



## AMERICAN ACADEMY OF PEDIATRIC DENTISTRY

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### Early Childhood Caries (ECC)

Children who are frequently exposed to sugary liquids—such as milk, including breast milk, formula, fruit juice, and other sweet liquids—for long periods of time run a great risk of suffering from Early Childhood Caries.

- ECC is an infectious disease that can begin as early as the teeth begin to emerge (around six months or so), often progresses rapidly, and can cause great pain to the child.
- ECC is defined as the presence of one or more decayed teeth, missing teeth (resulting from caries), or filled tooth surface in any primary tooth in a child 6 years old or younger.
- Tooth decay is the single most common chronic childhood disease—5 times more common than asthma, 4 times more common than early-childhood obesity, and 20 times more common than diabetes.
- ECC is a multifactorial disease process initiated by bacteria (primarily *Streptococcus mutans*). This simply means that after food enters the body the bacteria can break down the carbohydrates, producing acids that cause mineral loss from teeth—a process that often results in cavities.
- Typically, ECC that requires extensive dental repair (often in an operating room under general anesthesia) appears in children aged 22 months.
- Left untreated, it can destroy the child's teeth, and have a strong, lasting effect on a child's overall general health.

### Statistics

- According to the Centers for Disease Control, about 4 million U.S. children have visually evident cavities and 70 percent of these children have unfilled cavities.
- For children ages 2 to 5, 75 percent of the caries is found in 8 percent of the population.<sup>1</sup>
- ECC is disproportionately concentrated among socially disadvantaged children, especially those who qualify for Medicaid coverage.
- An estimated 5 percent of children under age six, roughly 300,000 U.S. children, experience significant levels of ECC; an additional 15 percent, roughly 1.5 million U.S. children, experience lesser levels of ECC.
- Children between the ages of 2 and 5 who have not visited a dentist with the past twelve months are more likely to have caries in their primary teeth.<sup>2</sup>
- Mexican-American children ages 2 to 5 are more likely than their non-Hispanic black and non-Hispanic white peers to suffer from caries.<sup>3</sup>
- For children ages 2 to 5 from families with incomes above the federal poverty level, those who do not eat breakfast daily or who eat fewer than five servings of

fruit and vegetables a day run a greater risk of experiencing caries in primary teeth.<sup>3</sup>

#### Costs of ECC

- ECC goes beyond pain and infection; ECC can affect speech and communication, eating and dietary nutrition, sleeping, learning, playing and quality of life, even into adulthood.
- Many children with ECC require costly, restorative treatment in an operating room under general anesthesia. Under Medicaid expenditures, such operations range from \$1,500 to \$2,000 per child per year.

#### Consequences of ECC include:

- Higher risk of new carious lesions in both the primary and permanent dentitions
- Greater number of hospitalization and Emergency Room visits
- Increased treatment costs and time
- Insufficient physical development (especially in height/weight)
- Loss of school days and increased days with restrictive activity
- Diminished oral health-related quality of life

The American Academy of Pediatric Dentistry (AAPD) recommends the following steps for parents to help prevent children from getting Early Childhood Caries:

#### Infant

- Visit a pediatric dentist within six months of the eruption of the first tooth, and no later than the child's first birthday.
- Wipe the baby's gums with a clean, wet gauze pad or washcloth after each feeding.
- Begin brushing infant's teeth with water as soon as first tooth appears. With the use of a soft-bristled, child-sized brush, clean whatever teeth exist and massage gums. Replace toothbrush when bristles become worn or frayed.
- Do not nurse or breast feed for prolonged periods
- Never put down a child for a nap or sleep with a bottle of milk, formula, sugar water, or fruit juice

#### Toddler/Young Child

- Encourage children to drink from a cup by their first birthday; a training (sippy) cup is only meant to serve as a transitional tool from helping kids adjust from the bottle to cup.
- Only put water in sippy cups—except during mealtime. By filling the sippy cup with juice, or even milk, and allowing a child to drink from it throughout the day, bathes the child's teeth in cavity causing bacteria.

- If fluoride toothpaste is used before the child's second birthday, please check with child's dentist or physician first. Only place pea-sized amount of toothpaste on child's toothbrush.
- Supervise child when brushing and teach him/her to spit out, not swallow, the toothpaste.
- Help child develop good eating habits early and choose sensible, nutritious snacks.

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<sup>1</sup> Macek MD, Heller KE, Selwitz RH, Manz MC. 2004. Is 75 percent of dental caries really found in 25 percent of the population? *Journal of Public Health Dentistry* 64(1):20-25.

<sup>2</sup> Dye BA, Shenkin JD, Ogden CL, Marshall TA, Levy SM, Kanellis MJ. 2004. The relationship between healthful eating practices and dental caries in children ages 2-5 years in the United States, 1988-1994. *Journal of the American Dental Association* 135(1):55-66.