Early Childhood Oral Health

What Primary Care Providers Need to Know About Fluoride Varnish and How to Promote Early Childhood Oral Health



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Medicaid reimbursement is available for the application of fluoride varnish to children's teeth by pediatric primary care providers (PCPs) in New York State (NYS). This simple procedure can be integrated into regular office examinations and will help prevent early childhood caries.

Oral health is important to keeping one's whole body healthy: Oral diseases and disorders affect health and well-being throughout life.² Dental caries — the number one chronic disease affecting young children — is largely preventable and may be reversible if found early.¹ Dental caries progresses rapidly and often goes untreated.³

Fluoride plays an important role in preventing dental caries. New York City (NYC) water is fluoridated, but additional topical applications of fluoride have proven to be effective in further reducing the onset of caries, especially in young children.

Because infants and younger children are more likely to see their physician than a dentist, PCPs are uniquely positioned to monitor and promote good oral health.^{3,4} All PCPs should conduct periodic oral health examinations as part of routine pediatric visits. Children should be referred to a dental home (the relationship between dentist and child that is ongoing and comprehensive) by age 1, and PCPs can partner with their patients' dentists to coordinate preventive oral health care.¹

The NYC Department of Health and Mental Hygiene (Health Department) encourages you to obtain training in pediatric oral health risk assessment and fluoride varnish application. Online training in the application of fluoride varnish and resources for pediatric oral health care providers are available at the NYS Department of Health website at health.ny.gov/prevention/dental/child_oral_health_fluoride_varnish_for_hcp.htm. Please contact NYCDOHMHDental@health.nyc.gov for additional questions.

Thank you for your commitment to promoting children's oral health.



Promoting Early Childhood Oral Health

Early childhood caries is a severe, rapidly progressing form of tooth decay that affects primary teeth, which erupt first and are least protected by saliva. Caries in a young child can lead to pain, early tooth loss, infection and increased risk of adult tooth decay. You can prevent or stop the progression of early childhood caries by:

- Applying fluoride varnish (5% sodium fluoride in a resin) two to four times a year, depending on the child's risk for caries
- Counseling caregivers about the importance of good oral hygiene and brushing twice daily with a fluoride toothpaste, starting with the eruption of the first tooth
- Promoting healthy eating behaviors and limited consumption of juices and sugar-sweetened beverages and foods

- Discouraging putting the infant to bed with a bottle, and encouraging only water if necessary to aid in getting the infant to sleep
- Encouraging wiping the child's teeth, or gums for children who do not have teeth yet, after each feeding
- Discussing nutritive (breast, bottle) versus nonnutritive (pacifier, fingers or bottle nipple if not breastfeeding) sucking and its effect on dentofacial development
- Referring to a dentist by the time a child is 1 year old

The Oral Health Examination

For infants and children under 3 years of age:

 Establish a knee-to-knee position with the caregiver. The child's head should be in your lap and the child's legs should be around the caregiver's waist. The caregiver can help by holding the child's hands on top of the navel.

Figure 1. Eruption and shedding patterns of primary teeth. Used with permission of the American Academy of Pediatrics (AAP).

	Upper Teeth - Central incisor - Lateral incisor - Canine (cuspid) - First molar - Second molar	Erupt 8–12 months 9–13 months 16–22 months 13–19 months 25–33 months	Shed 6–7 years 7–8 years 10–12 years 9–11 years 10–12 years
(A) (B) (B) (C) (C) (C) (C) (C) (C) (C) (C) (C) (C	Lower Teeth - Second molar - First molar - Canine (cuspid) - Lateral incisor - Central incisor	Erupt 23–31 months 14–18 months 17–23 months 10–16 months 6–10 months	Shed 10–12 years 9–11 years 9–12 years 7–8 years 6–7 years

For children 3 years of age and older.

 Have the child either lie flat on an examination table or sit in front of the caregiver, while both are facing you, so that the caregiver can help position and steady the child.

Lift the lip to inspect soft tissue and teeth for.

- Inadequate oral hygiene such as plaque and debris on the teeth
- Whether tooth eruption and loss are proceeding according to schedule (Figure 1), and dental crowding

- Signs of tooth decay, including white spots along the gum line, brown spots, and holes or cavitations (Figure 2)
- Swelling, redness, and irregularities such as lesions, bumps or ulcers in the mouth



Figure 2. Signs of childhood caries: (top) early decay: white spots; (bottom) later decay: brown spots. Used with permission of the AAP.

Assessing Caries Risk

During the visit:

- Ask the caregiver about their own caries experience and if they currently have active decay. If there are other children in the household, ask about their caries experience.
- Ask about caries symptoms such as sensitivity to cold or heat, pain, difficulty chewing, poor weight gain, infections, abscesses or difficulty sleeping.
- Ask about other risk factors for caries, such as sleeping with bottles, being fed through the night or if the child has special health care needs (see **Table 1**).

- Assess the child's exposure to fluoride (NYC fluoridated tap water versus bottled water).
- Use the American Academy of Pediatric Dentistry (AAPD) Caries Risk Assessment Tool to evaluate the child's risk for caries (Table 1).
 - Also refer to the AAP tool at aap.org/en-us/ Documents/oralhealth_ RiskAssessmentTool.pdf.

Table 1. Caries Risk Assessment Tool for Ages 0 to 5.

	Low Risk	Moderate Risk	High Risk
Clinical			Non-cavitated (incipient/white spot) caries or enamel defects
Conditions			Visible plaque on teeth
			Visible cavities or fillings, or missing teeth caused by caries
Social or Behavioral Risk Factors		Recent immigration to U.S.	Frequent between-meal or bedtime use of bottle or nonspill cup
		• Special health care needs†	containing natural or added sugar
			 Frequent (more than three per day) between-meal exposures to sugar-containing snacks or beverages
			Primary caregiver has lower poverty level across time and lower access to health literacy
			Active caries present in primary caregiver
Protective Factors	 Established dental home and receipt of regular dental care 		
	Optimal systemic and topical fluoride exposure through drinking water or fluoride supplements		
	 Receipt of topical fluoride from health care professional 		

*Children with special health care needs are those who have a physical, developmental, sensory, behavioral, cognitive, or emotional impairment, or limiting condition that requires medical management. Table presents information from the AAPD Caries Risk Assessment Tool. For more information on using the tool, refer to aapd.org/media/Policies_Guidelines/BP_CariesRiskAssessment.pdf.

- Provide anticipatory guidance, including oral hygiene instructions.
 - Caregivers can model good oral hygiene by brushing twice a day with a toothpaste that contains fluoride and flossing daily.
- Refer the child to a dental home by their first birthday^{1,5} and establish a collaborative relationship with their dentist to coordinate their preventive and routine care.¹

Applying Fluoride Varnish

Fluoride varnish may be applied two to four times a year and is reimbursable by Medicaid for children until 7 years of age, depending on the child's risk for caries.

Fluoride varnish is easy to apply (**Figure 3**) and can prevent, arrest and even reverse early cavity formation.⁶⁷ It also strengthens teeth, renews high levels of fluoride in superficial enamel and helps slow or reverse demineralization.⁸

The varnish is colorless or caramel-colored. It forms a sticky layer on the tooth that hardens on contact with saliva and penetrates the tooth enamel. Allow varnish to remain on the teeth overnight.



Figure 3. Applying fluoride varnish. Used with permission of the AAP.

Risk of varnish ingestion and toxicity is very low, as only a small amount of varnish per application is required. Do not apply fluoride varnish if ulcerative gingivitis, stomatitis or open softtissue lesions are present. Consult the manufacturers' product instructions for complete safety information and contraindications, which sometimes include patients with known sensitivity to colophonium (pine resin) or pine nuts.

- **Step 1:** Remove excess saliva and plaque from the teeth with a 2x2 sterile gauze sponge.
- Step 2: Apply fluoride with a disposable applicator on all tooth surfaces. The varnish will harden immediately once it comes in contact with saliva.

Advise the caregiver.

- The child should not brush until the next morning.
- The child should avoid hot, hard or sticky foods, and hot drinks, for the rest of the day.
- If caramel-colored fluoride varnish is used, the child's teeth may be temporarily yellow or caramel-colored, but the discoloration will go away once the teeth are brushed the next day.

Call **311** to request a copy of **Fluoride Varnish: Frequently Asked Questions** and other child oral health fact sheets for caregivers from the NYC Health Department.

Reimbursement

In NYS, a maximum of four fluoride varnish applications per year will be covered for children from birth until 7 years of age.

- Medicaid fee-for-service:
 Providers will be reimbursed up to \$30 per application.

 Prior approval is NOT required under Medicaid feefor-service.
- Medicaid managed care:
 Reimbursement will be in accordance with provider agreements. Contact the Provider Relations office of your participating plan(s) for information.
- CPT code 99188 should be used by medical providers. The ICD-10 code is Z29.3.

For questions about billing, contact the NYS Department of Health Division of Provider Relations and Utilization Management, Dental Bureau, at **800-342-3005**, **option 2**.

For questions about Medicaid managed care, contact the NYS Department of Health Managed Care help line at **800-505-5678**.

Ordering Fluoride Varnish

Fluoride varnish is available both in tubes for multiple applications (individual disposable applicator brushes must be purchased separately) and in prepackaged single-unit doses that include a disposable applicator brush.

Many companies supply fluoride varnish,* including:

- Cavity Shield, in single-dose units with built-in applicators (3M at 800-634-2249)
- Duraphat (Colgate Oral Pharmaceuticals at 800-225-3756, 800-226-5428 or 800-2-COLGATE)
- Enamelast (Ultradent at 888-230-1420 or ultradent.com)

Additional lists of fluoride varnish products and dental supply companies can be found on the AAP website: Visit aap.org and search for fluoride varnish manufacturers.

Resources

Fluoride Varnish Information:

- American Dental Association Evidence-Based Dentistry: Visit ebd.ada.org and search for clinical practice quidelines.
- NYS Department of Health, Oral Health: Visit health.
 ny.gov and search for oral health.

Training in Oral Health Assessment:

- Integration of Preventive Dental Services in School Health Programs: Visit phtc-online.org/ learning/?courseId=65& status=all&sort=group.
- Smiles for Life: A National Oral Health Curriculum: Visit smilesforlifeoralhealth. org.
- AAP Oral Health Practice Tools: Visit aap.org and search for oral health practice tools.

^{*} Use of product names is for informational purposes only and does not imply endorsement by the NYC Health Department.

- Other AAP oral health initiative trainings and videos (free or low cost): Visit aap.org and search for oral health education.
- Bright Futures in Practice: Oral Health Pocket Guide: Visit mchoralhealth.org and search for oral health pocket guide.

General:

- AAP Oral Health: Visit aap.org.
- Quinonez RB, Kranz AM, Lewis CW, et al. Oral health opinions and practices of pediatricians: Updated results from a National Survey. Acad Pediatr. 2014;14(6):616-623. https:// www.ncbi.nlm.nih.gov/pmc/ articles/PMC4254652/.

For more information, email NYCDOHMHDental@health.nyc.gov.

Acknowledgments

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How to Order Early Childhood Oral Health Materials

Call 311 to order the following printed patient materials:

- Tips for Preventing Early Childhood Tooth Decay
 - Available in English,
 Traditional Chinese and Spanish.

- Fluoride Varnish: Frequently Asked Ouestions
 - Available in English, Traditional Chinese and Spanish.

- Keep Your Child's Teeth Healthyl: Help Prevent Tooth Decay With Dental Sealants
 - Available in English, Traditional Chinese and Spanish.







To view, download or print additional materials, visit **nyc.gov/health/teeth**. Materials may vary due to availability and version updates.

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