Oral Health: Fluoride Varnish application and benefits for Pediatricians

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Disclosure

Nilay Baxi, MD, nothing to disclose.
Juliana David, M Ed Psych, nothing to disclose.
In this lecture, we will discuss the “off-label” use of an FDA-approved pharmaceutical (fluoride varnish).
Learning Objectives

1. Understand the importance of fluoride varnish as caries risk prevention and the modalities used in primary care

2. Learn motivational interviewing strategies for oral health integration to address concerns raised by fluoride-hesitant families

3. Understand the process of billing to Medicaid Managed Care Organizations for the Fluoride Varnish Program
Severe early childhood caries on 18 mo

This child has been to the pediatrician 5-6 times
What is dental caries?

Caries → a disease

Cavities → consequence or a sequelae of the disease
Dental caries is an infectious, transmissible disease

Modified by dietary carbohydrates and critically regulated by saliva.
Fluoride speeds up remineralization -> less soluble mineral
Risk assessment.
use a form to visualize the caries balance weighing in risk factors vs. protective factors from parent interview to complement the clinical findings

- parent or caregiver with recent or current caries
- White spots
- obvious decay

= high risk
Fluoride works primarily via topical (surface) mechanisms

- Fluoride inhibits demineralization by adsorbing from solution onto tooth mineral crystal surfaces

- Fluoride enhances remineralization combining with calcium and phosphate to make a low solubility veneer of fluorapatite-like mineral.

- Fluoride can inhibit plaque bacteria: interferes with enzymes in the cell
Professionally applied Fluorides
By Pediatrician, family practitioner, or dentist when children at high risk
Fluoride: Evaluate all sources

- Check on water fluoridation, and testing well water
- Fluoride prescriptions, giving optimal instructions for timing and form
- Fluoride Water
- Counsel on toothpaste as a source of fluoride.
- Encourage on use of tap water when the water is fluoridated
- Cultural Considerations
Systemic F - Prescription Supplements

► Available from physician or dentist
► *Determine water fluoride level before writing prescription!*
► Multiple sources of F make prescribing challenging!
► Recommended for patients at *high risk* who have no F in tap water starting at 6 months*
  ► *JADA 2010;141;1480-1489*
### Amount Ingested, Adequate Amounts vs. Tolerable Amount

<table>
<thead>
<tr>
<th>Age</th>
<th>Adequate Water Intake</th>
<th>Fluoridated water (0.7 ppm) 0.7 mg F/L</th>
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</thead>
<tbody>
<tr>
<td>0-6 months</td>
<td>0.7L/day of water, from milk</td>
<td>0.49 mg F/Day</td>
</tr>
<tr>
<td>7-12 months</td>
<td>0.8L/day of water, from milk and others</td>
<td>0.56 mg F/Day</td>
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<tr>
<td>1-3 years</td>
<td>1.3L/day</td>
<td>0.91 mg F/Day</td>
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<tr>
<td>3-8 years</td>
<td>1.7L/day</td>
<td>1.19 mg F/Day</td>
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</table>

**TABLE 2. Recommended total dietary fluoride intake**

<table>
<thead>
<tr>
<th>Age</th>
<th>Reference weight*</th>
<th>Adequate intake†</th>
<th>Tolerable upper intake‡</th>
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<tr>
<td>0–6 months</td>
<td>7 kg 16 lb</td>
<td>0.01 mg/day</td>
<td>0.7 mg/day</td>
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<tr>
<td>6–12 months</td>
<td>9 kg 20 lb</td>
<td>0.5 mg/day</td>
<td>0.9 mg/day</td>
</tr>
<tr>
<td>1–3 years</td>
<td>13 kg 29 lb</td>
<td>0.7 mg/day</td>
<td>1.3 mg/day</td>
</tr>
<tr>
<td>4–8 years</td>
<td>22 kg 48 lb</td>
<td>1.1 mg/day</td>
<td>2.2 mg/day</td>
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<tr>
<td>≥9 years</td>
<td>40–76 kg 88–166 lb</td>
<td>2.0–3.8 mg/day</td>
<td>10.0 mg/day</td>
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*Fluorosis"
Supplies Needed to Perform Fluoride Varnish Procedure

- Varnish
- Disposable mirrors
- Exam gloves
- Gauze
- Light source/
  head lamp
Fluoride Varnish Application

Clean and Dry Teeth
Apply Varnish with small brush covering anterior and posterior teeth.
Fluoride Varnish Application

► The varnish hardens quickly after application as a yellow film

► The child can have a drink of water

► Instructional videos of proper fluoride varnish application technique can be viewed online in the National Smiles for Life Curriculum Module 613: [www.smilesforlifeoralhealth.com](http://www.smilesforlifeoralhealth.com)
<table>
<thead>
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<th>TABLE 1</th>
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<tr>
<td>INSTRUCTIONS TO CAREGIVER AFTER FLUORIDE VARNISH APPLICATION</td>
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</table>

- Child’s teeth may be discolored for 24-48 h (only with yellow products). This will resolve with thorough brushing.
- No brushing of teeth until the next morning.
- Children can eat and drink immediately after application.
- Avoid sticky, hot, very hard, and crunchy foods the same day as they may crack or remove the varnish.

From Clark MB, et al. 13
Counsel: child’s caries risk, dispensing right volume of toothpaste onto soft, age-appropriate sized toothbrush, frequency of brushing, and performing/assisting brushing on young children.

A “smear” of fluoridated toothpaste for children less than 2 years of age

A ”pea-size amount for children ages 2 to 5

# Table 2: Fluoride Recommendations in the Primary Care Office

<table>
<thead>
<tr>
<th>AGE</th>
<th>TOOTH ERUPTION TO &lt;3 Y</th>
<th>3 Y TO &lt;6 Y</th>
<th>6 Y +</th>
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<tr>
<td><strong>Fluoride toothpaste</strong></td>
<td>Grain of rice or “dab”</td>
<td>Pea-sized</td>
<td>Pea-sized or as recommended by the dentist</td>
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<tr>
<td><strong>Fluoride mouth rinse</strong></td>
<td></td>
<td></td>
<td>Yes, if at high caries risk and can spit</td>
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<tr>
<td><strong>Fluoride varnish</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Dietary fluoride supplement (if primary drinking water is fluoride deficient)</strong></td>
<td>0.25 mg/d fluoride (starting at age 6 mo)</td>
<td>0.5 mg/d fluoride</td>
<td>1 mg/d fluoride (Use until age 16 y.)</td>
</tr>
<tr>
<td><strong>Dietary fluoride supplement (if primary drinking water is partially fluoridated (0.3-0.6 ppm))</strong></td>
<td>None</td>
<td>Yes, 0.25 mg/d fluoride</td>
<td>Yes, 0.25 mg/d fluoride (Use until age 16 y.)</td>
</tr>
</tbody>
</table>

<sup>a</sup>Typically performed in the dental home but covered in the primary care setting by Medicaid in some states through and after the age of 6 y.

*From: Clark MB. et al<sup>2</sup>; US Preventive Services Task Force.<sup>6</sup>
Behavior modification is just as important as fluoride varnish or restorative treatment.

Fluoride varnish:
- aids in preventing further decay
- re-mineralizing incipient lesions on some children
Motivational Interviewing

► Three strategies to consider are:

► 1. Reassure—Use language such as: “Fluoride is safe to use in appropriate amounts.”

► 2. Refer—Provide information from credible websites such as https://ilikemyteeth.org/ Recommend early establishment of a dental home to help deliver consistent messages about fluoride use.

► 3. Renegotiate—Consider alternate fluoride usage routes if needed. Typical caregiver concerns about fluoride safety relate to ingestion of the product. As topical fluoride is the most beneficial, encourage compromise with use of limited fluoride in toothpaste, varnish, or mouth-rinse form.
SAMPLE CONVERSATION ON FLUORIDE USE

PCP: To strengthen your child’s teeth and prevent cavities, I recommend daily use of fluoridated toothpaste morning and night and fluoride varnish in the office today. Because your child’s drinking water does not have fluoride, I also recommend use of a fluoride supplement at night.

C: I have heard really bad things about fluoride.

PCP: Heard? Tell me what you have heard and/or read about fluoride toothpastes, varnish, and/or supplements.

C: My friend told me not to use fluoride as it ruins the teeth and can cause cancer.

PCP: Do you have any additional concerns other than what you have heard from your friend?

C: Not really.

PCP: Professional websites, such as the CDC, AAP, and ADA provide scientific evidence to help you make informed decisions. Have you looked at any website that gives information about the various forms of fluoride? Would it be OK for us to discuss my reasons for wanting to give your child fluoride?

C: (Nods.)

PCP: Fluoride is a mineral that is naturally found in water but is not at high enough amounts in the community water to protect your child’s teeth. Appropriate use of fluoride can help prevent cavities and problems that arise after cavities, such as the need for dental procedures and infections. Fluoride is added to a toothpaste and water just as iodine is added to salt or vitamin D is added to milk. It is a dietary supplement that when given in appropriate amounts is safe for use. As far as the effects on cancer, this is also unproven. Many scientific studies have shown no link of fluoride use to cancer. I can give you a list of links about this and I encourage you to read them to make informed decisions.

C: What about the problems it causes with bad teeth?

PCP: Any medication can cause harm when not used appropriately. In appropriate doses, fluoride is protective and can prevent cavities. Based on this information we have discussed, what are your thoughts and feelings about including fluoride toothpaste, varnish, or the pill into your child’s routine oral health care?

C: Well, maybe, I can use the toothpaste, but I still don’t want her to eat the fluoride pill.

PCP: That’s a good start. Today, I see a few white spots on your child’s teeth that are the earliest signs of tooth decay. I recommend fluoride varnish application to the teeth. This is like the fluoride you have applied to your teeth at your dental visits. This is only applied at a dental or medical visit by a trained professional and gives an additional amount of protection for the next few months to help stop the progression of early cavities and aids in preventing new cavities. Knowing this information about your child’s teeth, can we proceed with application of fluoride varnish in the office today?

Abbreviations: ADA, American Dental Association; AAP, American Academy of Pediatrics; C, caregiver; CDC, Centers for Disease Control and Prevention; PCP, primary care provider.
Infants should have a dental home by age 1 or at the eruption of the first tooth.
AAP Policy statement: “Maintaining and Improving the Oral health of Young Children” (PEDIATRICS 2014;134;1224)

1. Administer an Oral Health risk assessment periodically to all children
2. Include anticipatory guidance for oral health as an integral part of comprehensive patient counseling
3. Counsel parents/caregivers and patients to reduce the frequency of exposure to sugars in foods and drinks
4. Encourage parents/caregivers to brush a child’s teeth as soon as teeth erupt with a smear or a grain-of rice-sized amount of fluoride toothpaste and a pea-sized amount at 3 years of age
5. Advise parents /caregivers to monitor brushing until 8 years of age
6. Refer to the AAP clinical report,“ Fluoride Use in Caries Prevention in the Primary Care Setting” for fluoride administration and supplementation decisions
7. Build and maintain collaborative relationships with local dentists
8. Recommend that every child has a dental home by 1 year of age
Take-home message for Pediatricians

► Fluoride continues to be essential in caries prevention. Both topical and systemic fluoride play a role in maintaining good teeth and preventing oral disease, but the topical effects are foremost.

► A well-informed pediatric provider can address concerns raised by fluoride-hesitant families through motivational interviewing and personalized communication.
  
  ► Early referral to establish a dental home may help provide clarity about fluoride use and improve dental health.
  
  ► Consistent messaging from the medical and dental communities about oral health and fluoride use will promote optimal dental and overall health.
NJ Fluoride Varnish Program Payment
NJDMAHS
New Jersey Division of Medical Assistance and Health Services

CONTRACT

Horizon NJ Health
United Community Health
Amerigroup RealSolutions
Wellcare HealthPlans, Inc.
Aetna Better Health of NJ

NJ SMILES PROGRAM
Fluoride Varnish Program
(NJ Smiles)

► Fluoride varnish application is a safe and effective procedure now reimbursed by Medicaid in all 50 states and by private insurers in many states. In some states, not only physicians and advanced practitioners but also nurses and medical assistants can apply the varnish.

► Medicaid-NJ Family Care Program- 2014 Policy to provide Fluoride varnish application payment to Pediatricians

► All NJFC children between 6 months to 7 years are eligible to receive 2 fluoride treatments per year from PCP, plus 2 additional treatment per year from Dentists
NJ Fluoride Varnish Program Steps:

► All Medicaid HMO’s required:

**STEP 1** To complete Oral Health training through:

NJAAP EPIC Oral Health: “Integration Oral Health Into Routine Well Care” (Free)- 1 CME/CNE/CEU Credit


► Pediatric Grand Rounds: Rutgers Medical School- 8/14/19

► Newark Beth Israel- 9/18/19
STEP 2 Submit certificate to each Medicaid – HMO or an attestation Form

- Average payment is between $19 to $33. (HNJH incentivized based on occurrence of dental visit within 30 to 60 days)
- Commercial Insurances (Horizon BCBS):
  BCBS is participating in the fluoride varnish program CPT® code 99188
Course 2: Child Oral Health

This continuing medical education activity has been reviewed by the American Academy of Pediatrics and is acceptable for a maximum of 8.50 AAP credits. These credits can be applied toward the AAP CME/CPTD Award available to Fellows and Candidate Members of the American Academy of Pediatrics. Approval is valid from April 5, 2019 - April 5, 2020.

Course 5: Caries Risk Assessment, Fluoride Varnish and Counseling

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To Receive Credit

AAP Credit for attendees is recorded only when an attendee submits a copy of his/her certificate of attendance, with AAP ID number, to the American Academy of Pediatrics. Certificate of completion must be received by the American Academy of Pediatrics within eight (8) weeks after the completion of the course. Please submit Certificate of Completion to:

American Academy of Pediatrics
Attn: CME Transcript Coordinator 1
41 Northwest Point Blvd
Elk Grove Village, IL 60007-1098
FAX: 847/4348387

For more information on the AAP’s accreditation and approval processes please visit: http://pedialink.aap.org/visitor/cme/about_aap_cme
NJ Fluoride Varnish Program


CPT Code 99188- Developed in 2015: only includes varnish application by PCP or other qualified health care professional

Payment Issues:
- NJ Family Care Program, contact NJDMAHS
- Commercial Insurance contact NJ Department of Banking and Insurance
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**BILLING CODE**

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**TRAINING REQUIREMENTS**

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Tools to support Oral Health Integration

► Developing a clinical workflow to include fluoride varnish application can improve the oral health of children within a practice. A recent Qualis Health White Paper offers specific strategies for integration of oral health into practice workflow. 

Visit the NJAAP Oral Health Website
Healthyteethnj.com
No Dental Insurance?

New Jersey Dental Clinic Directory provides a central source of information on public dental clinics and services in New Jersey.

- Federally Qualified Health Services (FQHC), that provide dental services with mobile vans:
  - Hackensack Meridian Health Mountainside Medical Center
  - Zufall Health Center
  - North Hudson Community Action Corp.
  - Kindersmile Foundation - Essex County
  - NJAAP can assist with providing linkages to local dentists in your community

https://www.state.nj.us/health/fhs/oral/documents/dental_directory.pdf
Caries is an entirely preventable disease

Early identification of risk is crucial
Health providers should work as a team
Thank you!

For more information, contact:
Juliana David, M Ed Psych, Program Director NJAAP
jdavid@njaap.org or 609.631.5738