

City Health Information

Volume 41 (2022) | No 1; 1-8

New York City Department of Health and Mental Hygiene

PROMOTING ORAL HEALTH

- Caries and periodontal disease can 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, oral diseases are still a public health problem, with an inequitable burden found among low-income communities, people of color, and older populations.¹ Barriers to equitable oral health care include lack of access (eg, due to limited income or insurance), transportation, or flexibility to take time off from work.¹

The most common threats to oral health 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 factors such as diabetes, tobacco use, or consumption of sugary drinks or alcohol.^{1,2} Among all New Yorkers, 14% of children aged 2 through 13 years and 39% of adults aged

18 years and older did not have a preventive dental visit in the past year (unpublished data, 2019 New York City [NYC] Kids Survey and Community Health Survey). People who cannot afford dental care, either out-of-pocket or through private or public dental insurance, are less likely to visit a dentist.¹ In NYC, 53.9% of adults in the lowest-income households (<200% federal poverty level) had a dental visit in the past year compared with 70.4% in the highest-income households (>400% federal poverty level) (unpublished data, 2019 Community Health Survey).

Primary care providers can improve their patients' oral health by encouraging good oral hygiene, including brushing and flossing, 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 (see **Resources for Patients** for low-cost dental care). Explain the importance of brushing with fluoridated toothpaste, flossing, visiting a

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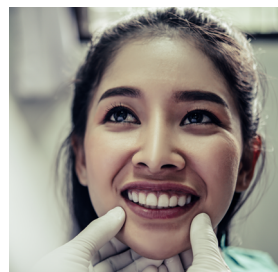
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CONTINUING MEDICAL EDUCATION ACTIVITY (1 CREDIT)



dentist regularly, avoiding tobacco and e-cigarette use, limiting added sugars and alcohol, and managing diabetes (**Resources**).³⁻⁵ Examine the mouth for signs of early oral cancers; early detection can improve cancer prognosis (see section on Oral and Throat Cancer).⁶

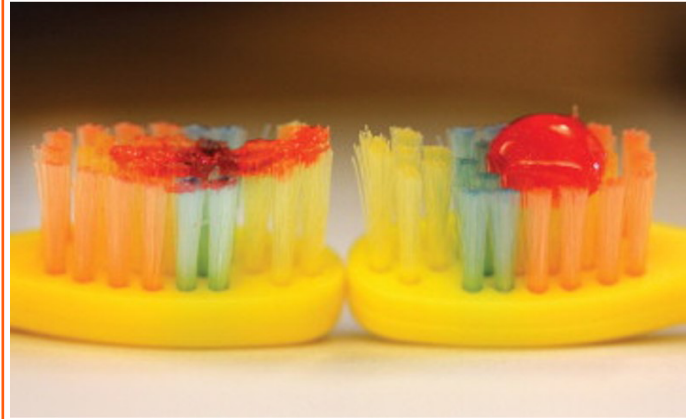
Dental care is particularly important for children, who should be referred to a dentist after the first tooth appears and no later than age 1 year.⁷⁻⁹ A child whose first dental visit is at age 5 years has nearly 20 times the odds of having caries at their first dental visit, compared with a child whose first dental visit is at age 1 year.¹⁰ Educate parents about preventive dental care for their children (**Box 1**^{7-9,11-17}), assess the child's risk for caries, and apply fluoride varnish (reimbursable by Medicaid until age 7 years). See [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.

The COVID-19 pandemic has resulted in unprecedented disruptions in oral health care. See [Oral Health and Managing Healthcare Operations During COVID-19](#) for the latest guidance on providing oral health care during the pandemic.

PERIODONTAL DISEASE AND CARIES

The physical and psychological consequences of periodontal disease can have a significant impact on quality of life.¹⁸ Periodontitis, the more advanced form of periodontal disease, is the primary cause of tooth loss in adults.¹ In the United States, 47% of adults suffer from periodontitis; the approximate prevalence of mild, moderate,

FIGURE. FLUORIDATED TOOTHPASTE AMOUNTS FOR YOUNG CHILDREN



Left: smear, for children aged younger than 3 years; right: pea-sized, for children aged 3 to 6 years

Image from American Dental Association Council on Scientific Affairs. *J Am Dent Assoc.* 2014;145(2):190-191, used with permission from Elsevier

BOX 1. WHAT TO TELL PARENTS ABOUT ORAL HEALTH^{7-9,11-17}

For infants and young children

- Wipe your baby's gums and teeth with a damp cloth after feedings
- Start brushing your baby's teeth when the first tooth erupts. Brush twice daily with a soft, child-sized toothbrush. Use a smear of fluoridated toothpaste before age 3 years (**Figure**)
- Don't put your child in bed with a bottle of milk, formula, or juice of any kind. If your child needs a bottle to help them sleep, give only water
- 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
- Take your child to a dentist by age 1 year

For all children

- Brush your child's teeth twice daily with fluoride toothpaste. For children aged younger than 3 years, use a smear the size of a grain of rice. For children aged 3 to 6 years, use no more than a pea-sized amount (**Figure**). Assist and supervise children until they can brush well on their own
- Promote healthy eating behaviors. Limit added sugars in foods and drinks, including sugary drinks such as sodas, sweetened teas, and sports, energy, and juice drinks, especially between meals. If drinking juice, children should drink at most 4 to 6 oz of 100% fruit juice per day
- Have your child drink tap water to increase fluoride intake, since New York City water is fluoridated; standard home water filters do not remove the fluoride (**Resources for Patients**)
- Be sure your child visits the dentist every 6 months
- Ask the dentist or pediatrician about [fluoride varnish](#), a protective coating painted onto the teeth (**Resources**)
- Ask the dentist about [dental sealants](#) for teeth that are at risk for cavities in children aged 5 years and older. A sealant is a thin coating that blocks cavity-causing bacteria and food particles (**Resources for Patients**)
- To prevent mouth injuries, have your child wear a mouth guard when playing contact sports
- Talk to your children about [avoiding tobacco and e-cigarette use](#)

and severe periodontitis is 9%, 30%, and 9%, respectively.¹⁹ In NYC, 53% of adults have had at least 1 tooth extracted,²⁰ and 42% of adults aged 65 years and older have lost 6 or more teeth because of periodontal disease or tooth decay.²¹

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.²² Periodontitis is generally preceded by gingivitis, but gingivitis does not always progress to periodontitis.²³

Tobacco use increases the risk of gingival attachment loss²⁴ and oral bone loss,²⁵ and may account for more than half of periodontal cases in US adults.²⁶ Adults who currently smoke are 2 times as likely as those who previously smoked and 4 times as likely as those who never smoked to have poor oral health status.²⁷ Only 48.6% of those who currently smoke visited a dentist in the past year, in contrast to 61.7% of those who previously smoked and 63.6% of those who never smoked (unpublished data, 2019 Community Health Survey).

Diabetes is a risk factor for gingivitis and periodontitis.²⁸ Poor glycemic control may affect risk for periodontal disease, and periodontitis may increase the risk of developing poor glycemic control.²⁸ Autoimmune diseases, HIV, cancer therapy, certain medications, and age can also increase susceptibility to periodontal disease.^{29,30}

Caries is the most prevalent chronic disease in both children and adults.³¹ Among adults aged 20 to 64 years, 92% have had dental caries in their permanent teeth and 26% have untreated decay.³¹ Counsel patients on avoiding tobacco and e-cigarette use and sugary snacks, and on other measures to prevent oral health problems (**Box 2**^{1,4,27,32-34}).

ORAL AND THROAT CANCER

Approximately 800 New Yorkers are diagnosed with oral or throat cancer each year, and about 190 die from these conditions.² Of oral and throat cancers in NYC with a known stage, 70% were diagnosed late, after the cancer had spread.² In NYC, between 2014 and 2018, men had more than twice the rate of new oral and throat cancers than women did (14.6 vs 6.2 cases per 100,000 people).³⁵ 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.^{1,36} Among oropharyngeal cancers, 70%

are caused by persistent HPV infection and the number of new cases is increasing each year.^{37,38} The HPV vaccine is recommended for all children beginning between ages 9 and 12 years, and prevents infection by the types of HPV that can cause oropharyngeal cancers.³⁹ Oral cancer has a long latency period,¹ suggesting a need to assess both those who currently and previously used tobacco or heavily used alcohol.³⁶ Further, unvaccinated adolescent and young adult patients should be vaccinated for HPV as soon as possible, for protection against HPV-related cancers.³⁹

Treatment for oral cancer is most effective with early detection. Look in the mouth for lesions and refer patients with persistent white or red lesions to a specialist (**Box 2**^{1,4,27,32-34}).

PREGNANCY AND MATERNAL ORAL HEALTH

Oral health is an important part of prenatal care, as pregnancy can increase risk for oral health problems.⁴⁰ Periodontitis is present in 30% of pregnant people and is associated with preterm birth and low birthweight.^{1,41,42} In NYC, approximately 1 in 5 women report a problem with gums during pregnancy (unpublished data, 2018 birth certificates, NYC Department of Health and Mental Hygiene [DOHMH]).

After pregnancy, high levels of untreated caries among mothers are a strong indicator of dental caries in their children.⁴³ Caries-causing bacte-

BOX 2. PROMOTING ORAL HEALTH IN ADULTS^{1,4,27,32-34}

- Look in the mouth for evidence of poor health, including decay and lesions
 - Refer patients with white or red lesions that persist for longer than 2 weeks to an appropriate specialist such as an oral and maxillofacial surgeon or an otolaryngologist for evaluation (see [Detecting oral cancer: a guide for healthcare professionals](#))
 - Refer patients with evidence of tooth decay or periodontal disease to a dentist
- Counsel patients to
 - Brush thoroughly twice a day with toothpaste containing fluoride
 - Floss daily
 - Limit consumption of added sugars, such as those in sugary drinks and candies (**Resources**)
 - Avoid tobacco and e-cigarette use (**Resources**)
 - Limit alcohol use (**Resources**)
- Encourage patients to visit a dentist regularly, especially pregnant people, adults aged 65 years and older, people who use tobacco, and people with diabetes (**Resources**)

ria can be transmitted from mother to newborn through saliva, predisposing children to caries.⁴⁴ Dental care during pregnancy may decrease caries transmission (**Resources**).^{41,45}

Stress the importance of brushing, flossing, and professional dental care. In addition to preventive dental treatments, necessary dental procedures such as diagnostic radiography, periodontal treatment, restorations, and extractions are safe during pregnancy (**Resources**). The best time for elective dental treatment is during the second trimester.^{41,45} See [Oral Health Care During Pregnancy and Early Childhood](#) and [Improving the Oral Health of Young Children](#).

OLDER ADULTS

People aged 65 years and older are at higher risk of chronic diseases of the mouth, including xerostomia, dental infections such as caries, periodontitis, and candidiasis, tooth loss, benign mucosal lesions, and oral cancer.^{33,46} Among people aged 79 years and older, 64% have root caries, and up to 96% have coronal caries.⁴⁷ 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,¹⁹ reflecting lifetime disease accumulation.²³

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.⁴⁸ 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.

LOW-COST DENTAL CARE

The expense of dental care may be a barrier for some patients. Refer patients to [dental clinics](#) that provide low-cost services (**Resources for Patients**). Medicaid covers comprehensive dental treatments (**Box 3**^{49,50}). The NYC DOHMH offers a counseling service to assist people with finding and enrolling in health and dental insurance.

See [Health Insurance: Enrollment Counselors](#) for more information.

SUMMARY

Periodontal disease and tooth decay are the most common threats to oral health. Discuss the importance of brushing with fluoridated toothpaste, flossing, visiting a dentist regularly, avoiding tobacco and e-cigarette use, limiting added sugars and alcohol, and managing diabetes. Examine the mouth for caries, gum disease, and signs of early oral cancers. Refer all patients, including children after the first tooth appears and no later than age 1 year, to a dentist. Provide support to promote and overcome barriers to regular preventive oral health care (**Resources**). Encourage dental care during pregnancy to reduce risk of early childhood caries. Recommend older patients follow the same oral hygiene practices as younger patients.

BOX 3. PUBLIC DENTAL INSURANCE^{49,50}

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 each year for children from birth until age 7 years
- 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 low-cost community dental clinic or provider, call 311 or visit [Oral Health](#)

RESOURCES FOR PROVIDERS

General information

- American Dental Association (ADA). Clinical practice guidelines and dental evidence: <http://ebd.ada.org/ClinicalRecommendations.aspx>
- New York City (NYC) Department of Health and Mental Hygiene (DOHMH). Oral health information for providers: <https://www1.nyc.gov/site/doh/providers/health-topics/oral-health-information-for-providers.page>
- Centers for Disease Control and Prevention (CDC). Oral health: <https://www.cdc.gov/oralhealth/index.html>
- CDC. Oral health infographics: <https://www.cdc.gov/oralhealth/infographics/infographics-health-topics.html>
- Smiles for life: <https://www.smilesforlifeoralhealth.org>
Educational resources to integrate oral health and primary care

COVID-19

- CDC. Managing healthcare operations during COVID-19: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/facility-planning-operations.html>

Pregnant people and children

- NYC DOHMH. Early Childhood Oral Health brochure: <https://www1.nyc.gov/assets/doh/downloads/pdf/hca/hca-fluoride-varnish.pdf>
Includes information on fluoride varnish and Medicaid reimbursement; call 311 to order free copies
- NYC DOHMH. Fluoride Varnish: Frequently Asked Questions: <https://www1.nyc.gov/assets/doh/downloads/pdf/hca/hca-ask-fluoride-varnish.pdf>
Answers to questions from parents
- NYC DOHMH. Integration of preventive dental services in school health programs: <https://phtc-online.org/learning/?courseId=65&status=all&sort=group>
Online oral health training on identifying oral health problems, making a dental referral, and applying fluoride varnish
- New York State Department of Health (NYS DOH). Oral Health Care During Pregnancy and Early Childhood: www.health.state.ny.us/publications/0824.pdf
- NYS DOH. Improving the Oral Health of Young Children: https://www.health.ny.gov/prevention/dental/docs/child_oral_health_fluoride_varnish_for_hcp.pdf
- American Academy of Pediatric Dentistry. Caries-risk Assessment and Management for Infants, Children, and Adolescents: https://www.aapd.org/globalassets/media/policies_guidelines/bp_cariesriskassessment.pdf
- American Academy of Pediatrics (AAP). Oral health campaign toolkit: helping you help moms: <https://services.aap.org/en/news-room/campaigns-and-toolkits/oral-health>

- AAP. The AAP parenting website: <https://healthychildren.org>
- AAP. Oral health prevention primer: <https://ilikemyteeth.org/ohpp>
- Georgetown University National Maternal and Child Oral Health Resource Center. Bright futures: oral health pocket guide: www.mchoralhealth.org/pocket.html

Nutrition

- NYC DOHMH. NYC Vital Signs: Sugary drink consumption among New York City adults, youth, and children: <https://www1.nyc.gov/assets/doh/downloads/pdf/survey/sugary-drink.pdf>
- ADA. Nutrition and oral health: <https://www.ada.org/resources/research/science-and-research-institute/oral-health-topics/nutrition-and-oral-health>
- Robert Wood Johnson Foundation. Healthy drinks, healthy kids: <http://healthydrinkshealthykids.org/professionals>

Fluoride

- ADA. Fluoride: Topical and systemic supplements: <https://www.ada.org/en/member-center/oral-health-topics/fluoride-topical-and-systemic-supplements>
- AAP. Campaign for dental health: why mention water fluoridation?: <https://ilikemyteeth.org/health-professionals>
- NYC Department of Environmental Protection. Drinking water: <https://www1.nyc.gov/site/dep/water/drinking-water.page>

Periodontal disease

- National Institute of Dental and Craniofacial Research. Periodontal (Gum) Disease: https://www.nidcr.nih.gov/sites/default/files/2017-09/periodontal-disease_0.pdf

Substance use

- NYC DOHMH. Information on smoking, tobacco, and e-cigarette use for clinicians: <https://www1.nyc.gov/site/doh/providers/health-topics/smoking-and-tobacco-use.page>
- NYC DOHMH. Alcohol and drug use: <https://www1.nyc.gov/site/doh/providers/health-topics/alcohol-and-drugs.page>

City Health Information archives

- <https://www1.nyc.gov/site/doh/providers/resources/city-health-information-chi.page>
- Addressing Alcohol and Drug Use—An Integral Part of Primary Care: <https://www1.nyc.gov/assets/doh/downloads/pdf/chi/chi-35-3.pdf>

RESOURCES FOR PATIENTS

General information

- New York City (NYC) Department of Health and Mental Hygiene (DOHMH). Oral health: main page: <https://www1.nyc.gov/site/doh/health/health-topics/oral-health.page>
Tips for good oral health, low-cost dental treatment, and other resources

- NYC DOHMH. Oral health: children: <https://www1.nyc.gov/site/doh/health/health-topics/oral-health-childrens-oral-health.page>
- NYC DOHMH. Oral health: adults: <https://www1.nyc.gov/site/doh/health/health-topics/oral-health-adult-oral-health.page>

RESOURCES FOR PATIENTS *(continued)*

- New York State Department of Health (NYS DOH). Oral health: <https://health.ny.gov/prevention/dental>
- Centers for Disease Control and Prevention (CDC). Basics of oral health: <https://www.cdc.gov/oralhealth/basics/index.html>
- CDC. Dental sealant FAQs: https://www.cdc.gov/oralhealth/dental_sealant_program/sealants-FAQ.htm
- American Dental Association (ADA). Healthy mouth, healthy body: https://www.ada.org/~media/ADA/Publications/Files/patient_61.ashx
- ADA. Mouth healthy: <https://www.mouthhealthy.org/en>
- Mayo Clinic. Oral health: A window to your overall health: <https://www.mayoclinic.org/healthy-lifestyle/adult-health/in-depth/dental/art-20047475>
- National Cancer Institute. Oral cavity and nasopharyngeal cancers screening: <https://www.cancer.gov/types/head-and-neck/patient/oral-screening-pdq>

Older adults

- NYC DOHMH. Tooth Care and Cavities: <https://www1.nyc.gov/assets/doh/downloads/pdf/hca/sdc-tooth-care.pdf>
- NYC DOHMH. Denture Care: <https://www1.nyc.gov/assets/doh/downloads/pdf/hca/sdc-denture-care.pdf>

Nutrition

- NYC DOHMH. Nutrition services: <https://www1.nyc.gov/site/doh/health/health-topics/nutrition-services.page>
- NYC DOHMH. Nutrition: Sugary drinks: <https://www1.nyc.gov/site/doh/health/health-topics/sugary-drinks.page>
- NYC DOHMH. Health Bulletin #115: Sugary Drinks: <https://www1.nyc.gov/site/doh/health/publications/health-bulletin/health-bulletin-18-06.page>

Call 311 to order free copies

- ADA. Mouth healthy: Nutrition: <https://www.mouthhealthy.org/en/nutrition>
- Association of State and Territorial Dental Directors. Oral health and nutrition: <https://www.astdd.org/oral-health-and-nutrition>

Fluoride

- NYC Department of Environmental Protection. Drinking water: <https://www1.nyc.gov/site/dep/water/drinking-water.page>
- ADA. 2021 fluoridation facts: <https://www.ada.org/resources/community-initiatives/fluoride-in-water/fluoridation-facts>

Low-cost dental care

- NYC DOHMH. Dental clinics:
 - Bronx: <https://www1.nyc.gov/assets/doh/downloads/pdf/oralhealth/dental-bx.pdf>
 - Brooklyn: <https://www1.nyc.gov/assets/doh/downloads/pdf/oralhealth/dental-bk.pdf>
 - Manhattan: <https://www1.nyc.gov/assets/doh/downloads/pdf/oralhealth/dental-ma.pdf>
 - Queens: <https://www1.nyc.gov/assets/doh/downloads/pdf/oralhealth/dental-qu.pdf>
 - Staten Island: <https://www1.nyc.gov/assets/doh/downloads/pdf/oralhealth/dental-si.pdf>

- NYC DOHMH. Dental providers that accept Medicaid: https://www.health.ny.gov/diseases/aids/general/resources/dental_resource_directory/medicaid_medicare.htm#nyc
- New York State of Health. Dental coverage fact sheets: <https://info.nystateofhealth.ny.gov/resource/dental-coverage-fact-sheets>

Educational materials

- NYC DOHMH. Keep Your Child's Teeth Healthy (With Sealants):
 - English: <https://www1.nyc.gov/assets/doh/downloads/pdf/oralhealth/healthy-teeth-brochure.pdf>
 - Spanish: <https://www1.nyc.gov/assets/doh/downloads/pdf/oralhealth/healthy-teeth-brochure-sp.pdf>
 - Chinese: <https://www1.nyc.gov/assets/doh/downloads/pdf/oralhealth/healthy-teeth-brochure-ch.pdf>

Call 311 to order free copies

- NYC DOHMH. Fluoride Varnish: Frequently Asked Questions:
 - English: <https://www1.nyc.gov/assets/doh/downloads/pdf/hca/hca-ask-fluoride-varnish.pdf>
 - Multiple translations: <https://www1.nyc.gov/site/doh/health/health-topics/oral-health.page> (under Additional Resources)

Call 311 to order free copies

- NYC DOHMH. Keep Your Mouth Healthy:
 - English: <https://www1.nyc.gov/assets/doh/downloads/pdf/oralhealth/keep-your-mouth-healthy.pdf>
 - Multiple translations: <https://www1.nyc.gov/site/doh/health/health-topics/oral-health-adult-oral-health.page> (under Additional Resources, Healthy Mouth brochure)

Call 311 to order free copies

- NYC DOHMH. Tips for Preventing Early Childhood Tooth Decay:
 - English: <https://www1.nyc.gov/assets/doh/downloads/pdf/oralhealth/child-fact-sheet.pdf>
 - Spanish: <https://www1.nyc.gov/assets/doh/downloads/pdf/oralhealth/child-fact-sheet-sp.pdf>
 - Chinese: <https://www1.nyc.gov/assets/doh/downloads/pdf/oralhealth/child-fact-sheet-ch.pdf>

Call 311 to order free copies

- NYC DOHMH. How to Talk With Your Children About Tobacco and E-Cigarettes:
 - English: <https://www1.nyc.gov/assets/doh/downloads/pdf/smoke/tobacco-ecig-action-kit-coaching-guide-children.pdf>
 - Multiple translations: <https://www1.nyc.gov/site/doh/providers/resources/public-health-action-kits-tobacco-ecig.page> (under Patient Education Materials)

Call 311 to order free copies

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- American Academy of Pediatric Dentistry (AAPD). *The Reference Manual of Pediatric Dentistry*. 2021;262-266. Accessed February 14, 2022. <https://www.aapd.org/research/oral-health-policies--recommendations/perinatal-and-infant-oral-health-care>
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