



Oral Health in Primary Care
Center for Rural Health
University of North Dakota



Oral Health for Primary Care Practices

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Housekeeping Items

- All attendees are muted and attendees cannot share video during this session.
- Remember to ask questions using the chat box.
- Slides and resources for today's session can be accessed on our [program website](#).
- Continuing education credits are available for today's session. To receive a certificate for continuing education, you must complete the evaluation.
- We have made every attempt to make today's presentation secure. If we need to end today's presentation unexpectedly we will follow-up with you using your registration information.

Land Acknowledgement Statement

[UND Land Acknowledgement Statement](#): Today, the University of North Dakota rests on the ancestral lands of the Pembina and Red Lake Bands of Ojibwe and the Dakota Oyate - presently existing as composite parts of the Red Lake, Turtle Mountain, White Earth Bands, and the Dakota Tribes of Minnesota and North Dakota. We acknowledge the people who resided here for generations and recognize that the spirit of the Ojibwe and Oyate people permeates this land. As a university community, we will continue to build upon our relations with the First Nations of the State of North Dakota - the Mandan, Hidatsa, and Arikara Nation, Sisseton-Wahpeton Oyate Nation, Spirit Lake Nation, Standing Rock Sioux Tribe, and Turtle Mountain Band of Chippewa Indians.

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Disclosure

Beverly Greenwald has no disclosures to report.



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Objectives for Today

Attendees will be able to identify specific behaviors and medications that have a direct effect on the health of the gums and teeth.

Attendees will gain the skills needed to have conversations with patients about good dental hygiene and specific considerations around nutrition and safe drinking water.

Attendees will be able to recognize high-risk behaviors that lead to, or cause, dental decay.



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HEENOT Campaign

Put the Oral into the Head to Toe Exam

There is a great connection between oral and systemic health.

We all need to add “oral” to our head-to-toe assessments.



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Medication effects on oral health

Dry Mouth = Xerostomia



Saliva serves multiple purposes:

- 1 Rinse the mouth and clean the teeth between meals
- 2 Neutralize acids produced by bacteria
- 3 Remineralize teeth

Dry mouth promotes cavities and periodontal disease.

Periodontal disease is a leading cause of tooth loss by destruction of the periodontal ligament, loss of supporting bone, tooth loosening, and then tooth loss. The bone loss can be halted, but not reversed.

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Common medications that cause dry mouth:

Steroids (e.g. prednisone)

Antihistamines (e.g. diphenhydramine)

Diuretics (e.g. furosemide)

Antihypertensives (e.g. beta-blockers)

Opioids (e.g. codeine)

Antidepressants (e.g. Selective Serotonin Reuptake Inhibitors and lithium)



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Classes of medications can have adverse oral effects:

Phenytoin and Calcium Channel Blockers => gingival hyperplasia

IV Bisphosphonates => osteonecrosis of the jaw

Chemotherapy and Radiation therapy => Stomatitis and mucositis

Steroids => thrush

Depo injections => bone loss, need extra calcium and vitamin D



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Investigation of dry mouth; questions to ask

Does your mouth feel dry?

Does your mouth feel dry when eating?

Do you have difficulty swallowing dry foods?

Do you sip liquids to aid swallowing?

Is the amount of saliva in your mouth too little most of the time?

See for yourself: the “bubble challenge.”



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Dry mouth solutions:

Change, reduce dose, or eliminate medications

Drink water; avoid alcohol and caffeinated or sugary drinks

Chew **sugarless** gum or suck **sugarless** lozenges

Saliva substitutes



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Prescribing and educational opportunities

When prescribing these medications, **educating** patients about these medications, or **evaluating the efficacy** of prescribed medications, the oral health effects and **what to do** are essential.



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Other oral health education opportunities

Other family practice education opportunities:

CPAP

oral splints

Braces

dentures and partials

chemotherapy or radiation



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Relationship between behaviors and oral health



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Tobacco (Smoking, chewing, vaping/e-cigarette)

oral cancer

periodontal disease (even among teenage smokers)

different normal flora affecting choice of antibiotics when needed

17% of North Dakotans use tobacco (ranking #31 in US)

53% of North Dakota's high school students reported using e-cigarette products at least once.

15% of middle-schoolers had used at least once

Nearly 30% of high schoolers and 10% of middle schoolers reported current use



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Alcohol Use

Oral cancer (synergistic with tobacco)

Poor hygiene can result in cavities or periodontal disease

Malnutrition, particularly the B Vitamins

Excessive alcohol use: 23.3% (ranking #2 in US)



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North Dakota has an alcohol problem

North Dakota has four counties on the Institute for Health Metrics and Evaluation's list for **10 highest binge-drinking counties** in the country: **Renville** (34.2%, 4th in the US), **Steele** (33.6%, 6th in the US), **Nelson** (33.5%, 5th in US), and **Burke** (33%, 10th in US).

For **heavy drinking**: **Sioux** (2nd highest in US), and **Rollette** (3rd in US).

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Top 10 alcohol consumption colleges in US (no order)

Fargo, North Dakota: home to North Dakota State University (NDSU)

Madison, Wisconsin: home to the University of Wisconsin-Madison

Morgantown, West Virginia: home to West Virginia University (WVU)

Austin, Texas: home to the University of Texas (UT)

Providence, Rhode Island: home to Providence College

Chico, California: home to California State University (CSU) Chico

Boulder, Colorado: home to the University of Colorado (CU)

Billings, Montana: home to Montana State University, Billings (MSUB)

New Orleans, Louisiana: home to Tulane University

Champaign and Urbana, Illinois: home to the University of Illinois at Urbana-Champaign



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Marijuana

- Leukoplakia- thickened, white patches on gums, the insides of cheeks, bottom of mouth, or tongue. These patches can't be scraped off. Most are benign but may lead to cancer so they need to be investigated
- Periodontitis- serious gum infection that damages the soft tissue and, without treatment, can destroy the bone that supports the teeth and may lead to tooth loss.



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Methamphetamines:

Bruxism- grind or clench teeth and erode the surfaces

Decreased saliva production

Poor hygiene

Rampant cavities (e.g., meth mouth)



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Cocaine:

Increased decayed and missing teeth



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Some medical conditions limit the ability to do self-care for teeth:

Parkinson's

Arthritis

Autism

Down Syndrome

Dementia

Stroke

General Debilitation: *Overwhelmed* with ADLs



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Recommendations for patients with self-care issues

More frequent cleanings by dental hygienists

Use assistive devices:

Plaquers or dental floss holders

Tongue scrapers

Electric toothbrushes

Sonic Brush Pro or similar: covers teeth 360° and brushes in 45 seconds

Tooth paste squeezers

Large handled tooth brushes or braces that fit onto the hand and hold the tooth brush

Refer to Occupational Therapy (or Physical Therapy)



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Mouthwashes

Cup with handles for mouth wash; more frequent use of protective mouth washes:

Anti-plaque/anti-gingivitis: This type of therapeutic rinse has been shown to control bacterial plaque and reduce and inhibit gingivitis. Many contain chlorhexidine gluconate available by prescription only. Short-term use of six months or less.

Anti-cavity: Fluoride, OTC and by prescription

Anti-tartar: Containing agents such as zinc citrate to reduce tartar buildup of tartar

Antibacterial/antimicrobial/antibiotic mouth rinses or chemotherapeutic mouthwashes: reduce bacterial count and inhibit the bacterial activity

Of course, **adequate hydration and rinse with water after eating.**

(Also chew sugar-free gum.)



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Medical conditions associated with periodontal disease:

Diabetes = strongly associated and it's difficult to control BG until the periodontal disease is controlled



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Conditions with evidence to support association with periodontal disease:

Obesity

Strokes

Coronary artery disease

Metabolic syndrome

Pregnancy

Preterm labor

Rheumatoid Arthritis

Menopause

GERD => dental erosion, especially if brushing after this acid exposure. Rinse with water or bicarbonate to reduce acid in mouth with GERD or immediately after vomiting.



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Menopause:

Periodontitis rates increase after menopause.

Hormone replacement therapy may be protective.

Maintain good oral hygiene.



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Periodontal disease treatment = co\$t effective

Reduces annual medical costs:

Diabetes \$2,840/year

Stroke \$5,681/year

Heart Disease \$1,090/year

Pregnancy \$2,433

Reduces hospital admissions:

Diabetes 39.4%

Stroke 21.2%

Heart Disease 28.6%



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HPV

Encourage the HPV vaccinations, now approved to age 45

76.9% of teens aged 13 – 17 years have had the vaccine (ranking #2 in US)

HPV is **on the rise**

HPV associated cancers are increasing

25% of oral cancers and 66% of oropharyngeal cancers are related to HPV 16

Screen patients for oral lesions and oral cancers annually



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Providers can have a huge effect on patient quality of life with better oral health management.



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Pain

Impaired chewing and nutrition

Infection

Increased caries in permanent dentition

School/work absences

Poorer school performance: Students with dental pain are 3x more likely to have a low grade point average

Difficulty sleeping

Poor self-esteem

Extensive and expensive dental work which often must be completed under general anesthesia

Career opportunities (and income) due to the effects of a bad smile.

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Nutrition and Oral Health



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Dental erosion



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A critical pH for enamel dissolution is 5.5; however, the effect is moderated by buffering capacity, contact time, and salivary flow.

Newly erupted teeth and exposed roots are most susceptible.

Intrinsic acid: stomach acids

Extrinsic acids (food/drink): citric acid, phosphoric acid (added for tangy/sour flavor), ascorbic acid (Vitamin C), malic acid (fruits and wines), tartaric acid (grapes, bananas, citrus), and carbonic acids.

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Enamel repair: nutritional requirements

Vitamins A & D

Protein

Adequate salivary flow and buffering capacity

Zinc

Iron



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Periodontal health nutritional requirements:

Vitamins A, C, E

Folic Acid and B Complex Vitamins

Calcium



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2020 – 2025 Dietary Guidelines for Americans

U.S. Department of Health and Human Services and U.S. Department of Agriculture.

2020 – 2025 Dietary Guidelines for Americans. 9th Edition. December 2020.

https://www.dietaryguidelines.gov/sites/default/files/2020-12/Dietary_Guidelines_for_Americans_2020-2025.pdf

Rock, C. L., Thomson, C., Gansler, T., Gapstur, S. M., McCullough, M. L., Patel, A. V., Andrews, K. S., Bandera, E. V., Spees, C. K., Robien, K., Hartman, S., Sullivan, K., Grant, B. L., Hamilton, K. K., Kushi, L. H., Caan, B. J., Kibbe, D., Donze Black, J., Wiedt, T. L., McMahon, C., Sloan, K., Doyle, K. (2020). **American Cancer Society guideline for diet and physical activity for cancer prevention.** *CA A Cancer Journal for Clinicians*, 70(4), 245-271. <http://doi:10.3322/caac.21591>

(2002 version by AHA, ACS, and ADA)



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Dietary guideline's effects on oral health



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The Healthy Eating Index 2015 (HEI-2015): quantitative measure of how well participants (low income women) adhere to the 2015-2020 Dietary Guidelines for Americans.

Study Findings:

Diet quality (as measured by the HEI-2015) is inversely associated with Decayed, Missing, and Filled Teeth (DMFT) scores.

Scores for total vegetables, greens and beans, dairy, and refined grains were also inversely related to DMFT scores.

Sachdev, P. K., Freeland-Graves, J., Babaei, M., & Sanjeevie, N. (2021). Associations between diet quality and dental caries in low-income women. *Journal of the Academy of Nutrition and Dietetics*, 1-9. <https://doi.org/10.1016/j.jand.2021.04.015>

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Food Quiz: Which of these foods/drinks contain high content of sugar or carbohydrates and are therefore a high risk to cause cavities?

Fruits

Candy

Soft drinks

Juice

Cereal

Rice

Pasta

Potato



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Which of the following are true?



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- 1 Sugar is the most important causes of dental caries.
- 2 Acid attacks triggered by sugar consumptions demineralize tooth and increase dental caries risk?
- 3 The more frequently you consume foods or drinks with sugar, the more likely you will have caries.
- 4 The amount of sugar consumed is less important than the frequency of sugar consumed and how soon it is cleared from the mouth.
- 5 With frequent sugar consumption, it's hard to completely prevent carries, even if you floss and brush teeth with fluoride toothpaste twice a day.
- 6 Both adults and children should reduce the intake of free sugars to less than 10% of total energy intake.
- 7 Frequent consumption of starchy foods increases caries risk.
- 8 The combination of sugar and starch is worse than sugar, alone, due to the drop in pH.
- 9 Eating calcium-rich foods (cheese) immediately after sugar reduces caries risk.
- 10 The greater the salivary flow the better the protection and the lower the risk for caries.

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The importance of good oral health to good systemic health

There is a direct link between nutrition and health. **The route to good nutrition and good oral health is a 2-way street!**

Oral health allows for adequate nutrition by eating a variety of foods.

Poor oral health can prevent adequate nutritional intake.

Poor oral health can result in poor systemic health through nutrition, infection, and exacerbation of inflammation.



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Sugary Drinks



A liquid sugar product consumed rapidly can result in 30-40 minutes of demineralization before the substrate is gone and the pH returns to neutral.

Salivary amylase can turn starches to simple sugars which feed cariogenic bacteria.

All sugars can be used by these bacteria: sucrose, glucose, fructose, high-fructose corn syrup, lactose, and maltose.

Intrinsic sugars are in fruits, vegetables, grains, and dairy products.

Added/free/extrinsic sugars are in foods with little other nutritive value.

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Toddler feeding behaviors



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The **most important dietary risk factor is the amount of time that fermentable carbohydrates are available as a food source for bacteria** (not the total intake of sugar).

Sugar substrate added to the cariogenic bacteria result in a drop in **pH to 5.2 to 5.5** within minutes.

As long as the food substrate is available, the demineralization continues.

When the pH returns to neutral, the **saliva remineralizes the enamel**.

With each new introduction of food substrate, this process recurs or is perpetuated.

Foods and beverages consumed for long periods increase the caries risk: sucking on sugar candies, sticky sweet foods like fruit roll-ups and gummy bears, and sipping on sweet beverages. **Use a cup, not a bottle, sippy cup, or juice box.**

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Toddler meal patterns



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Cariogenic foods and beverages **between meals are more harmful** than when consumed with meals.

Drinks with carbohydrates (e.g. **milk**) **only with meals**.

No soda.

Limit juice to **4 ounces per day** (and **none before 1 year**).

No juice or other sugary drinks from bottles or easily transportable covered cups that allow them to drink easily throughout the day.

Give toddlers water (**fluoridated**) **throughout the day; fine in a sippy cup**.

Meals that include dairy products like **cheese and yogurt help remineralize teeth**.

Limit to 3 meals and 3 nutritious snacks (fruits, vegetables, proteins, and high-fiber carbohydrates).

Breast feeding ad lib stops when the teeth come in. Age 1: limit to 7 times per day.

Hold infants while bottle feeding.

Never a bottle while sleeping: protective saliva decreases with sleep.

The AAP suggests to start using a **cup around 6 months of age**, when babies begin solid foods.

Wean the bottle by 12 months.

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Juice amounts, with meals only:

Avoid juice drinks containing sweeteners.

Juice should be limited to:

1st Year: no juice

Toddlers: 4 ounces per day or less

Children 4-6 years: 4 to 6 oz per day

Children 7-18 years: 8 oz per day

Avoid carbonated beverages and juice drinks containing sweeteners.

Drink water between meals.



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Snacks:

Limit eating occasions to **three meals a day with one snack in between.**

Choose fresh fruits, vegetables, cheese, popcorn, nuts, milk, sugar free whole grain snacks, sugar-free gum

Avoid: fruit roll-ups, gummy bears, cookies, cupcakes, sugary cereals, granola bars, pop tarts, donuts, raisins



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Healthy Behaviors for Oral Health



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What + How!



Oral bacteria produce acids that persist for 20–40 minutes after eating sugar

Acids demineralize enamel

Saliva buffers acids and allows remineralization

Frequent sugar intake creates insufficient time for remineralization

Continued demineralization allows for cavity formation

Newly erupted teeth (children) are softer and most-prone

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Solutions for oral acids:

Adequate saliva

Infrequent sugar

Limit acidic foods and drinks which include:

sodas, alcohol, coffee/caffeinated beverages

meat, poultry, fish, dairy, eggs, grains, dairy, unsprouted beans, sunflower and pumpkin seeds, nuts, sweeteners, refined table salt

Tobacco cessation

Target children with erupting teeth as they are most susceptible!



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Sodas, a major hazard:

Acidic

Phosphates are secreted inversely with calcium which is needed for strong bones and teeth

Sugars or acid sweeteners (Aspartame is a blend of the amino acids aspartic acid and a form of phenylalanine)

Sometimes sipped for long periods

Caffeinated which has diuretic properties and dries saliva

Substituted for milk at meals which provides calcium and vitamin D for strong bones and teeth

Average American drinks **45 gallons soda per year**

25% of people drink no tap water

>40% mostly drink beverages other than water

13% of Americans use well water



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Safe drinking water (fluoride)

Healthy People 2030 has an objective to increase the proportion of people served by community systems with optimally fluoridated water systems. (Baseline 72.8%; goal 77.1%)

The Centers for Disease Control and Prevention named community water fluoridation **one of the 10 great public health achievements of the 20th century.**

North Dakota: 96.5% have access to fluoridated water (ranking #4 in US).

We have 59.8 dental care providers per 100,000 population (ranking #24 in US)

67.6% of adults had a dental visit (ranking #24)

Fruit and vegetable consumption 5.8% of adults (ranking #46 in US)



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The effects of beverages and toothbrushing

Marshall, T. A., Curtis, A. M., Cavanaugh, J. E., Warren, J. J., & Levy, S. M. (2021). Beverage intakes and toothbrushing during childhood are associated with caries at age 17 years. *Journal of the Academy of Nutrition and Dietetics*, 121(2), 253-260. <https://doi.org/10.1016/j.jand.2020.08.087>

Longitudinal study followed children from age 1 to age 17 (the Iowa Fluoride Study). These children completed a minimum of 6 surveys that queried beverage intake.

At age 17 years, the decayed and filled surfaces attack rate (DFSAR) was determined.



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Results:

Higher DFSAR associated with:

SSB

Lower DFSAR associated with:

Higher water, sugar-free beverages, and juice intake

More toothbrushing

Higher income

Isolating beverage intake, DRSAR change per 8 oz. daily:

+ daily juice = 53% reduction

+ water or SFB = 29% reduction

+ SSB = 42% increase

Toothbrushing was helpful to reduce DRSAR.



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Family Units

Caregiver transfer:

Transmission from the primary caregiver (mom) via saliva

Transmission from family members and care providers

History repeats itself: children share the mother's risks

High frequency of sugar intake

Poor oral hygiene

High levels of dental caries



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Good dental care habits



Sucrose-free chewing gum containing xylitol only or xylitol lozenges may be used as adjunctive therapy for adults at higher risk of caries.

Rinse mouth with water after eating. Do not brush after an acidic intake; rather, rinse with water and wait.

See a **dentist twice per year**

Brush **twice daily for 2 minutes using fluoride toothpaste: once in the morning and once before going to bed.**

Floss daily

Electric and manual brushing are equally effective but some people may benefit from assistive devices.

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Dental Homes

40% of low-income children have received preventive dental care compared to

54% of higher income children.

Assessment

Preventive care

Anticipatory guidance

Management of acute dental trauma education

Nutrition assessment and counseling

Comprehensive care

Referral as needed



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Benefits of Dental Homes (and what we can encourage in our Family Practices)

Stop on-demand breast feeding at 1 year

Stop bottle feeding at 12 months

Don't go to bed with a bottle other than water

Don't snack throughout the day

Finish drink within an hour

Younger age at first dental visit

More frequent dental visits

Less dental biofilm

Less gingivitis

Fewer decayed, missing, or filled teeth (DMFT = 5.19 no dental home; 1.8 dental home)

Zero DMFT = 22.6% no dental home, 57.4% dental home

Have a caries risk assessment by age 6 months.

Establish a Dental Home prior to 1 year of age.



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Effects of poor oral health

Pain

Infection

Ability to eat

Speaking

Sleeping

School and work attendance and performance

Self image

Reduced social engagement

Reduced employment options



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Community Health Worker Training

Martin, M., Frese, W., Lumsden, C., & Sandoval, A. (2018). Building a pediatric oral health training curriculum for community health workers. *Journal of Public Health Management and Practice*, 24(3), 9-18.

<https://doi:10.1097/PHH.0000000000000582>

Community health workers (CHWs) are a promising approach to oral health promotion in high-risk populations.

An oral health CHW training curriculum outline was created that emphasizes behaviors, social support, and navigation assistance to promote preventive oral health behaviors in families of young children.



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Dental home



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Dental Home

- In 2001, the American Academy of Pediatric Dentistry (AAPD) supports the concept of a dental home:
 - All infants, children, adolescents, and persons with special health care needs
- Dental Home Definition:
 - Ongoing relationship between a licensed dentist and the patient, inclusive of all aspects of oral health care delivered in a comprehensive, continuously accessible, coordinated, and family-centered way



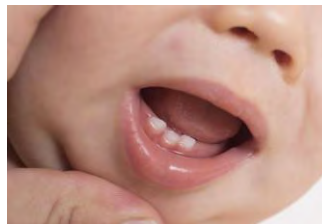
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Dental Home

Establishment of a dental home:

- 6 months after the first tooth erupts
- No later than 12 months of age

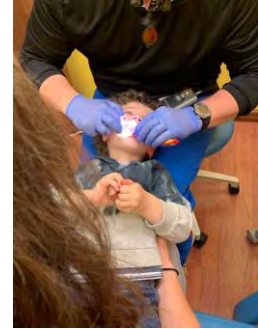


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Oral Health Evaluation

Topics covered during visit:

- Comprehensive oral care
- Preventive services
 - Caries-risk assessment
- Growth and development
- Plan for acute dental trauma
- Dietary counseling
- Age-specific oral hygiene education



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Caries Risk Assessment

Table 1. Caries-risk Assessment Form for 0-3 Year Olds^{59,60}
(For Physicians and Other Non-Dental Health Care Providers)

| Factors | High Risk | Low Risk |
|---|-----------|----------|
| Biological | | |
| Mother/primary caregiver has active cavities | Yes | |
| Parent/caregiver has low socioeconomic status | Yes | |
| Child has >3 between meal sugar-containing snacks or beverages per day | Yes | |
| Child is put to bed with a bottle containing natural or added sugar | Yes | |
| Child has special health care needs | Yes | |
| Child is a recent immigrant | Yes | |
| Protective | | |
| Child receives optimally-fluoridated drinking water or fluoride supplements | | Yes |
| Child has teeth brushed daily with fluoridated toothpaste | | Yes |
| Child receives topical fluoride from health professional | | Yes |
| Child has dental home/regular dental care | | Yes |
| Clinical Findings | | |
| Child has white spot lesions or enamel defects | Yes | |
| Child has visible cavities or fillings | Yes | |
| Child has plaque on teeth | Yes | |

Circling those conditions that apply to a specific patient helps the health care worker and parent understand the factors that contribute to or protect from caries. Risk assessment categorization of low or high is based on preponderance of factors for the individual. However, clinical judgment may justify the use of one factor (eg, frequent exposure to sugar containing snacks or beverages, visible cavities) in determining overall risk.

Overall assessment of the child's dental caries risk: High Low



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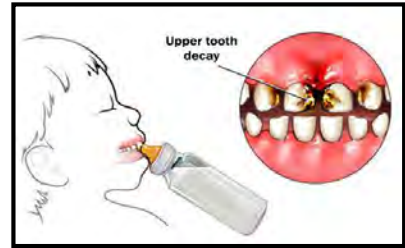
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Early Childhood Caries (ECC)

- “Nursing Bottle Caries” or “Baby Bottle Tooth Decay:”
 - To address a severe form of caries associated with bottle usage
- AAPD adopted the term “Early Childhood Caries:”
 - Reflect the multifactorial etiology of dental caries
 - Infectious disease, poor feeding practices, and poor oral hygiene



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Early Childhood Caries (ECC)

- ECC definition:
 - Is the presence of one (1) or more decayed, missing, or filled teeth surfaces in any primary tooth in a child under the age of 6
- In children younger than three (3) years of age, any sign of smooth surface caries is indicative of Severe Early Childhood Caries (S-ECC)



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Early Childhood Caries (ECC) - Etiology

- Dental caries is a transmissible infectious disease
- Cariogenic microbial risk markers include:
 - *Mutans streptococci (M.S.)*
 - *Lactobacillus species*
- Affected by frequency and amount of exposure



Early Childhood Caries (ECC) - Transmission

Vertical Transmission



Horizontal Transmission



Early Childhood Caries (ECC) - Prevention

Prevention



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Early Childhood Caries (ECC) - Home care

Children less than three years

- Smear fluoridated toothpaste
- ~ 0.1 mg fluoride



Children 3-6 years

- Pea-size fluoridated tooth paste
- ~ 0.2 mg of fluoride



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ECC - Recommendations

Parents should be advised:

- Infants drink from a cup by age 1
- Infants be weaned from the bottle by 12-18 months of age
- Implement oral hygiene no later than the time of eruption of the first primary tooth
- Reduce the parent's and sibling's *M.S.* levels to decrease transmission of cariogenic bacteria
- Eliminate saliva sharing activities

2 MINUTES



2 TIMES PER DAY



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Early Childhood Caries (ECC)

case presentation



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ECC Case Presentation – History of present illness

5 y.o. Hispanic male

CC: “He has been complaining of a tooth ache for several months,” as per mother of child.

Medical Hx: Non-contributory

Allergies: NKDA

Medications: OTC multivitamin



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ECC Case Presentation

Dental Hx: Failed attempt by general dentist for an examination

OH: Poor

Dietary Habits: Frequent snacking between meals “he loves candy and chips,” as per mother

Behavior: Anxious, uncooperative, and crying

Extraoral examination: WNL

Intraoral examination: Refer to next slide

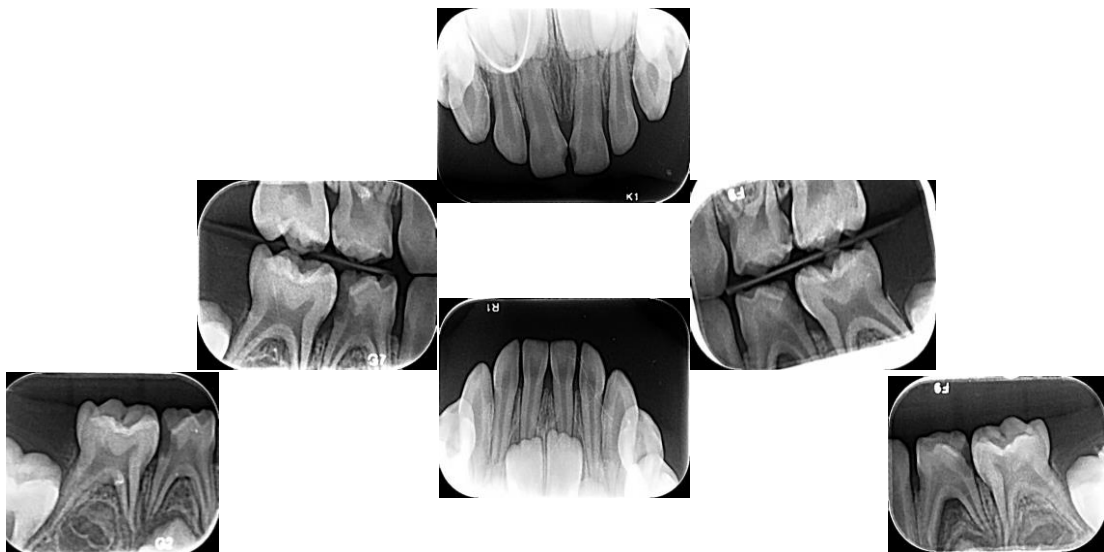


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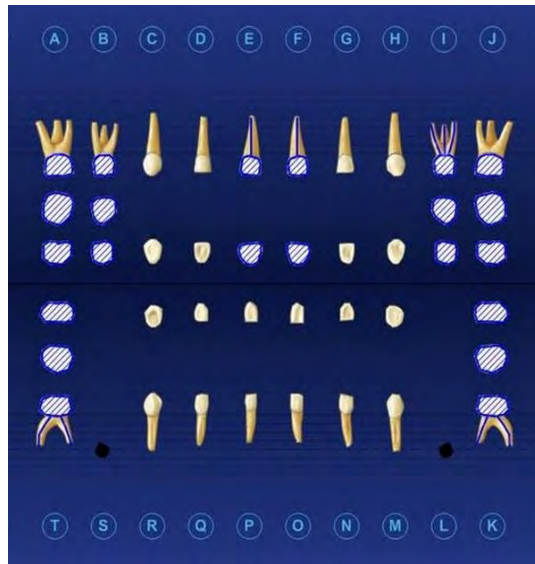
Pre-Operative Photographs



Dental Radiographs (X-rays)



Dental Treatment Plan



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Post-Op Photographs



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Questions?



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Thank you!

Time for Questions & Answers



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