$15.59</td>
</tr>
<tr>
<td>Fluor-opal</td>
<td>Ultradent</td>
<td>Ultradent Phone: 888 230-1420 <a href="http://www.ultradent.com">www.ultradent.com</a></td>
<td>Tooth</td>
<td>Bubblegum Mint</td>
<td>$39.99 20-0.5ml $2.00/dose</td>
</tr>
<tr>
<td>Nupro</td>
<td>Dentsply</td>
<td>Henry Schein Medical &amp; Dental Supply Phone: 800 772-4346 <a href="http://www.henryschein.com">www.henryschein.com</a></td>
<td>Tooth</td>
<td>Raspberry</td>
<td>$94.49 50-0.2ml $1.89/dose</td>
</tr>
<tr>
<td>Prevident</td>
<td>Colgate</td>
<td>Henry Schein Medical &amp; Dental Supply Phone: 800 772-4346 <a href="http://www.henryschein.com">www.henryschein.com</a></td>
<td>Tooth</td>
<td>Raspberry Mint</td>
<td>$79.99 50-0.4ml $1.60/dose</td>
</tr>
<tr>
<td>Profluorid</td>
<td>Voco</td>
<td>Henry Schein Medical &amp; Dental Supply Phone: 800 772-4346 <a href="http://www.henryschein.com">www.henryschein.com</a></td>
<td>Tooth</td>
<td>Caramel, Cherry, Melon, Mint</td>
<td>$86.99 50-0.25ml $1.74/dose</td>
</tr>
<tr>
<td>Sparkle V</td>
<td>Crosstex</td>
<td>Henry Schein Medical &amp; Dental Supply Phone: 800 772-4346 <a href="http://www.henryschein.com">www.henryschein.com</a></td>
<td>Tooth</td>
<td>Bubblegum</td>
<td>$159.99 120-0.4ml $1.33/dose</td>
</tr>
<tr>
<td>Varnish</td>
<td>3M ESPE</td>
<td>Henry Schein Medical &amp; Dental Supply Phone: 800 772-4346 <a href="http://www.henryschein.com">www.henryschein.com</a></td>
<td>Tooth</td>
<td>Melon, Cherry, Mint</td>
<td>$199.99 100-0.5ml $2.00/dose</td>
</tr>
<tr>
<td>Varnish America</td>
<td>Medical Products</td>
<td>Medical Products Laboratories Phone: 800 523-0191 ext 126 <a href="http://www.medicalproductslaboratories.com">www.medicalproductslaboratories.com</a></td>
<td>Tooth</td>
<td>Raspberry, Bubblegum, Mint</td>
<td>$28.16 32-0.25ml $0.88/dose</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
<td>Comments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>-------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>99381-99382 99391-99392</td>
<td>Comprehensive well-child exam codes for children less than one year and up to age four (Note: fluoride varnish coverage under this program is only through age three)</td>
<td>Oral evaluation and counseling are components of comprehensive well-child exams.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D1206</td>
<td>Topical fluoride varnish</td>
<td>Covered two times per year for children up to age three; first application must be billed in conjunction with one of the comprehensive well-child exam codes listed above.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D0145</td>
<td>Oral evaluation for patient under three years of age and counseling with primary caregiver</td>
<td>Covered once per year in conjunction with the second fluoride varnish application; cannot be covered when comprehensive well-child exam is billed on the same day and at least 180 days after billing for the comprehensive well-child exam.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V20.2</td>
<td>Routine infant or child health check</td>
<td>Primary diagnosis used when billing well-child exam.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V82.89</td>
<td>Special screening for other specified conditions</td>
<td>Secondary diagnosis is used when billing comprehensive well-child exam.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V72.2</td>
<td>Dental Exam</td>
<td>Primary diagnosis is used when billing: D0145– dental exam; cannot report in combination with V20.0.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Dental Resources and Parent Education Materials
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](http://www.smilesforlifeoralhealth.org)

**American Academy of Pediatrics: Protecting All Children’s Teeth**

(PACT) – A Pediatric Oral Health Training Program.

Access PACT at: [http://www2.aap.org/ORALHEALTH/pact/index-cme.cfm](http://www2.aap.org/ORALHEALTH/pact/index-cme.cfm)

**Evidence-Based Review**


Access at: [http://jada.ada.org/content/137/8/1151.full](http://jada.ada.org/content/137/8/1151.full)

Association of State and Territorial Dental Directors (ASTDD): Fluoride Varnish: An Evidenced-Based Approach.

Additional Resources

*Information for Consumers:*

Fluoride Varnish Q&A:
http://www.health.state.ny.us/prevention/dental/fluoride_varnish_faq.htm

National Maternal and Child Oral Health Resource Center
http://www.mchoralhealth.org/

American Academy of Pediatrics: Preventive Oral Health Intervention for Pediatricians:
http://pediatrics.aappublications.org/content/122/6/1387.full

Bright Futures Oral Health Pocket Guide:
http://www.mchoralhealth.org/pocketguide/

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

Centers for Disease Control and Prevention (CDC) Recommendations for Using Fluoride: http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5014a1.htm

West Virginia Oral Health Program: http://www.dhhr.wv.gov/oralhealth
Q. Do baby teeth matter since they are going to fall out anyway?

A. Yes! Baby teeth matter. Healthy baby teeth are essential for an infant who will soon be developing language skills and chewing food. As a child grows older, healthy baby teeth and oral disease prevention help ensure healthy permanent teeth and overall good health. Children are not healthy if their mouths are not healthy.

Q. When should my child have their first dental screening?

A. First screening should be done by their first birthday. Your child should have his/her teeth screened by a dentist or physician when the first tooth comes in, usually between six and 12 months of age. Early intervention and preventive care will protect your child’s baby teeth now and in the future.

Q. I’ve heard about tooth painting or varnishes. How can I learn more?

A. Ask your dentist or physician about fluoride varnish. It is a quick and effective way to help prevent and heal early tooth decay for children at risk for dental cavities.

Q. Do I need to clean my baby’s mouth if there are no teeth yet?

A. Clean your baby’s gums every day with a clean, damp washcloth.

Q. What do I do once teeth begin to appear?

A. Once teeth emerge, clean them daily with a soft toothbrush and a rice-sized amount of toothpaste. To clean your baby’s mouth, place your baby’s head in your lap to have both hands free to clean.

Q. Can babies get cavities?

A. Yes. As soon as teeth appear, they are at risk for decay. It is critical to keep a baby’s mouth and teeth clean and healthy. Dental problems can begin early and get progressively worse. If problems are caught early, they can be reversed. Prevention is essential to protect your child from oral disease.
Q. What is “baby bottle” tooth decay?

A. Babies who go to bed with a bottle filled with milk, formula or juice are more likely to get tooth decay. When these liquids stay in contact with the teeth for a long time during the night, the teeth can decay quickly. If you put your baby to bed with a bottle, only fill it with water. Formula, milk, juice or other liquids may increase your child’s risk for cavities.

Q. Can the condition of a parent’s teeth and gums affect their child’s oral health?

A. Studies have shown that parents can pass the germs that cause oral disease to their children. Parents need to keep their teeth and gums healthy. The parents’ good oral hygiene can help prevent cavities in their baby’s mouth.

Q. How does diet affect my child’s teeth?

A. A healthy diet helps children grow and develop. Sweets (candy or cookies), starchy foods (crackers) and sticky foods (raisins) stay in the mouth longer, so those foods can easily cause tooth decay. For between meal snacks, offer fruits, vegetables or cheese. Also, avoid “grazing” snacking or sipping sweet liquids throughout the day.

Q. Besides cleaning and brushing my child’s teeth, are there other things parents can do?

A. Check your baby’s teeth often. Look for white spots on the teeth or changes to the gums. If you see spots or other changes in your baby’s teeth or gums when you “lift the lip,” call your dentist or physician.
Go to: [http://www.mchoralhealth.org/order/index.html](http://www.mchoralhealth.org/order/index.html) and click on the links to print out brochures

Brochures for Consumers—Educational materials in English and Spanish
Written in an easy-to-read style that is appropriate for all audiences, including those with lower literacy levels.

<table>
<thead>
<tr>
<th>Online Only</th>
<th>Title</th>
<th>Year</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online Only</td>
<td>Una sonrisa saludable para tu bebé: Consejos para mantener sano a tu bebé.</td>
<td>2009</td>
<td>2 pp.</td>
</tr>
<tr>
<td>Online Only</td>
<td>Una sonrisa saludable para tu niño pequeño: Consejos para mantener sano a tu niño.</td>
<td>2009</td>
<td>2 pp.</td>
</tr>
</tbody>
</table>
**Resources for Professionals**

**Brochures—Resources for professionals**
Click on the titles below to see a PDF preview of publications.

<table>
<thead>
<tr>
<th>Online Only</th>
<th>Title</th>
<th>Year</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Be an Oral Health Champion.</td>
<td>2009</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>(Intended for Head Start staff.) Also available as a poster to download and print.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Web-Based Manuals for Professionals Working to Improve the Public's Oral Health.</td>
<td>2007</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Web-Based Oral Health Curricula for Health Professionals and Human Service Providers.</td>
<td>2007</td>
<td>2</td>
</tr>
</tbody>
</table>

**Consensus Statement**
Click on the title below to see a PDF preview of the publication.

<table>
<thead>
<tr>
<th>Online Only</th>
<th>Title</th>
<th>Year</th>
<th>Pages</th>
</tr>
</thead>
</table>

**Fact Sheets—Quick reference for professionals**
Click on the titles below to see a PDF preview of publications.

<table>
<thead>
<tr>
<th>Online Only</th>
<th>Title</th>
<th>Year</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Child and Adolescent Oral Health Issues.</td>
<td>2012</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Fluoride Varnish: An Effective Tool for Preventing Dental Caries.</td>
<td>2010</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Oral Health and Health in Women: A Two-Way Relationship.</td>
<td>2004</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Oral Health and Learning: When Children’s Oral Health Suffers, So Does Their Ability to Learn.</td>
<td>2013</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Oral Health for Children and Adolescents with Special Health Care Needs: Challenges and Opportunities.</td>
<td>2014</td>
<td>6</td>
</tr>
</tbody>
</table>
Online Only  Pain and Suffering Shouldn’t Be an Option: School-Based and School-Linked Oral Health Services for Children and Adolescents. 2010. 4 pp.

Online Only  Preventing Tooth Decay and Saving Teeth with Dental Sealants. 2010. 4 pp.

Policy Briefs and Papers—Strategies for action
Click on the titles below to see a PDF preview of publications.


Poster
Click on the titles below to see a PDF preview of publications.

Online Only  Be an Oral Health Champion. 2009. 18 x 24 inches.

Proceedings—Conference report
Click on the titles below to see a PDF preview of publications.

Online Only  Journal of Public Health Dentistry. Maryland Oral Health Summit: Pathways to Common Ground and Action Background Papers and Commentaries

**Resource Bulletin—Directory of recently released materials**

Click on the title below to go to a page with links to all bulletins.

| Online Only | Oral Health Resource Bulletin |

**Resource Guides—Directories of materials and organizations**

Click on the titles below to see a PDF preview of publications.

<table>
<thead>
<tr>
<th>Online Only</th>
<th>Title</th>
<th>Year</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dental Hygienists and Head Start: What You Should Know and How You Can Help</td>
<td>2008</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Dentists and Head Start: What You Should Know and How You Can Help</td>
<td>2008</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Strategies to Improve Collaboration Between State Oral Health Programs and Head Start State Collaboration Offices</td>
<td>2011</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Strategies to Improve Health by Enhancing the Integration of Oral Health and Maternal and Child Health Programs</td>
<td>2006</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Strategies for Improving the Oral Health System of Care for Children and Adolescents with Special Health Care Needs</td>
<td>2005</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>A Way with Words: Guidelines for Writing Oral Health Materials for Audiences with Limited Literacy</td>
<td>2007</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>
Supplemental Resources
Fluoride Varnish Applied at Well Child Care Visits Can Reduce Early Childhood Caries

Steve Holive, MD, Chief Clinical Consultant in Pediatrics, Tuba City Indian Medical Center, Tuba City, Arizona

Early childhood caries (ECC), or tooth decay of the primary teeth, is the greatest health disparity for American Indian/Alaska Native (AI/AN) children. The 1999 Indian Health Service Oral Health Survey showed that 68 percent of AI/AN preschool children have decay in their primary teeth, and in some tribal groups the rate is greater than 90 percent. The caries rate for AI/AN children is the highest of any ethnic group in the United States, and is six times higher than the rate for white children (see Table 1).


<table>
<thead>
<tr>
<th></th>
<th>2 - 4 years old</th>
<th>6 - 8 years old</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>16%</td>
<td>29%</td>
</tr>
<tr>
<td>White</td>
<td>11%</td>
<td>26%</td>
</tr>
<tr>
<td>African American</td>
<td>22%</td>
<td>36%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>24%</td>
<td>43%</td>
</tr>
<tr>
<td>Native American</td>
<td>68%</td>
<td>69%</td>
</tr>
</tbody>
</table>

Equally discouraging is that while the overall caries rate for US children has steadily decreased in recent years, the rate of caries in preschool AI/AN children actually increased between the IHS Oral Health Surveys of 1992 and 1999. Neither educational counseling about caries nor increased availability of fluoridated water has reduced the childhood tooth decay rate in AI/AN communities. Not even dental extractions or extensive dental surgery have been shown to slow the progression of caries rates in young children.

In the past, ECC was called “baby bottle tooth decay” and was felt to occur because of prolonged drinking of liquids containing sugar such as juice or soda from a baby bottle. However, it is now known that caries formation results from a complex interplay of dietary habits, oral hygiene, and the presence in the mouth of cariogenic bacteria — primarily Streptococcus mutans. Tooth enamel is in constant equilibrium between demineralization and remineralization. A physical tooth cavity results when the rate of demineralization exceeds the rate of remineralization for a period of months to years. The primary cause of this condition is that the acids of certain bacteria (like S. mutans) shift the equilibrium toward demineralization.

Tooth decay, is an infectious process. However, children are not born with the S. mutans bacteria that cause cavities. Research on the timing of S. mutans showed that most children acquired the
bacteria from their mothers at about age 18 - 30 months. However, many AI/AN children already have destructive cavities by age 18 months. It is hypothesized that the transmission of S. mutans occurs at an earlier age in AI/AN children.

Understanding the pathogenesis of caries suggests two therapeutic pathways to prevent caries. The first is the use of an antimicrobial to delay or prevent the transmission of cariogenic bacteria. Unfortunately, there is no Food and Drug Administration (FDA)-approved drug effective against S. mutans available at this time, although two clinical trials are underway to test such an antimicrobial in AI/AN communities. The second approach is to shift the tooth equilibrium toward remineralization (i.e., away from cavity formation) through the use of fluoride.

What are needed are innovative approaches to delivering fluoride to younger children. Fluoride varnish is a topical fluoride product that is suitable for infants and young children. The FDA licensed fluoride varnish in 1994. Despite its recent arrival in the United States, fluoride varnish has been used for over 40 years in Europe for caries prevention. In selected populations it has been reported to achieve a caries reduction of 40 - 55%.

A major barrier to the use of fluoride varnish to prevent early childhood caries is how to deliver this product to infants and preschool children before they develop ECC. Access to dental care for preschool children is problematic nationwide and also within the Indian Health Service (IHS). However, the IHS has a strong track record in well child care and delivering immunizations to infants and children. We proposed to make use of this established pediatric care system and offer fluoride varnish application to infants and children when they presented for well child care clinic.

Methods
As part of routine preventive care, our pediatric clinic began applying fluoride varnish during well child visits. We used Durafloss® which is 5% sodium fluoride (22.6 mg fluoride/milliliter). The fluoride is in suspension in a resin that allows it to stick readily to the tooth surface. Patients received fluoride varnish if they had any primary teeth present and parents agreed to application. Fewer than 1% of parents declined.

Fluoride varnish was applied during regularly scheduled well child visits at 9, 12, 15, 18, and 24 months. The teeth were wiped clean and dry with a gauze pad and a pea-sized amount of fluoride varnish was applied to all surfaces of the teeth with a kwik-tip brush. Parents were instructed not to brush the teeth or to let the child chew any hard foods for the rest of the day. Parents received age-appropriate information on caries prevention prior to fluoride varnish application.

To determine the effectiveness of fluoride varnish, we examined children who attended the local Head Start program. Each new Head Start class was examined over a 3-year period. The 133 students in 2003 had not received fluoride varnish treatments and served as historical controls. One hundred and twenty-eight students in 2004 and 96 students in 2005 had received an increasing number of fluoride varnish treatments and were examined to determine the effectiveness of this intervention in our population. A pediatric dentist (CB) who was blinded to the fluoride status of each student performed visual exams. A standard scoring system of decayed, missing, or filled surfaces (dmfs) was used. Each tooth has five surfaces, and each surface was marked as caries free or caries present. A tooth with one surface with caries or filling received a dmfs score of 1. A tooth with two surfaces containing caries or a filling received a score of 2. A missing tooth, extracted tooth, or a tooth with a crown covering all surfaces received a score of 5. Thus, a child with no caries would have a total dmfs score of 0. A child who had four molars with crowns would have a dmfs score of 20 (5 dmfs/tooth X 4 teeth = 20).

Results
The mean dmfs per child in relation to the number of fluoride varnish applications is shown in Figure 1. Children without any fluoride varnish treatments had a mean dmfs score of 23.6. There was no decrease in the dmfs score for children who received only one or two applications of varnish. There was a slight decrease in mean dmfs for children receiving three applications of varnish. Children who received four or more applications of fluoride varnish had a mean dmfs score of 15, which is 35% lower than children who had no treatments. Among the children examined, no increased benefit was found for having more than 4 treatments.

Figure 1. Mean dmfs score compared to number of fluoride varnish treatments

![Figure 1](image)

Calculation of confidence intervals using a significance of 1.5 is shown in Table 2. Four or more fluoride varnish treatments showed a statistically significant reduction in dmfs scores compared to patients receiving 0 - 3 treatments.

Table 2. Age adjusted dmfs score by number of fluoride varnish treatments received

<table>
<thead>
<tr>
<th>Variable</th>
<th>0 - 3 (N=282)</th>
<th>4+ (N=75)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>dmfs</td>
<td>23.36</td>
<td>15.59</td>
<td>0.005</td>
</tr>
</tbody>
</table>
Limitations

It should be noted that our intervention with fluoride varnish was conducted as a public health practice rather than research. No attempt was made to determine whether the children who received four or more applications of fluoride varnish differed from the other children in other ways that might also affect caries rates, such as frequency of exposure to cariogenic foods or a strong family history of early childhood caries.

Conclusions

Application of fluoride varnish to infants and toddlers in a well child care clinic is effective:

- Four or more fluoride varnish treatments over a two-year period reduced the rate of ECC by 35 percent.
- Fluoride varnish was accepted by the parents and well tolerated by the children.
- Fluoride varnish is cost-effective in that it can be applied to young children for a very small marginal cost by using the existing well child care system. The application of fluoride varnish can be done by non-dentists and takes less than three minutes to complete. Given the nationwide shortage of pediatric dentists and the difficulty of dental access for many children, this is an ideal model of care for Indian health programs. Durflor® is only about $1.00 per application. In contrast, a single trip to the operating room for dental repair under general anesthesia is about $2,500.

As the IHS Chief Clinical Consultant for Pediatrics, I would encourage all facilities that serve AI/AN children to consider adding the application of fluoride varnish to their well child care visit activities from ages 9 - 24 months. At most IHS clinics the dentists on-site could provide instruction to primary care providers on how to apply fluoride varnish and how to purchase the product. The American Academy of Pediatrics has a helpful web page devoted to oral health at http://www.aap.org/oralhealth/

Lastly, fluoride varnish will reduce but will not eliminate ECC in AI/AN children. Fortunately, there are a number of other promising avenues for caries reduction in children. Currently, there is a randomized clinical trial in a southwestern tribal community to evaluate use of a 10% chlorhexidine varnish applied to the dentition of mothers of children less than six months of age in order to reduce the bacterial load of S. mutans in the mothers, and thereby delay and decrease transmission of S. mutans from mother to infants. Other studies are looking at the use of xylitol gum that decreases adherence of S. mutans to the teeth. It is hoped that the use of multiple approaches will eventually reduce the oral health disparity that plagues AI/AN children.

In summary, we cannot drill or extract our way out of the problem of early childhood caries among AI/AN children. Traditional dental practices have not, and will not, solve child tooth decay in AI/AN communities. Only new approaches —

a paradigm shift in treating tooth decay in young children — will succeed.

The author wishes to thank Craig Bruce, DDS for his performance of dental exams on our patients. This project and report were approved by the Tuba City Regional Healthcare Corporation Board of Directors.

References

WEST VIRGINIA EPSDT/HEALTHCHECK PROGRAM PERIODICITY SCHEDULE

<table>
<thead>
<tr>
<th>AGE</th>
<th>INFANCY</th>
<th>EARLY CHILDHOOD</th>
<th>MIDDLE CHILDHOOD</th>
<th>ADOLESCENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MEASUREMENTS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Length/Weight</td>
<td>Seattle Cohort</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Head Circumference</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>LABORATORY SCREENING</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Blood Pressure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EYE SCREENING</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HEART SCREENING</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DEVELOPMENT &amp; BEHAVIORAL ASSESSMENTS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>IMMUNIZATION</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HEMOPHILIA OR HEMORRHAGIA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BLOOD LEAD LEVEL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TUBERCULOSIS SCREENING</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DYSLIPIDEMIA SCREENING</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>OTHERS SCREENING</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ORAL HEALTH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>HEALTH EDUCATION</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ANTIDRUG GUIDANCE</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**KEY:**
- **+** = to be performed
- **+** = risk assessment to be performed with appropriate action to follow, if positive
- **-** = range during which a service may be provided

The HealthCheck program works to equip West Virginia Medicaid providers with the necessary tools and knowledge to carry out EPSDT services appropriate to the American Academy of Pediatrics guidelines. HealthCheck satisfies the importance of continuity of care in the medical home and the need to avoid fragmentation of care.

For more information contact the HealthCheck Program at 1-800-642-9704 or visit our website at www.dhhr.wv.gov/healthcheck