

# Risk-based Disease Prevention and Management of Early Childhood Dental Disease



Elizabeth Berry DDS, MPH, MSD

# Objectives



- ❧ Define Early Childhood Caries
- ❧ Describe how to utilize caries risk assessment for management of early childhood caries
- ❧ Explain how to implement early childhood caries management within a dental clinic

# Early Childhood Caries Collaborative



- ❧ A national quality improvement collaborative
- ❧ “Designed to foster the rapid spread of an alternative disease management model of ECC care, focused on prevention and minimally invasive treatment”
- ❧ Led and funded by the DentaQuest Institute
- ❧ 40 sites

# Early Childhood Caries Collaborative



## ❧ Phase III

- ❧ Redesign care delivery systems
- ❧ Every child receives a caries risk assessment
- ❧ Oral health education
- ❧ Frequency of recall dependent on assessment

# Early Childhood Caries



## ❧ Definition

- ❧ Caries in any primary tooth in a child younger than 6 years of age
- ❧ “Presence of 1 or more decayed, missing (due to caries), or filled tooth surfaces in any primary tooth in a child younger than 6 years of age”
  - ❧ Distinctive pattern
  - ❧ Many teeth affected
  - ❧ Caries progresses rapidly





# Severe Early Childhood Caries



- ❧ Children younger than 3 years of age, any sign of smooth-surface caries
- ❧ Children 3 to 5 years of age: 1 or more cavitated, missing (due to caries), or filled smooth surfaces in primary maxillary teeth or a decayed, missing, or filled score of  $\geq 4$  (age 3),  $\geq 5$  (age 4), or  $\geq 6$  (age 5) surfaces also constitutes S-ECC.



# Early Childhood Caries



- ❧ Early childhood caries is the most common chronic condition among children in the US with a prevalence in 2-5 year olds having increased 15% in recent years to 28%
- ❧ 80 percent of tooth decay is found in 20 to 25 percent of children, large portions of whom live in poverty or low-income households and lack access to an on-going source of quality dental care.
- ❧ Nearly half of all children experience cavities before kindergarten with minority and low income children disproportionately affected

# Early Childhood Caries



- ❧ Associated with great morbidity and even mortality
- ❧ Children 5 to 7 years of age in the United States have been estimated to lose more than 7 million school hours annually because of dental problems
- ❧ Direct and Indirect Costs
  - ❧ Emergency room
  - ❧ Difficulty eating
  - ❧ Decrease quality of life
  - ❧ Lost school days





# Early Childhood Caries



- ❧ Costs of general anesthesia are high and relapse rates are 37 to 79 percent
- ❧ Restorative treatment alone does not stop the disease process
- ❧ Children with ECC are at higher risk for future carious lesions in primary and permanent dentitions

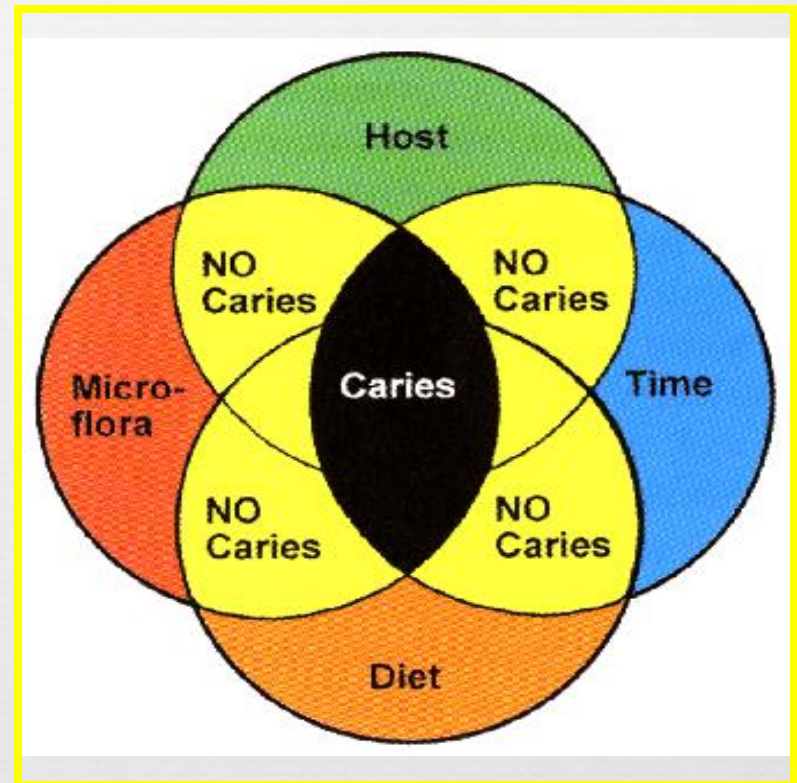
# How do we treat this complex disease?

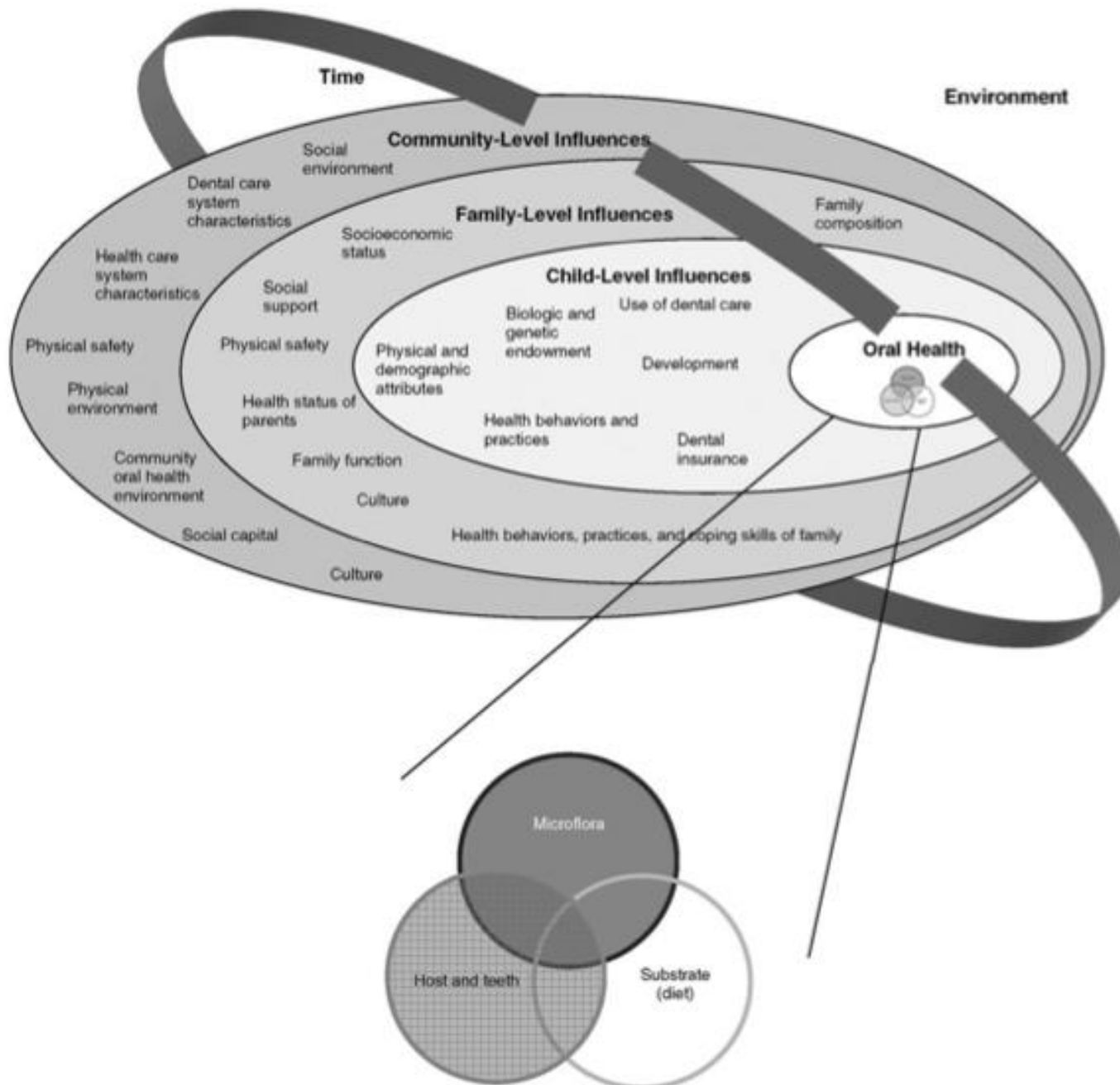


# Dental Caries is an Infectious Disease

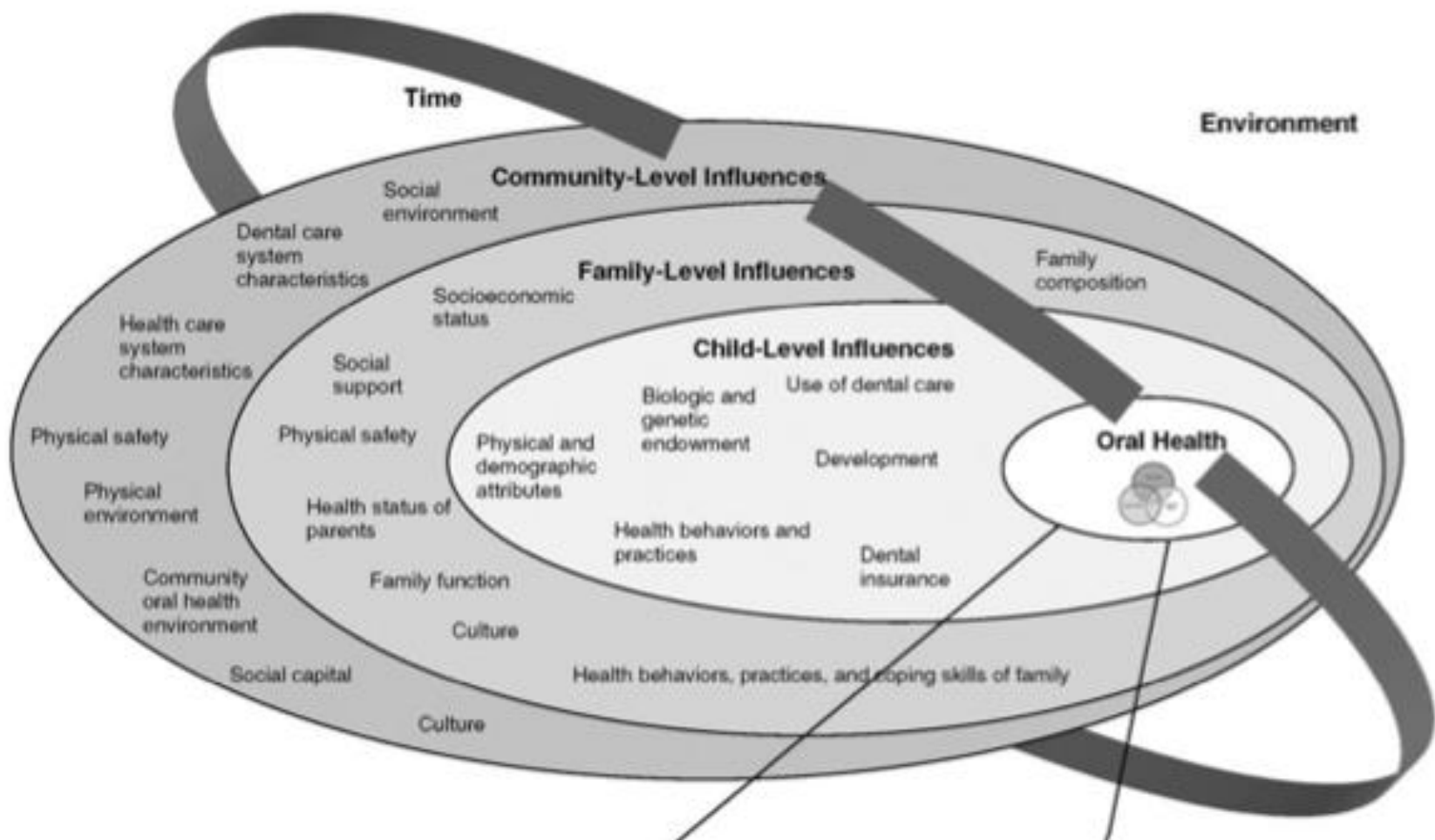


- ❧ 1. Host
- ❧ 2. Cariogenic microflora
- ❧ 3. Carbohydrate source
- ❧ 4. Exposure time





Fisher-Owens S et al. Influences on Children's Oral Health: A Conceptual Model. *Pediatrics* 2007; 120; e510.





# Complex Intervention



- ❧ Complex intervention for a complex disease
- ❧ Chronic disease management



# Quality Improvement Effort

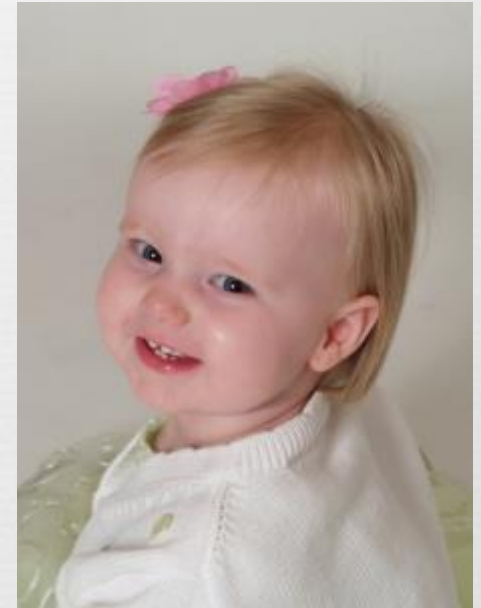


- ❧ “Combined and unceasing effort of everyone-  
healthcare professionals, patients and their families,  
researchers, payers, planner and educators- to make  
changes that will lead to better patient outcomes”  
Baltalden
- ❧ Systematic and continuous improvement in health  
services and health status of targeted patient groups
- ❧ Incorporation of evidence-based knowledge

# Age One Dental Visit



- ❧ Dental Home- derived from AAP model of medical home
- ❧ Ongoing relationship, comprehensive, continuously accessible
- ❧ Start early and establish a dental home
  - ❧ 6 months after first tooth erupts or by 12 months of age



# Caries Risk Assessment



- ❧ Disease process instead of treating outcome of the disease
- ❧ Disease factors for a specific patient
- ❧ Individualizing/customized preventive plan
- ❧ Anticipatory guidance



# Caries Risk Assessment

## AAPD



**Table 2. Caries-risk Assessment Form for 0-5 Year Olds<sup>59,60</sup>**  
(For Dental Providers)

Factors	High Risk	Moderate Risk	Low Risk
<b>Biological</b> Mother/primary caregiver has active caries Parent/caregiver has low socioeconomic status Child has >3 between meal sugar-containing snacks or beverages per day Child is put to bed with a bottle containing natural or added sugar Child has special health care needs Child is a recent immigrant	 Yes Yes Yes Yes   	    Yes Yes	      
<b>Protective</b> Child receives optimally-fluoridated drinking water or fluoride supplements Child has teeth brushed daily with fluoridated toothpaste Child receives topical fluoride from health professional Child has dental home/regular dental care	    	    	 Yes Yes Yes Yes
<b>Clinical Findings</b> Child has >1 decayed/missing/filled surfaces Child has active white spot lesions or enamel defects Child has elevated mutans streptococci levels Child has plaque on teeth	 Yes Yes Yes  	   Yes	    



# Caries Risk Assessment



## ☞ Three Main Domains:

### ☞ Risk and/or biological factors

- ☞ Patient frequently snacking
- ☞ Patient goes to bed with bottle or sippy cup with fluid other than water

### ☞ Protective factors

- ☞ Fluorinated water
- ☞ Fluorinated toothpaste use
- ☞ Xylitol

### ☞ Clinical Findings

- ☞ Demineralized enamel surface
- ☞ Cavitated lesions
- ☞ Plaque
- ☞ Salivary flow



# CRA- Biological Factors

Factors	High Risk	Moderate Risk	Low Risk
<b>Biological</b>			
Mother/primary caregiver has active caries	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	

- ❧ Mother or caregiver has active caries
- ❧ Parent or caregiver low socioeconomic status
- ❧ Child has > 3 between meal sugar-containing snacks or beverages per day
- ❧ Child is put to bed with a bottle containing natural or added sugar
- ❧ Child has a special health care need
- ❧ Child is a recent immigrant

# CRA- Protective



<b>Protective</b> Child receives optimally-fluoridated drinking water or fluoride supplements Child has teeth brushed daily with fluoridated toothpaste Child receives topical fluoride from health professional Child has dental home/regular dental care			
			Yes Yes Yes Yes

- ☞ Child receives optimally-fluorinated drinking water or fluoride supplements
- ☞ Child has teeth brushed daily with fluorinated toothpaste
- ☞ Child receives topical fluoride from health professional
- ☞ Child has a dental home/regular dental care

# CRA- Clinical Exam



## Clinical Findings

Child has >1 decayed/missing/filled surfaces  
Child has active white spot lesions or enamel defects  
Child has elevated mutans streptococci levels  
Child has plaque on teeth

Yes

Yes

Yes

Yes

- ☞ Child has > 1 decayed/missing/filled surfaces
- ☞ Child has active white spot lesions or enamel defects
- ☞ Child has elevated mutans streptococci levels
- ☞ Child has plaque on teeth

# CRA-Clinical Exam

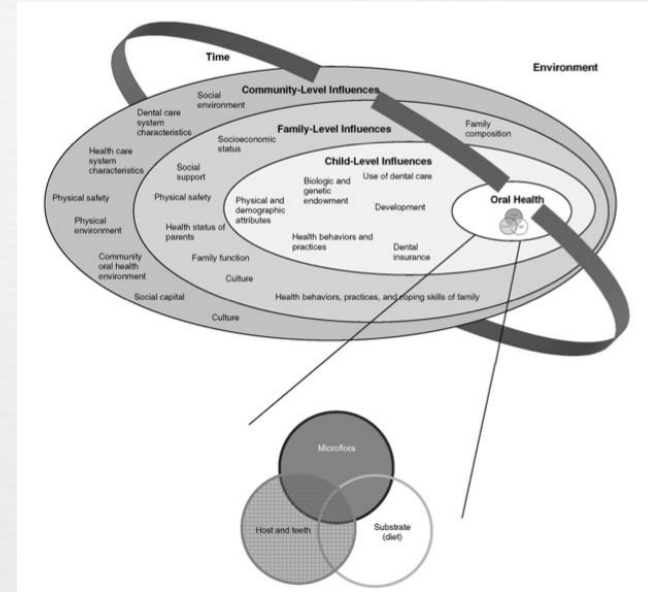
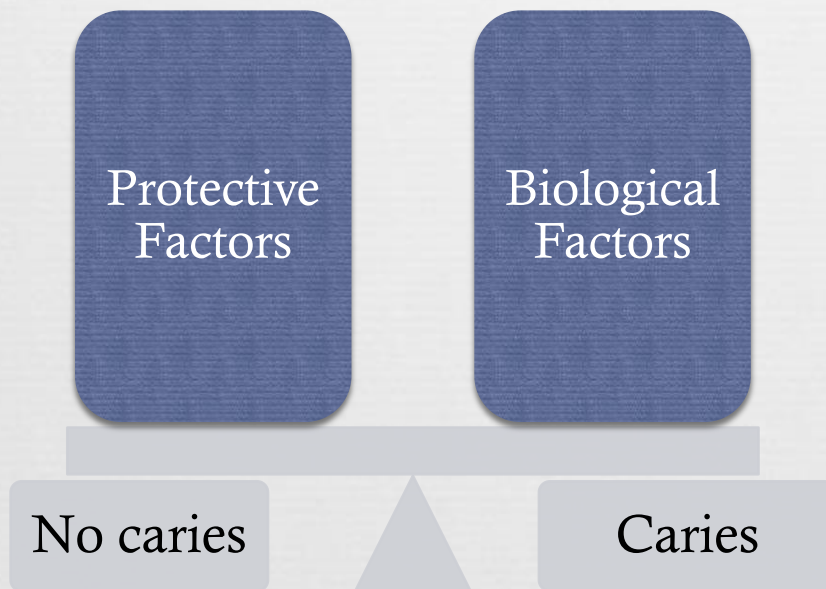


- ❧ International Caries Detection and Assessment System (ICDAS)
- ❧ Important to note and chart cavitated, white spot lesions, and enamel defects





# Caries Risk Assessment



# Caries Risk Assessment

## Caries Risk Assessment

### High Risk Factors

- Primary caregiver has active caries?
- ☐ Patient has >3 between meal sugar-containing snacks or beverages per day? (example: sippy cup or bottle with fluid other than water)
- ☐ Patient is put to bed with a bottle containing natural or added sugar?
- Patient has obvious white spot lesion(s) or decay present?
- Patient has restorations present?

### Moderate Risk Factors

- ☐ Patient has a special health care need?
- ☐ Patient has plaque on teeth?
- Patient has intraoral appliance(s)?
- Patient has defective restoration(s)?

### Protective Factors

- Patient receives fluorinated drinking water or fluorinated supplements?
- ☒ Patient brushes teeth daily with fluorinated toothpaste?
- ☐ Patient receives additional home measures (Prevident, MI paste, etc)?
- Patient received fluoride varnish in last 6 months?
- ☐ Patient has low salivary flow?
- Overall assessment of dental caries risk
- Description of CRA

- ☞ Divided into high and moderate risk factors and protective factors
- ☞ AAPD guidelines
- ☞ Completed at every recall and new patient exam
- ☞ Ease of use but still retaining essential information
- ☞ Implemented in electronic health record

# Caries Risk Assessment

## Caries Risk Assessment

### High Risk Factors

- Primary caregiver has active caries?
- ☐ Patient has >3 between meal sugar-containing snacks or beverages per day? (example: sippy cup or bottle with fluid other than water)
- ☐ Patient is put to bed with a bottle containing natural or added sugar?
- Patient has obvious white spot lesion(s) or decay present?
- Patient has restorations present?

### Moderate Risk Factors

- ☐ Patient has a special health care need?
- ☐ Patient has plaque on teeth?
- Patient has intraoral appliance(s)?
- Patient has defective restoration(s)?

### Protective Factors

- Patient receives fluorinated drinking water or fluorinated supplements?
- ☒ Patient brushes teeth daily with fluorinated toothpaste?
- ☐ Patient receives additional home measures (Prevident, MI paste, etc)?
- Patient received fluoride varnish in last 6 months?
- ☐ Patient has low salivary flow?
- Overall assessment of dental caries risk
- Description of CRA

☞ Dental assistant works with family to obtain information

☞ Provider determines overall risk

☞ Provider also reports in the progress note



# CAMBRA for Dental Providers (0-5) Assessment Tool

Caries Risk Assessment Form for Age 0 to 5

Patient name: \_\_\_\_\_ I.D.# \_\_\_\_\_ Age \_\_\_\_\_ Date \_\_\_\_\_

Initial/base line exam date \_\_\_\_\_ Caries recall date \_\_\_\_\_

Respond to each question in sections 1, 2, 3, and 4 with a check mark in the "Yes" or "No" column	Yes	No	Notes
<b>1. Caries Risk Indicators — Parent Interview**</b>			
(a) Mother or primary caregiver has had active dental decay in the past 12 months			
(b) Child has recent dental restorations (see 5b below)			
(c) Parent and/or caregiver has low SES (socioeconomic status) and/or low health literacy			
(d) Child has developmental problems			
(e) No dental home/episodic dental care			
<b>2. Caries Risk Factors (Biological) — Parent Interview**</b>			
(a) Child has frequent (greater than three times daily) between-meal snacks of sugars/cooked starchy/sugared beverages			
(b) Child has saliva-reducing factors present, including: 1. Medications (e.g., some for asthma or hyperactivity) 2. Medical (cancer treatment) or genetic factors			
(c) Child continually uses bottle - contains fluids other than water			
(d) Child sleeps with a bottle or nurses on demand			
<b>3. Protective Factors (Nonbiological) — Parent Interview</b>			
(a) Mother/caregiver decay-free last three years			
(b) Child has a dental home and regular dental care			
<b>4. Protective Factors (Biological) — Parent Interview</b>			
(a) Child lives in a fluoridated community or takes fluoride supplements by slowly dissolving or as chewable tablets			
(b) Child's teeth are cleaned with fluoridated toothpaste (pea-size) daily			
(c) Mother/caregiver chews/sucks xylitol chewing gum/lozenges 2-4x daily			
<b>5. Caries Risk Indicators/Factors — Clinical Examination of Child**</b>			
(a) Obvious white spots, decalcifications, or obvious decay present on the child's teeth			
(b) Restorations placed in the last two years in/on child's teeth			
(c) Plaque is obvious on the child's teeth and/or gums bleed easily			
(d) Child has dental or orthodontic appliances present, fixed or removable: e.g., braces, space maintainers, obturators			
(e) Risk Factor: Visually inadequate saliva flow - dry mouth			
<b>**If yes to any one of 1(a), 1(b), 5(a), or 5(b) or any two in categories 1, 2, 5, consider performing bacterial culture on mother or caregiver and child. Use this as a base line to follow results of antibacterial intervention.</b>	Parent/Caregiver Date:	Child Date:	
(a) Mutans streptococci (Indicate bacterial level: high, medium, low)			
(b) Lactobacillus species (Indicate bacterial level: high, medium, low)			
Child's overall caries risk status: (CIRCLE) Extreme	Low	Moderate	High
Recommendations given: Yes _____ No _____ Date given _____	Date follow up: _____		
<b>SELF-MANAGEMENT GOALS 1)</b> _____ <b>2)</b> _____			
Practitioner signature _____	Date _____		

Ramos-Gomez FJ, Crall J, Gansky SA, et al. Caries risk assessment appropriate for the age 1. J Calif Dent Assoc 2007;35(10):687-702.

# Caries Risk Assessment/ECC Encounter

Patient's First Name		Last Name		Today's Date	
				<input type="text"/> / <input type="text"/> / <input type="text"/>	
Clinician's ID#		Child's DOB			
				<input type="text"/> / <input type="text"/> / <input type="text"/>	
Today's Visit: <input type="checkbox"/> Is Patient ECC? <input type="checkbox"/> No <input type="checkbox"/> Yes If yes, check: <input type="checkbox"/> Initial (Study Enrollment) <input type="checkbox"/> Medical Management (F/U)					
<input type="checkbox"/> Every Patient: <input type="checkbox"/> New Patient Visit <input type="checkbox"/> Recall Visit <input type="checkbox"/> Scheduled Tx Visit (restorative/ART)					
<input type="checkbox"/> Medical Management <input type="checkbox"/> Urgent/Emergency <input type="checkbox"/> OR					
Step mutans culture this visit? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> F-Varnish Applied 1st <input type="checkbox"/> Not Enough Time <input type="checkbox"/> On Antibiotics					
SM Levels: <input type="checkbox"/> Zero <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High <input type="checkbox"/> V High <input type="checkbox"/> N/A					
<b>History</b>					
SHCN <input type="checkbox"/> No <input type="checkbox"/> Yes					
Pre-natal hx/pre-term <input type="checkbox"/> No <input type="checkbox"/> Yes					
On Meds <input type="checkbox"/> No <input type="checkbox"/> Yes					
Breast/Bottle <input type="checkbox"/> Breast <input type="checkbox"/> Bottle <input type="checkbox"/> Both					
Other <input type="checkbox"/> No <input type="checkbox"/> Yes					
Caries Risk Status: <input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low					
<b>Caries History</b>					
Child <input type="checkbox"/> No <input type="checkbox"/> Yes					
Mother <input type="checkbox"/> No <input type="checkbox"/> Yes					
Siblings <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> N/A					
Caries Risk Status: <input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low					
<b>Clinical Evaluation</b>					
Visible plaque <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Improved Location: _____					
Gingivitis <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> Improved					
Existing Cavitated lesion <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> N/A					
NEW cavitated lesions <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> N/A					
Existing Demin enamel <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> N/A					
NEW Demineralized enamel <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> N/A					
Enamel defects <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> N/A					
Deep pits / fissures <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> N/A					
Other <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> N/A					
Existing Remin. surfaces <input type="checkbox"/> No <input type="checkbox"/> Yes, complete <input type="checkbox"/> Yes, SW Location: _____					
NEW Remin. surfaces <input type="checkbox"/> No <input type="checkbox"/> Yes, complete <input type="checkbox"/> Yes, SW Location: _____					
Caries Risk Status: <input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low					
<b>Supplemental Assessment</b>					
Pain <input type="checkbox"/> No <input type="checkbox"/> Yes _____					
Sensitivity <input type="checkbox"/> No <input type="checkbox"/> Yes _____					
Radiographic caries <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> N/A _____					
New radiographic caries <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> N/A _____					
Overall Risk (before SM test) <input type="checkbox"/> Very Low <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High					
Overall Risk (after SM test) <input type="checkbox"/> Very Low <input type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High					
Care Provided Today: <input type="checkbox"/> SM Test <input type="checkbox"/> Self-mgmt edu given <input type="checkbox"/> OH Literacy <input type="checkbox"/> F-Varnish					
Recommended Gelkam: <input type="checkbox"/> 1x <input type="checkbox"/> 2x <input type="checkbox"/> ART <input type="checkbox"/> Conventional Restorative <input type="checkbox"/> OR					
Tx Plan: Fluoride: <input type="checkbox"/> One month <input type="checkbox"/> Three months <input type="checkbox"/> Six months					
Restorative: <input type="checkbox"/> None -> monitor <input type="checkbox"/> Conventional restoration <input type="checkbox"/> ART <input type="checkbox"/> OR					
Next Visit: <input type="checkbox"/> One month <input type="checkbox"/> Three months <input type="checkbox"/> Six months					

(Required for ECC Patients)

Gelkam Staining? ☐ No ☐ Yes ☐ N/A

Complying w/ Tx Plan? ☐ No ☐ Yes ☐ N/A ☐ SW

Comments:

Frank: ☐ 1 ☐ 2 ☐ 3 ☐ 4



# Self-management Goals



☞ Receives dental treatment

☞ Health snacks

☞ Brush with fluoride toothpaste at least twice daily

☞ No soda

☞ Less or no juice



☞ Wean off bottle (at least no bottle for sleeping)

☞ Only water or milk in sippy cup

☞ Chew gum with xylitol

☞ Drink Tap water

☞ Less or no candy or junk food



### Goals for Healthy Teeth (Age 5 and younger)

Patient Name: \_\_\_\_\_  
Date of Visit: \_\_\_\_\_  
Dentist: \_\_\_\_\_  
Hygienist: \_\_\_\_\_

Your child has been assessed to have the following for caries (cavities):

☐ High ☐ Medium ☐ Low

Between today and your next visit, please work on the Goals checked (✓) below:



☐ Next fluoride visit in \_\_\_\_\_ months



☐ Healthy snacks such as fruit, carrot sticks, yogurt, low fat cheese, pretzels, whole grain crackers



☐ No soda/energy drinks  
☐ No juice  
☐ Juice only with meals



☐ Less or no candy & junk food  
☐ Chew Sugar-free gum (e.g. Trident, Extra)



☐ No sippy cup/bottle  
☐ Only plain milk or water in cup or bottle  
☐ If bottle to bed, use only water



☐ Drink fluoridated water, tap water



☐ Daily flossing with floss string or pick



Brush morning and before bed with fluoride toothpaste:  
☐ Thin smear (<2 years old)  
☐ Pea-size amount (2-5 years old)



☐ Fluoride varnish was applied in clinic today.

\* Wait until tomorrow to brush/floss. Avoid hard, crunchy, and sticky foods.



☐ Use Gel-kam \_\_\_\_\_ a day  
- Apply thin smear to all teeth

\* Wait 30 minutes before eating, drinking or rinsing after

On a scale of 1-5, how likely do you think you can help your child meet these goals?

1 2 3 4 5  
Not very Not sure Very  
likely likely likely

Clinician's Comments:

Next visit Date: \_\_\_\_\_

☐ Preventative  
☐ Restorative

☐ 1 month follow-up  
☐ 3 month follow-up  
☐ 6 month checkup  
☐ \_\_\_\_\_



On a scale of 1-5, how likely do you think you can help your child meet these goals?

1	2	3	4	5
Not very likely		Not sure		Very likely
Clinician's Comments:				

**Next visit**    **Date** \_\_\_\_\_

<input type="checkbox"/> Preventative	<input type="checkbox"/> 1 month follow-up
<input type="checkbox"/> Restorative	<input type="checkbox"/> 3 month follow-up
	<input type="checkbox"/> 6 month checkup
	<input type="checkbox"/> _____

Scale where parent/guardian states how likely they are to meet these goals



## 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 twice daily



No soda



Less or no juice



Wean off bottle (At least no bottle for sleeping)



Only water or milk in sippy cup



Chew gum with xylitol



Drink tap water



Less or no candy and junk food



Circle the goals you will focus on between today and your next visit.

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

Not likely

Definitely

My promise: I agree to the goals circled and understand that staff may ask me how I am doing with my goals.

Date: \_\_\_\_\_ Signed by: \_\_\_\_\_

Review Date: \_\_\_\_\_ Comments: \_\_\_\_\_ Staff Initials: \_\_\_\_\_

Review Date: \_\_\_\_\_ Comments: \_\_\_\_\_ Staff Initials: \_\_\_\_\_

# Motivational Interviewing



- ❧ Asking questions encouraging individuals to talk about their personal goals
- ❧ Open-ended questions and reflective listening
- ❧ Provide advice or information that is best tailored to the patient and their goals
- ❧ Motivate others to make changes in behavior based on the patient's stage of readiness



# Motivational Interviewing



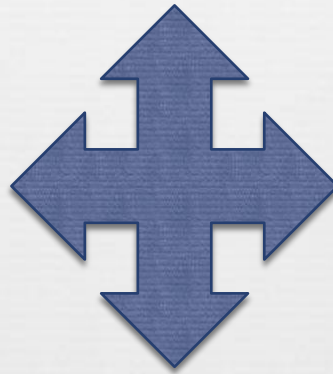
- ❧ "What are the challenges you face in bringing your child in for appointments?"
- ❧ "'You've got a lot on your plate and I think you're doing a great job. What can we do to help you get your son here for his appointments?'"
- ❧ "How often does your child...." (Rather than, "Does your child brush their teeth/drink soda/etc.")



Parent/Guardian



Dental  
Assistant



Patient



Dentist



# Visual Aids

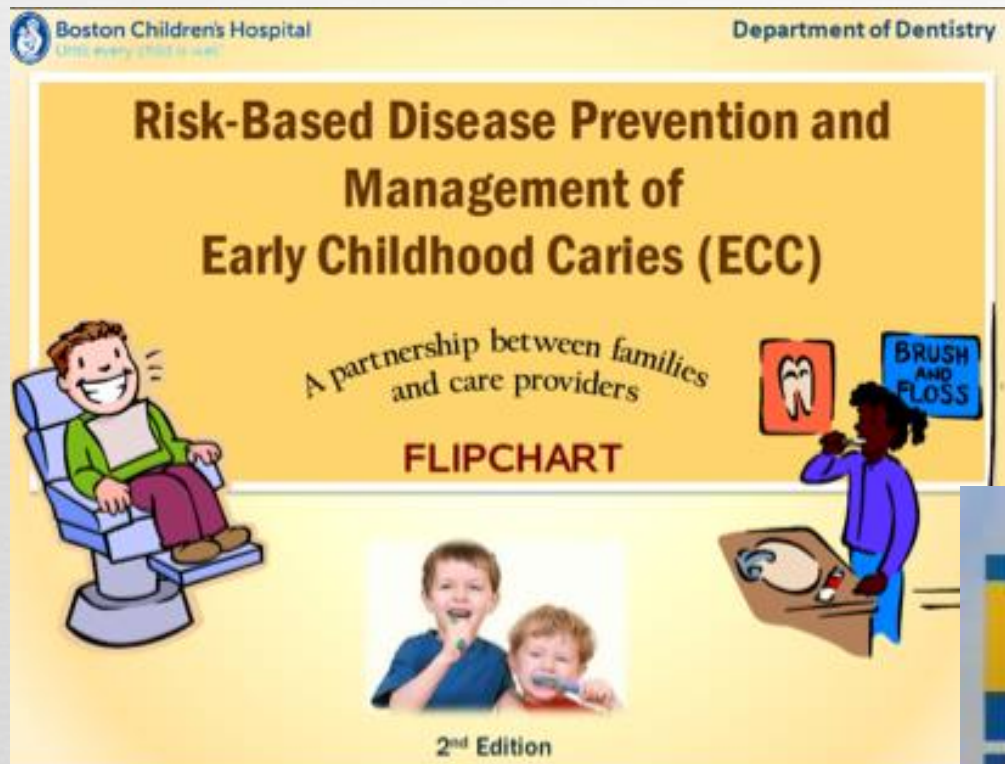
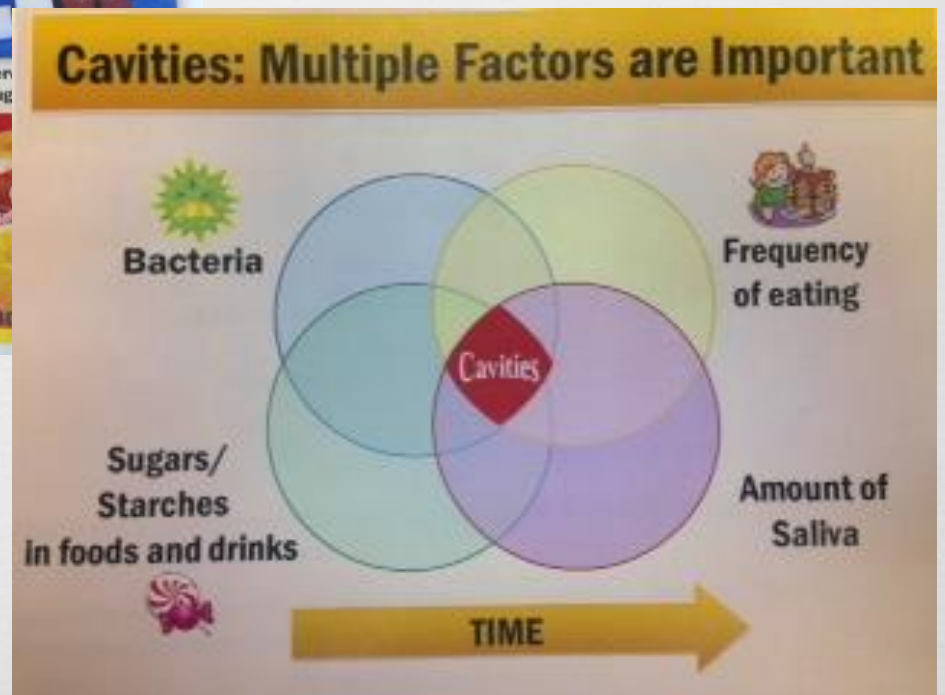
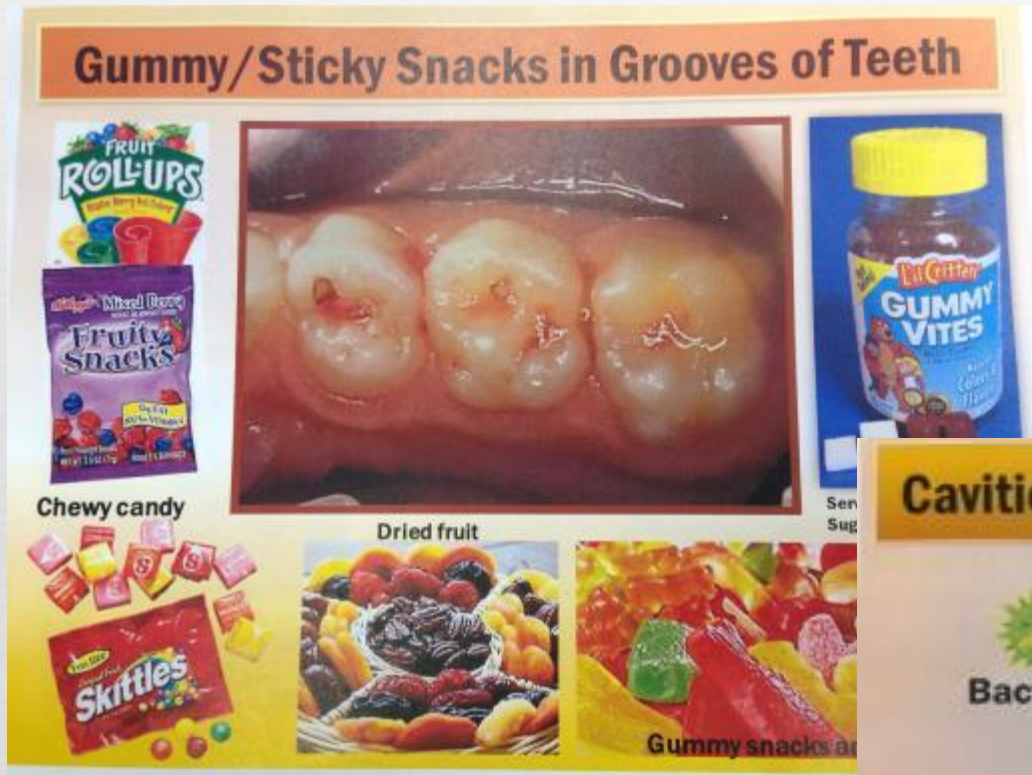


Table of Contents	
Page 2	How does a CAVITY form?
Page 3	Cavities: Multiple Factors are Important
Page 4	Why Do Cavities Form?
Page 5	Early Childhood Cavities (photos)
Page 6	Preventing Cavities is a Partnership between YOU and US
Page 7	Soda and Juice = Acid
Page 8	100% Natural Juice = 100% Sugar
Page 9	How much sugar is in your favorite drink?
Page 10	How much sugar is your child drinking?
Page 11	Some High Risk Foods and Drinks
Page 12	Sugar in Cereals
Page 13	Chewing gum
Page 14	Gummy/Sticky Snacks and Vitamins in Grooves of Teeth
Page 15	Sugar Sweetened Medications
Page 16	Medications that cause dry mouth
Page 17	Oral Health for Children with Special Needs
Page 18	Knee to Knee position
Page 19	Bottles and Sippy Cups: Healthy Balanced Diet → Healthy Bodies
Page 20	Tooth brushing
Page 21	Flossing
Page 22	Fluoride Cavity Protection
Page 23	Choices of Toothpaste
Page 24	How much Fluoride toothpaste?
Page 25	Using Fluoride toothpaste and Stannous Fluoride can stop cavities
Page 26	Stannous Fluoride and Xylitol Products
Page 27	Applying Fluoride Varnish
Page 28	Acknowledgements



# Visual Aids



# Recalls



- ❧ Moderate to high risk patient:
  - ❧ 3 month recalls
- ❧ Low risk patient:
  - ❧ 6 month recalls
- ❧ Every recall
  - ❧ Update caries risk assessment
  - ❧ Self management goals
  - ❧ Fluoride varnish application



# Fluoride



## ∞ Fluoride Varnish

- ∞ Concentrated topical fluoride with a resin or synthetic base
- ∞ 22,600 ppm versus APF or NaF gels 12,300 ppm
- ∞ 11-12 mg of fluoride exposure versus 45-65 mg of F exposure

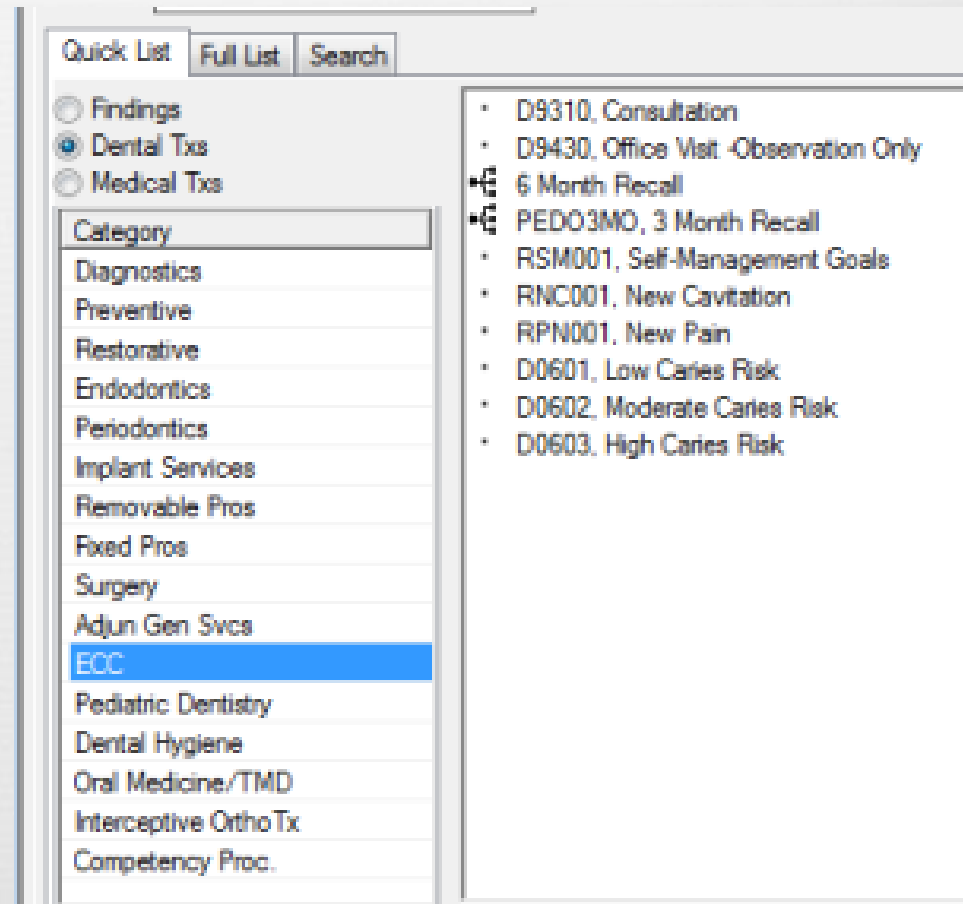
## ∞ Fluoride toothpaste:

- ∞ All children 2-5 years of age should brush with “pea-size” amount of fluoride toothpaste
- ∞ Moderate to high caries risk patient younger than 2 years of age should have their teeth brushed with a “smear” amount of fluorinated toothpaste

# Electronic Health Record



- ❧ Caries Risk Assessment
- ❧ Code if patient high/moderate/low risk
- ❧ Code in place if complete self-management goals
- ❧ Progress note includes self management goal



The screenshot displays a software interface for an Electronic Health Record (EHR). At the top, there are three tabs: "Quick List", "Full List", and "Search". Below the tabs, there are three radio buttons: "Findings", "Dental Tx" (which is selected), and "Medical Tx". To the right of these buttons is a list of dental procedures, including "D9310, Consultation", "D9430, Office Visit - Observation Only", "6 Month Recall", "PED03MO, 3 Month Recall", "RSM001, Self-Management Goals", "RNC001, New Cavitation", "RPN001, New Pain", "D0601, Low Caries Risk", "D0602, Moderate Caries Risk", and "D0603, High Caries Risk". On the left side of the interface, there is a "Category" dropdown menu with a list of dental categories: "Diagnostics", "Preventive", "Restorative", "Endodontics", "Periodontics", "Implant Services", "Removable Pros", "Fixed Pros", "Surgery", "Adjun Gen Svcs", "ECC" (which is highlighted in blue), "Pediatric Dentistry", "Dental Hygiene", "Oral Medicine/TMD", "Interceptive OrthoTx", and "Competency Proc."

# How To Implement?

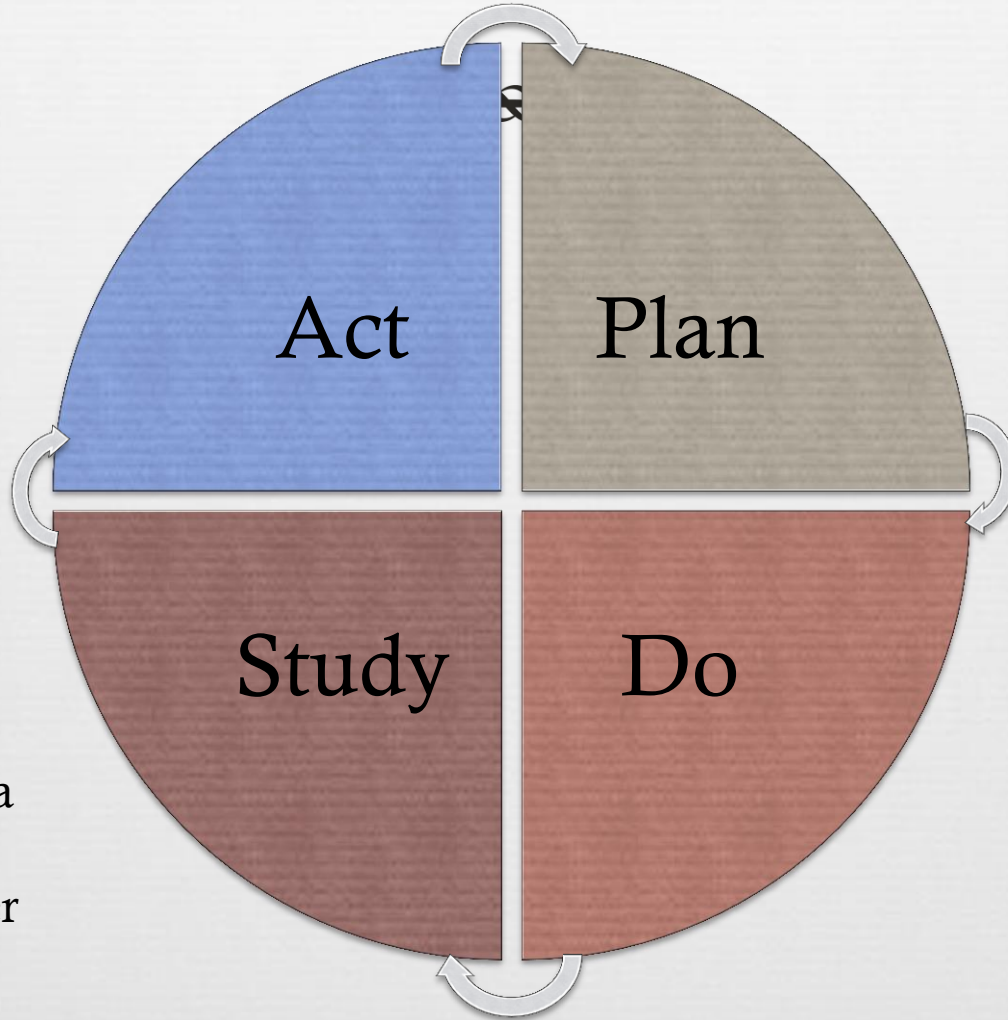


- ❧ Start small, be realistic
  - ❧ Target population: Children with early childhood caries that require general anesthesia for full mouth dental rehabilitation
  - ❧ Three practitioners implementing within the clinic
  - ❧ Team of individuals working just on this project
  - ❧ Data/coding in electronic health record to assess progress

# PDSA Learnings

Plan the  
next change  
based on  
your study

What change  
is to be  
implemented?



Study the data  
or what  
happened after  
the change,  
reflect

Carry out the  
change/test

# Team



- ❧ Monthly Meetings
- ❧ Reassess what is working and what is not working
- ❧ PDSAs
- ❧ Remember overall goal: making a difference





# References



- ❧ Dye BA, Tan S, Smith V, et al. Trends in oral health status: United States, 1988–1994 and 1999–2004. *Vital Health Stat* 11. 2007 Apr;(248):1–92.
- ❧ Edelstein BL. Solving the problem of early childhood caries: a challenge for us all. *Arch Pediatr Adolesc Med*. 2009 Jul;163(7):667–8.
- ❧ Vargas CM, Ronzio CR. Disparities in early childhood caries. *BMC Oral Health*. 2006 Jun;6 Suppl 1:S3.
- ❧ US Dept of Health and Human Services. Oral Health in America: A Report of the Surgeon General. Rockville, Md: US Dept of Health and Human Services. National Institute of Dental and Craniofacial Research, National Institutes of Health; 2000.
- ❧ Gift HC, Reisine ST, Larach PC. The social impact of dental problems and visits. *Am J Public Health*. 1992; 82: 1663-1668
- ❧ Batalden PB, Davidoff F. What is “quality improvement” and how can it transform healthcare? *Qual Saf Health Care*. 2007 Feb;16(1):2–3.
- ❧ Guidelines on Caries Risk Assessment and Management of Infants, Children, and Adolescents. Clinical Guidelines AAPD

# References



- ❧ Policy on Dental Home. Clinical Guidelines AAPD.
- ❧ Dye BA, Arevalo O, Vargas CM. Trends in pediatric dental caries by poverty status in the United States. `988-1997 and 1994-2004. Int J Paediatric Dent 2010; 20(2) 132-143.
- ❧ Dental Health Foundation, the 2006 oral health needs assessment of children, dentalhealthfoundation.org
- ❧ Ramos-Gomez FJ, Crall J, Gansky SA, et al. Caries risk assessment appropriate for the age 1. J Calif Dent Assoc 2007;35(10):687–702.
- ❧ Ramoz-Gomez FJ, Crystal YO. Pediatric dental care: prevention and management protocols based on caries risk assessment. J Calif Dent Assoc 210 Nov 38 (11) 790.
- ❧ Man Wai NG, Ramoz-Gomex Francisco. Disease prevention and management of early childhood caries. J of Massachusetts Dental Society 61(3) 2012.
- ❧ [www.cdafoundation.org/education/cambra](http://www.cdafoundation.org/education/cambra)
- ❧ Ettelbrick et al. Hospital charges for dental caries related emergency admissions. Pediatric Dent. 2000; 22(1): 21-25

# Thank you



✉ [clarkej2@vcu.edu](mailto:clarkej2@vcu.edu)