

Dental Caries (Early Childhood Caries, Tooth Decay, or Cavities)

What is early childhood caries?

Early childhood caries (tooth decay, which leads to cavities) is the most common chronic disease of childhood. Tooth decay is an infectious disease process that damages tooth structure and eventually makes holes (cavities) in the teeth. The consequence of early childhood tooth decay is more than unattractive teeth. Early childhood caries can cause severe pain, speech difficulty, and poor nutrition. It can start serious infections elsewhere in the body, such as the lungs or heart. Treatment for tooth decay can require expensive dental services. These services in young children often require general anesthesia and treatment in the operating room.

The caries process begins when plaque builds up on teeth, usually because of poor toothbrushing habits and inappropriate nutrition. Plaque is a sticky substance produced by bacteria that live near the gum line of the teeth. Children become infected sometime early in life with the bacteria that can cause caries, usually from their mothers or caregivers. The bacteria in plaque break down sugars in the food and beverages given to children. As the bacteria break down the sugars, they produce acids that can damage the hard surface of teeth, called enamel. After consuming a sugary food or drink, it can take up to 40 minutes for the acid environment in the mouth to return to safe levels.

What are the signs or symptoms?

Caries begins as a change in color of the tooth, indicating acid is starting to break down the hard enamel surface. Usually, the first changes are white spots at the gum line on the upper front teeth. Without special equipment, these spots are hard to see at first, even for a physician or dentist. If a child with early signs of tooth decay is not treated, the damage will continue. Next, the tooth starts to look yellow, brown, or black in the area where decay of the tooth is happening. If the process is not stopped, the whole tooth can be eaten away by the acid. The tooth and gum area may become painful. The child may be left with only a broken-off stub of tooth in the gum. A serious infection of the root of the tooth, gum, and jawbone can occur, with the risk of further complications.

How is it spread?

The bacteria that cause caries are transmitted by seemingly innocent acts of sharing objects that enter the mouth. For example, the bacteria can be spread by sharing a cup, moistening a pacifier or cleaning it off in a mother's mouth before giving it to a baby, pre-tasting food, sharing spoons



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Child with dental caries

and toothbrushes that involves transfer of saliva, and, less commonly, kissing on the mouth.

How do you control it?

To prevent early childhood caries, focus on 5 measures.

1. Start toothbrushing with fluoridated toothpaste once the first teeth erupt.
2. Harden the enamel with appropriate intake of and exposure to fluoride.
3. Limit the frequency of consuming sugar-containing drinks (eg, juice, soft drinks, other sugary beverages, sports drinks) and foods and rinse with water or brush teeth after eating to minimize the exposure of acid to the teeth.
4. Do not let the child go to sleep with a bottle or carry a bottle or sippy cup around during the day.
5. Teach children to drink from a cup as soon as they are ready to learn how to do it, usually by 1 year of age.

What are the roles of the teacher/caregiver and the family?

- Take care of your own teeth. Teachers/caregivers should brush their teeth 2 times a day, preferably after a meal and before bed, and be a good role model for children.
- Practice good oral health for the children.
 - Brush children's teeth at least 2 times a day, preferably after a meal and before bed.
 - Teach and practice toothbrushing in early education and child care settings. If brushing with toothpaste occurs at home twice a day, toothpaste may not be

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- required at the program. However, because many families do not accomplish twice-daily toothbrushing at home, do not assume it is occurring.
- Infants without teeth do not need any gum care. There is no strong evidence that wiping gums with a cloth is of any benefit.
 - After a child’s first tooth comes in, twice-daily toothbrushing can begin.
 - ❖ Children younger than 3 years should use a smear of toothpaste the equivalent of a grain of rice.
 - ❖ At 3 years of age, children should start to use a pea-sized amount of fluoridated toothpaste.
 - Encourage all children to spit after brushing, but many will not be able to do this consistently until about 8 years of age.
 - Children will need supervision and assistance with toothbrushing until 8 years of age. Teachers/caregivers should have clean hands when assisting a child with toothbrushing. The most important areas to clean are at the gum line and in all the spots that can trap food. That is why the inter-tooth surfaces need to be flossed to remove food from these spaces.
 - Practices that may help reduce the risk of caries
 - Do not taste an infant’s heated cereal (or other foods) for safe temperature and then use the same spoon to feed the infant.
 - Put any child-mouthed toy out of reach and ready for cleaning before another child has a chance to mouth it.
 - Encourage staff and families to be sure adults and children have oral health examinations every 6 months to reduce the concentration (and, possibly, pathogenicity) of caries-causing bacteria in their mouths.
 - Limit snacking, meals, and beverages other than water to planned times spread at least 2 to 3 hours apart rather than grazing on food and sugar-containing fluids (eg, milk, juice) throughout the day. Infants younger than 1 year should not be offered juice.
 - Avoid sweet or sticky foods as snacks. When sticky foods are part of the menu, try to follow up with something crunchy, like an apple or some celery.
 - Avoid letting children repeatedly sip any drinks, except water, from a bottle, a sippy cup, or other container. Bottle-propping, or allowing children to drink from a bottle while napping, causes prolonged contact of sugars on the teeth and promotes caries. Drinking water is always a good idea after eating, as it may rinse off some food or drink substance from the surface of teeth.

Exclude from group setting?

No.

Comment

The American Academy of Pediatrics recommends that all infants receive oral health risk assessments by their pediatric health professional beginning at 6 months of age. They should also be referred to a dentist if they do not have one established, especially those at high risk for dental caries (eg, history of caries, lower socioeconomic status, lack of fluoride in the water). There is strong evidence that fluoride reduces caries. This fact must be used in conjunction with evidence that excess fluoride at an early age may cause white staining or pitting of the teeth (fluorosis). Most children with fluorosis have a mild effect that is a cosmetic problem but does not otherwise cause any harm. Application of fluoride varnish by pediatric health care providers or dentists to children’s teeth every 3 to 6 months is now recommended for all children. All children in their early toddler years should have a complete dental examination by a dentist.

