

**“Pediatric Potpourri”**  
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**Caries Risk Factors for Pediatric Patients** (from American Academy of Pediatric Dentistry Reference Manual, 2009-2010):

- Children with special health care needs, especially any that impact motor coordination or cooperation (High risk).
- Children with a condition that impairs saliva (dry mouth) (High risk)
- Lack of (High risk) or irregular use of (Moderate risk) of a dental home (frequency of routine dental visits)
- Child has decay (High risk)
- Time lapsed since last cavity (<12 months = High risk/12-24 months = Moderate risk)
- Child wears braces or orthodontic/oral appliances (High risk)
- Child’s parent &/or sibling(s) have decay (High risk)
- Socioeconomic status of child’s parent( Low = High risk/Mid-level = Moderate risk)
- Daily between-meal exposures to sugars/cavity-producing foods (includes on demand use of bottle/sippy cup containing liquid other than plain water; consumption of juice, carbonated beverages, or sports drinks; use of sweetened medications) – (>3 = High/1 to 2 = Moderate)
- Child’s exposure to fluoride (High = does not use fluoridated toothpaste; drinking water that is not fluoridated and is not taking fluoride supplements/Moderate = Uses fluoridated toothpaste; usually does not drink fluoridated water and does not take fluoride supplements)
- Times per day that child’s teeth/gums are brushed (High risk = <1/Moderate risk = 1)
- Visible plaque present (High risk)
- Gingivitis present (High risk)
- Areas of enamel demineralization present (>1 = High risk/ 1 area = Moderate risk)
- Enamel defects, deep pits/fissures (High risk)
- Radiographic enamel caries present (High risk)
- High levels of mutans streptococcus or lactobacilli = High risk/Moderate levels of mutans streptococcus or lactobacilli = Moderate risk

**Early Childhood Caries (ECC)** (from American Academy of Pediatric Dentistry Reference Manual, 2009-2010):

Definition: The presence of one or more decayed (noncavitated or cavitated lesions), missing (due to caries), or filled tooth surfaces in any primary tooth in a child 71 months of age or younger.

**Severe Early Childhood Caries:**

- Children < 36 months of age = any sign of smooth-surface caries constitutes severe early childhood caries.
- Children 3 through 5 years of age = 1 or more cavitated, missing (due to caries), or filled smooth surfaces in primary maxillary anterior teeth or a decayed, missing, or filled score of  $\geq 4$  (age 3),  $\geq 5$  (age 4), or  $\geq 6$  (age 5) constitutes severe early childhood caries.

## Etiology:

- Dental caries is a transmissible infectious disease with both vertical (caregiver to child) and horizontal (between members of a family or group such as daycare) possible.
- Mutans streptococci can colonize the mouths of preerupted infants although newly erupted teeth are most susceptible.
- Frequent bottle feeding at night, breast-feeding ad libitum, and extended and repetitive use of a no-spill training cup are associated with, but not consistently implicated in ECC.
- The American Academy of Pediatrics has recommended that children 1-6 years of age consume no more than 4-6 ounces of fruit juice per day from a cup as part of a meal or snack.

## Recommended Preventive At-home and Professional Measures:

- Reduce mother's/primary caregiver's/sibling(s) mutans streptococcus levels (ideally during the prenatal period) to decrease transmission of cariogenic bacteria
- Minimize saliva-sharing activities (eg, sharing utensils) between an infant or toddler and his family/cohorts.
- Implement oral hygiene measures no later than the time of eruption of the first primary tooth
  - If an infant falls asleep while feeding, the teeth should be cleaned before placing the child in bed.
  - Toothbrushing of all dentate children should be performed twice daily with a fluoridate toothpaste and a soft, age-appropriate sized toothbrush. Parents should use a 'smear' of toothpaste to brush the teeth of a child less than 2 years of age. For the 2-5 year old, parents should dispense a 'pea-size' amount of toothpaste and perform or assist with their child's toothbrushing.
  - Flossing should be initiated when adjacent tooth surfaces can not be cleansed by a toothbrush.
- Establish a dental home within 6 months of eruption of the first tooth and no later than 12 months of age to conduct a caries risk assessment and provide parental education including anticipatory guidance for prevention of oral diseases.
- Avoid caries-promoting feeding behaviors. In particular:
  - Infants should not be put to sleep with a bottle containing fermentable carbohydrates
  - Ad libitum breast-feeding should be avoided after the first primary tooth begins to erupt and other dietary carbohydrates are introduced.
  - Parents should be encouraged to have infants drink from a cup as they approach their first birthday. Infants should be weaned from the bottle at 12 – 14 months of age.
  - Repetitive consumption of any liquid containing fermentable carbohydrates from a bottle or no-spill training cup should be avoided.
  - Between-meal snacks and prolonged exposures to foods and juice or other beverages containing fermentable carbohydrates should be avoided.

## Examination/Preventive Appointment Recommendations by Age (from American Academy of Pediatric Dentistry Reference Manual, 2009-2010):

- **6 – 12 months**
  - Complete the clinical oral examination with adjunctive diagnostic tools (eg, radiographs as determined by child's history, clinical findings, and susceptibility to oral disease) to assess oral growth and development, pathology, and/or injuries; provide diagnosis.
  - Provide oral hygiene counseling for parents, including the implication of the oral health of the caregiver.

- Remove subgingival and supragingival stains or deposits as indicated.
  - Assess the child's systemic and topical fluoride status (including type of infant formula used, if any, and exposure to fluoridated toothpaste) and provide counseling regarding fluoride. Prescribe systemic fluoride supplements, if indicated, following assessment of total fluoride intake from drinking water, diet, and oral hygiene products.
  - Assess appropriateness of feeding practices, including bottle and breast-feeding, and provide counseling as indicated.
  - Provide dietary counseling related to oral health.
  - Provide age-appropriate injury prevention counseling for orofacial trauma.
  - Provide counseling for nonnutritive oral habits (eg, digit, pacifiers)
  - Provide anticipatory guidance.
  - Consult with the child's physician as needed.
  - Complete a caries risk assessment.
  - Determine the interval for periodic reevaluation
- **12 – 24 months**
    - Repeat 6-12 month procedures every 6 months or as indicated by individual patient's risk status/susceptibility to disease.
    - Assess appropriateness of feeding practices-including bottle, breast-feeding, and no-spill training cups-and provide counseling as indicated.
    - Review patient's fluoride status-including any childcare arrangements which may impact systemic fluoride intake- and provide parental counseling.
    - Provide topical fluoride treatments every 6 months or as indicated by the individual patient's needs.
- **2 – 6 years**
    - Repeat 12-24 month procedures every 6 months or as indicated by individual patient's risk status/susceptibility to disease. Provide age-appropriate oral hygiene instructions.
    - Scale and clean the teeth every 6 months or as indicated by individual patient's needs.
    - Provide pit and fissure sealants for caries-susceptible primary molars and permanent molars, premolars, and anterior teeth.
    - Provide counseling and services (eg, mouthguards) as needed for orofacial trauma prevention.
    - Provide assessment/treatment or referral of developing malocclusion as indicated by individual patient's needs.
    - Provide required treatment and/or appropriate referral for any oral diseases, habits, or injuries as indicated.
    - Assess speech and language development and provide appropriate referral as indicated.
- **6-12 years**
    - Repeat 2-6 year procedures every 6 months or as indicated by individual patient's risk status/susceptibility to disease.
    - Provide substance abuse counseling (eg, smoking, smokeless tobacco).
    - Provide counseling on intraoral/perioral piercing.
- **12 years and older**
    - Repeat 6-12 year procedures every 6 months or as indicated by individual patient's risk status/susceptibility to disease.
    - During late adolescence, assess the presence, position, and development of third molars, giving consideration to removal when there is a high probability of disease or pathology and/or the risks associated with early removal are less than the risks of later removal.

### Dietary Fluoride Supplementation

Age	< 0.3 ppm F	0.3-0.6 ppm F	> 0.6 ppm F
Birth – 6 months	0	0	0
6 months – 3 years	0.25 mg	0	0
3 – 6 years	0.5 mg	0.25 mg	0
6 years up to at least 16 years	1.0 mg	0.5 mg	0

**Maximum Dosage of Injectable Local Anesthetics Used with Children** (from American Academy of Pediatric Dentistry Reference Manual, 2009-2010):

Anesthetic	Maximum dose (mg/kg)	Maximum dose (mg/lb)	Maximum total dose (mg)*
2% Lidocaine plain	4.4	2.0	300
2% Lidocaine + 1:50,000 Epinephrine	4.4	2.0	300
2% Lidocaine + 1:100,000 Epinephrine	4.4	2.0	300
3% Mepivacaine plain	4.4	2.0	300
2% Mepivacaine + 1:100,000 Epinephrine	4.4	2.0	300
2% Mepivacaine + 1:20,000 Levonordefrin	4.4	2.0	300
4% Articaine + 1:100,000 Epinephrine	7.0	3.2	500

\*Total dosage should be based on child's weight and should never exceed maximum total dosage.

Computation Example:

Three year old child weighing 33 pounds (15 kg). Maximum injectable local anesthetic dose (**Lidocaine**) =

33 lbs X 2 mg/lb (maximum dose) = 66 mg    OR    15 kg X 4.4 mg/kg (maximum dose) = 66 mg

(1.8 mL cartridge contains 36 mg of Lidocaine)

**MAXIMUM** volume = 66 mg X 1 cartridge/36 mg = 1.8 cartridges  
(66 ÷ 36 = 1.8)

Three year old child weighing 33 pounds (15 kg). Maximum injectable local anesthetic dose (**Articaine**) =

33 lbs X 3.2 mg/lb (maximum dose) = 105 mg    OR    15 kg X 7.0 mg/kg (maximum dose) = 105 mg

(1.8 mL cartridge contains 72 mg of Articaine)

**MAXIMUM** volume = 105 mg X 1 cartridge/72 mg = 1.4 cartridges  
(105 ÷ 72 = 1.4)