



City Health Information

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PROMOTING ORAL HEALTH

- Caries and periodontal disease can largely be prevented by limiting sugar intake, brushing teeth twice daily, and flossing daily.
- Examine the mouth for signs of oral disease and assess oral health risks, such as poor oral hygiene and alcohol or tobacco use.
- Educate patients about good oral hygiene and regular dental visits and make referrals as appropriate.

Oral health is an important part of overall health.¹ Despite the advances made over the past half-century in oral health in the United States (US), oral diseases are still a public health problem, with a higher burden among low-income, minority, and older populations.¹ The most common threats are periodontal disease (gingivitis and periodontitis) and caries (tooth decay).¹

Nearly 60% of adult New Yorkers are at increased risk for oral health problems due to behavioral or medical risk factors (**Box 1**), and 40% of these adults had not visited a dentist in the past year, according to a 2007 survey.² Among all New Yorkers, 1 in 4 children aged 2 through 12 years (2009 data) and 1 in 3 adults aged 18 years and older (2007 data) did not have a preventive dental visit in the past year.^{2,3} People with lower incomes are less likely to visit a dentist.⁴ In New York City (NYC), 52% of adults in the lowest-income households (<100% federal poverty level) had a dental visit in the past year, compared with 77% in the highest-income households (>600% federal poverty level).²

Primary care providers can improve their patients' oral health by encouraging good oral hygiene and regular preventive dental visits.

Ask patients about their most recent routine dental visit and refer all patients to a dentist if they do not already have one. Explain the importance of brushing with fluoridated toothpaste, flossing, visiting a dentist regularly, and eating a diet high in fiber-rich fruits and vegetables while limiting sugary and starchy snacks.^{4,5} Examine the mouth for signs of early oral cancers; early detection can improve cancer prognosis (see page 3).⁶

Dental care is particularly important for children, who should be referred to a dentist by age 1.⁷⁻⁹ In the US, only 2% of infants and 1-year-olds have annual dental visits, while 87% have annual office-based physician visits.¹⁰

BOX 1. ORAL DISEASE RISK FACTORS

| RISK FACTOR | POTENTIAL OUTCOMES |
|--------------------|----------------------------------|
| Diet high in sugar | Caries |
| Smoking | Oral cancer, periodontal disease |
| Heavy alcohol use | Oral cancer |
| Poor oral hygiene | Periodontal disease, caries |
| Diabetes | Periodontal disease |
| Pregnancy | Gingivitis |

Pediatricians should educate parents about preventive care for their children (**Box 2**), assess the child's risk for caries, and apply fluoride varnish (reimbursable by Medicaid for children aged 7 and younger). See *Guideline on Caries-risk Assessment and Management for Infants, Children, and Adolescents* and *Early Childhood Oral Health* for information on assessing caries risk for different age groups and applying fluoride varnish.

BOX 2. ORAL HEALTH GUIDANCE FOR PARENTS

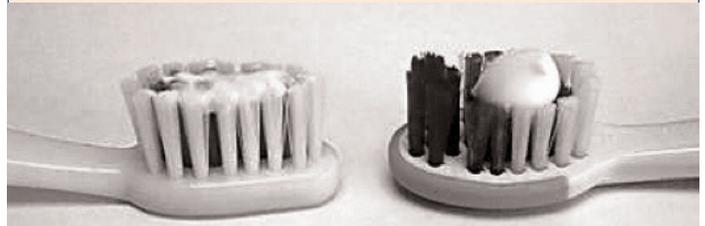
For babies and young children

- Wipe the baby's gums and teeth with a damp cloth after each feeding, especially before bedtime and naps and after any nighttime feedings.⁸
- Start brushing your baby's teeth when the first tooth erupts. Brush twice a day with a soft, child-sized toothbrush and water. Use a smear of fluoridated toothpaste if your child is younger than 2 years old, particularly if your child is put to bed with a bottle containing natural or added sugar or already has cavities or fillings.⁹
- Don't put your infant to bed with a bottle of milk, formula, or juice. If your child needs a bottle to help him sleep, give only water.⁸
- Don't pass a spoon, a piece of food, a pacifier, or other objects from your mouth to your child's mouth, because cavity-causing bacteria can be passed through saliva.⁷
- Take your child to a dentist by age 1.^{7,9}

For all children

- Brush your child's teeth twice a day. Use fluoridated toothpaste for children aged 2 years and older; use a pea-sized amount for children aged 2 to 5 years (**Figure**).⁹ Assist and supervise children until they can brush well on their own.^{7,9}
- Promote healthy eating behaviors. Limit sugary foods and drinks, including fruit drinks, soda, and sports drinks, especially between meals. If drinking juice, children should drink at most 4 to 6 oz of 100% fruit juice per day.^{7,9}
- Have your child drink tap water to increase fluoride intake,^{7,9} since NYC water is fluoridated.
- Be sure your child visits the dentist every 6 months.^{7,9}
- Ask the dentist or pediatrician about fluoride varnish, a protective coating painted onto the teeth, recommended for children up to age 7 (**Resources—Early Childhood Oral Health brochure**).
- Ask the dentist about sealant for teeth that are at risk for cavities in children aged 6 years and older. A sealant is a thin plastic coating that blocks cavity-causing bacteria and food particles.^{11,12}
- Have your child wear a mouth guard when playing contact sports to prevent mouth injuries.^{13,14}

FIGURE. FLUORIDATED TOOTHPASTE AMOUNTS FOR YOUNG CHILDREN



Left: Smear, for children younger than 2 years at risk for caries. Right: Pea-sized, for all children aged 2 to 5 years.

Source: www.aapd.org/media/Policies_Guidelines/P_ECCClassifications.pdf.

PERIODONTAL DISEASE AND CARIES

The physical and psychological consequences of periodontal disease can have a significant impact on quality of life.¹⁵ Periodontitis, the more advanced form of periodontal disease, is the primary cause of tooth loss in adults. It may result in low birthweight and premature births.¹ In the US, 47% of adults suffer from periodontitis; the approximate prevalence of mild, moderate, and severe periodontitis is 9%, 30%, and 9%, respectively.¹⁶

In NYC, 53% of adults have had at least 1 tooth extracted, and 25% of adults aged 65 years and older have had all of their teeth extracted because of periodontal disease or tooth decay.¹⁷ Periodontal disease can be divided into 2 stages: gingivitis, in which the gums become swollen, and periodontitis, which occurs when infection spreads to the bone and tissue that support the teeth, causing gingival recession.¹⁸ Periodontitis is generally preceded by gingivitis, but gingivitis does not always progress to periodontitis.¹⁹

Smoking increases the risk of gingival attachment loss²⁰ and oral bone loss,²¹ and may account for more than half of periodontal cases in US adults.²² Current smokers are 2 times as likely as former smokers and 4 times as likely as those who never smoked to have poor oral health status.²³ Only 57% of current smokers visited a dentist in the past year, in contrast to 64% of former smokers and those who never smoked (2007 data).²

Diabetes is a risk factor for gingivitis and periodontitis.²⁴ Poor glycemic control may affect risk for periodontal disease, and periodontitis may increase the risk of developing poor glycemic control. Autoimmune diseases, HIV, cancer therapy, certain medications, and age can also increase susceptibility to periodontal disease.²⁵

BOX 3. PROMOTING ORAL HEALTH IN ADULTS

- Look in the mouth for evidence of poor health, including decay and lesions.²⁶
 - Refer patients with white or red lesions that persist for longer than 2 weeks to an appropriate specialist such as an otolaryngologist for evaluation.²⁶⁻²⁸
 - Refer patients with evidence of tooth decay or periodontal disease to a dentist.
- Counsel patients to
 - Brush thoroughly twice a day with a fluoride-containing toothpaste and to floss daily.⁴
 - Avoid sugary snacks and drinks, including soda, sports drinks, and energy drinks.⁴
 - Quit smoking (**Resources—City Health Information: Tobacco**).
 - Limit alcohol use (**Resources—City Health Information: Alcohol**).
- Encourage patients to visit a dentist regularly, especially pregnant women, adults ≥65 years old, smokers, and those with diabetes.^{3,4}

Caries is the most prevalent chronic disease in both children and adults.²⁹ Ninety-two percent of adults aged 20 to 64 years have had dental caries in their permanent teeth, and 23% of adults aged 20 to 64 years have untreated decay.²⁹ Counsel patients on avoiding smoking and sugary snacks, and on other measures they should take to prevent oral health problems^{30,31} (**Box 3**).

ORAL AND THROAT CANCER

About 800 New Yorkers are diagnosed with oral or throat cancer each year, and about 190 die from these conditions. Seventy percent of oral and throat cancers in NYC with a known stage were diagnosed late, after the cancer had spread.³ In NYC between 2004 and 2008, men had more than twice the rate of new oral and throat cancers as women (14 vs 6 cases per 100,000 people).⁶ Tobacco and heavy alcohol use (more than 4 alcoholic drinks per day) are risk factors for oral cancer and may cause up to 75% of oral cancers.^{1,32-34} Oral cancer has a long latency period,¹ suggesting a need to assess current and former smokers and heavy alcohol users.^{34,35}

Oral cancer treatment is most effective when tumors are detected early. Look in the mouth for lesions and refer patients with persistent white or red lesions (**Box 3**).

PREGNANCY AND MATERNAL ORAL HEALTH

Maternal oral health may impact birth outcomes as well as infant oral health. Periodontitis in pregnancy is associated with preterm birth and low birthweight.¹ Caries-causing bacteria can be transmitted from mother to newborn through saliva; mothers with high levels of cariogenic bacteria are at increased risk for passing bacteria to their children and predisposing them to childhood caries.³⁶ Dental care during pregnancy may decrease caries transmission.^{36,37} Encourage pregnant women to schedule a dental visit. Medicaid covers preventive dental treatments (**Box 4**).

Necessary dental procedures such as diagnostic radiography, periodontal treatment, restorations, and extractions are safe and best performed during the second trimester (**Resources—NYS Department of Health**). Elective procedures should be delayed until after pregnancy.^{36,37} Stress the importance of thorough brushing and flossing. Gingivitis is present in 30% of pregnant women and pregnancy oral tumors are present in up to 5% of women.³⁶ These lesions normally recede after delivery; patients should be monitored and educated. If the lesions bleed or interfere with chewing, refer patient to a dentist.³⁶

BOX 4. PUBLIC DENTAL INSURANCE

Medicaid and Child Health Plus:

- Cover a range of diagnostic, preventive, and restorative treatments.
- Fluoride varnish application by health care providers can be reimbursed up to 4 times a year for children aged 7 and younger.
- Contact the patient's health plan for specific coverage details.

Medicare:

- Does not cover routine dental care but may cover certain emergency or complicated dental procedures in a hospital setting.

For additional eligibility information or to locate a community dental clinic or provider:

- Call 311 or visit www.nyc.gov/html/doh/html/living/oral-health.shtml.

OLDER POPULATIONS

People aged 65 years and older are at higher risk of chronic diseases of the mouth, including dental infections (eg, caries, periodontitis), tooth loss, benign mucosal lesions, and oral cancer, as well as xerostomia and candidiasis.^{28,38} The incidence of root caries in patients older than 60 years is twice that of 30-year-olds³⁹; 64% of people older than 80 years have root caries, and up to 96% have coronal caries (above the gum).⁴⁰ The increase in the prevalence of periodontitis among older adults is most likely caused by the progression from mild to moderate periodontitis with increasing age,¹⁶ reflecting lifetime disease accumulation.¹⁹

An increasing number of adults aged 65 years and older have some or all of their teeth intact because of improvements in oral health care such as community water fluoridation, advanced dental technology, and better oral hygiene.⁴¹ As

a result, do not assume that tooth loss is an inevitable part of aging; encourage older patients to follow the same oral hygiene practices as younger patients.

SUMMARY

Periodontal disease and tooth decay are the most common threats to oral health. Behaviors such as smoking and heavy alcohol use put people at increased risk for oral and throat cancers, and conditions such as diabetes put people at higher risk for periodontitis. Maternal oral health may impact birth outcomes as well as infant oral health; dental care and prevention during pregnancy may decrease transmission of caries-causing bacteria to the newborn and reduce risk of early childhood caries in the infant. Primary care providers can improve patients' oral health by assessing their risks, educating them about preventive oral health care, and referring them to dentists as appropriate. ♦

RESOURCES

- New York City Department of Health and Mental Hygiene:
 - Fluoride Varnish and Medicaid Reimbursement:
 - Parent FAQs for fluoride varnish: www.nyc.gov/html/doh/downloads/pdf/hca/hca-ask-fluoride-varnish.pdf
 - Early Childhood Oral Health brochure and Medicaid reimbursement information for primary care providers: www.nyc.gov/html/doh/downloads/pdf/hca/hca-fluoride-varnish.pdf
 - *City Health Information*:
 - Treating tobacco addiction: www.nyc.gov/html/doh/downloads/pdf/chi/chi29-suppl3.pdf
 - Brief intervention for excessive drinking: www.nyc.gov/html/doh/downloads/pdf/chi/chi30-1.pdf
 - Tobacco control: information for clinicians, including links to other resources: www.nyc.gov/html/doh/html/living/smoke-providers.shtml
- American Dental Association Center for Evidence-Based Dentistry: <http://ebd.ada.org/ClinicalRecommendations.aspx>
- Centers for Disease Control and Prevention. Oral Health. Preventing Cavities, Gum Disease, Tooth Loss, and Oral Cancers at a Glance—2011: www.cdc.gov/chronicdisease/resources/publications/AAG/doh.htm
- New York State Department of Health. Oral Health Care During Pregnancy and Early Childhood: www.health.state.ny.us/publications/0824.pdf
- New York State Department of Health. Improving the Oral Health of Young Children: www.nyhealth.gov/prevention/dental/child_oral_health_fluoride_varnish_for_hcp.htm
- New York State Oral Health Coalition: <http://nysohc.org/Default.aspx?pagelid=1116404>
- National Maternal and Child Oral Health Resource Center, Georgetown University. A Health Professional's Guide to Pediatric Oral Health Management: www.mchoralhealth.org/PediatricOH/index.htm
- American Academy of Pediatric Dentistry. Guideline on Caries-risk Assessment and Management for Infants, Children, and Adolescents: http://www.aapd.org/media/Policies_Guidelines/G_CariesRiskAssessment.pdf
- American Academy of Pediatrics. Children's Oral Health: <http://www2.aap.org/oralhealth/>
- American Academy of Pediatrics Oral Health Initiative. Oral Health Risk Assessment Training for Pediatricians and Other Child Health Professionals: <http://www2.aap.org/ORALHEALTH/pact/pact-home.cfm>
- Bright Futures in Practice. Oral Health Pocket Guide: www.mchoralhealth.org/pocket.html
- Society of Teachers of Family Medicine. Smiles for Life. A National Oral Health Curriculum: www.smilesforlifeoralhealth.org
- US Department of Health and Human Services. Periodontal (Gum) Disease. Causes, Symptoms, and Treatments: www.nidcr.nih.gov/NR/rdonlyres/7B7D24C2-02E5-47C8-B076-27CB580FAF82/0/PeriodontalGum_Eng.pdf

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