Housekeeping Items

- Welcome to L.A. Care Provider Continuing Education (PCE) Program's Live Webinar!
- The Live Webinar is being recorded.
- Webinar participants are muted upon entry and exit of webinar.
- ***Webinar attendance will be noted via log in and call in with assigned unique Attendee ID #. Please log in through a computer (instead of cell phone) to Join Meeting / Webinar and please choose the Call In option to call in by telephone with the meeting call in number, meeting number access code and assigned unique attendee ID number. If your name does not appear on our WebEx Final Attendance and Activity Report (only as Caller User #) and no submission of online survey, no CME or CE certificate will be provided.***
- Questions will be managed through the Chat feature and will be answered at the end of the presentation. ***Please keep questions brief and send to All Panelists. One of our Learning and Development Team members and/or webinar host***, will read the questions via Chat when it's time for Q & A session (last 30 minutes of live webinar).
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- Any questions about L.A. Care Health Plan's Provider Continuing Education (PCE) Program and our CME/CE activities, please email Leilanie Mercurio at lmercurio@lacare.org

Presenter's Bio

José C. Polido, DDS, MS, is the Head of the Division of Dentistry at Children's Hospital Los Angeles (CHLA) and an Associate Professor of Clinical Dentistry at the Herman Ostrow School of Dentistry of the University of Southern California (USC), holding a joint faculty appointment in the Department of Pediatrics at the Keck School of Medicine of USC. The Division of Dentistry at CHLA provides routine and specialized pediatric dental and orthodontic care to over 3,500 children and adolescents each year, mostly with a wide range of special health care needs.

Dr. Polido has been at CHLA for over 20 years and has focused his career in providing pediatric dental care for the very young children and those with special health care needs.

As a Board-Certified Pediatric Dentist, he has particular interest in the access to care issues faced by the pediatric population. He is the Director of the clinical program and a member of the CHLA Craniofacial Team. He oversees the training of pediatric dental residents from the Advanced Program in Pediatric Dentistry of the Herman Ostrow School of Dentistry of USC while at CHLA. He is fluent in English, Spanish, and Portuguese.

Pediatric Dental Care

August 29, 2024 Live Webinar, 12:00 pm - 1:30 pm PST, 1.50 CME/CE Credits

Directly Provided CME/CE Activity by L.A. Care Health Plan

José C. D. Polido, DDS, MS

Division Head - Dentistry - Children's Hospital Los Angeles

Associate Professor of Clinical Dentistry - Herman Ostrow School of Dentistry of USC

DISCLOSURES

The following CME Planners and Faculty do not have relevant financial relationships with ineligible companies in the past 24 months:

* Leilanie Mercurio, L.A. Care Provider Continuing Education (PCE) Program Manager, CME Planner.

* José C. D. Polido, DDS, MS, Division Head, Dentistry, Children's Hospital Los Angeles; Associate Professor of Clinical Dentistry - Herman Ostrow School of Dentistry of USC, CME Planner and Faculty.

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Learning Objectives

At the completion of the CME/CE activity, learners can:

- **Summarize** the normal timeline for dental development of infants and children.
- **Explain** how dental caries develop and its consequences when left untreated.
- **List** basic steps to prevent dental caries and gingivitis.
- **Specify** how certain children can be at higher risk for developing dental disease.
- **Apply** the current recommendations for fluoride use as part of a caries prevention program and describe **at least two (2)** methods of delivery of fluoride that can be used as part of a caries prevention program.
- **Identify at least two (2)** strategies to help improve home oral care for children with disabilities.

www.aapd.org

BEST PRACTICES: MANAGEMENT OF SHCN PATIENTS

Management of Dental Patients with Special Health Care Needs

Latest Revision
2021

How to Cite: American Academy of Pediatric Dentistry. Management of dental patients with special health care needs. The Reference Manual of Pediatric Dentistry. Chicago, Ill.: American Academy of Pediatric Dentistry; 2023:337-44.

Abstract

This best practice presents recommendations regarding the management of oral health care for dental patients with special health care needs (SHCN) rather than treatment for oral conditions. SHCN are defined as any physical, developmental, mental, sensory, behavioral, cognitive, or emotional impairment or limiting condition that requires medical management, health care intervention, and/or use of specialized services or programs. Nearly one in five U.S. children has a SHCN. The more severe their health conditions, the more likely they are to have unmet dental needs. Barriers to care are discussed. Without professional preventive and therapeutic dental services, children with SHCN may exacerbate systemic medical conditions and increase the need for costly care. Each oral health topic (e.g., dental home, scheduling appointments, patient assessment, planning dental treatment, informed consent, behavior guidance, preventive strategies) includes specific recommendations. The document addresses patients with developmental or acquired orofacial conditions as a special cohort of children with SHCN. Consultation and coordination of care with medical and other dental providers may be necessary for safe delivery of care and to improve long term outcomes for these patients. As children with SHCN approach adulthood, planning and coordinating their successful transition to an adult dental home ensures no disruption in the continuity of oral health care.

This document was developed through a collaborative effort of the American Academy of Pediatric Dentistry Councils on Clinical Affairs and Scientific Affairs to offer updated information and guidance on the management of dental patients with special health care needs.

KEYWORDS: DENTAL CARE FOR CHILDREN; DENTAL CARE FOR DISABLED; DISABLED CHILD; PEDIATRIC DENTISTRY

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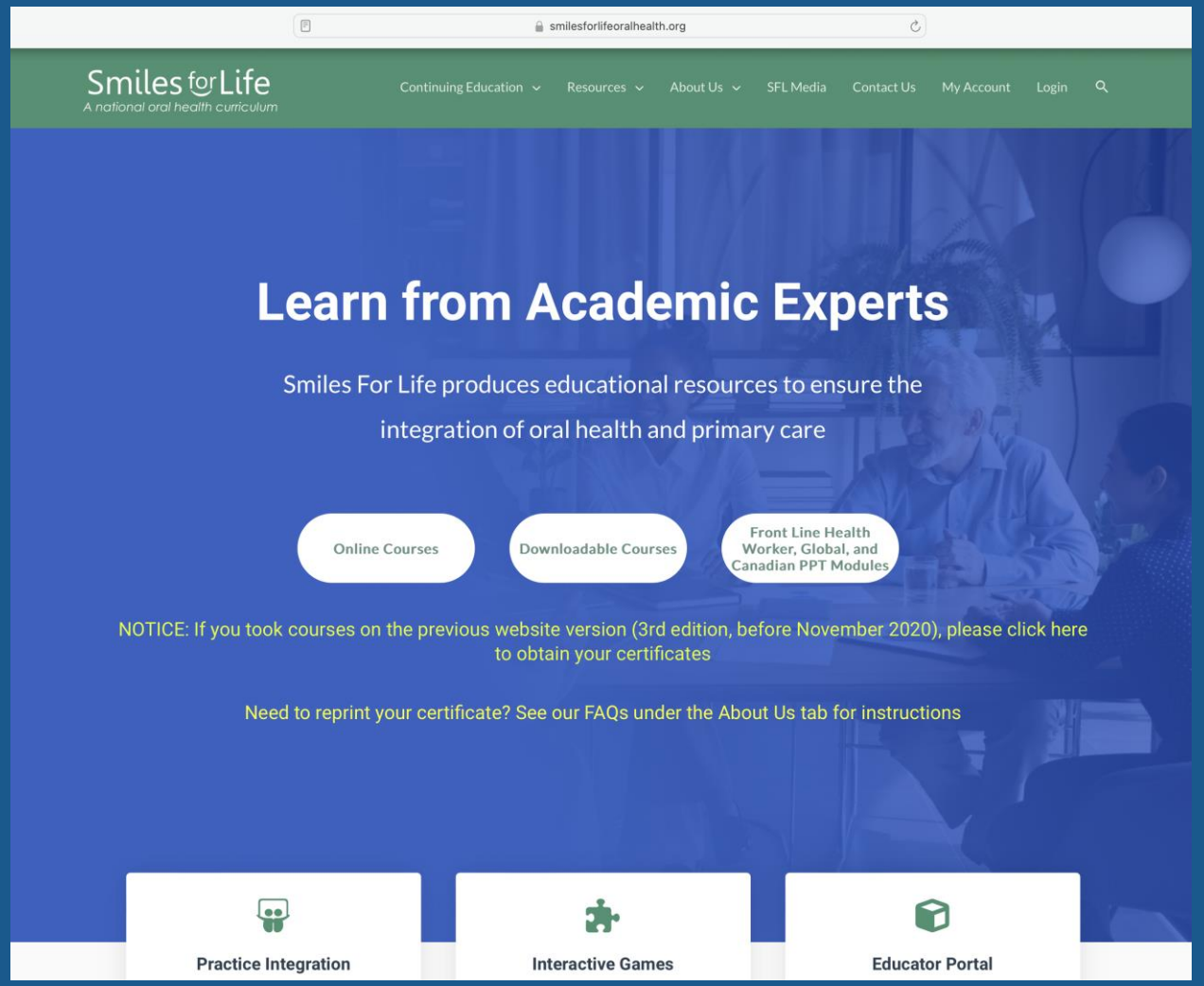
https://www.smilesforlifeoralhealth.org



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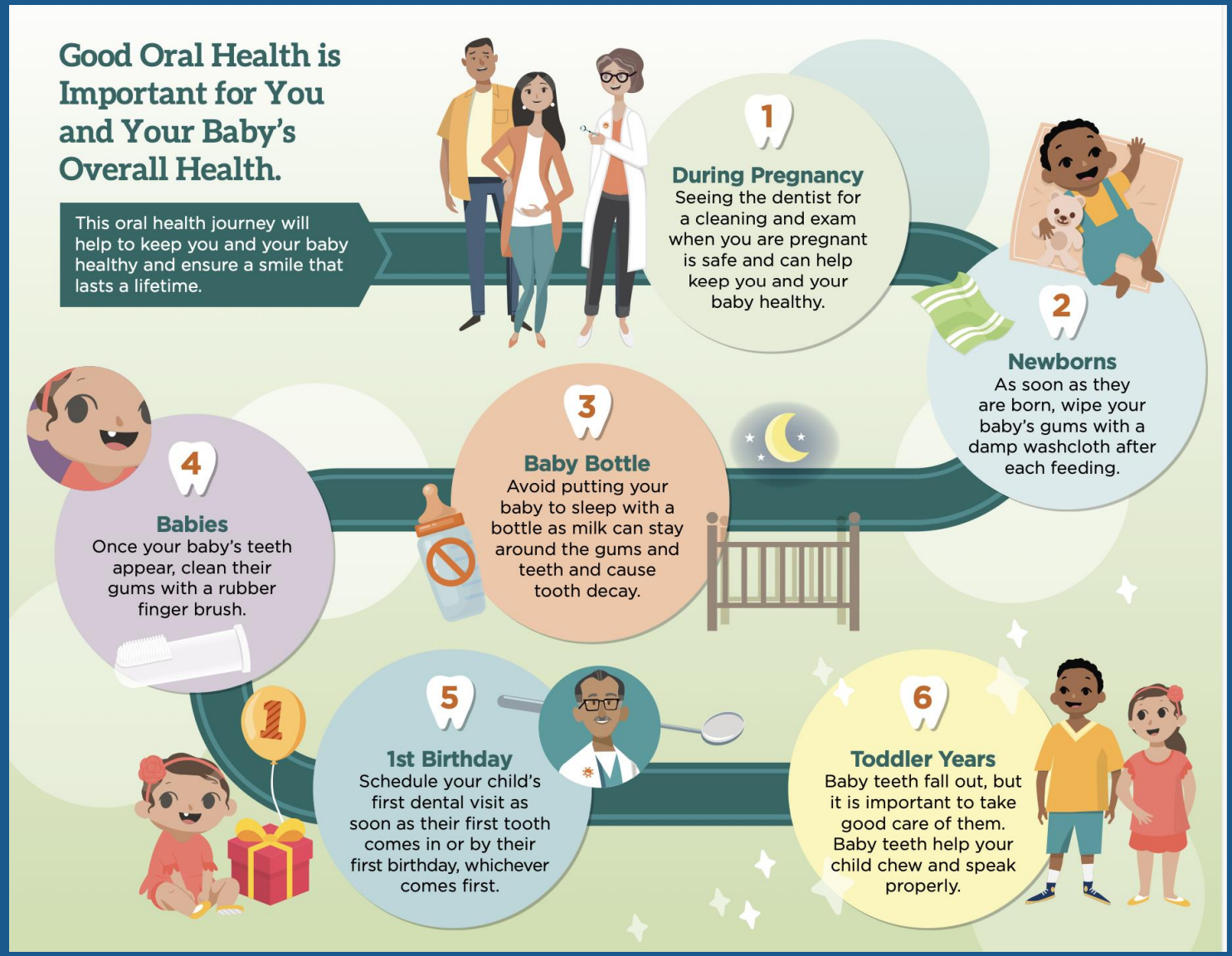
Infant oral care

https://smilecalifornia.org/wp-content/uploads/2023/04/SMILE-CA-Oral-Health-Journey-Brochure-ENG.pdf



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- Common Neonatal Oral Findings
  - –Nodules
  - – Natal teeth
  - –Congenital Epulis of the Newborn

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Common Conditions in the Newborn

- Epstein's Pearl
- Bohn's Nodule
- Dental Lamina Cyst

Epstein's Pearl

Bohn's Nodule

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Natal Teeth

- Premature eruption of preliminary teeth
- Tooth should be retained unless mobile

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Riga Fede's Aphthae

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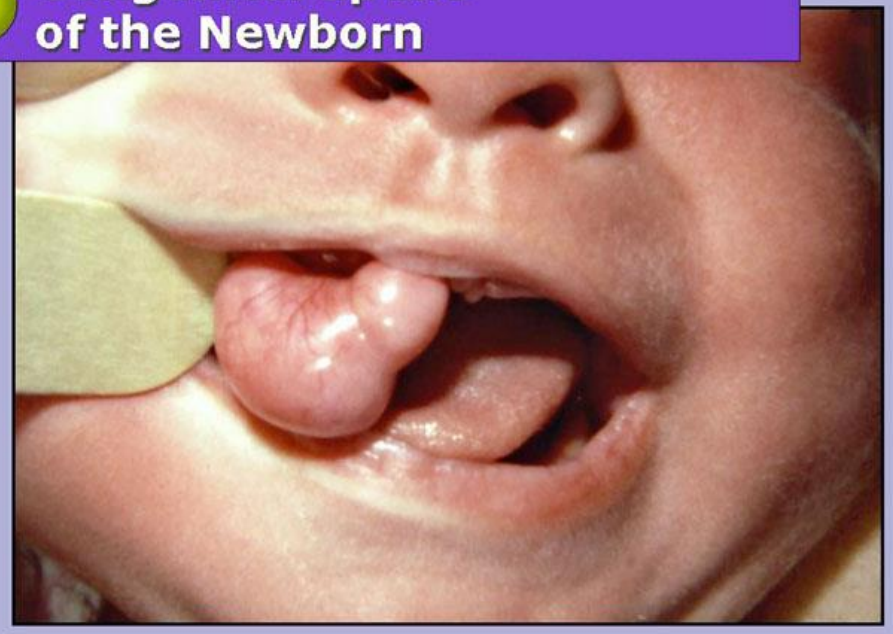
Congenital Epulis of the Newborn

- Benign lesion
- Present at birth
- Frequent in females in the anterior maxillary arch
- May cause feeding and respiratory problems
- Spontaneous regression or excisional biopsy
- Recurrence rare

Congenital Epulis of the Newborn

Congenital Epulis of the Newborn



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Stages of Dental Development

- Pre-dentate: 0-7 mo.
- Early primary dentition: 7-27 mo.
- Primary Dentition: 20 teeth: ~27 mo.
- First transitional stage: 6-7 y.o.
- Mixed dentition: 8-9 y.o
- Second transitional stage: 10-13y.o.
- Permanent Dentition: 13+ y.o.
  - 32 teeth: third permanent molars: ~17+ y.o.

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PRIMARY DENTITION: 7 to 27 months

7 Months = First Primary Teeth Erupt

11 Months = 4 Erupted Primary Teeth

7 Months
+4
11 Months

0 Teeth
+4
4 Teeth

15 Months = 8 Erupted Primary Teeth

11 Months
+4
15 Months

4 Teeth
+4
8 Teeth

19 Months = 12 Erupted Primary Teeth

15 Months
+4
19 Months

8 Teeth
+4
12 Teeth

23 Months = 16 Erupted Primary Teeth

19 Months
+4
23 Months

12 Teeth
+4
16 Teeth

27 Months = 20 Erupted Primary Teeth

23 Months
+4
27 Months

16 Teeth
+4
20 Teeth

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Teething Process

- Natural process
- Increased drooling
- Desire to bite or chew
- Mild pain
- No evidence of high fever, diarrhea, facial rash, or sleep problems

7 Months =
First Primary Teeth Erupt

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FDA Drug Safety Communication: Reports of a rare, but serious and potentially fatal adverse effect with the use of over-the-counter (OTC) benzocaine gels and liquids applied to the gums or mouth

- Methemoglobinemia has been reported with all strengths of benzocaine gels and liquids, including concentrations as low as 7.5%
- Benzocaine products should not be used on children less than two years of age, except under the advice and supervision of a healthcare professional. Healthcare professionals and consumers are advised to consider the American Academy of Pediatrics' recommendations for treating teething pain instead of using the benzocaine teething products:[1,2]
  - Give the child a teething ring chilled in the refrigerator.
  - Gently rub or massage the child's gums with your finger to relieve the symptoms of teething in children.
    - **2012**

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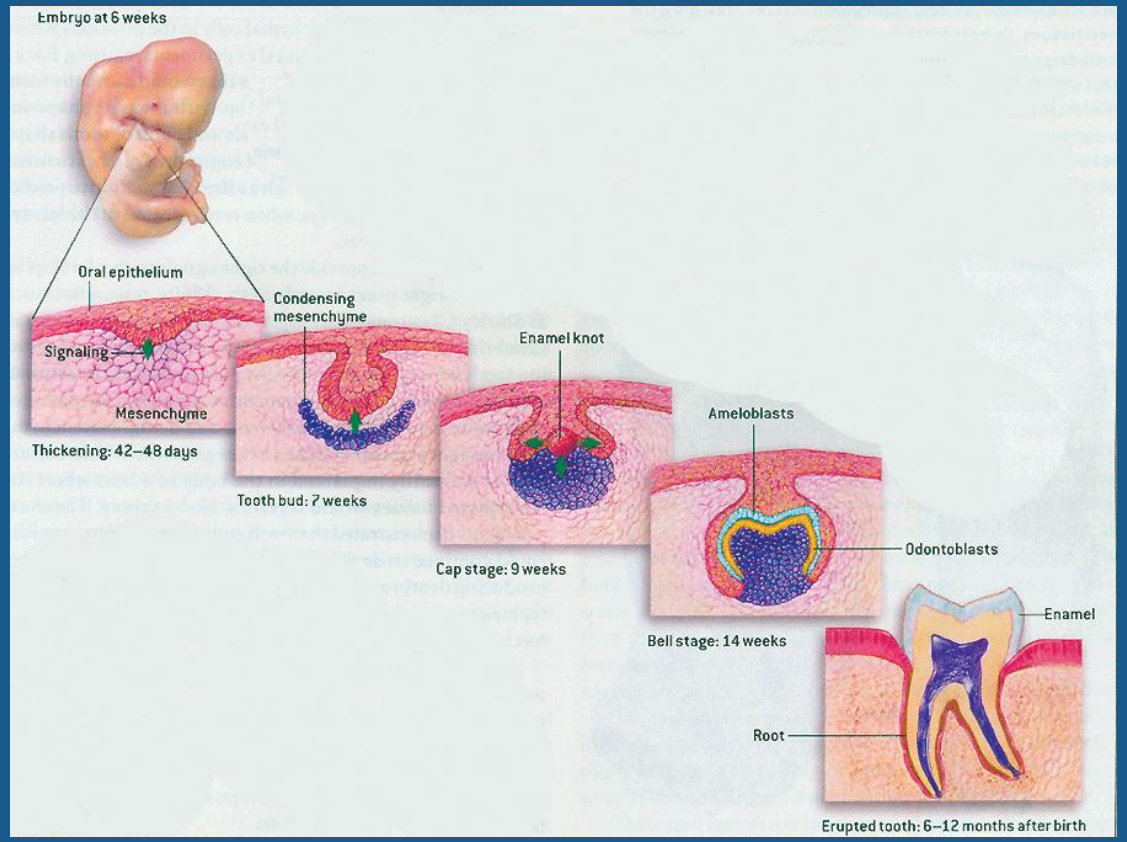
Tooth Morphogenesis



Developmental Defects (Hyperbilirubinemia)

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Calcification Table - AAPD Reference Manual

Primary Dentition

	Calcification begins at	Formation complete at	Eruption		Exfoliation	
			Maxillary	Mandibular	Maxillary	Mandibular
Central incisors	4th fetal mo	18-24 mo	6-10 mo	5-8 mo	7-8 y	6-7 y
Lateral incisors	4th fetal mo	18-24 mo	8-12 mo	7-10 mo	8-9 y	7-8 y
Canines	4th fetal mo	30-39 mo	16-20 mo	16-20 mo	11-12 y	9-11 y
First molars	4th fetal mo	24-30 mo	11-18 mo	11-18 mo	9-11 y	10-12 y
Second molars	4th fetal mo	36 mo	20-30 mo	20-30 mo	9-12 y	11-13 y

Logan WHG, Kronfeld R. Development of the human jaws and surrounding structures from birth to the age of fifteen years. J Am Dent Assoc 1933;20(3):379-427.

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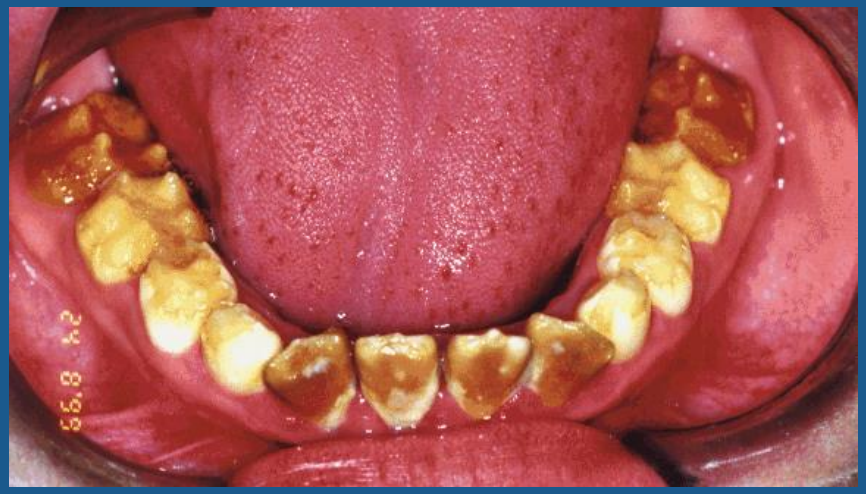
Amelogenesis Imperfecta



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Dentinogenesis Imperfecta

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Ectodermal Dysplasia

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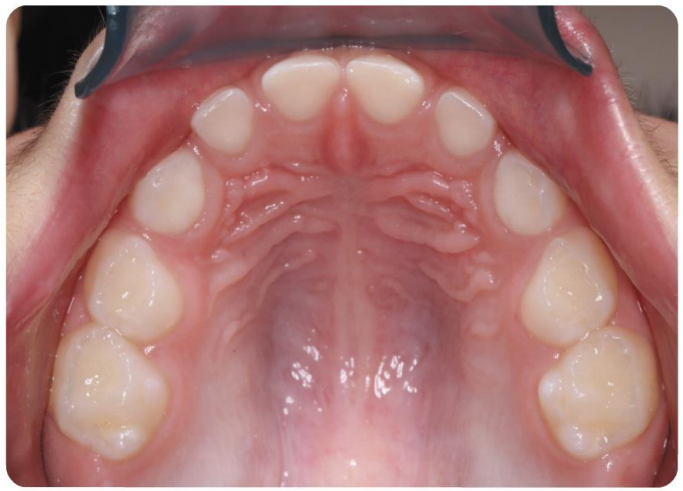
5y 0mo



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5-year old

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MIXED DENTITION: 6 to 13 years old

First transitional stage
6-8 y.o.






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7-year old

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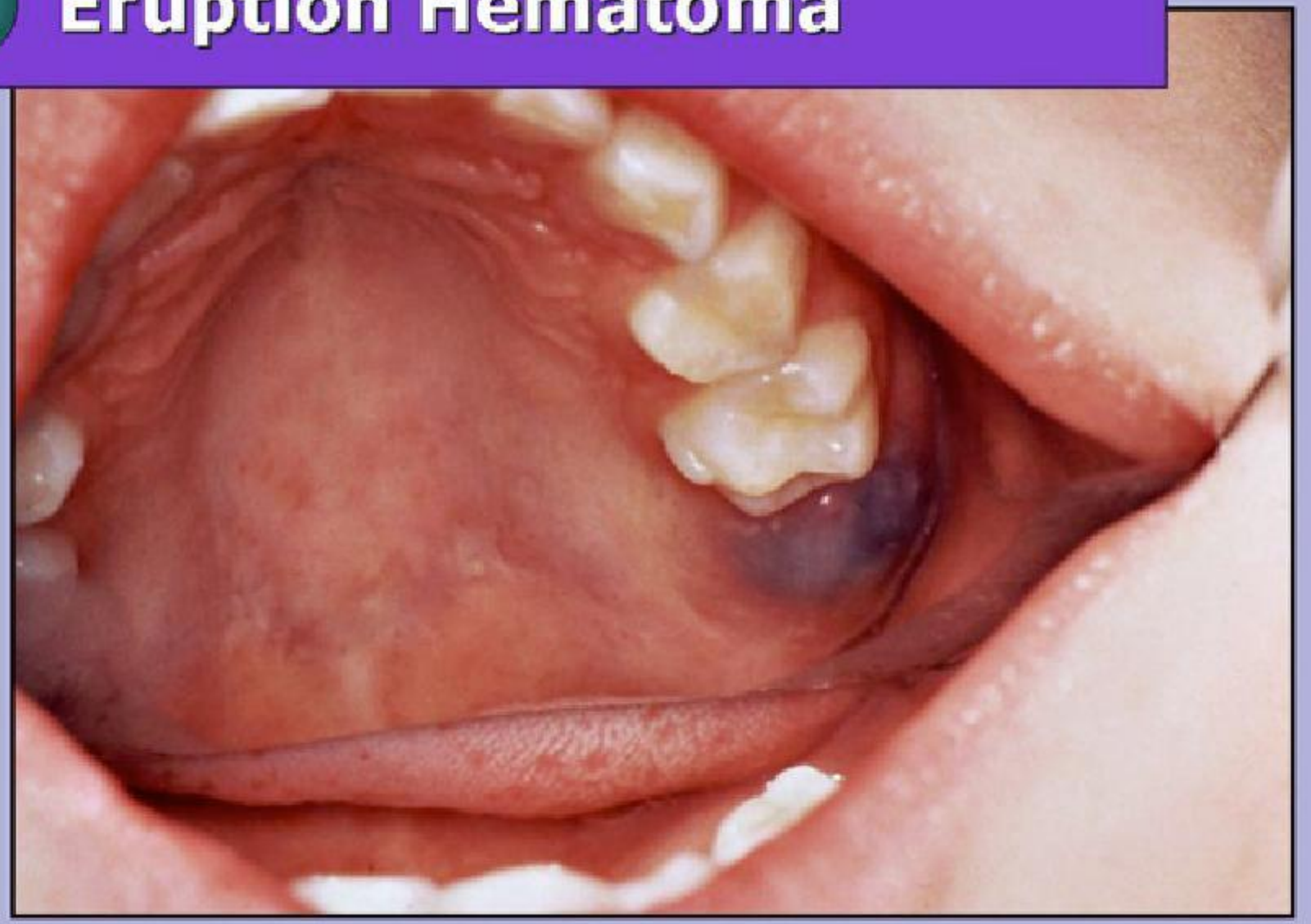
Eruption Hematoma



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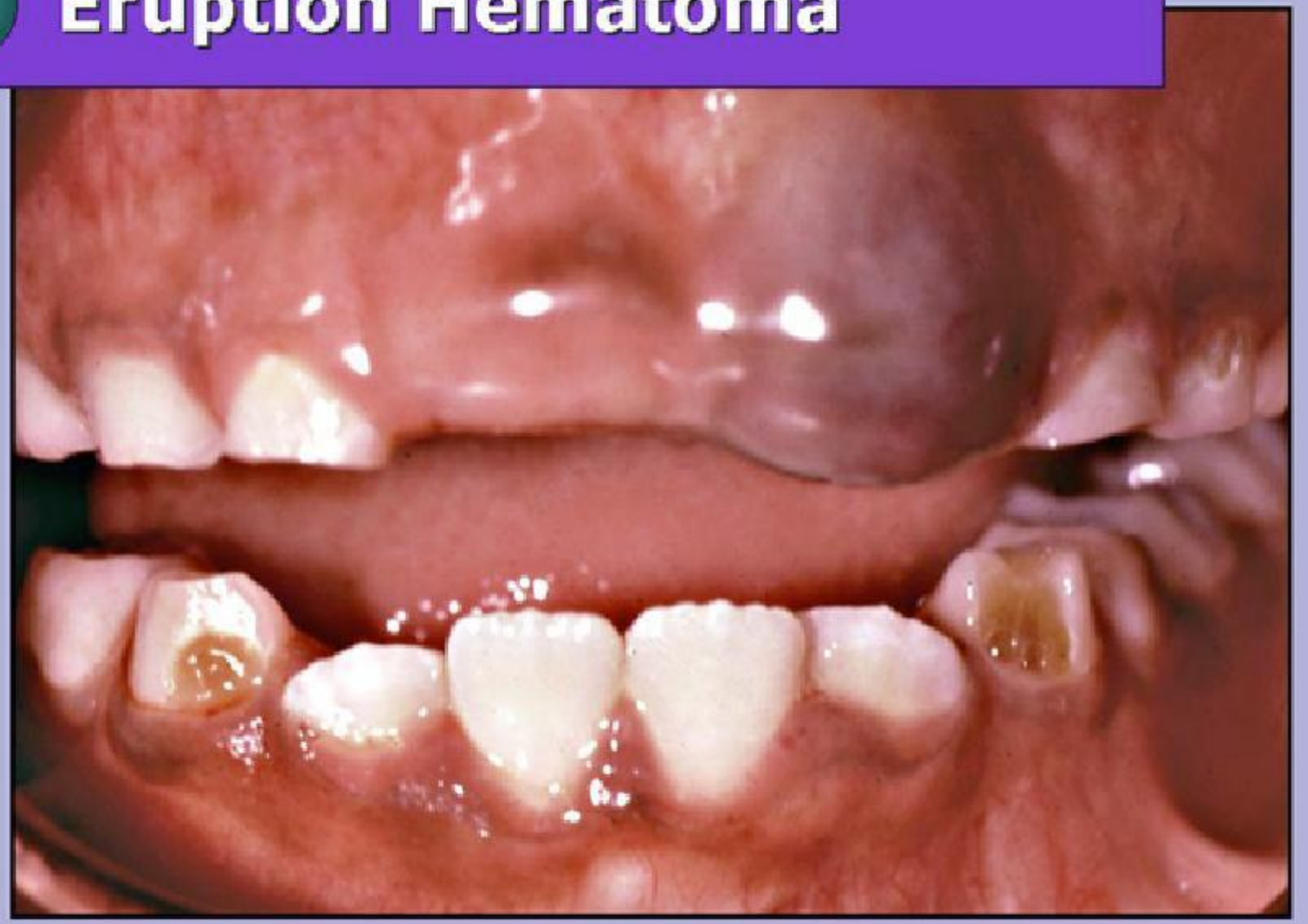
Eruption Hematoma



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FIRST Permanent Molars

"6-year old molar"

ENAMEL HYPOMINERALIZATION

Higher risk for tooth decay/dental caries

Fig. 3.1 Example of MIH with molar as well as incisor opacities. Notice the *white* demarcated opacity 11, *yellow* demarcated opacity 21. *Yellow brown* demarcated opacities erupting 46, *brown* demarcated opacities with occlusal buccal posteruptive enamel loss 36, as well as demarcated *yellow brown* opacities in erupting 16 and 26 (Courtesy of Dr. H. Pohlen, Alsdorf, Germany)

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Problems to Watch for in Growing Children

Malocclusions ("bad bites") like those illustrated below, may benefit from early diagnosis and referral to an orthodontic specialist for a full evaluation.

Crossbite of Front Teeth

Top teeth are behind bottom teeth

Crossbite of Back Teeth

Top teeth are to the inside of bottom teeth

Crowding

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Open Bite

Front teeth do not meet when back teeth are closed

Protrusion

Deep Bite

Underbite

The lower teeth sit in front of upper teeth when back teeth are closed

Spacing

Oral Habits

Sucking on thumb, fingers

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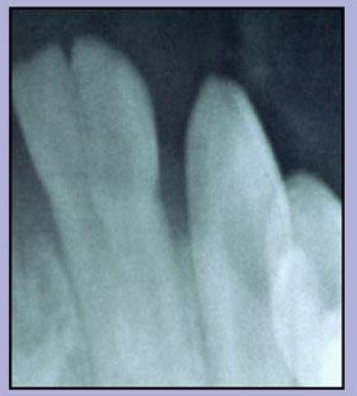
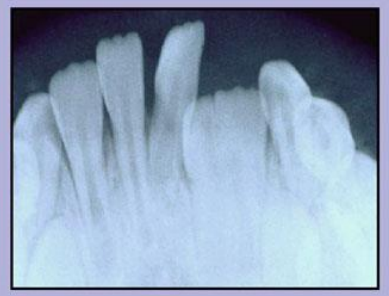
Fusion and Gemination

- Fusion
  - Union of two separate developing separate teeth
  - Two pulp chambers, two canals
- Gemination
  - Incomplete division of a single tooth bud
  - One pulp chamber, one canal

Fusion



Gemination



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8 y.o.

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8-year old

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12 y.o.

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12-year old

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Access to Oral Health Care - CSHCN

www.aap.org/oralhealth/pact

In the United States, dental care is the most common unmet need in the special needs population.

Children with special needs are twice as likely than their aged-matched peers to not have their dental needs met.

For children with special health care needs, access to care may be limited.

Families encounter greater difficulty obtaining necessary dental care for children with certain diagnoses, including Down syndrome, other forms of mental delay, cerebral palsy, and autism.

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The Surgeon General's Report on Oral Health

- Most common birth defects are craniofacial, oral and dental deformities.
- The most common chronic disease in children is dental caries.
- More than 52 million school hours are lost due to dental pain and suffering in children.
- Dental caries are caused by transmissible bacterial infections from caregiver to infant.

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NIDCR

http://www.nidcr.nih.gov/OralHealth/OralHealthInformation/ChildrensOralHealth/OralConditionsChildrenSpecialNeeds.htm

Oral Conditions in Children with Special Needs

A Guide for Health Care Providers

Oral Development

Tooth eruption may be delayed, accelerated, or inconsistent in children with growth disturbances. Gums may appear red or bluish-purple before erupting teeth break through into the mouth. Eruption depends on genetics, growth of the jaw, muscular action, and other factors. Children with Down syndrome may show delays of up to 2 years. **Offer information about the variability in tooth eruption patterns and refer to an oral health care provider for additional questions.**

Malocclusion, a poor fit between the upper and lower teeth, and crowding of teeth occur frequently in people with developmental disabilities. Muscle dysfunction contributes to malocclusion, particularly in people with cerebral palsy. Teeth that are crowded or out of alignment are more difficult to keep clean, contributing to periodontal disease and dental caries. **Refer to an orthodontist or pediatric dentist for evaluation and specialized instruction in daily oral hygiene.**

Tooth anomalies are variations in the number, size, and shape of teeth. People with Down syndrome, oral clefts, ectodermal dysplasias, or other conditions may experience congenitally missing, extra, or malformed teeth. **Consult an oral health care provider for dental treatment planning during a child's growing years.**

Developmental defects appear as pits, lines, or discoloration in the teeth. Very high fever or certain medications can disturb tooth formation and defects may result. Many teeth with defects are prone to dental caries, are difficult to keep clean, and may compromise appearance. **Refer to an oral health care provider for evaluation of treatment options and advice on keeping teeth clean.**

Oral Trauma

Trauma to the face and mouth occur more frequently in people who have intellectual disability, seizures, abnormal protective reflexes, or muscle incoordination. People receiving restorative dental care should be observed closely to prevent chewing on anesthetized areas. **If a tooth is avulsed or broken, take the patient and the tooth to a dentist immediately. Counsel the parent/caregiver on ways to prevent trauma and what to do when it occurs.**

Bruxism

Bruxism, the habitual grinding of teeth, is a common occurrence in people with cerebral palsy or severe intellectual disability. In extreme cases, bruxism leads to tooth abrasion and flat biting surfaces. **Refer to a dentist for evaluation; behavioral techniques or a bite guard may be recommended.**

Dental caries, or tooth decay, may be linked to frequent vomiting or gastroesophageal reflux, less than normal amounts of saliva, medications containing sugar, or special diets that require prolonged bottle feeding or snacking. When oral hygiene is poor, the teeth are at increased risk for caries. **Counsel the parent/caregiver on daily oral hygiene to include frequent rinsing with plain water and use of a fluoride-containing toothpaste or mouth rinse. Explain the need for supervising children to avoid swallowing fluoride. Refer to an oral health care provider and/or gastroenterologist for prevention and treatment. Prescribe sugarless medications when available.**

Viral infections are usually due to the herpes simplex virus. Children rarely get herpetic gingivostomatitis or herpes labialis before 6 months of age. Herpetic gingivostomatitis is most common in young children, but may occur in adolescents and young adults. Viral infections can be painful and are usually accompanied by a fever. **Counsel the parent/caregiver about the infectious nature of the lesions, the need for frequent fluids to prevent dehydration, and methods of symptomatic treatment.**

Early, severe periodontal (gum) disease can occur in children with impaired immune systems or connective tissue disorders and inadequate oral hygiene. Simple gingivitis results from an accumulation of bacterial plaque and presents as red, swollen gums that bleed easily. Periodontitis is more severe and leads to tooth loss if not treated. Professional cleaning by an oral health care provider, systemic antibiotics, and instructions on home care may be needed to stop the infection. **Explain that the parent/caregiver may need to help with daily tooth brushing and flossing and that frequent appointments with an oral health care provider may be necessary.**

Gingival Overgrowth

Gingival overgrowth may be a side effect from medications such as calcium channel blockers, phenytoin sodium, and cyclosporine. Poor oral hygiene aggravates the condition and can lead to superimposed infections. Severe overgrowth can impair tooth eruption, chewing, and appearance. **Refer to an oral health care provider for prevention and treatment. A preventive regimen of antimicrobial rinses and frequent appointments may be needed. Consider alternative medications if possible.**

Tips for Health Care Providers

- Take time to talk and listen to parents and caregivers.
- Tell parents and caregivers to seek a dental consultation no later than a child's first birthday.
- Seek advice on behavior management techniques; early intervention and familiarization with the dental team may take several visits.
- Evaluate and treat orthodontic problems early to minimize risk of more complicated problems later in life.
- Advise caregivers to avoid serving snacks at bedtime.

Suggested Readings

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Credits

Beverly Isman, RDH, MPH and Renee Nolte Newman, RDH, MPA, California Connections Project (MCJP 960501), Maternal and Child Health Bureau, Health Resources and Services Administration, U.S. Department of Health and Human Services. Reprinted by the National Institute of Dental and Craniofacial Research.

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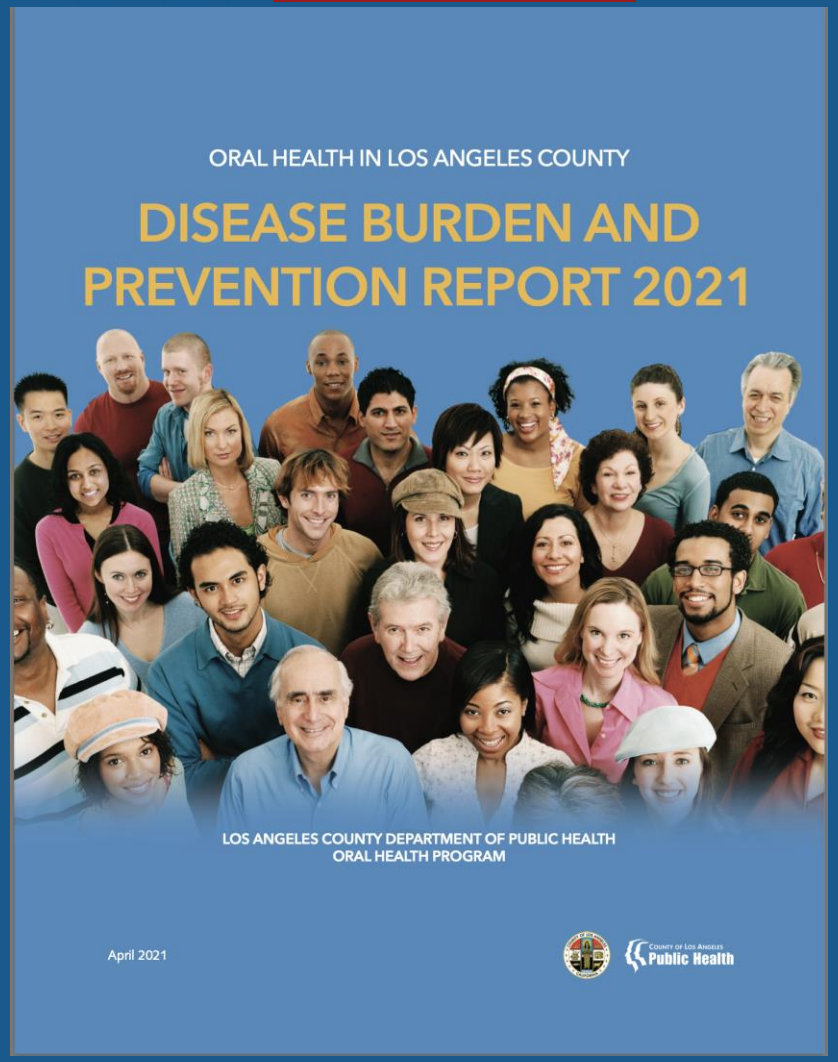

Table 2. Prevalence of dental caries experience and untreated tooth decay across the U.S., California, and Los Angeles County.

	Healthy People 2020 Objective U.S. Target (%)	United States 2013-2016 (%)[a]	California 2018-2019 (%)[b]	Los Angeles County 2020 (%)[c]
History of dental caries in children, aged 3-5 (primary teeth)	30.0	27.9	NA	46.8
History of dental caries in children, aged 6-9 (primary and permanent teeth)	49.0	51.6	60.9	64.7
Untreated dental caries in children, aged 3-5 (primary teeth)	21.4	11.9	NA	18.8
Untreated dental caries in children, aged 6-9 (primary and permanent teeth)	25.9	15.5	21.9	20.7

a National Health and Nutrition Examination Survey 2013-2016, https://www.healthypeople.gov/2020/data-search/
b California Smile Survey, 2018-2019, 3rd grade when compared to children aged 6-9 years
c Los Angeles County Smile Survey 2020, kindergarten when compared to children aged 3-5 years and 3rd grade when compared to children aged 6-9 years

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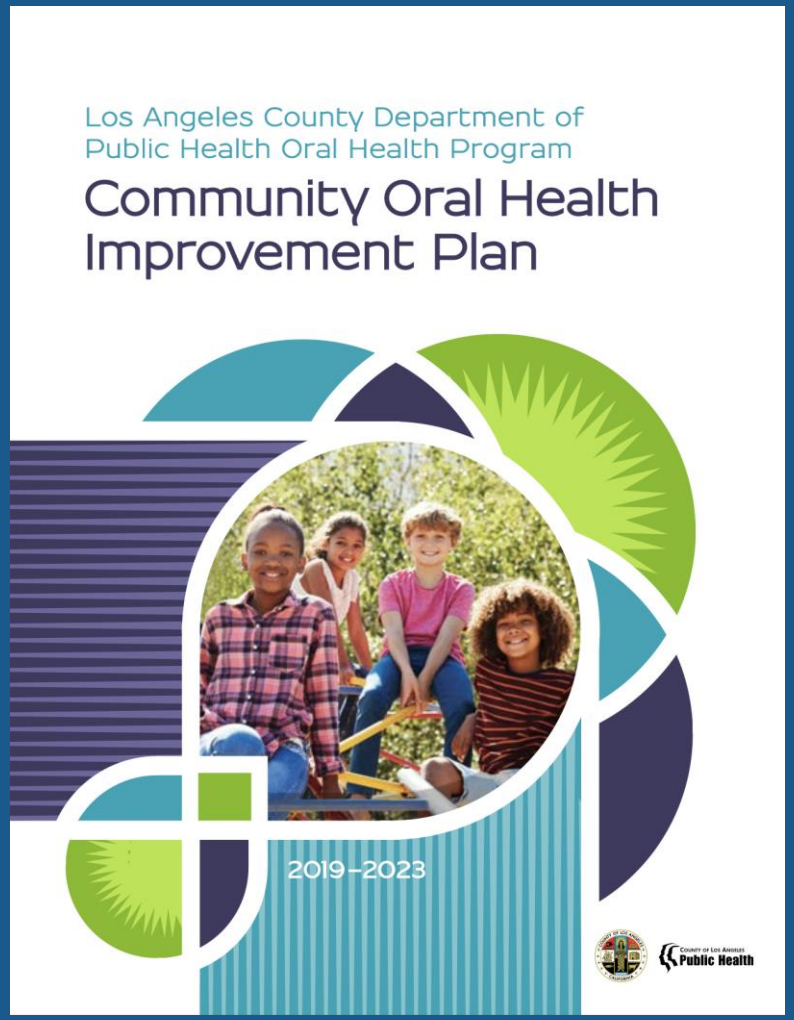


Data reveal disparities in utilization of dental services

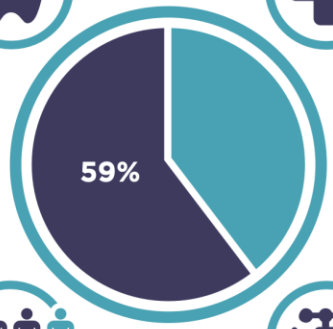
Percentage of population who visited a dentist for any reason in 2015

Source: Los Angeles County Health Survey, 2015

73% of underserved children in Los Angeles have **untreated caries**.

81% of underserved children in Los Angeles have **need dental care**.

Precentage of Angelenos Who Saw a Dentist in the Past Year



Source: Los Angeles County Health Survey, 2015

Of those who did not see a dentist, over **2 out of 3** came from **lower income households.**

42% of Angelenos do not have tap water that is optimally fluoridated.

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IOM - July 2011

Improving Access to Oral Health Care for Vulnerable and Underserved Populations

- Health Resources and Services Administration (HRSA) and the California Health-Care Foundation to ask the **Institute of Medicine (IOM)** to advise them on how to improve access to oral health care.

Committee on Oral Health Access to Services

Board on Children, Youth, and Families

Board on Health Care Services

Institute of Medicine and National Research Council of the National Academies

IOM - 2011
Improving Access to Oral Health Care

- Recommendation 1:
  - Integrating Oral Health Care into Overall Health Care
    - The minimum core competencies will need to prepare graduates to:
      - Recognize risk for oral disease through competent oral examinations,
      - Provide basic oral health information,
      - Integrate oral health information with diet and lifestyle counseling, and
      - Make and track referrals to dental professionals.

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CARIES RISK ASSESSMENT
CRA-FORM < 6-year old

California Department of Health Care Services
Domain #2 Caries Risk Assessment Form for Children <6 Years of Age

Patient Name: _____

ID#_____ Age: _____ Date of Birth: _____

Assessment Date: _____

Please indicate whether this is a BASELINE assessment or a FOLLOW-UP VISIT _____
Provide follow-up visit #) _____

RISK ASSESSMENT

Assessment through interview and clinical examination	High Risk	Moderate Risk	Low risk	Priority for Self-management goal
	Check All That Apply			
1. Risk factors (Biological and Behavioral Predisposing factors)				
(a) Child sleeps with a bottle containing a liquid other than water, or nurses on demand		Yes ☐	No risk factors	
(b) Frequent use beverages other than water including sugary beverages, soda or juice		Yes ☐		
(c) Frequent (>3 times/day) between-meal snacks of packaged or processed sugary foods including dried fruit		Yes ☐		
(d) Frequent or regular use of asthma inhalers or other medications which reduce salivary flow		Yes ☐		
(e) Child has developmental disability /CSHCN (child with special health care needs)		Yes ☐		
(f) Child's teeth not brushed with fluoride toothpaste by an adult twice per day		Yes ☐		
(g) Child's exposure to other sources of fluoride (fluoridation or fluoride tablets) is **inadequate**		Yes ☐		
2. Disease indicators/risk factors – clinical examination of child				
(a) Obvious white spots, decalcifications, enamel defects or obvious decay present on the child's teeth	Yes ☐	No disease indicators	No disease indicators	
(b) Restorations in the past 12 months (past caries experience for the child)	Yes ☐			
(c) Plaque is obvious on the teeth and/or gums bleed easily		Yes ☐		
OVERALL ASSESSMENT OF RISK* (Check)	**HIGH ☐ Code 0603**	**MODERATE ☐ Code 0602**	**LOW ☐ Code 0601**	

*YES to any one indicator in the HIGH RISK COLUMN = **HIGH RISK** [Presence of disease or recent disease experience]. YES, to one or more factors/indicators in the MODERATE RISK COLUMN in the absence of any HIGH RISK indicators = MODERATE **RISK** [Presence of a risk indicator; no disease]. Absence of factors in either high or moderate risk categories = **LOW RISK**

RISK ASSESSMENT CODE THIS VISIT D060_____ RISK ASSESSMENT CODE LAST VISIT D 060_____

SELF MANAGEMENT GOALS AND PLANS

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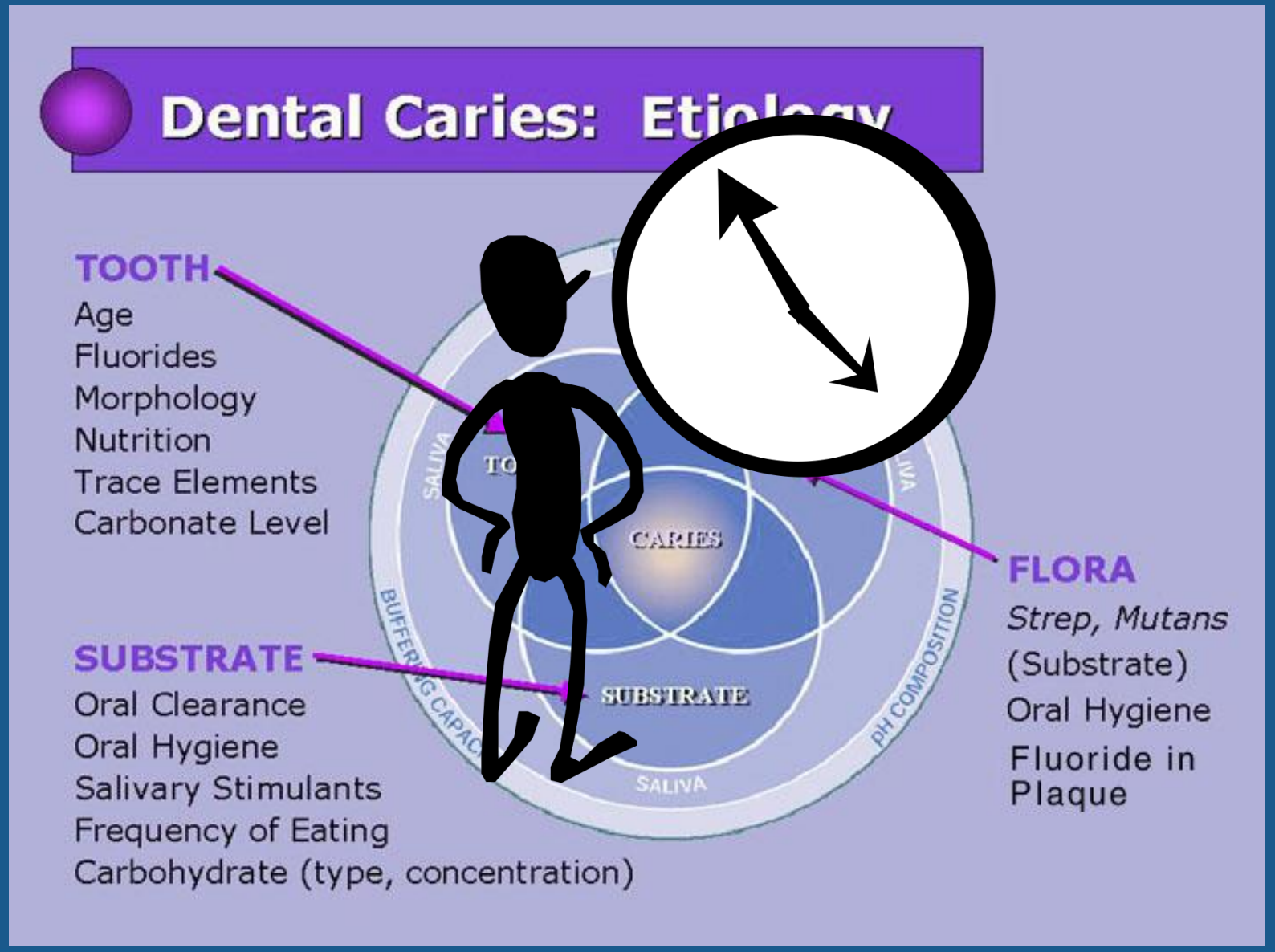
Dental Caries

- Etiology
- Risk factors



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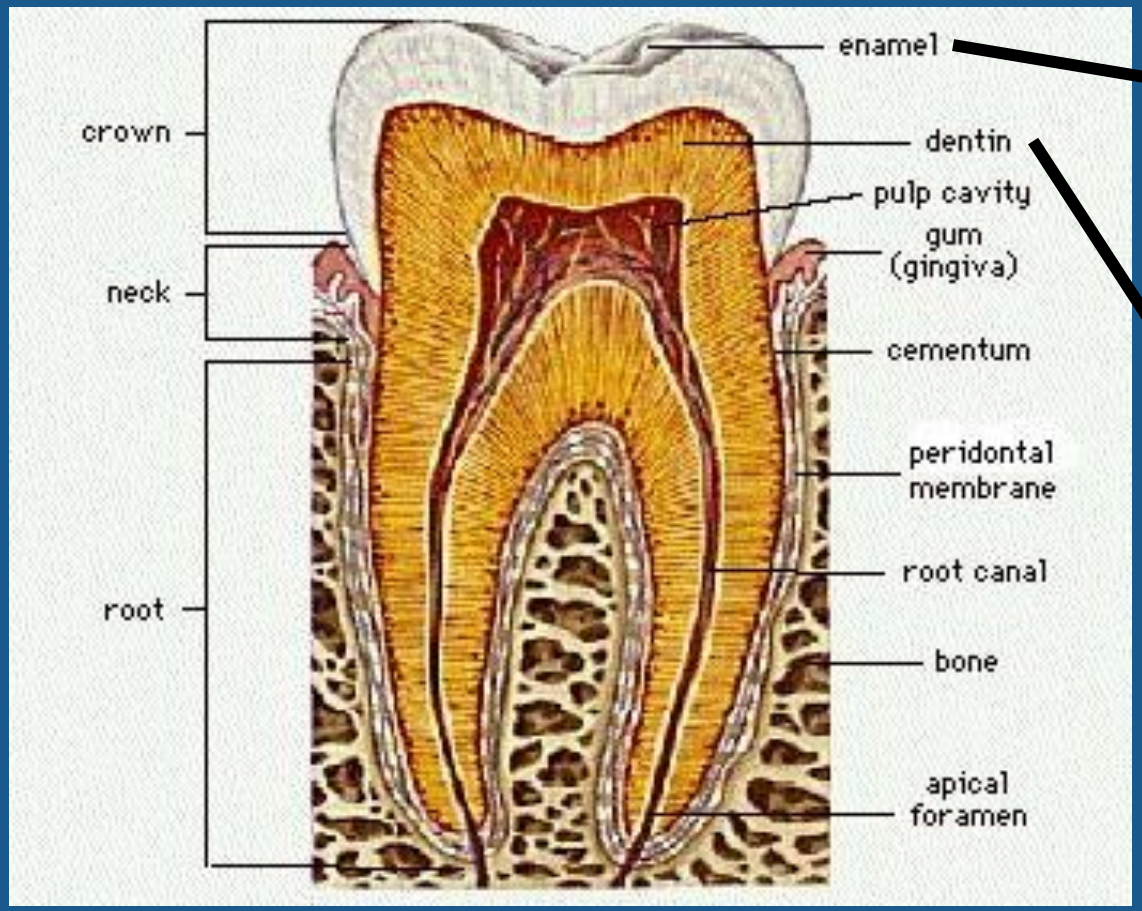
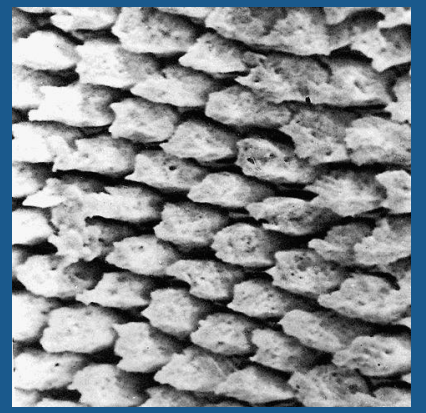
1. Tooth

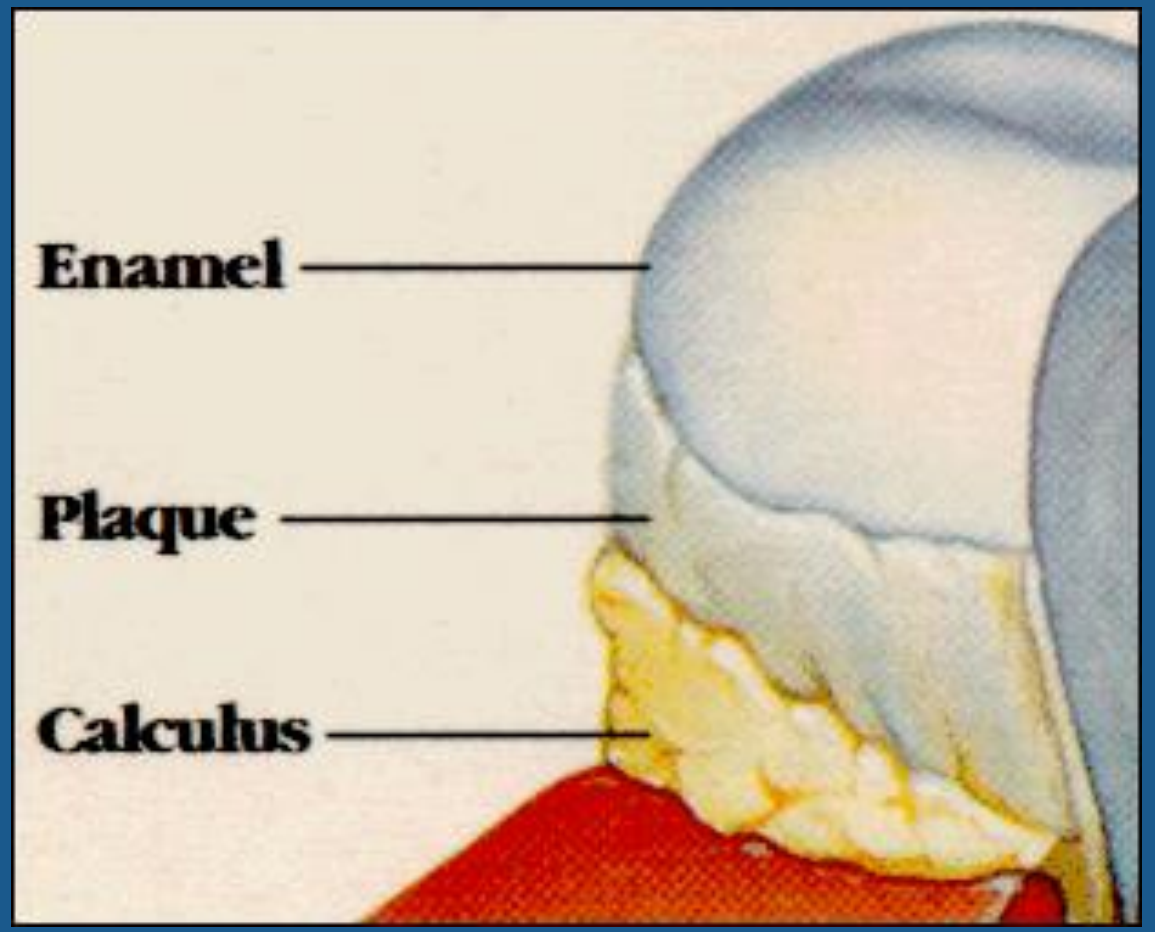
Dental Anatomy





2. DENTAL PLAQUE

- "Biofilm" of oral bacteria attached to teeth
  - Cannot be removed by air/water spray
  - Can be removed by toothbrush
  - Reorganizes / builds up again in about 24 hours
  - Microflora evolves from gram positive to gram negative
- Calculus (tartar) = calcified plaque
  - Cannot be removed by toothbrushing



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2. DENTAL PLAQUE

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2. DENTAL PLAQUE

- TRANSMISSION OF MUTANS STREPTOCOCCI TO INFANTS

- Mutans Streptococci genotypes of infants are identical to mothers' 71% of time
- Greater fidelity of transmission in female infants than male (88% vs. 53%)
- No father-infant transmission

-Li Y, Caufield PW, 1995

3. SUGARS

SUGAR is the only cause of tooth decay.

60-90% of school aged children

92% of adults have experienced tooth decay

- High fructose corn syrup
- Agave nectar
- Barley malt
- Barbados sugar
- Beet sugar
- Brown sugar
- Buttered syrup
- Cane juice
- Cane sugar
- Maltodextrin
- Muscovado
- Diastase
- And many more…

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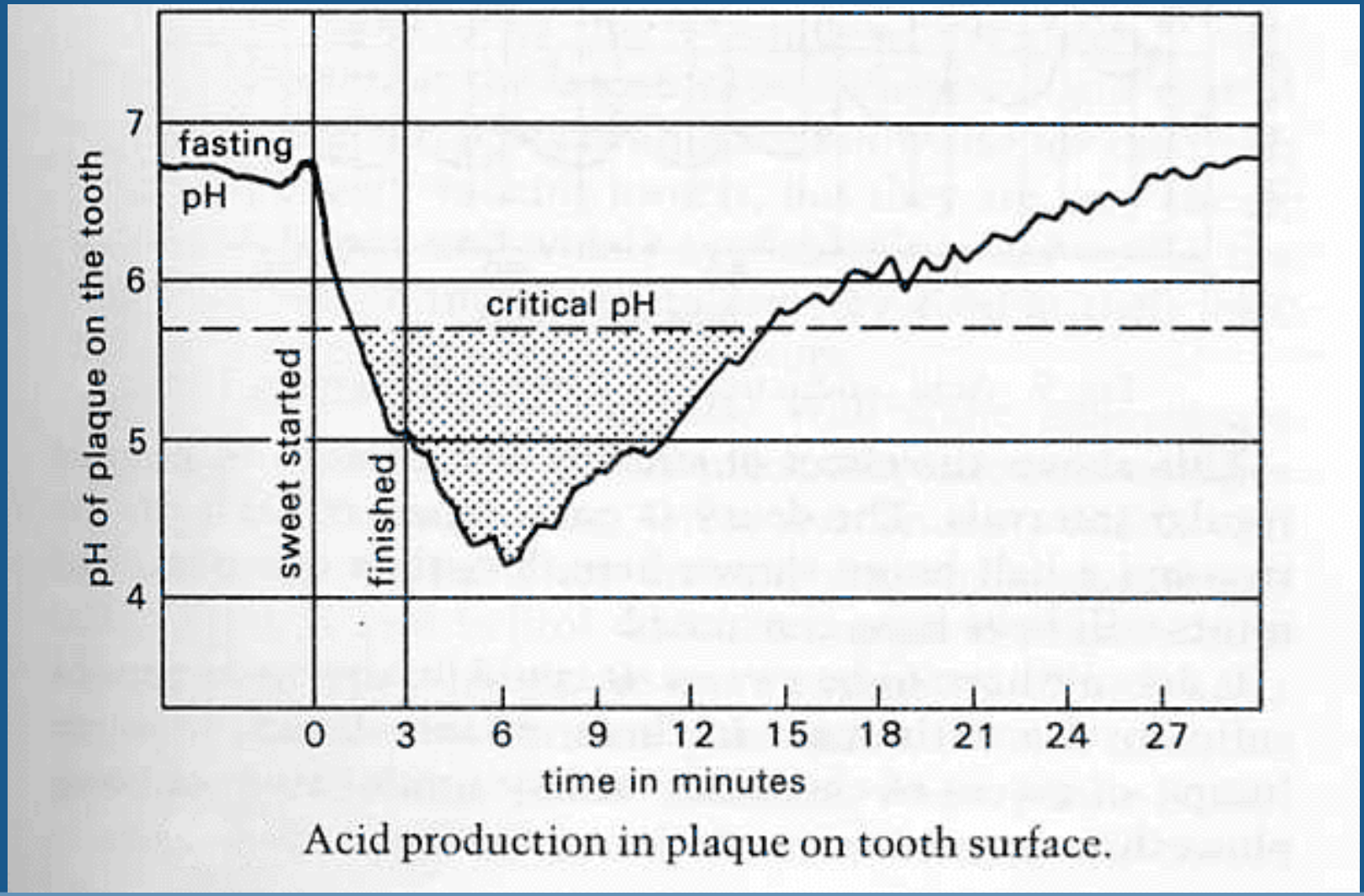
3. SUBSTRATE



Acid production in plaque on tooth surface.

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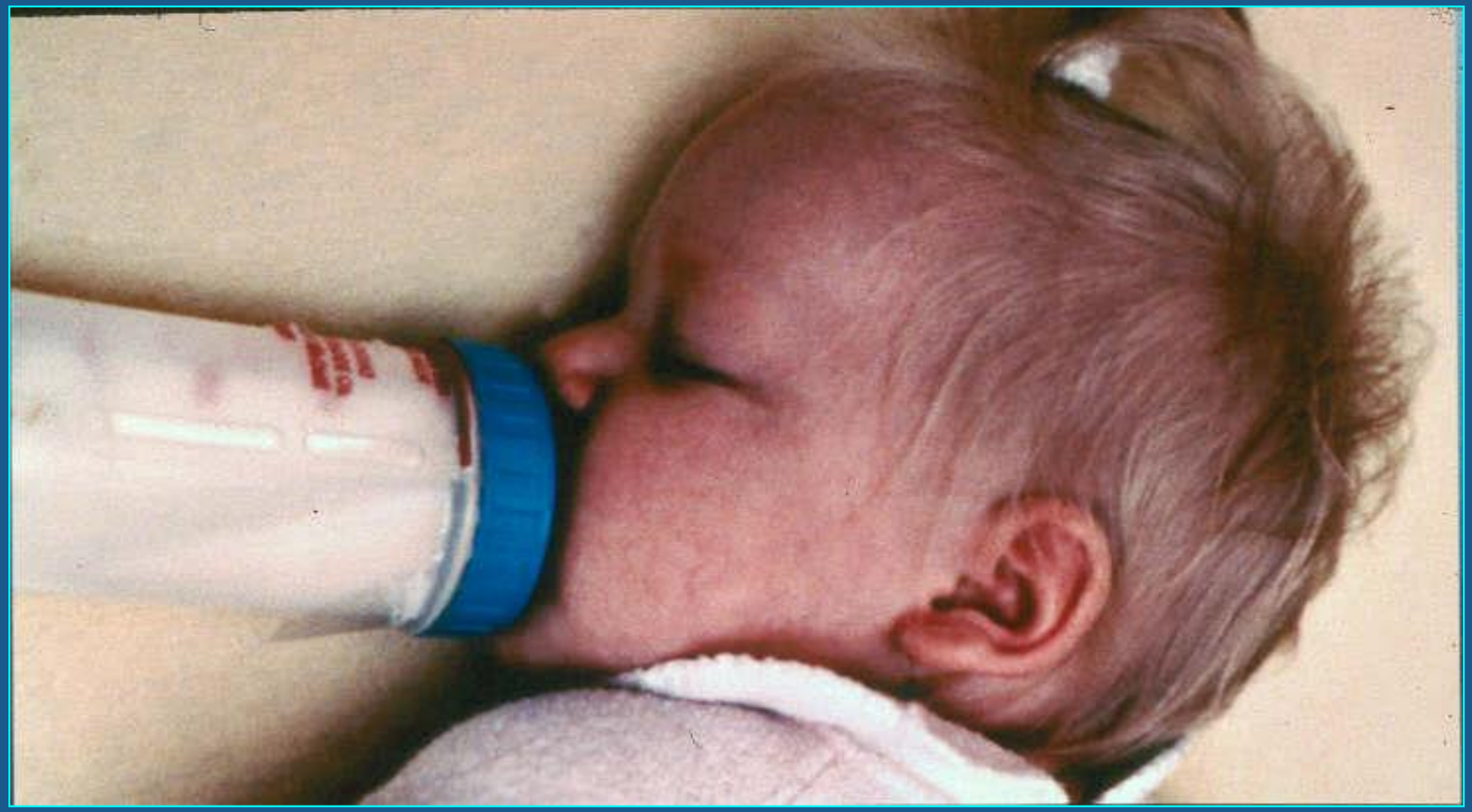
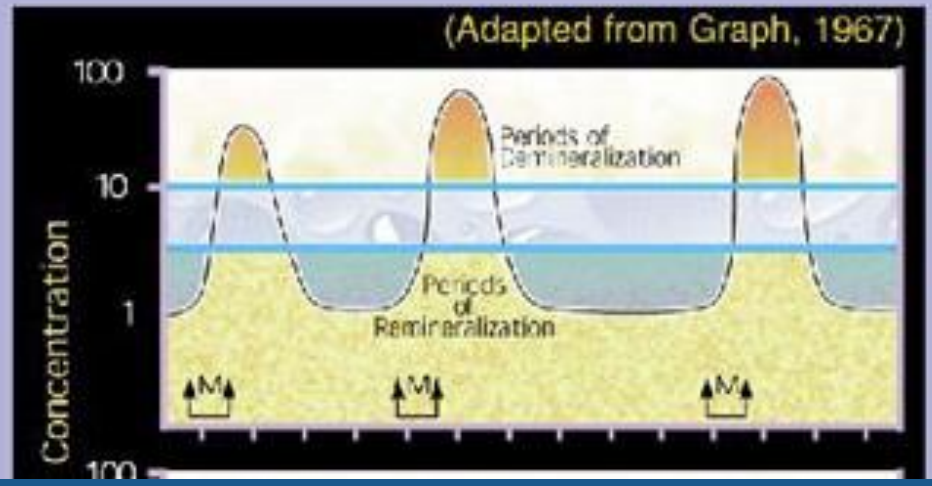
Infant formulas are able to reduce plaque pH below 5.7 level.

-Sheikh C, Erickson P, 1996

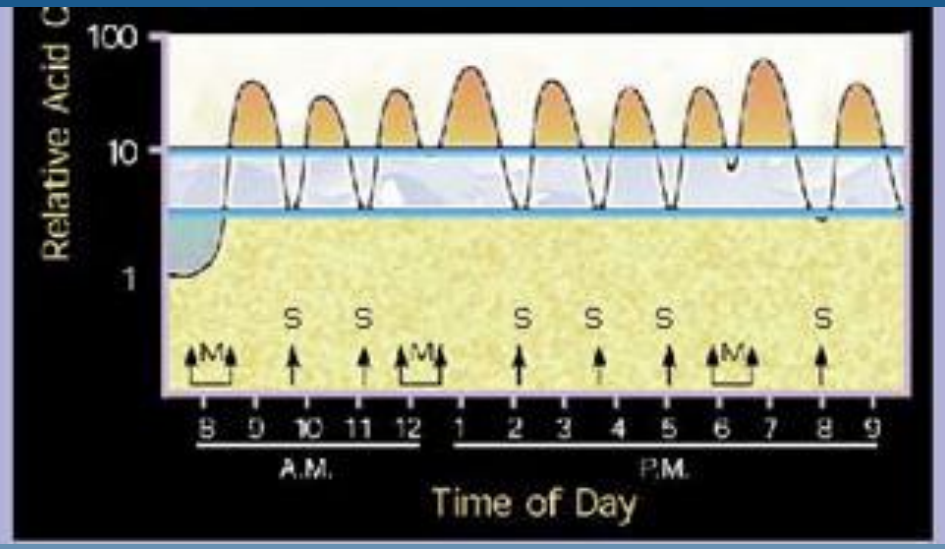


Diet and Frequency

Regular Meals (M)



Regular Meals (M)
plus
Sweet Snacks (S)



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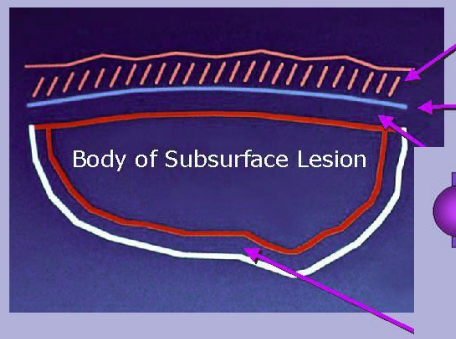
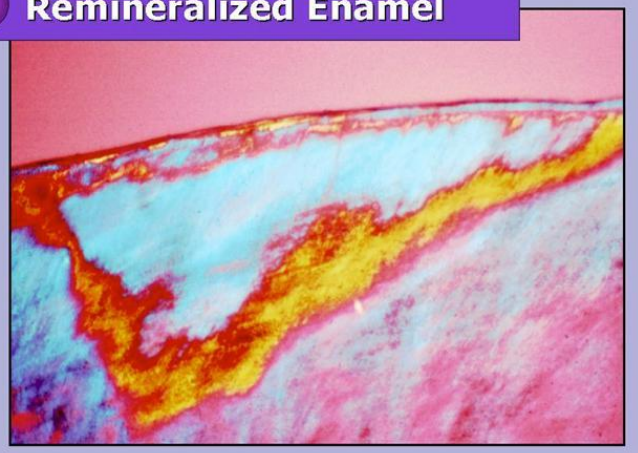
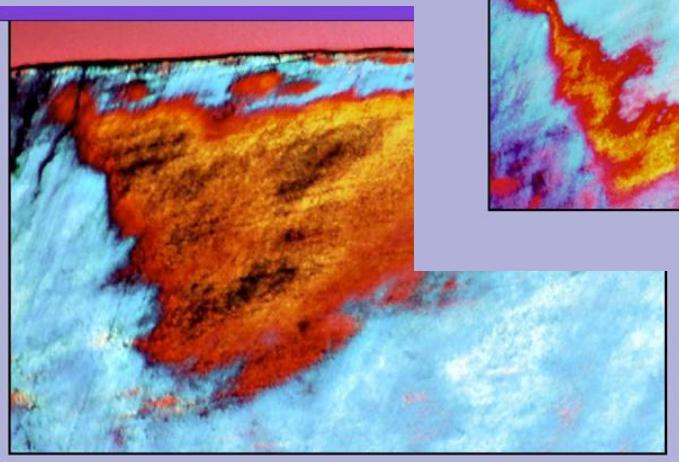
Dental Plaque and Enamel White Spot Lesions

Subsurface Lesion



Remineralized Enamel





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Dental Caries Progression

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Dental Caries

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Dental Abscess

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Facial Cellulitis

Facial cellulitis occurring secondary to a dental abscess is a true dental emergency!

Symptoms

- Pain, often with fever
- Facial swelling
- Trismus, dysphagia, or airway obstruction

Photo: ICOHP

Treatment

- Localized cellulitis in compliant patients:
  - Outpatient oral antibiotics and analgesics
  - Prompt dental referral
- Extraction or root canal treatment to prevent recurrence
- Severe cellulitis involving deep spaces or sepsis requires CT scan and hospitalization

STFM SOCIETY OF TEACHERS OF FAMILY MEDICINE

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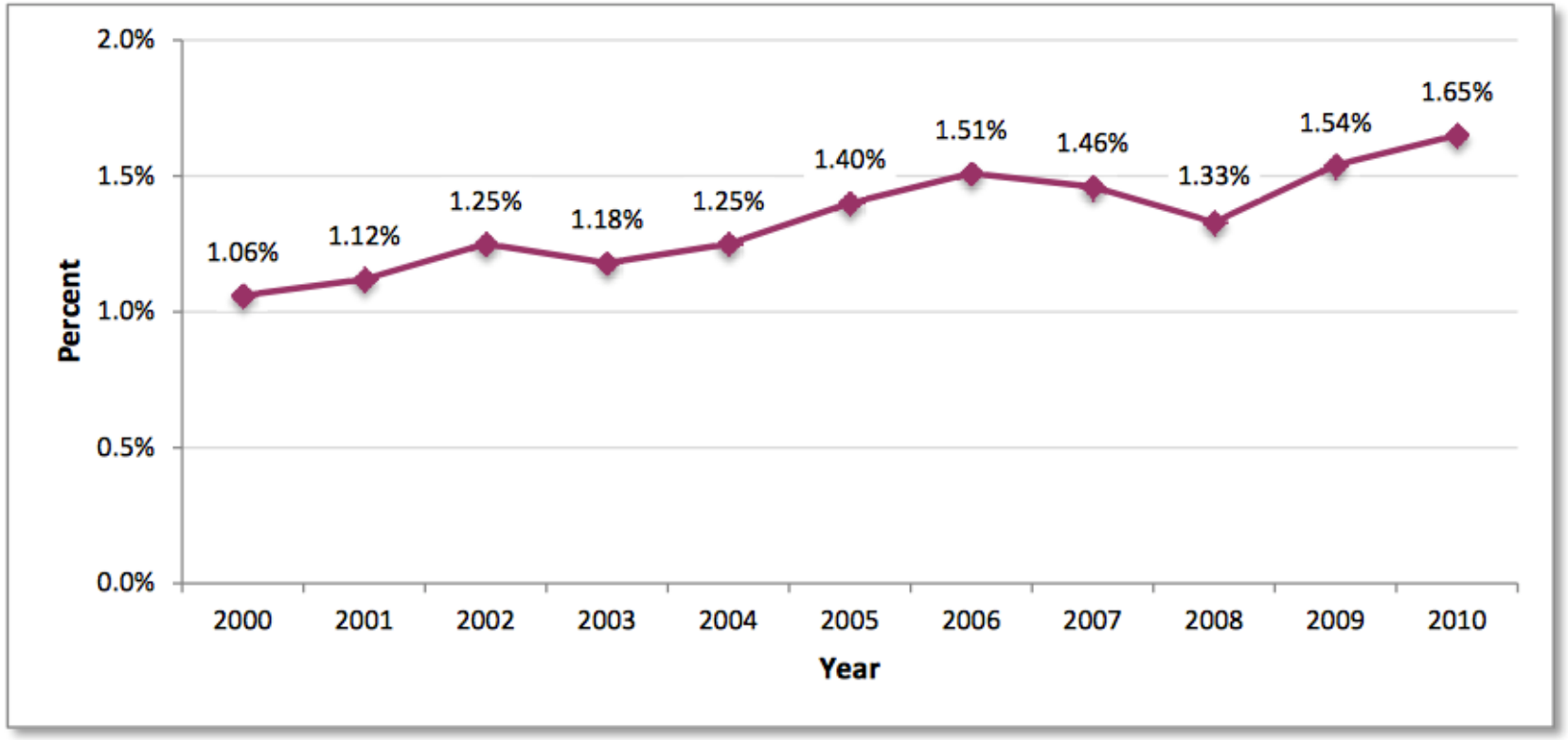
Dental-Related Emergency Department Visits on the Increase in the United States

Figure 1: Dental Emergency Department Visits as a Percent of Total Emergency Department Visits in the United States, 2000 to 2010



Source: National Hospital Ambulatory Medical Care Survey, NCHS. **Note:** Change from 2000 to 2010 is statistically significant at the 1% level.

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RECOMMENDATIONS

Clinical Examination

White spot lesions
Enamel Defects
Restorations

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Knee-to-knee oral exam

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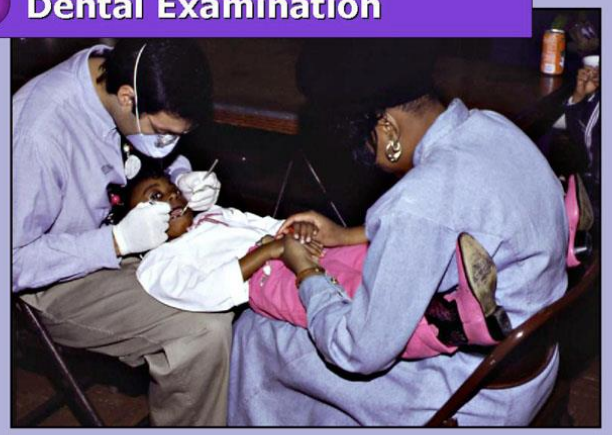
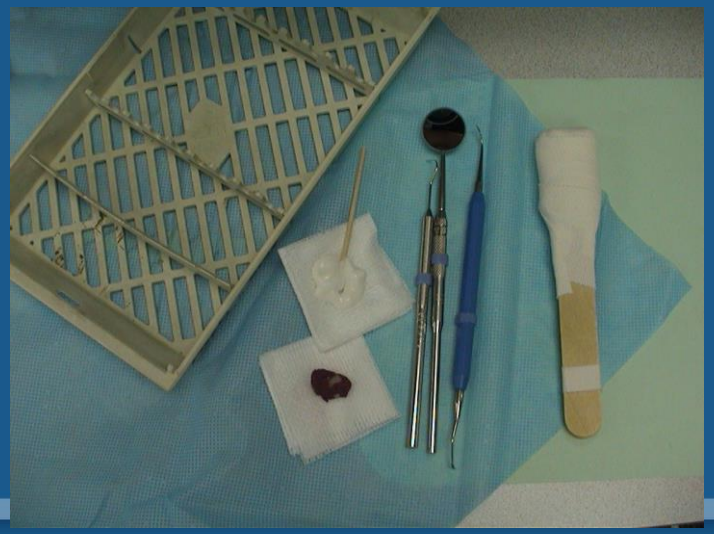
Examination

Dental Examination





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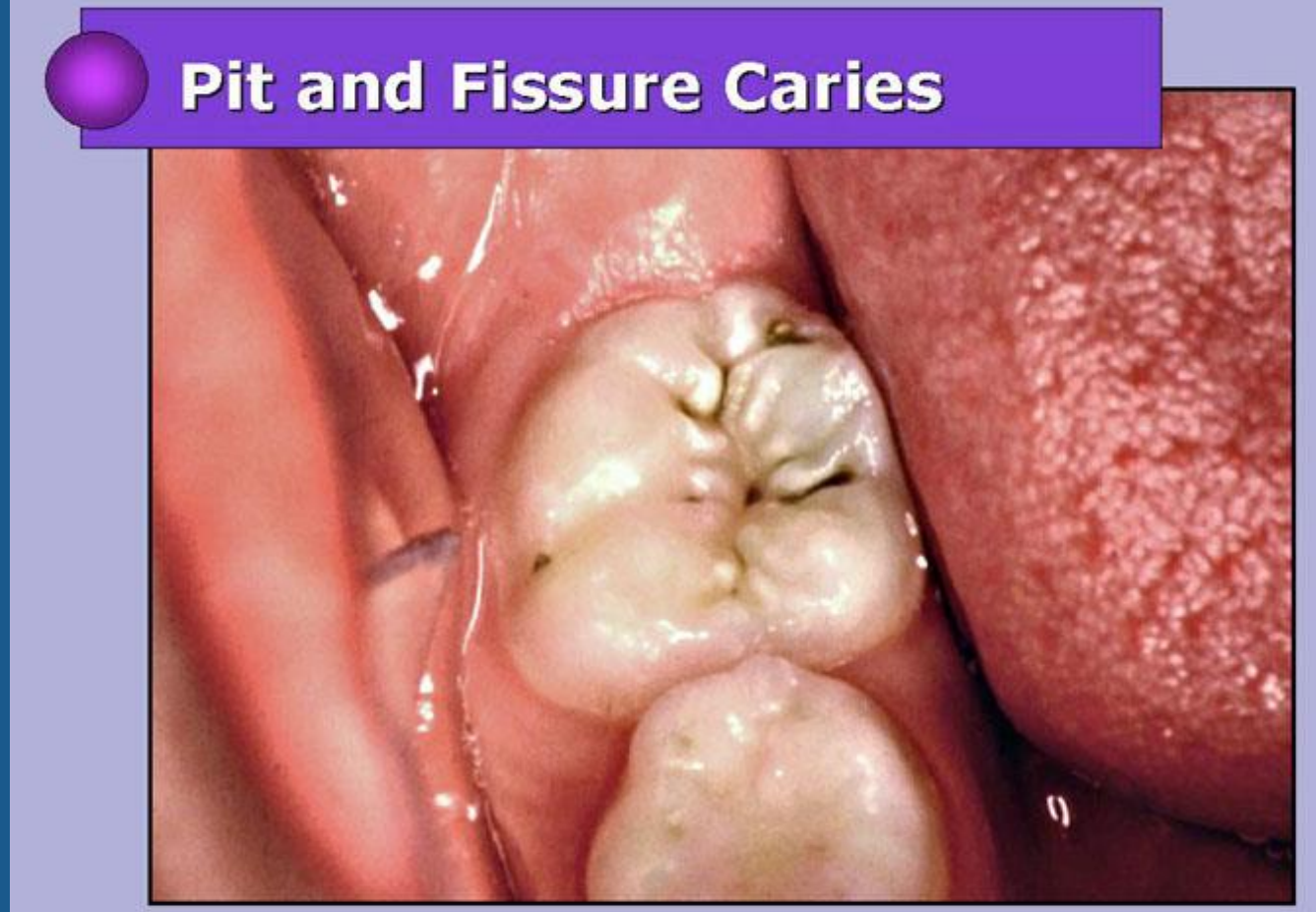
Dental Sealant



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Enamel Hypoplasia

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Periodontal Disease

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Periodontitis associated with Systemic Disease

- Papillon-Lefevre Syndrome
- Cyclic Neutropenia
- Agranulocytosis
- Down Syndrome
- Insulin Dependent Juvenile Diabetes
- Leukocyte adhesion deficiency
- Hypophosphatasia
- Leukemia
- Histiocytosis-X

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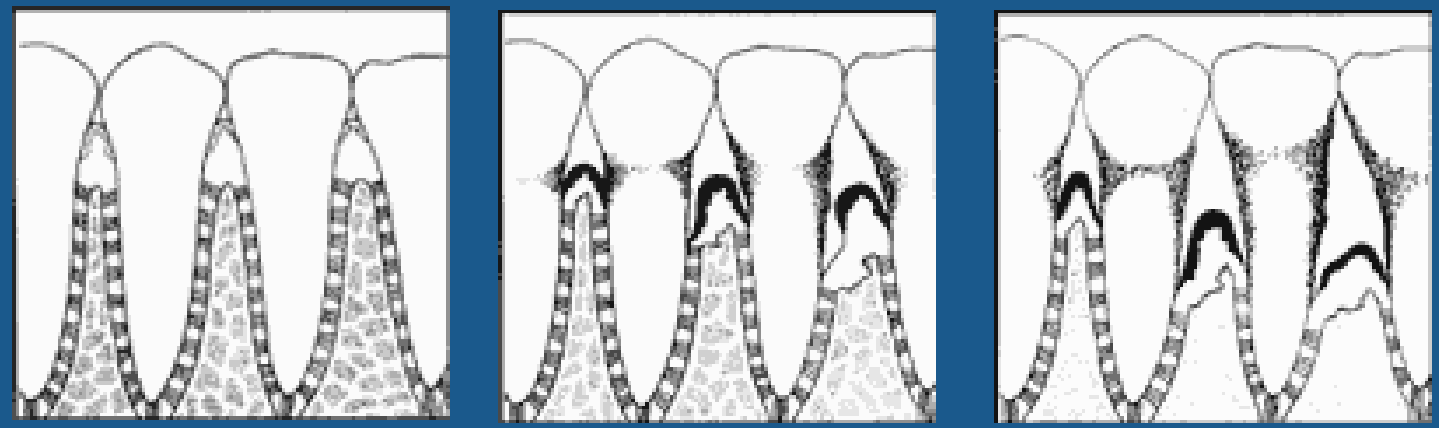
Periodontal Disease

Health - Gingivitis

Periodontitis



Papillon Le Fevre Syndrome

- Treatment:
  - Periodontal debridement
  - Amoxicillin and Metronidazole
    - Amoxicillin 250 mg and Metronidazole 250 mg tid for 8 days

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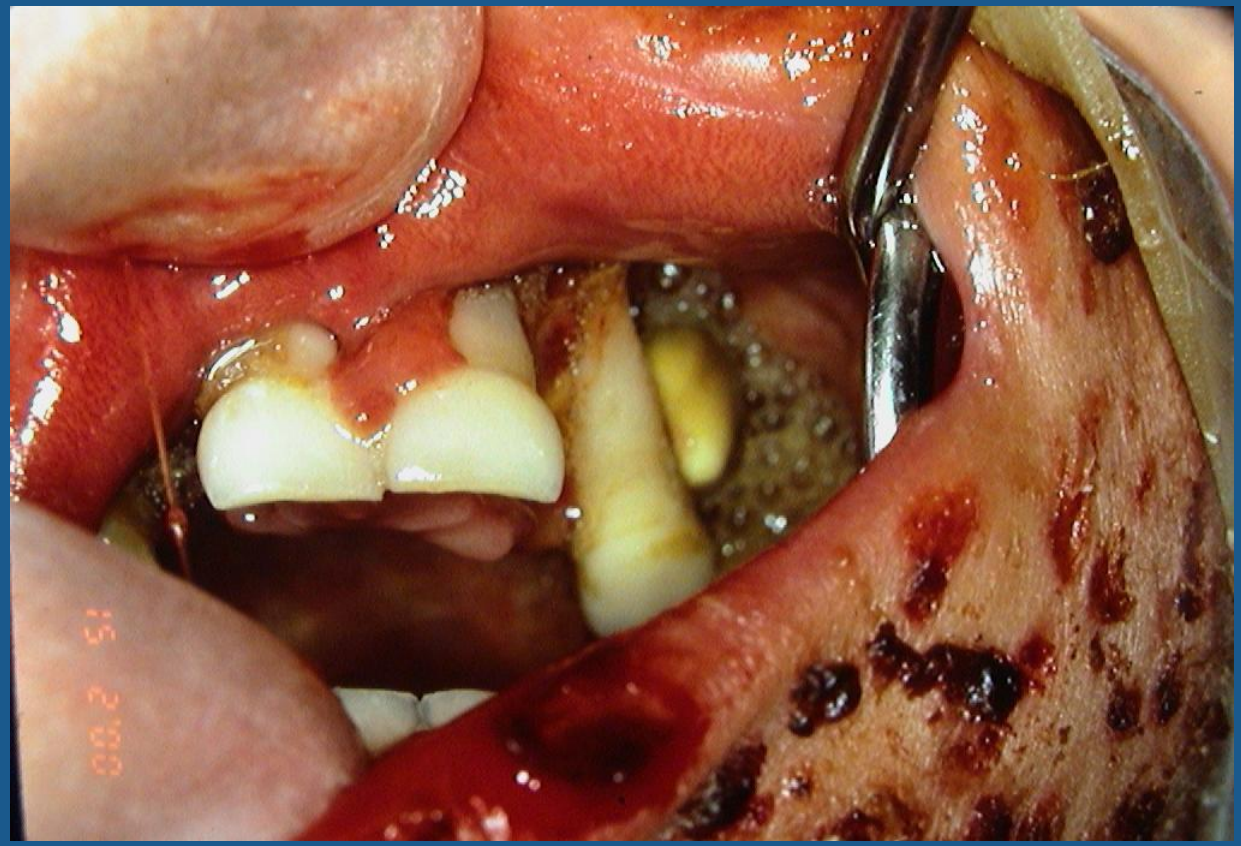
Histiocytosis X



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Caries Risk Assessment (CRA)-FORM < 6 year-old

Assessment through interview and clinical examination	High Risk	Moderate Risk	Low risk	Priority for Self-management goal
	Check All That Apply			
1. Risk factors (Biological and Behavioral Predisposing factors)				
(a) Child sleeps with a bottle containing a liquid other than water, or nurses on demand		Yes ☐	No risk factors	
(b) Frequent use beverages other than water including sugary beverages, soda or juice		Yes ☐		
(c) Frequent (>3 times/day) between-meal snacks of-packaged or processed sugary foods including dried fruit		Yes ☐		
(d) Frequent or regular use of asthma inhalers or other medications which reduce salivary flow		Yes ☐		
(e) Child has developmental disability /CSHCN (child with special health care needs)		Yes ☐		
(f) Child's teeth not brushed with fluoride toothpaste by an adult twice per day		Yes ☐		
(g) Child's exposure to other sources of fluoride (fluoridation or fluoride tablets) is **inadequate**		Yes ☐		

CRA-FORM < 6-year old

2. Disease indicators/risk factors – clinical examination of child

(a) Obvious white spots, decalcifications, enamel defects or obvious decay present on the child's teeth	Yes ☐	No disease indicators	No disease indicators	
(b) Restorations in the past 12 months (past caries experience for the child)	Yes ☐			
(c) Plaque is obvious on the teeth and/or gums bleed easily		Yes ☐		
OVERALL ASSESSMENT OF RISK* (Check)	**HIGH ☐ Code 0603**	**MODERATE ☐ Code 0602**	**LOW ☐ Code 0601**	

*YES to any one indicator in the HIGH RISK COLUMN = **HIGH RISK** [Presence of disease or recent disease experience]. YES, to one or more factors/indicators in the MODERATE RISK COLUMN in the absence of any HIGH RISK indicators = MODERATE **RISK** [Presence of a risk indicator; no disease]. Absence of factors in either high or moderate risk categories = **LOW RISK**

RISK ASSESSMENT CODE THIS VISIT D060_____ RISK ASSESSMENT CODE LAST VISIT D 060_____

CRA-FORM < 6-year old

SELF MANAGEMENT GOALS AND PLANS	
3. (a) Identify one or two Self-Management Goals for parent/caregiver	
(b) Counsel the mother or primary caregiver to seek dental care	Yes ☐ No ☐

Plan for next visit: _____

Signature: _____ Date: _____

Note: Adapted from CAMBRA risk assessment, CDA Journal, October 2011, vol 139, no 10

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CAMBRA

Caries Management By Risk Assessment

Self Management Goals for Parent / Caregiver

CDA JOURNAL, VOL 39, Nº10

Self-Management Goals for Parent/Caregiver

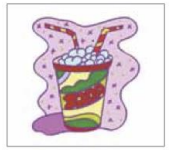
Patient Name _____ DOB _____


Regular dental visits for child


Family receives dental treatment


Healthy snacks


Brush with fluoride toothpaste at least 2 times daily


No soda


Less or no juice


Wean off bottle (no bottles for sleeping)


Only water or milk in sippy cups


Drink tap water


Less or no junk food and candy

Use xylitol spray, gel or dissolving tablets

IMPORTANT: The last thing that touches your child's teeth before bedtime is the toothbrush with fluoride toothpaste.

Self-management goals 1) _____

2) _____

On a scale of 1–10, how confident are you that you can accomplish the goals? 1 2 3 4 5 6 7 8 9 10

Signature _____ Date _____

Practitioner signature _____ Date _____

FIGURE 1. Self-management goals.

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Controlling the Dental Caries Disease Process

- DIET – Composition and Frequency
- Plaque Control
- Dental sealants
- Chemical Intervention
  - Fluoride
  - Xylitol
  - Chlorhexidine
  - MI Paste
- Behavior change

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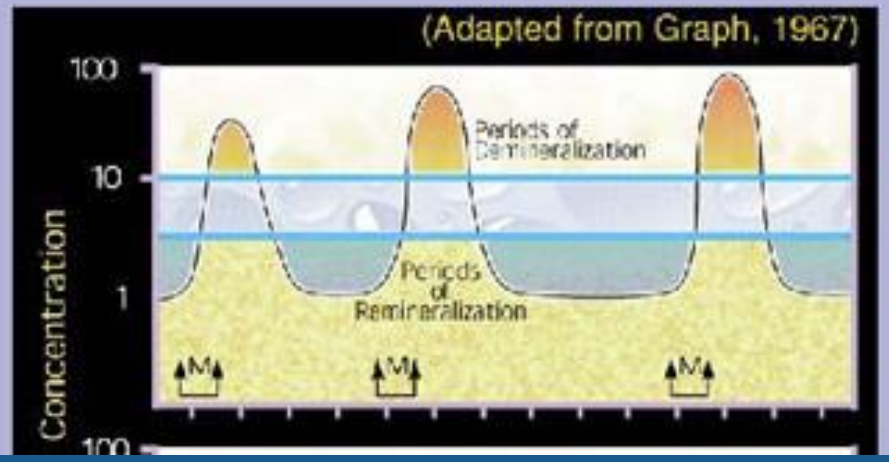
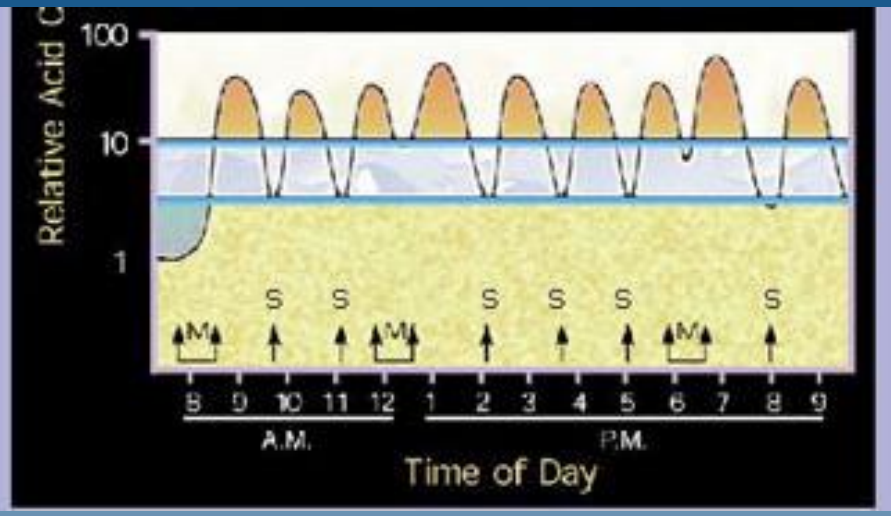
Diet and Frequency

Regular Meals (M)

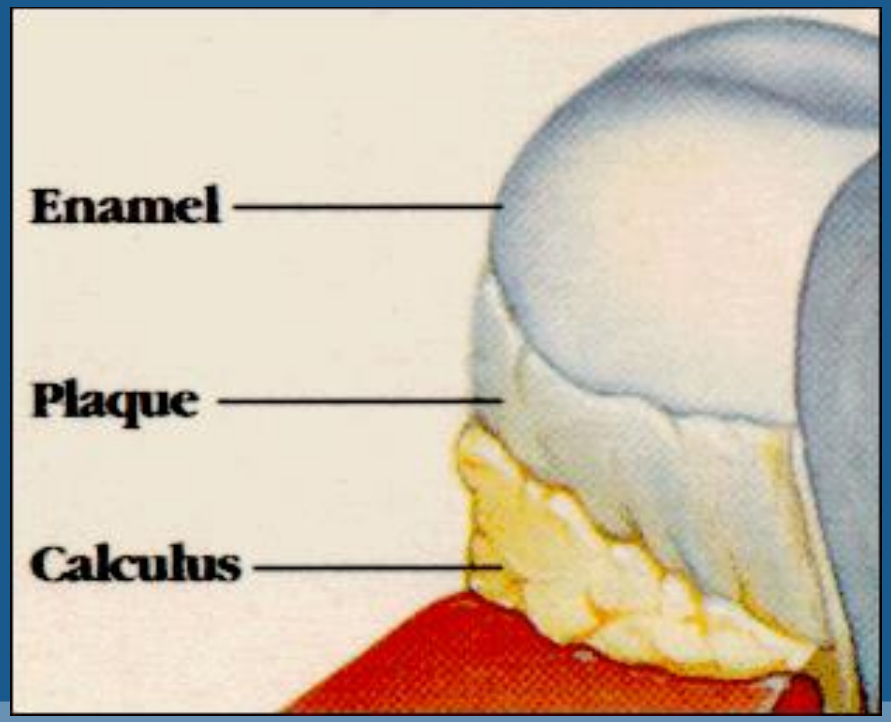


Regular Meals (M)
plus
Sweet Snacks (S)



Toothbrush

- https://catalog.nidcr.nih.gov/OrderPublications/



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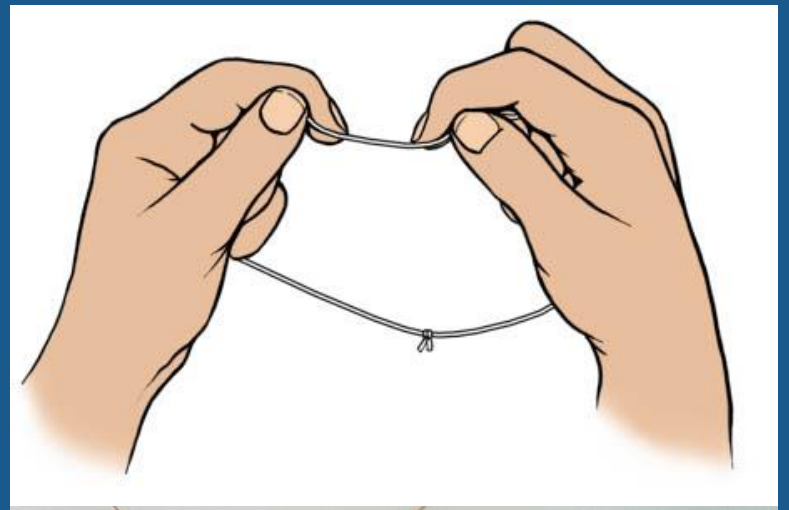
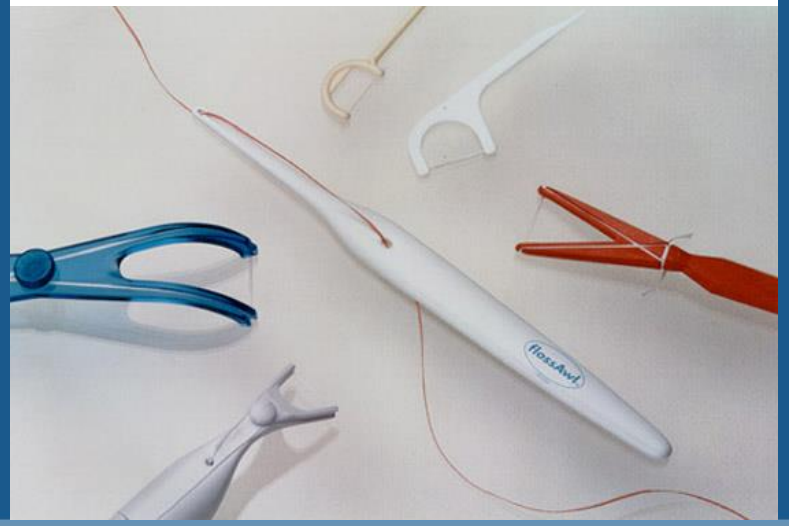
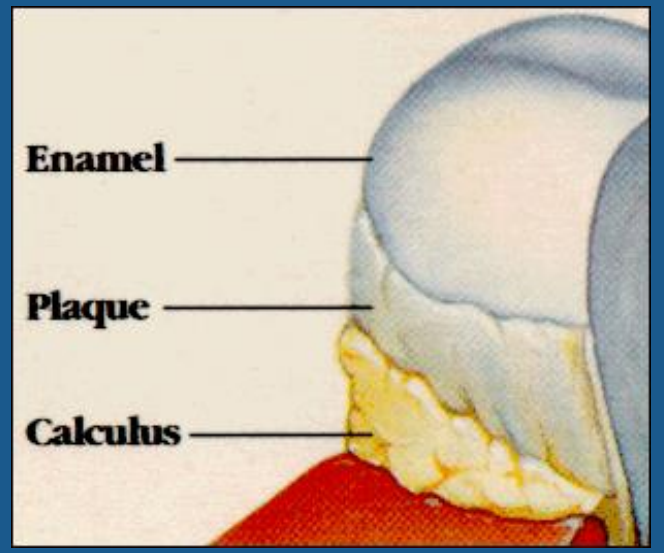
Flossing







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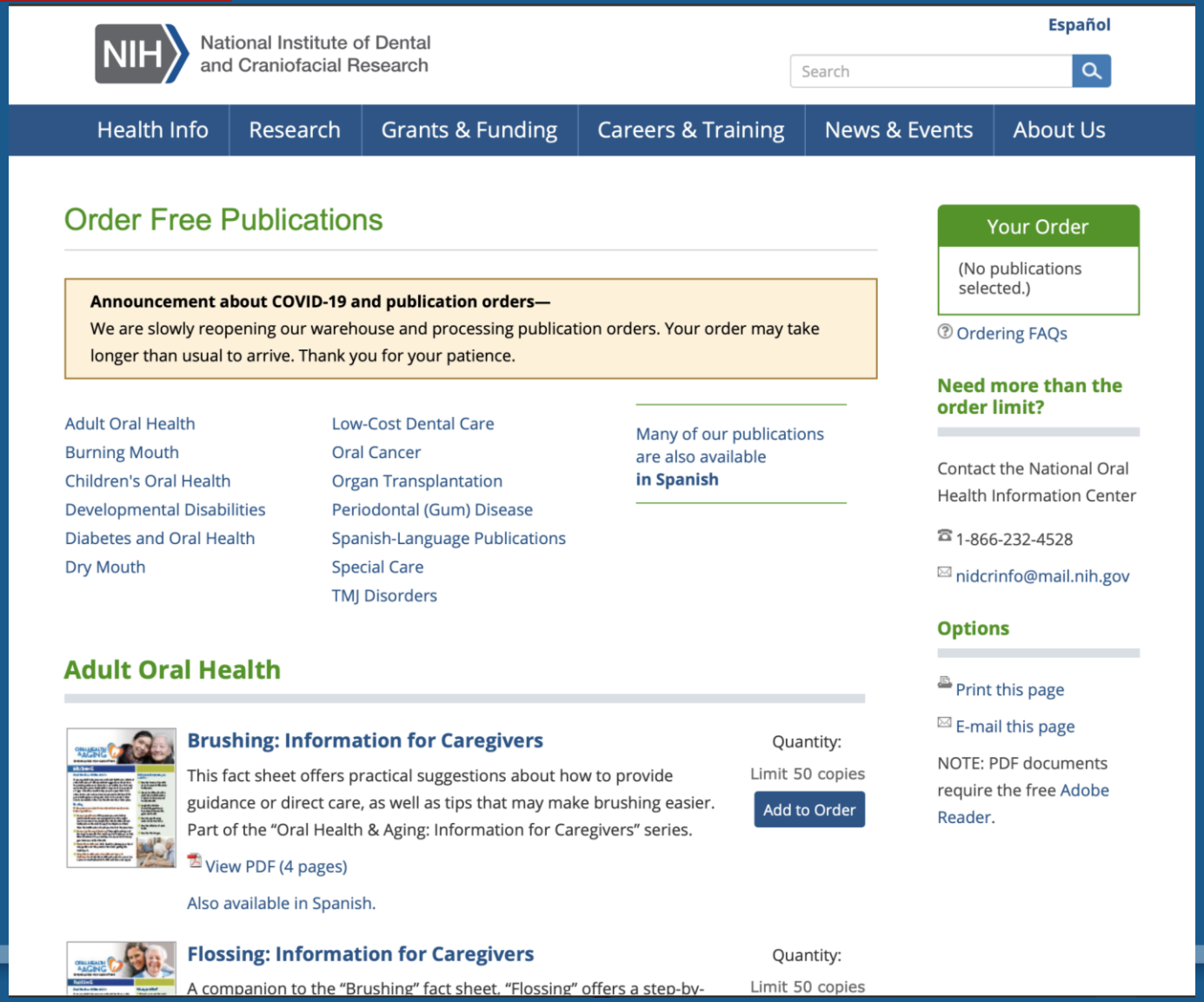
https://www.nidcr.nih.gov/health-info/developmental-disabilities/more-info



NIH National Institute of Dental and Craniofacial Research

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Adult Oral Health

Brushing: Information for Caregivers

This fact sheet offers practical suggestions about how to provide guidance or direct care, as well as tips that may make brushing easier. Part of the "Oral Health & Aging: Information for Caregivers" series.

View PDF (4 pages)

Also available in Spanish.

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Flossing: Information for Caregivers

A companion to the "Brushing" fact sheet, "Flossing" offers a step-by-

Quantity:
Limit 50 copies

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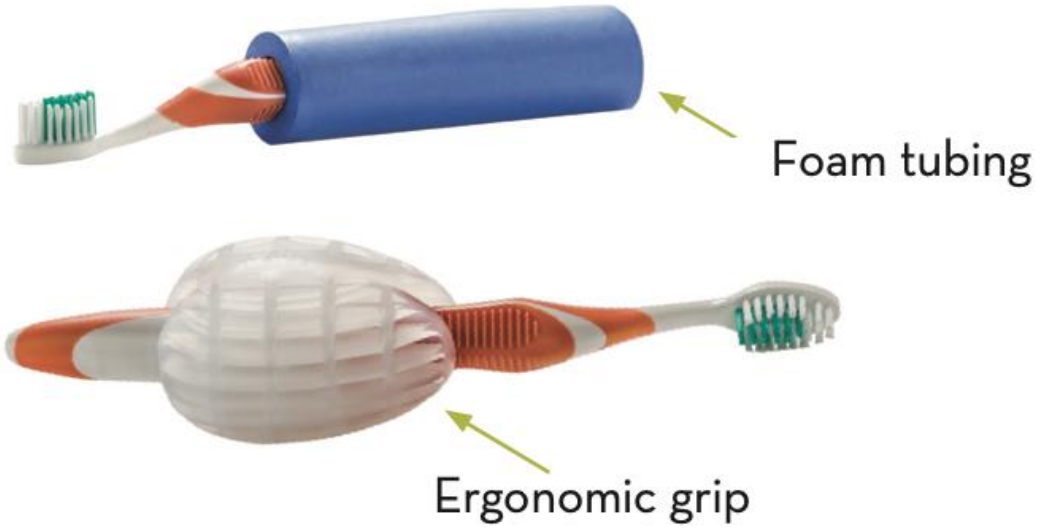
Adapt the toothbrush or try different types of toothbrushes

Make the toothbrush handle bigger.



TIP:

If you make the toothbrush handle bigger, be sure to:

- Remove and clean the grip – and clean the toothbrush handle – at least once a week.
- Allow the grip and handle to dry fully.

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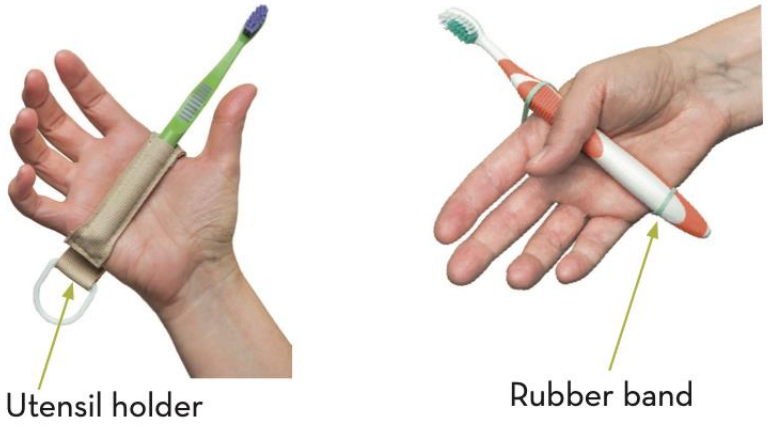
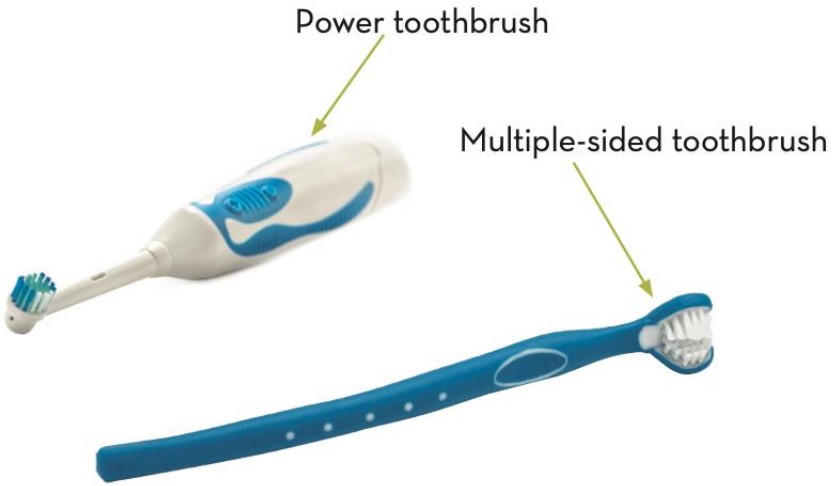
Make the toothbrush easier to hold.



Try other toothbrushes.



Keep the mouth open & prevent accidental biting

Foam mouth rest

- Place mouth rest between upper and lower *back* teeth (follow directions on package); allow care recipient to rest teeth.
- Brush teeth on opposite side of mouth.

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https://www.nidcr.nih.gov/health-info/developmental-disabilities/more-info

- Be creative. If behavior problems arise, use favorite objects or music for comfort.
- Seek the advice of a dental professional for additional suggestions.

Keep the mouth open & prevent accidental biting

Two-toothbrush technique

- Use large handle of one brush to pull back cheek; allow care recipient to rest teeth on handle.
- Use second toothbrush to brush teeth.

- Be sure to brush the teeth on all sides using small circular motions, then brush the tongue.
- If the person you care for cannot rinse, give a drink of water or sweep the mouth with a finger wrapped in damp gauze.

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Mouth Care Options
Mechanically ventilated patients

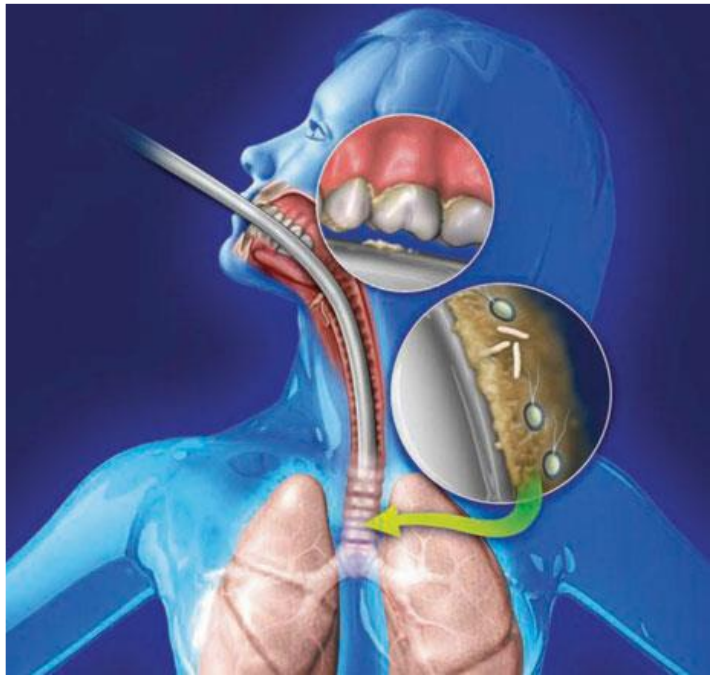

Fig. 7.2 Route of infection in VAP. Bacteria that can cause pneumonia colonize the teeth within the biofilm. The endotracheal tube, in close proximity to the teeth and oral biofilm, provides a route to bypass defense mechanisms. The endotracheal tube can also become colonized by bacteria from the teeth and oral secretions to form a biofilm. The bacteria then enter the lower airway to cause infection (From Ref. [39])

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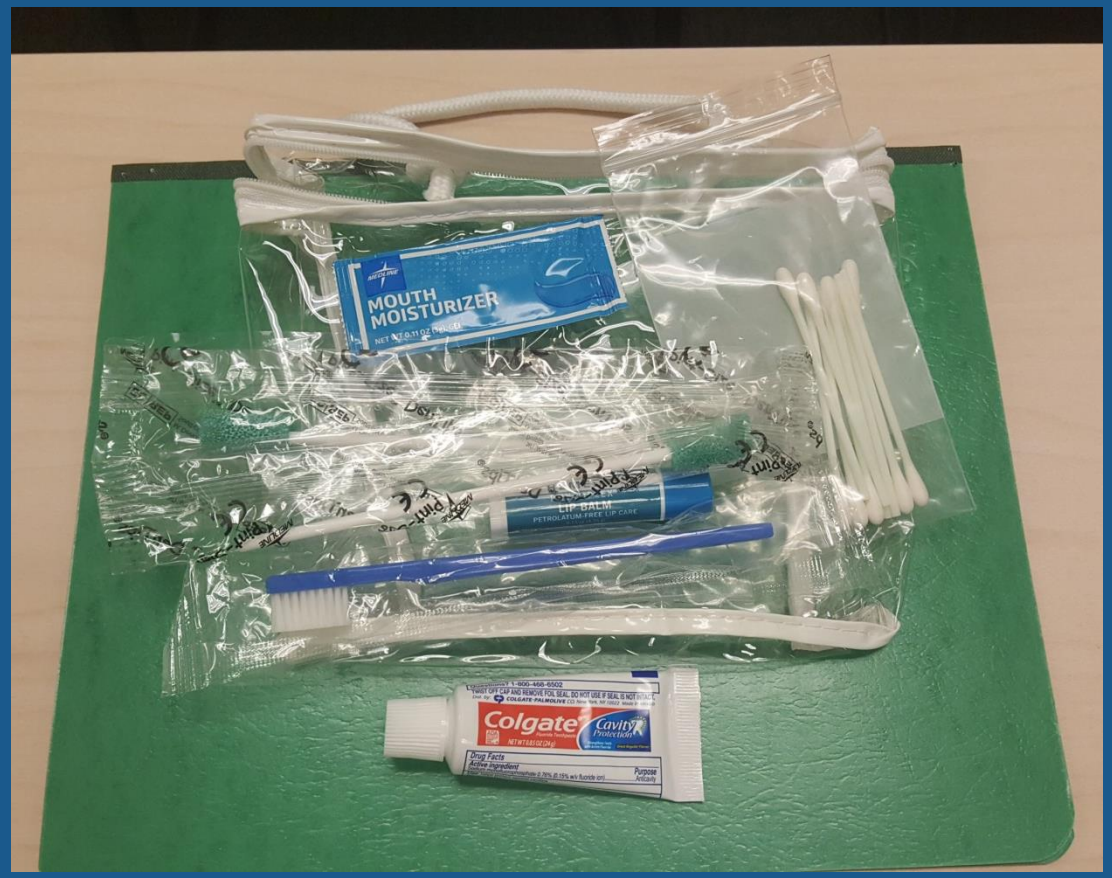
Mouth Care Options

- Patients undergoing chemotherapy



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Fluoride Modes of Action

- Pre-eruptive (systemic)
  - Incorporation of fluoride in developing enamel
- Post-eruptive (topical)
  - Fluoride concentrates in saliva and plaque
  - Inhibits demineralization
  - Enhances remineralization
  - Inhibits bacterial metabolism (acid production)

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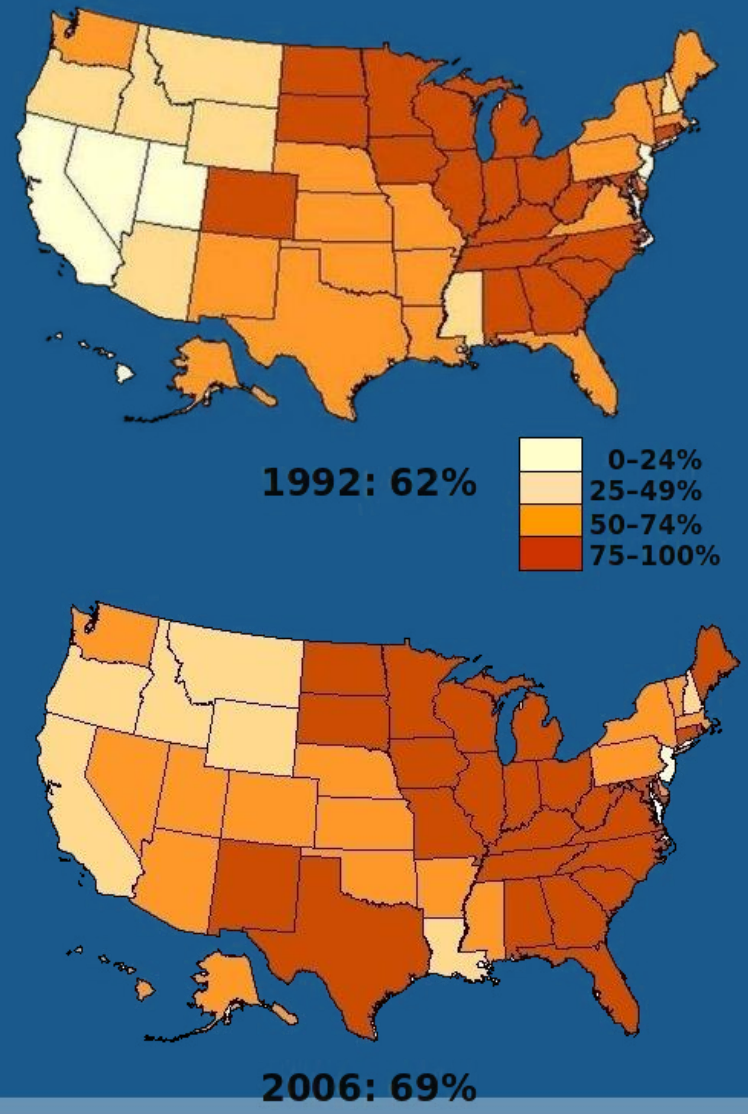
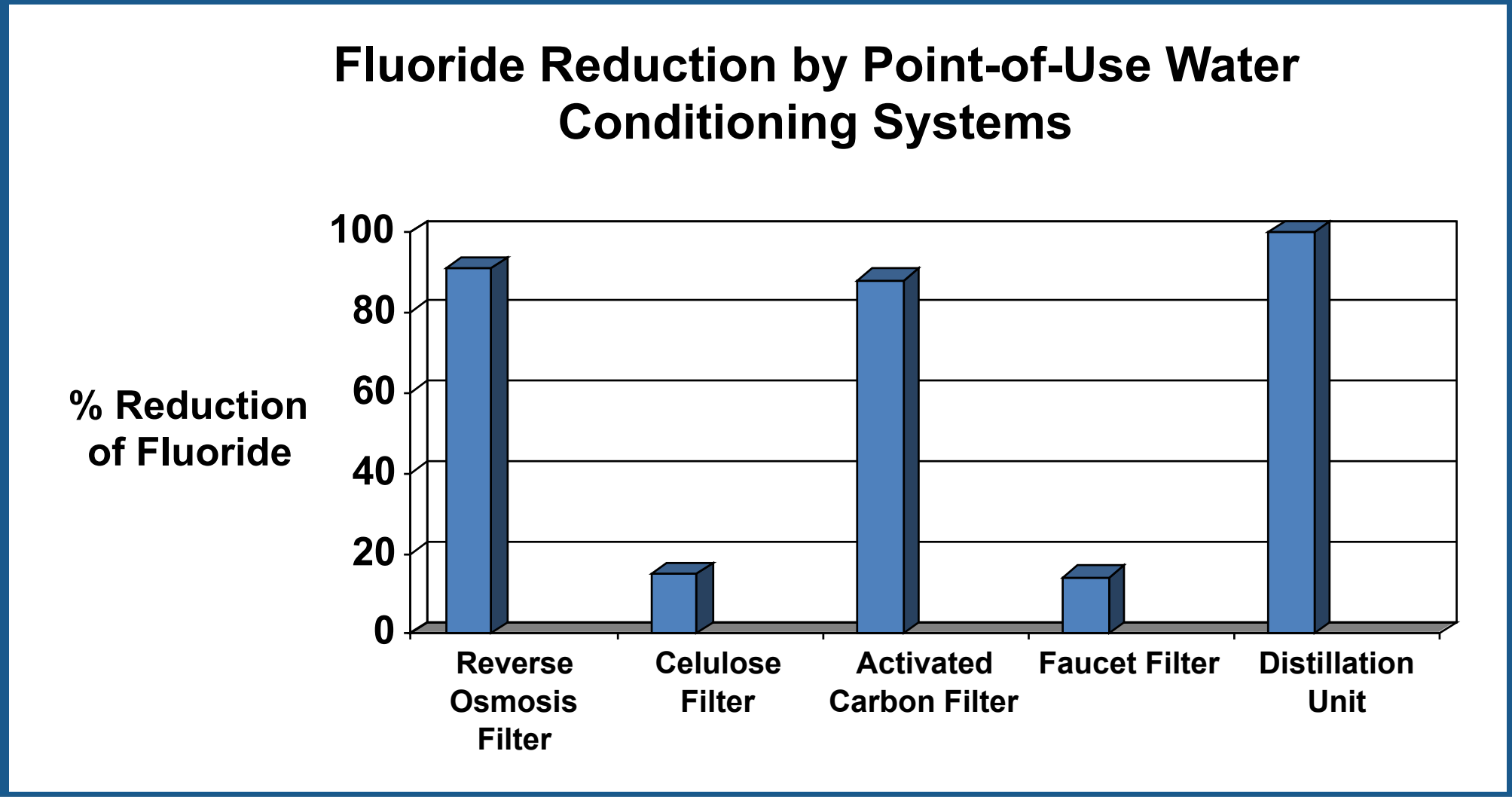
Water Fluoridation



Water Filters



Brown MD and Aaron G: *Pediatric Dentistry. 13(1):35-8, 1991*

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Table. DIETARY FLUORIDE SUPPLEMENTATION SCHEDULE

Age	<0.3 ppm F	0.3 to 0.6 ppm F	>0.6 ppm F
Birth to 6 months	0	0	0
6 mo to 3 years	0.25 mg	0	0
3 to 6 years	0.50 mg	0.25 mg	0
6 to at least 16 years	1.00 mg	0.50 mg	0

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Topical Fluoride - At home

- 20% to 40 % reduction in caries
- Fluoride containing Dentifrice
- OTC rinses (Act®, Fluorgard®)
- Prescription rinses and gels
- Start by Age 1
- Ingestion of pea size amount in those under 6 may place patients at risk for MILD fluorosis

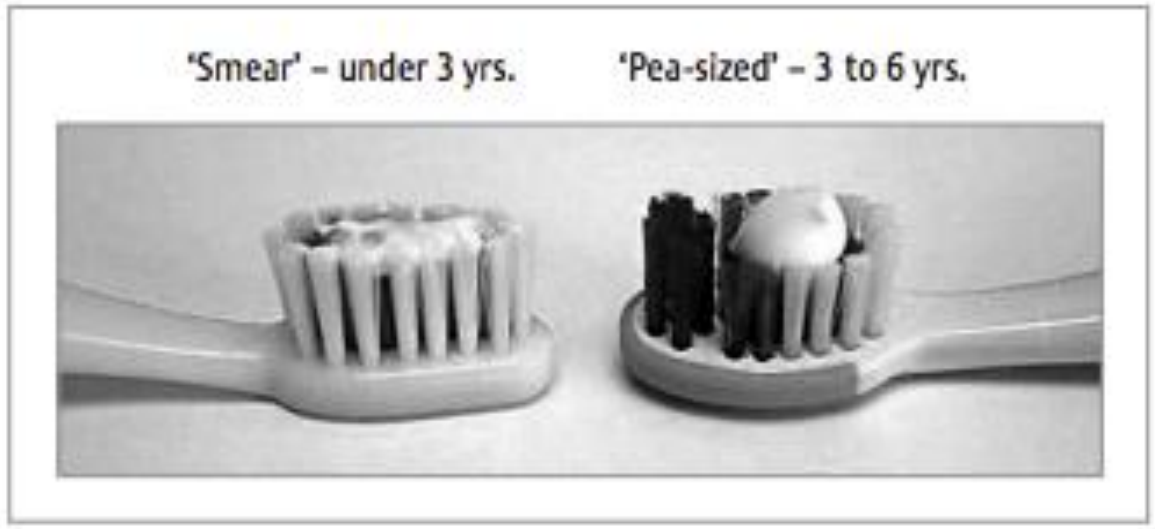

Figure 1. Comparison of a 'smear' (left) with a 'pea-size' (right) amount of toothpaste.

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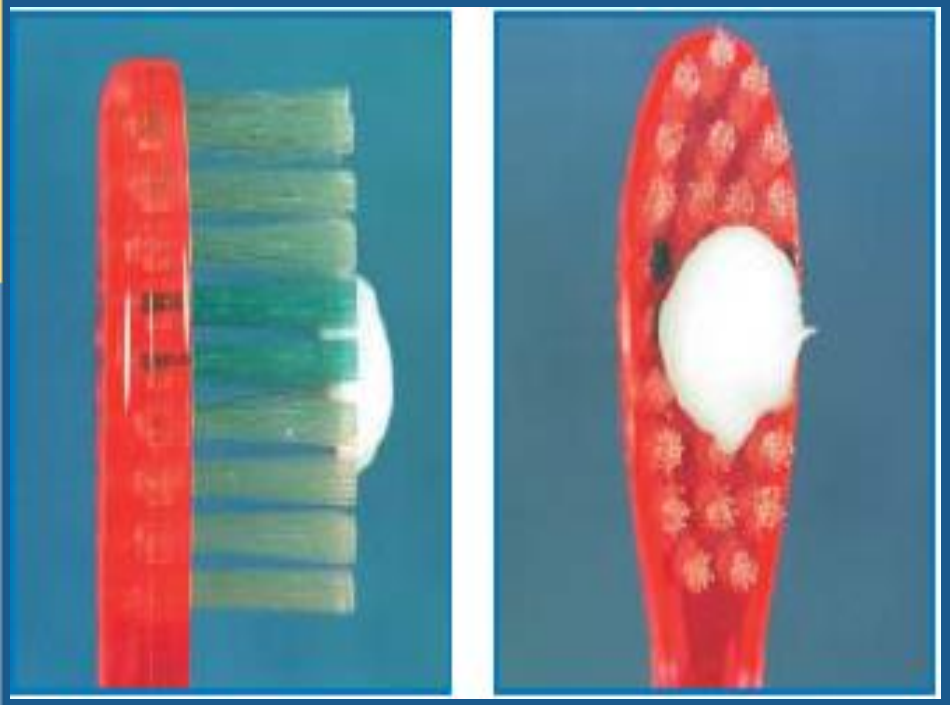
Amount of Fluoride in Toothpaste



Recommended Amount of Toothpaste and its Fluoride content	
ppm F Toothpaste	Amount of F in pea sized (0.25 g) amount of toothpaste
500ppm	0.25 x 0.5 = 0.125 mg F
1,000ppm	0.25 mg F
1,450ppm	0.25 x 1.4 = 0.36 mg F
1,500ppm	0.25 x 1.5 = 0.375 mg F

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1.1% Neutral Sodium Fluoride (prescription strength)

- 5000 ppm of fluoride
- For high caries patients
- Used as a brush-on or in trays
- Applied daily for 5 minutes

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In-Office Fluoride Types

- Topical (1.23% Acidulated Sodium Fluoride)
- Fluoride Varnishes (5% Sodium Fluoride)
- Silver Diamine Fluoride
- 1.1% Neutral Sodium Fluoride (brush on or used in trays)

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Fluoride Varnish

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Silver Diamine Fluoride

- Used in undeveloped countries as a caries control medicament
- FDA approved in 2014 for use in dentinal sensitivity
- Off-label use for caries control

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Silver Diamine Fluoride

Figure 1. Anterior/posterior staining following application of silver diamine fluoride - Esthetic restorations can be used at a future date when the caries process is under control, after the advantages provided by immediate arrest have had an effect: reduced sensitivity, improved hygiene, improved gingival health, enamel and dentin remineralization, tissue preservation.

Table 2. FLUORIDE CONTENT IN SILVER DIAMINE FLUORIDE (SDF) AND FLUORIDE VARNISH (FV) COMMERCIAL UNIT DOSES*

Fluoride product	Unit dose (ml)	Concentration (ppm)	F ion mg/ml	F ion mg/dose
SDF 38%	1 drop (0.05)	44,800	44.8	2.24
FV 5% NaF	0.25	22,600	22.6	5.65
	0.4	22,600	22.6	9.04
	0.5	22,600	22.6	11.3

* Fluoride content equivalence (approximate): 2 drops SDF=small (.25 ml) FV.

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Topical Fluoride - in office

- Effectiveness is questionable because the fluoride level in the superficial tooth structure stays high and is short lived.
- Contains 12,300 ppm of fluoride.
- 6 months pass before the fluoride is applied again, minimizing the effectiveness.

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SOURCES OF FLUORIDE
...Are additive

- Water fluoridation
- + Systemic supplements
- + Rinses/gels
- + Toothpastes
- + Foods
- + Other sources

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Antibacterials

- Chlorhexidine Gluconate 0.12%
  - (Peridex ®, Perigard®)
  - Mothers:
    - 10 ml, daily for 1 week; repeat every month, for 1 year
- 10% Povidone-iodine
  - Applied q. 2 months with swab
- Reinfection by cariogenic oral bacteria occurs after 2-6 months
- May need treatment every 2 months to remain caries free
- Probiotics
- Sodium Hypochlorite

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Low Cost Periodontal Therapy

- The lowest concentration of sodium hypochlorite solution that reliably inactivates bacteria in vitro is 0.01%
- A suitable concentration of sodium hypochlorite for periodontal pocket irrigation is 0.5%, dependent on the taste tolerance of the patient.
  - This is equivalent to 10 ml (two teaspoon- fuls = two-thirds of a tablespoon) of 6.0% household bleach in 125 ml (one half-glass) of water.
- Special measuring spoons are available that hold exactly 5 ml.
- Patients are advised to rinse orally for 30 s, two or three times a week, with 8 ml (two reduced tea- spoonfuls) of 6% chlorine (household) bleach diluted in 250 ml of water (full glass), to yield a sodium hypochlorite concentration of 0.2%.

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Carifree

Each individual CariFree product is given a score based on the number of agents they contain.

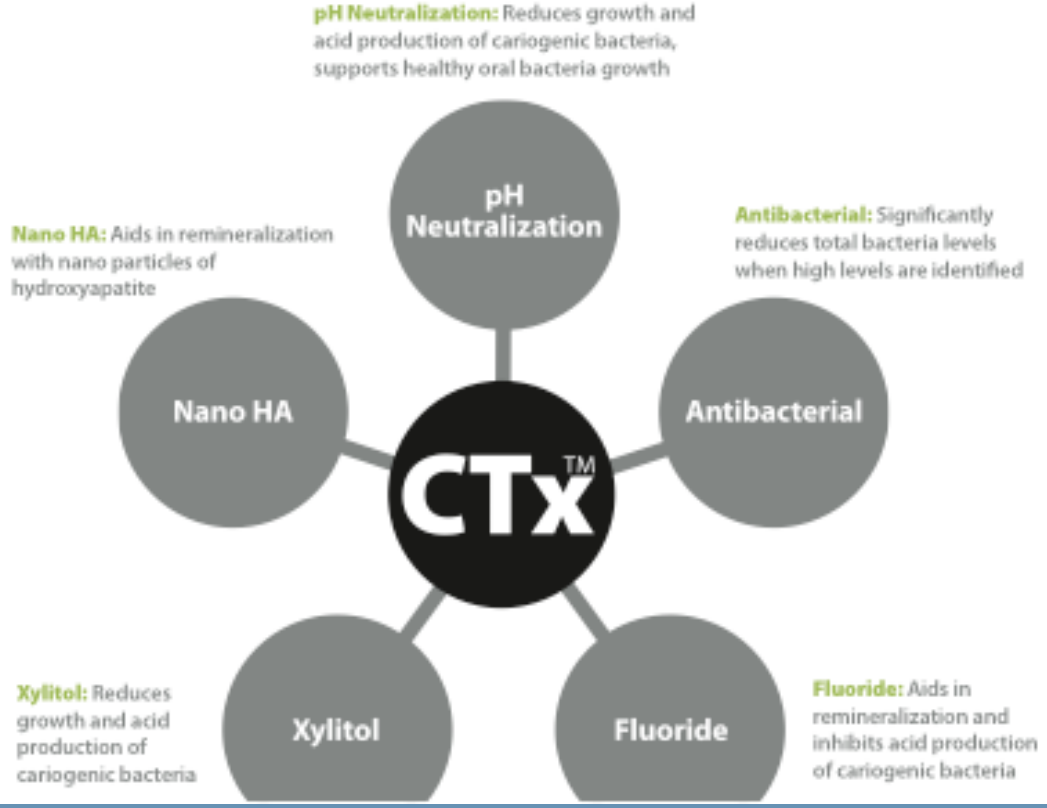
CTx4 Treatment Rinse (4)

CTx4 Gel 5000 (4)

CTx3 Rinse (3)

CTx2 Spray

There are five treatment agents prescribed for managing the disease that causes cavities. Each CariFree product is designed to provide the specific agents necessary as per each individual patient's caries risk. The higher the patient's risk, the higher the recommended level of exposure to the five principle treatment agents.



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KEY RECOMMENDATIONS

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The American Academy of Pediatric Dentistry (AAPD) Dental Home

- The dental home is the ongoing relationship between the dentist and the patient, inclusive of all aspects of oral health care delivered in a comprehensive, continuously accessible, coordinated, and family-centered way.

- Establishment of a dental home begins no later than 12 months of age and includes referral to dental specialists when appropriate.
    - AAPD / AAP

AAP - Policy Statement

Oral Health Risk Assessment Timing and Establishment of the Dental home

Pediatrics Vol. 111 no. 5 May 2003 pp. 1113-16

- **High risk groups for dental caries:**
  - Children with special health care needs
  - Children of mothers with a high caries rate
  - Children with demonstrable caries, plaque, demineralization, and/or staining
  - Children who sleep with a bottle or breastfeed throughout the night
  - Later-order offspring
  - Children in families of low socioeconomic status

Risk Based Approach

- Periodic Assessment
  - Risk Level (low, high)
  - Disease Status (none, initial, advanced)
  - Need for Treatment (urgent, basic, advanced)
    - No Disease - Low Risk
      - Anticipatory Guidance - counseling - primary prevention
      - Reassess in 12 months
    - No Disease - High Risk
      - Anticipatory Guidance
      - Reassess in 6 months
    - Initial Disease only
      - Initial management program to control disease and reduce risk
      - Anticipatory Guidance
      - Reassess in 3-6 months (or more) based on risk level
    - Advanced Disease
      - Develop and implement reparative treatment plan - refer?
      - Advanced Disease management program to control disease and reduce risk
      - Anticipatory guidance
      - Reassess in 3-6 months (or more) based on risk level

Crall and Edelstein, 2001

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TO treat or NOT to treat?

- Risk versus Benefit of treatment versus no treatment
- Prevention / Periodontal Disease
- Treatment Options
  - Stop caries progression / Monitoring
  - Restorative treatment
  - Sedation / Anesthesia?
  - Medical risk

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Desensitization

- Multiple desensitization / oral hygiene visits possibly combined with Interim Therapeutic Restorations
- Young children
- Children with developmental disabilities
  - Autism
  - Developmental delay
  - Cerebral palsy
- Behavior - Child Life Specialist / Occupational Therapists / Licensed Social Workers

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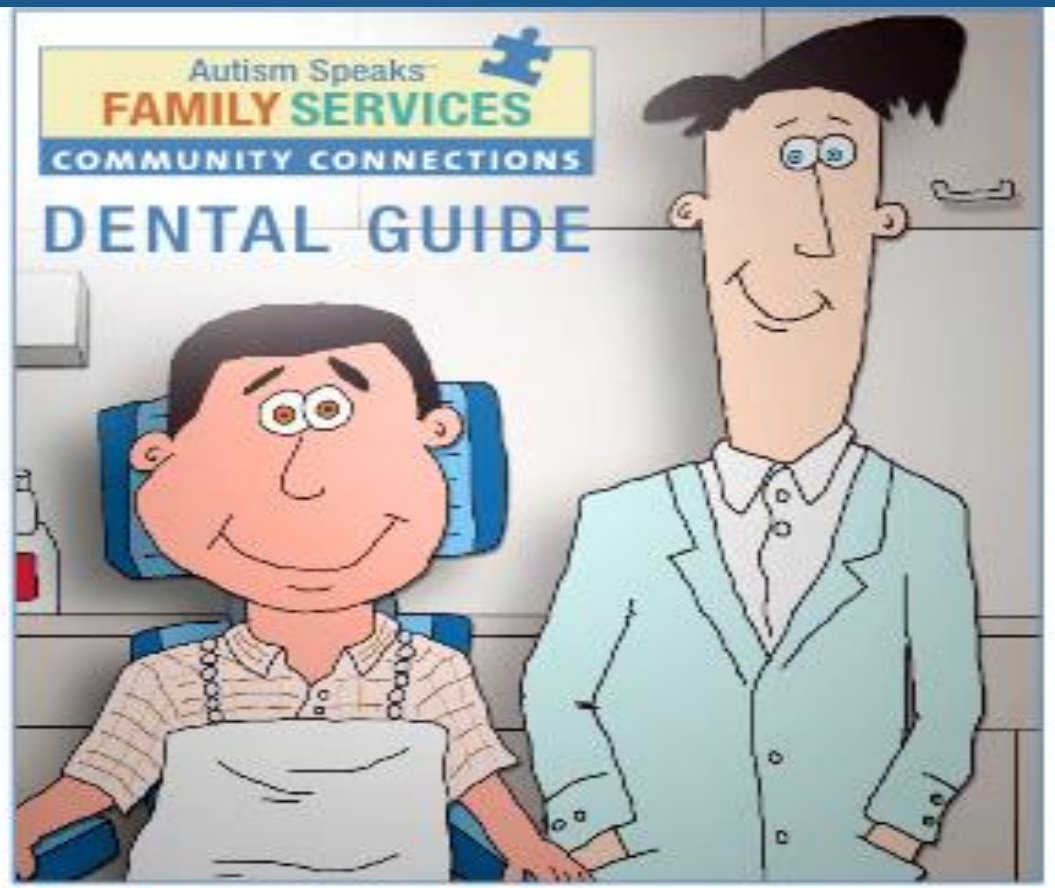
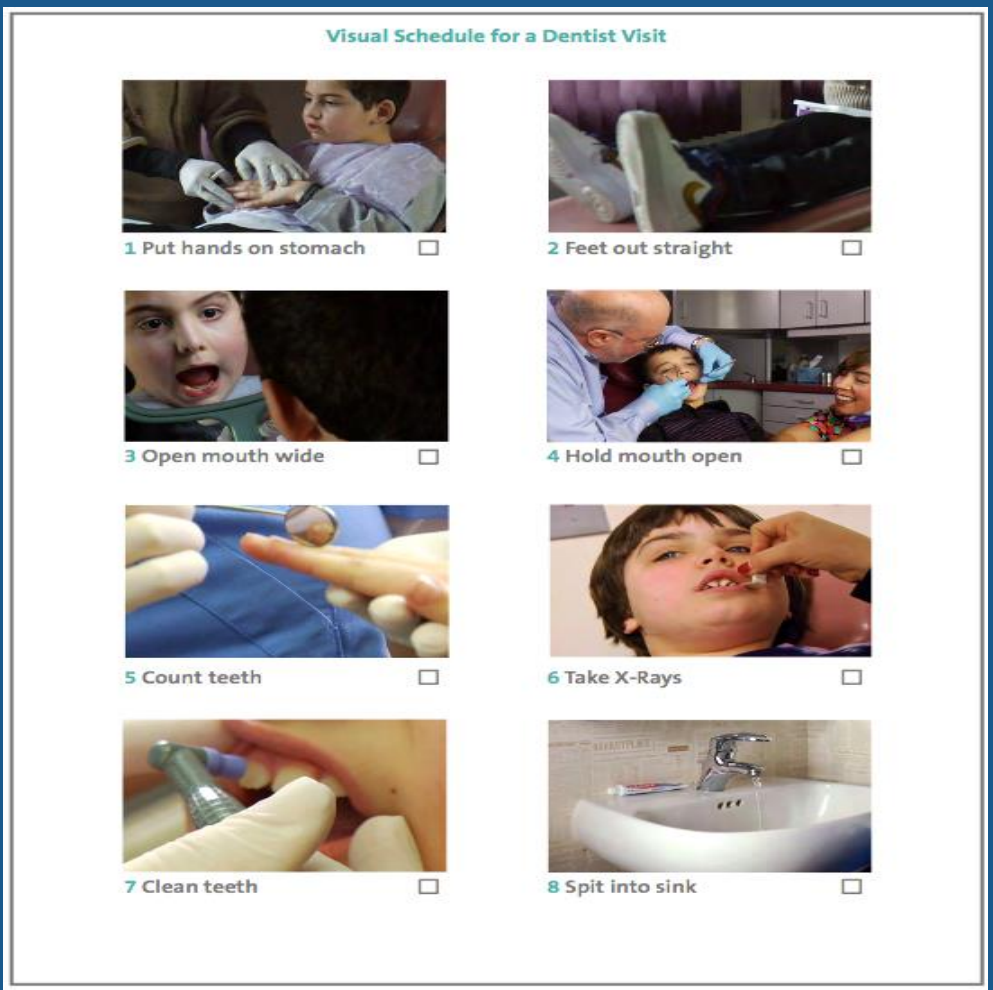
Autism Speaks - Dental Guide





Children with special health care needs (CSHCN)

- Increased Risk for Oral Diseases or Oral /Systemic Interactions
  - Physical / Metabolic characteristics
    - Craniofacial Anomalies
    - Cardiac defects
    - Diabetes
    - HIV infection - Immune deficiencies
    - Hemophilia
    - Cancer
  - Medications
    - Asthma
  - Behavior/Communication
    - Autism Spectrum Disorders
    - Cerebral Palsy
    - Emotional Disturbances

- Treatment modifications?
  - Risk v. Benefit considerations
  - Sedation / General anesthesia
  - Premedication: antibiotics, steroids, factor
  - Aggressive surgical and antibiotic therapy

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American Heart Association (AHA) - 2007

BOX 3

Cardiac conditions associated with the highest risk of adverse outcome from endocarditis for which prophylaxis with dental procedures is recommended.

- Prosthetic cardiac valve
- Previous infective endocarditis
- Congenital heart disease (CHD)*
  - Unrepaired cyanotic CHD, including palliative shunts and conduits
  - Completely repaired congenital heart defect with prosthetic material or device, whether placed by surgery or by catheter intervention, during the first six months after the procedure†
  - Repaired CHD with residual defects at the site or adjacent to the site of a prosthetic patch or prosthetic device (which inhibit endothelialization)
- Cardiac transplantation recipients who develop cardiac valvulopathy

* Except for the conditions listed above, antibiotic prophylaxis is no longer recommended for any other form of CHD.

† Prophylaxis is recommended because endothelialization of prosthetic material occurs within six months after the procedure.

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AHA - 2007

TABLE 2

Regimens for a dental procedure.

SITUATION	AGENT	REGIMEN: SINGLE DOSE 30-60 MINUTES BEFORE PROCEDURE	
		Adults	Children
Oral	Amoxicillin	2 grams	50 milligrams per kilogram
Unable to Take Oral Medication	Ampicillin OR Cefazolin or ceftriaxone	2 g IM* or IV† 1 g IM or IV	50 mg/kg IM or IV 50 mg/kg IM or IV
Allergic to Penicillins or Ampicillin Oral	Cephalexin‡§ OR Clindamycin OR Azithromycin or clarithromycin	2 g 600 mg 500 mg	50 mg/kg 20 mg/kg 15 mg/kg
Allergic to Penicillins or Ampicillin and Unable to Take Oral Medication	Cefazolin or ceftriaxone§ OR Clindamycin	1 g IM or IV 600 mg IM or IV	50 mg/kg IM or IV 20 mg/kg IM or IV

* IM: Intramuscular.
† IV: Intravenous.
‡ Or other first- or second-generation oral cephalosporin in equivalent adult or pediatric dosage.
§ Cephalosporins should not be used in a person with a history of anaphylaxis, angioedema or urticaria with penicillins or ampicillin.

AHA - 2007

BOX 4

Dental procedures for which endocarditis prophylaxis is recommended for patients in Box 3.

All dental procedures that involve manipulation of gingival tissue or the periapical region of teeth or perforation of the oral mucosa.*

* The following procedures and events do not need prophylaxis: routine anesthetic injections through noninfected tissue, taking dental radiographs, placement of removable prosthodontic or orthodontic appliances, adjustment of orthodontic appliances, placement of orthodontic brackets, shedding of primary teeth, and bleeding from trauma to the lips or oral mucosa.

Antibiotic Prophylaxis

- Certain severe cardiac conditions
- Indwelling catheters
  - Ongoing chemotherapy
  - Severe hemophiliac, esp. young children
- Severe immune deficiencies
- Certain cerebral shunts
  - VP (peritoneal) shunts usually NO
  - VA (atrial) usually YES
  - VP (pleural) usually NO
- Recent joint replacement or spinal surgery
- Severity of the dental condition

Hematological Considerations

1. Absolute neutrophil count (ANC)
   - >1,000/mm3: no need for antibiotic prophylaxis.
   - Between 1,000 and 2,000/mm3. Consider antibiotic coverage (AHA recommendations)
   - If infection is present or unclear, more aggressive antibiotic therapy may be indicated and should be discussed with the medical team.
   - <1,000/mm3: defer elective dental care until the ANC rises.
   - In dental emergency cases, discuss antibiotic coverage beyond endocarditis prophylaxis with medical team before proceeding with treatment.
   - The patient may need hospitalization for dental management.
2. Platelet count >75,000/mm3: no additional support needed but be prepared to treat prolonged bleeding by using sutures, hemostatic agents, pressure packs, gelati foams, etc.
   - 40,000 to 75,000/mm3: platelet transfusions may be considered pre- and 24 hours post-operatively <40,000/mm3: defer care. In dental emergency cases, contact physician before proceeding.
   - Consider platelet transfusion and hospital admission for treatment.
3. Other coagulation tests may be in order for individual patients
   - Factor, INR, Bleeding time, etc

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California General Anesthesia (GA) Coverage Legislation

Per Legislative Bill AB 2003, and in conjunction with the Implementation Guidelines of the California Association of Health Plans, this patient requires general anesthesia for the following reasons:

___X___ 1. Patient with physical, mental or medically compromising conditions for whom general anesthesia is medically necessary.

Medical Diagnosis: _Autism, Epilepsy, Bi-Polar disorder

_____ 2. Patients with extensive dental restorative or surgical needs for whom local anesthesia is ineffective.

Dental Diagnosis: _ multiple dental caries extending into the dentin (521.02)__

___X__ 3. Extreme behavioral problems, the inability to cooperate in a customary dental setting without physical restraint due to the patient's age (under seven years of age).

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Frequently Asked Questions (FAQs)

1. How many baby teeth constitute a full primary dentition?

a. 20 baby teeth

2. At what age do most children have all of their primary teeth erupted?

a. 27 months

3. At what age do most children start shedding their primary teeth and have permanent teeth start to erupt?

a. Age 6

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Frequently Asked Questions (FAQs)

4. At what age do most children shed the last of their primary teeth?

a. 13 years old.

5. What is the most common chronic disease in children?

a. Dental caries

6. What is the primary cause of dental caries?

a. Oral bacteria (dental plaque).

Frequently Asked Questions (FAQs)

7. What are some risk factors that contribute to the development of dental caries?

a. Frequent intake of sugar

b. Poor oral hygiene

c. Nighttime feeding

8. Certain congenital heart defects may make a child at risk for endocarditis from oral bacteria. What are some precautions that can be taken in order to decrease this risk for this population?

a. Antibiotic prophylaxis prior to dental procedures

b. Improved care and prevention of dental disease

c. Use of antibacterial mouthwash prior to dental treatment

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Frequently Asked Questions (FAQs)

9. At what age should a child be routinely referred to a pediatric dentist?

a. At the eruption of the first tooth or 12 months of age, whichever comes first.

10. When should at-home oral care begin for a child?

a. Care of the gums should start even before teeth develop, cleaning the gums and tongue with a soft cloth or finger brush.

b. Toothbrushing should start when the first tooth erupts.

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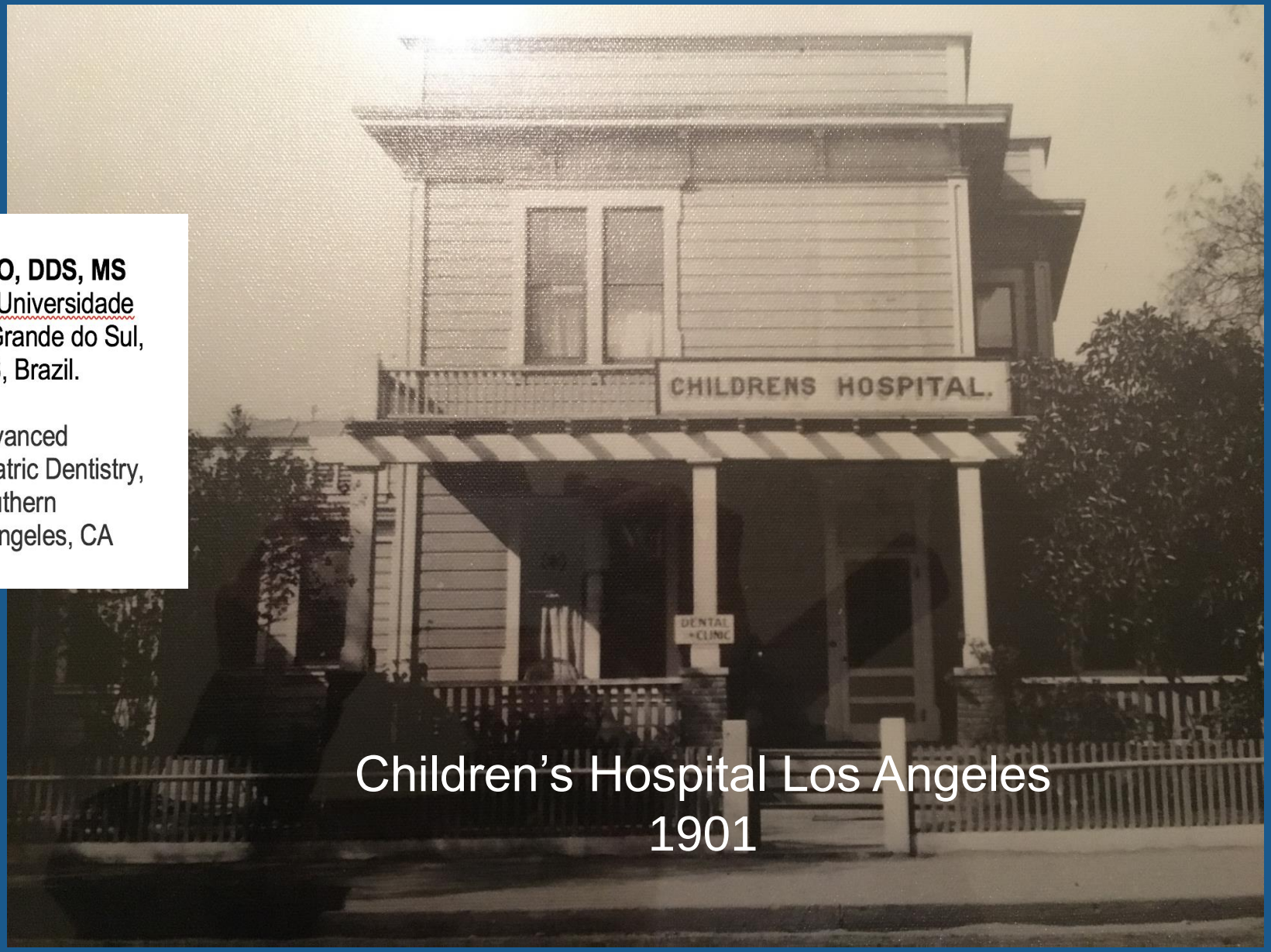

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Q & A Session

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Please note: ***the online survey may appear in another window or tab after the webinar ends.***

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Thank you!