Nutrition
for children with
special health care needs
FOCUS

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# Nutrition and Oral Health for Children

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Dental caries is the most common chronic disease of childhood. It is five times more frequent than asthma, which is the second most common chronic disease. Among 2 to 5-year olds, 19% have untreated caries. Forty-five percent of school-aged children have caries in their permanent teeth .[1]

Problems with oral health affect all children. However, the importance of oral health for children with special health care needs is particularly relevant. Special health care needs can increase a child's risk for oral health problems and can also make the overall effects of poor oral health more severe.

## DEVELOPMENT OF ORAL STRUCTURES

Development of oral structures begins early. Calcification of the upper incisors begins at 3-4 months in utero; crowns are completed by 4-5 months of age. Development of the first molars begins at 5 months in utero and is completed by 6 months of age.[2] Eruption of primary/permanent teeth may be delayed in preterm infants. Since development begins at such an early age early oral health care is needed.

Nutritional status and nutrient intake are critical to good oral health. Inadequate intake of energy and protein can delay tooth eruption, affect tooth size and enamel solubility, and cause salivary gland dysfunction. Calcium and vitamin D are important to the mineralization process, and deficiencies can lead to compromised tooth integrity and delayed eruption patterns. Fluoride is important to enamel formation, inhibits demineralization, stimulates remineralization, and inhibits bacterial growth. Other nutrients, including vitamin A, ascorbic acid, iodine, and iron, are also involved in the development and maintenance of oral teeth and other oral structures.[2, 3]

## ORAL HEALTH PROBLEMS

### Dental caries

Dental caries is the most common oral health problem. It has been called a "diet-dependent bacterial infectious disease." Caries is caused by a combination of factors:

- bacteria, fermentable carbohydrate, and acid (demineralization)
- saliva (remineralization)
- time

#### Demineralization

*Mutans streptococci* (S. mutans) is acquired (most often, the transmission occurs from mother to child via personal contact, such as kissing). Dietary carbohydrates enable the bacteria to multiply, colonize the tooth's surface, and form dental plaque. As the bacteria metabolize the carbohydrate, organic acid is formed; this acid demineralizes tooth enamel.

#### Remineralization

Saliva counters the acid attacks on the teeth in several ways. Saliva aids in clearing food particles, and the calcium, phosphorus, and fluoride in saliva promote remineralization. The protein, bicarbonate, and phosphates in saliva also neutralize plaque acids.

#### Time

When no cariogenic food is present in the mouth (between meals and snacks), remineralization of the enamel occurs. Caries occurs when demineralization time exceeds remineralization.

The types of foods consumed, frequency of meals and snacks, and production of saliva can all be affected by a special health care need and can have a significant impact on the development of dental caries.

### Early childhood caries

Early childhood caries (ECC) has also been called nursing caries, nursing bottle

#### Glossary

**Apthous ulcer** – painful ulceration of mucous membranes of the mouth

**Cariogenicity** – potential for promoting dental caries

**Gingivitis** – inflammation of gum tissue characterized by redness, swelling, and tendency to bleed

**Periodontitis** – inflammation and degeneration of the gum tissue and supporting ligament and bone

**White spot lesions** – demineralization on tooth enamel, begin along gumline of upper front teeth, can encircle affected teeth

caries, and baby bottle tooth decay, and occurs in 10% of 2-year olds.[4] It typically occurs in children whose teeth are exposed to sugary liquids (and the resultant acids) for long periods of time. Children who fall asleep with a bottle in their mouths or who carry a bottle or sippy cup and drink sweetened liquids throughout the day are at high risk for ECC. ECC increases the risk of decay in a child's permanent teeth.[4]

### Other oral health problems

Other problems with oral health can include periodontal disease, gingivitis, and apthous ulcer. (See glossary - Page 1).

### Effects of oral health problems

Problems with oral health can interfere with good overall health and with self-image and social function. When missing or decayed teeth prevent a child from eating certain foods, risk of inadequate nutrient intake increases. Oral health problems also have the potential to amplify other challenges that a child with special health care needs might have. For example, oral infection can further compromise a child's health and can increase energy needs. Pain or malformed teeth can lead to inappropriate speech and other problems with speech and communication. Oral health problems can also interfere with sleep and have an impact on an individual's psychological status.

## ORAL HEALTH PROBLEMS AND SPECIAL HEALTH CARE NEEDS

Special health care needs can increase a child's risk of developing oral health problems. Potential effects of specific conditions are summarized in Table 1 on pages 4 and 5. In addition, secondary conditions and even some therapies can increase the risk of problems with oral health.

Prematurity and intrauterine malnutrition can have adverse effects on an individual's oral health. A study of infants who weighed less than 2000 grams at birth, indicated more porous dental enamel and subsurface lesions.[4] Another study followed 25 infants born with very low birthweights (less than 1500 grams). Around age 4 ½ years, an average of 7.6 primary teeth had enamel defects, compared with 1 defect in children with normal birthweights. Likewise, malnutrition in the first few months of life (when oral structures develop) can increase the risk for oral problems.

Children with craniofacial malformations are at higher risk of developing oral problems. For example, children with cleft lip/palate disorders have more decayed, missing, and filled teeth than children without.[4]

Children with compromised immune function (for example, children with AIDS or who take immunosuppressive medications) are more susceptible to oral infections such as candidiasis, viral infections, dental caries, and periodontal disease.

Children with trisomy 21 (Down syndrome) have delayed dental development, with primary teeth erupting later than among children without trisomy 21. Some permanent teeth may be missing as well, and teeth may have thin enamel or be hypoplastic. These problems, along with the potential for feeding problems and gastroesophageal reflux, make oral care for children with trisomy 21 especially important.[5]

Feeding problems, common among many children with special health care needs, contribute to oral health problems in a number of ways. Oral hypersensitivities may make good oral hygiene difficult and may also limit the types and textures of foods eaten. When mechanical or behavioral problems limit the amount or types of foods that can be eaten, nutrient intake may be affected and nutrients needed for development and remineralization may be unavailable.[4, 6]

Failure to thrive and other problems with weight gain and growth can contribute to oral health problems as well. If frequent meals and snacks are needed to maintain an adequate energy intake, or if mealtime is longer than usual, the demineralization period may exceed remineralization. Weaning may be delayed, and children allowed to sip on a bottle throughout the day.[4, 6]

Gastroesophageal reflux disease (GERD), common among children with cerebral palsy and other conditions, can contribute to oral problems. As the acidic gastric contents are regurgitated, primary and permanent teeth can be eroded.[4]

Medications can have dental implications as well. For example:

- liquid syrups with sugar can contribute to dental caries
- medications that cause dry mouth decrease saliva flow thereby decreasing saliva's protective factors (e.g., albuterol, antihistamines, anticholinergics, antidepressants, antibiotics, anti-GERD medications)
- medications that interfere with vitamin D metabolism interfere with tooth mineralization (e.g., phenytoin)
- medications that affect folate status can cause development of lesions on lips (e.g., phenytoin); in addition many liquid vitamin supplements do not contain folic acid
- phenytoin can also lead to hyperplasia of the gum tissue, making good oral hygiene even more important

When addressing the oral health needs of a child with a special health care need, it can be helpful to ask the following: How does the disorder (or treatment for the disorder) affect

- development of oral structures
- saliva production
- frequency of eating
- types of food consumed

## TREATMENT

Treatment of oral health problems can be expensive and painful. Restorative treatment can include fillings, antibiotics (when infection and caries are rampant), and crowns. Extraction may also be necessary in some instances. The type of treatment used will depend on the age of the child, the child's behavior, and the severity of the problem. One group estimated the cost of dental treatment to be $1000-1500 for in-office procedures to $3000-5000 for a hospital admission with general anesthesia.[7]

## PREVENTION

Prevention of dental caries and other oral health problems is critical because of the pain and cost associated with treatment, and also because of issues around access to care.

### Anticipatory guidance

The American Academy of Pediatrics

(AAP) suggests that dental care begin prenatally, with counseling and anticipatory guidance about the transmission of bacteria from mother to child and about oral hygiene for infants and young children.[8]

### Dental visits

The American Academy of Pediatric Dentistry (AAPD) recommends that a child's first visit to the dentist occur before 12 months of age or 6 months after first tooth erupts.[9]

An AAP policy statement recommends the establishment of a dental home for children who are at risk (including children with special health care needs). AAP recommendations also include referral to a dentist by 12 months of age (or 6 months after the eruption of the first tooth) and anticipatory guidance about growth and development and nutrition-related oral health issues.[8]

The dentist or oral hygienist may help families identify modifications for toothbrushes (e.g., for easier gripping, if a child's grip prevents him from brushing his own teeth) as well as to identify positions to support the head and body when teeth are being cleaned. See Figure 1 on page 5.

Lack of pediatric dental practitioners, especially those who see children with special health care needs, is a major barrier to dental care, both for preventive efforts and for treatment. Some dental clinics have developed partnerships with public health departments, school districts and early intervention programs to provide preventive care. In other communities, families may need to travel to obtain services. Resources for locating services are listed in the resource section of this issue.

### Fluoride

Fluoride intake should begin at 6 months of age.[10] If a child's water supply is not fluoridated (e.g., community does not fluoridate, use of well or bottled water, or because of the exclusive use of breast milk or formula without fluoride), fluoride supplements are recommended.

Topical fluoride applications are also used in many communities. Varnishes, foams, and gels are used to promote remineralization and decrease demineralization. Antimicrobial rinses are also available. Use of these rinses is sometimes suggested for mothers with untreated caries, to decrease the risk of transmission of *S. mutans*.

### Efforts by non-dental providers

The Surgeon General's report on Oral Health identified assessment (and action) by non-dental professionals as critical to improving oral health.[11] Nutrition professionals can take action by incorporating screening questions into nutrition assessments and by providing anticipatory guidance about oral health issues.

Initial guidelines for oral screening by nondental health care providers are described in reference 12. In Washington State, Women, Infant and Children Supplemental Food and Nutrition Education Program (WIC) staff receive training through the "Lift the Lip" campaign. Staff teach families to identify the white spots that are associated with early caries; anticipatory guidance is also provided. In addition, the Washington Association of Local WIC Agencies (WALWICA) has developed educational resources for families, including videos that are used in the WIC office. See RESOURCES.

Efforts to prevent oral health problems can be incorporated into the nutrition care plan. When specific foods or feeding patterns are recommended, impact on oral health should be considered. Recommendations should promote an adequate intake and appropriate habits (timing and frequency of meals/snacks) and should include consideration of the cariogenicity of foods. Tables 2-5 describe some nutrition-related preventive measures. See pages 6 and 7. In addition, a reproducible handout for families is included after page 7.

Some foods are more likely to lead to caries than others. Foods have non-, low-, or high- cariogenic potential depending on several properties:

- amount and type of fermentable carbohydrate available to oral bacteria; sucrose appears to be the most cariogenic sugar, lactose is less cariogenic
- length of time food remains in the mouth; sticky foods that adhere to teeth, foods that are retained for long periods of time (e.g., hard candy), and foods that are consumed with high frequency (e.g., sips of sweetened beverages throughout the day) are more cariogenic than foods that are eliminated quickly
- other components of the food that may be protective; for example, it is thought that the phospho-proteins in milk are protective and that milk may also have antibacterial factors. Aged cheeses are protective because they stimulate saliva flow, raising plaque calcium and phosphorus levels
- processing; for example, it is thought that starch has low cariogenicity unless it is finely ground, heat-treated, and eaten frequently.

A list describing the cariogencity of some foods is included as Table 2. For some of the foods, studies have been conducted to demonstrate cariogencity; for others the evidence is less strong.

## SUMMARY

Oral health is a significant health problem for children with and without special health care needs. Children with special health care needs may be at increased risk for problems with oral health, especially problems related to nutrition and diet. Nutritionists can incorporate strategies to prevent oral health problems into nutrition care plans and can work with families to minimize risk.

## CASE EXAMPLE: ERIC

Eric is an 8-year old with spastic quadriplegic cerebral palsy. He and his family have been working on feeding skills with the help of an occupational therapist (OT). He eats primarily soft foods, and his family avoids offering hard, crunchy, and chewy foods. He also has some oral hypersensitivities and does not like procedures around his face or mouth. Eric needs to eat 6-8 times per day in order to have an adequate intake and to maintain appropriate weight gain. His medications include phenobarbitol (to control seizures) and glycopyrrolate (to control excessive drooling).

The RD working with Eric's family used the *Bright Futures in Practice: Oral Health* guidelines (see Table 5) to identify risk factors related to nutrition and oral health. She also helped the family to identify some strategies to address potential problems:

- The RD confirmed that Eric was connected with a dentist and had regular visits; Eric's

continued on page 6

Table 1 - Conditions with Potential to Affect Oral Health

| Children with Abnormalities of Oral Structures | Potential Effects on Oral Health |
|---|---|
| Down syndrome (Trisomy 21) | Small oral cavity with normal sized tongue that appears to be large — thus may develop malocclusion, maintain open mouth, breathe through the mouth<br>Some children lack secondary teeth<br>Excess saliva<br>Bruxism occurs frequently and may cause tooth abrasion and loss of enamel from the chewing surfaces |
| Cerebral palsy | Forward tongue thrust which causes an open bite<br>Drooling, chewing or swallowing disorders<br>Malocclusion if tongue in abnormal position<br>Abnormal or depressed movement of the tongue, lip, and cheek; thus food particles remain lodged in the teeth and contribute to cavities<br>Prone to less adequate oral hygiene than other children because of difficulty in performing adequate hygiene |
| Cleft lip and/or palate | Upper half of right or left palate does not fuse, thus food may be sucked up into the nasal region<br>Malformed teeth and/or poorly aligned teeth occur frequently even with early surgical repair |
| Other syndromes (Fragile X, de Lange, Trisomy 18, Achondroplasia, Klinefelter, Marfan, Lowe, Williams, Rett, Smith-Lemli-Opitz, Angelman, or fetal alcohol syndrome) | Oral motor difficulties may limit intake of specific foods and may make oral hygiene difficult |
| Other conditions (spinal muscular dystrophy, muccopolysaccharidoses, sphingolipidoses, or infants who are drug affected at birth) | Oral motor difficulties may limit intake of specific foods and may make oral hygiene difficult |
| **Children with Abnormal Food Related Behaviors** | |
| Autism | May retain food in the mouth rather than swallowing<br>Often prefer only a few foods which may be high in fermentable carbohydrates |
| Prader Willi syndrome | Increased frequency of food intake because of insatiable appetite |
| **Children with mental and/or physical retardation** | Frequently have bruxism which may cause tooth abrasion and loss of enamel from the chewing surfaces. If persists, may lead to headaches, facial pain, or periodontal disease |
| **Children with metabolic disorders** | |
| Phenylketonuria, urea cycle disorders, organic acids disorders or other metabolic disorders requiring a restricted semi-synthetic diet | Oral structures are normal; caries risk may be increased with inadequate provision of critical nutrients or too frequent exposure to sweet, sticky low protein foods |
| Glycogen storage disease | Oral structures are normal; frequent exposure to cornstarch without adequate hygiene may increase risk for caries |
| Galactosemia | Oral structures are normal; restriction of galactose may interfere with calcium and vitamin D intake and thus bone development |
| Lactose intolerance | Oral structures are normal; restriction of lactose intake may interfere with calcium and vitamin D intake and thus bone development |
| **Children with potential medication-nutrient –oral health interactions** | |
| Myelomeningocele, asthma, seizure disorders | Medications may interfere with absorption of nutrients and/or have side effects that cause oral problems (e.g., overgrowth) or interfere with saliva production |

Table 1 - Conditions with Potential to Affect Oral Health - continued

| **Children with medical conditions** | |
|---|---|
| Gastroesophageal reflux disease (GERD) | Erosion of primary and permanent teeth may result from regurgitation of the acidic gastric contents into the mouth |
| Prematurity | Early malnutrition affects tooth development eruption and results in increased caries in the primary teeth |
| Cardiac conditions | At increased risk for systemic infection during oral procedures; increased potential for medications interactions, higher energy requirement may result in increased carbohydrate exposure and acid production |
| **Children with depressed immune response** | |
| HIV/AIDS, chemotherapy, post-organ transplant | May develop painful oral lesions which interfere with oral hygiene and food; may be more susceptible to infections |

FIGURE 1 - TEETH CLEANING POSITION FOR CHILDREN WITH SPECIAL HEALTH CARE NEEDS

There are a number of positions you can use to clean the child's teeth. Supporting the head, seeing properly, and ease of manipulaition are important. Ask your dental professional which is the safest, most comfortable position for the child.
Remember, in any position, it's important to support the child's head. Take care to avoid choking or gagging if child's head is tilted back.

## Wheelchair

Stand behind wheelchair Use your arm to brace child's head against chair or your body Use pillow for child's comfort. Remember, in any position, it's important to support child's head. Take care to avoid choking or gagging if child's head is tilted back.

Or sit behind wheelchair. Remember to lock chair wheels first, then tilt chair back into your lap.

## Bed or sofa

Child lies on bed or sofa with head in your lap. Support child's head and shoulders with your arm.

If child is uncooperative or uncontrollable, a second person can hold hands or feet if needed.

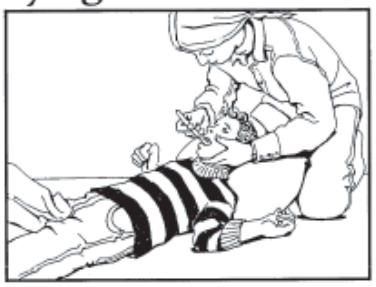
## Beanbag chair

For children who have difficulty sitting up straight, a beanbag chair lets them relax without fear of falling Use same position as for bed or sofa.

## Sitting on floor

Child sits on floor; you sit behind child on chair Child leans head against your knees. If child is uncooperative or uncontrollable you can place your legs over child's arms to keep child still.

## Lying on floor



Child lies on floor with head on pillow. You kneel behind child's head. You can use your arm to hold child still.

dentist sees children with developmental delays as part of his practice and develops a plan to minimize anxiety and discomfort during cleanings and procedures with each family.

- The RD asked questions about the types of foods offered and access to oral care after meal and snack times. Because the frequency of eating was not negotiable, she helped the family to identify foods to offer when oral care was not immediately accessible. For example, Eric's family decided to offer the cheese that he usually ate for lunch as an afternoon snack in place of a sweetened cereal bar. The cereal bar was offered at lunchtime, since his teeth were brushed after lunch.
- The RD ensured that Eric's vitamin D, calcium, and folate needs were met, since his seizure medication could interfere with those nutrients. Eric's family asked the OT to help them find ways to minimize Eric's oral hypersensitivity.

## CASE EXAMPLE: SUSAN

Susan is a 3-year old with lactose intolerance. She is developing typically and, since milk was eliminated from her food pattern, she is growing well. Susan's family lives in a rural area and uses well water. Susan is seen by the RD at the local WIC agency. This RD included these considerations of oral health issues in the nutrition assessment:

- If Susan's food pattern is not supplemented with vitamin D and calcium, she is at risk for decreased mineralization. Vouchers for lactaid-treated milk are provided, and Susan's intake meets the DRI for vitamin D and calcium.
- Susan should receive a fluoride supplement, since fluoridated water is not used. Her pediatrician has prescribed an appropriate fluoride supplement.
- Anticipatory guidance about oral hygiene and nutrition-related oral health strategies are provided.
- A quick oral health screening reveals no major risk factors. Susan's family is encouraged to continue to take Susan to the community dental clinic every 6 months.

Table 2 - Cariogenic potential of foods and snacks

It is important to consider the developmental appropriateness of the foods listed, especially for children with delayed feeding skills.

| Noncariogenic | Low cariogenicity | High cariogenicity |
|---|---|---|
| Nuts* (for example, almonds, peanuts) | Milk | Cookies |
| Sunflower and pumpkin seeds | Fresh fruits (for example, oranges, peaches, berries, tangerines, apples, melons, pears, grapefruit, kiwi) | Cake |
| Popcorn* | | Candy |
| Tuna fish | | Raisins and other dried fruits |
| Chicken, eggs | | Fruit roll-ups, dried fruit |
| Cottage cheese | Whole grain products | Breakfast bars |
| Cheese cubes (for example, cheddar, gouda, jack) | | Doughnuts |
| Vegetables ** (for example, zucchini, broccoli, carrots, cauliflower, celery sticks, cucumber, mushrooms, peas, sweet peppers, tomatoes, turnips) | | Soda crackers |
| Seltzer water | | Pretzels |
| Diet soft drinks | | Sweetened dry cereals |
| Plain yogurt | | Granola bars |
| | | Sweetened beverages (including fruit juices) |

* Do not give to children under 3 years or who have swallowing disorders

** Lightly steamed vegetables are safer for young children.

Adapted from Faine MP. Nutrition and oral health. In: Proceedings of Promoting Oral Health of Children with Neurodevelopmental Disabilities and Other Special Health Care Needs. May 4-5, 2001. Seattle, WA. Available on-line: depts.washington.edu/ccohr/resource/LEND_2001.pdf

Table 3. Nutrition and Oral Health Strategies

| Strategies for Parents At Home | Strategies for Health Professionals |
|---|---|
| **Each day…** | Provide education about use of bottle and/or pacifier |
| Limit intake of sweet or sticky sugars (including sticky or sweetened chewable vitamin supplements) to meal time | Monitor/instruct parents on daily oral cleansing |
| Encourage children to consume water and/or rinse mouth after eating | Provide oral health screening at Well Child visits |
| Use appropriate fluoride drops, tablets, toothpaste, rinses, gels | Provide education about foods choices for oral health and nourishment |
| Supervise daily plaque removal by dispensing toothpaste to young children | **Dental Visit – every 6 months** |
| Based on abilities allow child to assist or perform tooth brushing; for CSHCN use adaptive techniques as needed | Discuss special needs of child and premedication before visit, if needed |
| Adults should complete thorough brushing | Review medications for potential oral health implications |
| Demonstrate and/or complete flossing | Examine soft tissues and teeth |
| **Preparation for dental visits….** | Clean teeth |
| Seek dentist who treats children and/or CSHCN | Place sealant on molars and premolars |
| Discuss special needs of child and premedication before visit, if needed | Apply topical fluoride |
| Rehearse office visit with child; previsit the dental office | Provide instruction in daily cleaning of child's mouth |
| Bring list of medications, if any | |

Table 4 - Criteria for Healthy Snacks for Children

- It is both unrealistic and undesirable to try to eliminate foods containing carbohydrates. Encouraging children to snack on healthy, less cariogenic foods can reduce the frequency of carbohydrate consumption.
- Carbohydrates in combination with fats and proteins may inhibit caries activity. (Fats and proteins may have a protective effect on enamel, making it less susceptible to acid attack by coating the teeth and increasing the buffering ability of saliva.)
- Rinsing with water following snacking may also curtail the caries process. Also rinse with water following sticky or sweetened chewable vitamin supplements.
- Complex carbohydrates found in grain products, fruits, and vegetables should be encouraged over simple carbohydrates found in candy, cookies, cake, sweetened beverages, fruit juice, or fruit roll-ups.
- Offer foods that do not stick to the teeth and/or do not extend the period of time for acid production in dental plaque, such as fresh fruits, and/or cheese.
- Offer foods that do not cause acid production in the mouth, such as cheese.
- Offer foods that do not become lodged between the teeth.
- Offer Xylitol sweetened (sugarless) gum, which stimulates saliva flow and neutralizes plaque acids, to older children.

Table 5 – Anticipatory Guidance for Parents about Infant and Early Childhood Feeding*

**Birth to 1 Year**

Breastmilk is the ideal food for infants.

Do not put an infant to sleep with a bottle or allow frequent and prolonged bottle feedings of formula, fruit juice, sweetened beverages (e.g., fruit drink, soda), or other liquids (except water).

Begin to wean the infant from a bottle gradually, at about 9 to 10 months.

Juice should not be introduced into the diet of infants before 6 months. Do not serve juice in a bottle or covered cup (a "sippy cup") that allows the infant to consume juice at will throughout the day. Serve 100 percent fruit juice or reconstituted juice.

Do not dip pacifiers in sweetened foods (e.g., sugar, honey, syrup).

**1 to 5 Years**

Do not put the child to sleep with a bottle or allow frequent and prolonged bottle feedings of formula, fruit juice, sweetened beverages (e.g., fruit drink, soda), or other liquids (except water).

Wean the child from a bottle to a cup by 12 to 14 months.

Serve the child juice in a cup, and limit the child's consumption of juice to 4 to 6 oz per day.

Encourage the child to eat fruits rather than drinking fruit juice to meet the recommended daily fruit intake.

Promote less-cariogenic foods for snacks. Serve grain products (bread, bagels, crackers), dairy products (milk, cheese, yogurt, pudding), fruits, and vegetables.

Make sure the child drinks plenty of water throughout the day, especially between meals and snacks.

*Information from Bright Futures in Practice: Oral Health and Bright Futures in Practice: Nutrition

Casamassimo P. 1996. Bright Futures in Practice: Oral Health. Arlington, VA: National Center for Education in Maternal and Child Health.

Story M, Holt K, Sofka D, eds. 2002. Bright Futures in Practice: Nutrition, 2nd ed. Arlington, VA: National Center for Education in Maternal and Child Health.

## Nutrition and Oral Health: Strategies to Promote Healthy Teeth

Nutrition is an important part of preventing caries (cavities) and other oral health problems. This information sheet lists tips for families to help to keep teeth healthy.

### Strategies for Parents at Home

*Each day…*

- ✓ Limit sweet and sticky foods to mealtimes
- ✓ Offer sweet or sticky chewable supplements at mealtime (not between meals)
- ✓ Offer foods that do not promote caries (See the list below for examples)
- ✓ Encourage children to drink water or rinse their mouths after eating
- ✓ Use the fluoride drops, tablets, toothpastes, gels, and rinses suggested by your pediatrician
- ✓ Dispense a small amount of toothpaste to young children
- ✓ Encourage child to assist with toothbrushing; use adaptive techniques as needed
- ✓ Adults should complete thorough brushing
- ✓ Adults should demonstrate and/or complete flossing

*Preparation for dental visits…*

- ✓ Seek a dentist who treats children and/or children with special needs
- ✓ Discuss special needs of child (and any pre-medication, if needed) before visit
- ✓ Rehearse office visit with child; visit the office ahead of time, if possible
- ✓ Bring list of medications, if any

### Oral-Healthy Snacks for Children

All foods that provide healthy nourishment may be safely offered to children. Some of these foods may be more likely to cause caries than others. It is not realistic or healthy to eliminate all foods that contain sugar. Be careful to limit the number of times per day these foods are offered and to follow these foods with appropriate oral hygiene to prevent caries. BUT, encouraging children to eat healthy, less cavity-causing foods is possible. Follow these tips to promote healthy teeth:

- ✓ Offer sugary foods with foods that have fat and protein. (Fat and protein protect the teeth.)
- ✓ Offer foods that do not stick to the teeth, such as fresh fruits and/or cheese.
- ✓ Offer foods with complex sugars (grain products, fruits and vegetables) instead of foods with simple sugars (candy, cookies, juice, or fruit roll ups).
- ✓ Brush teeth after eating, or if this is not possible, rinse with water. If the child can safely chew gum, sugarless xylitol-sweetened gum can be chewed after meals and snacks.

#### Foods that do not promote caries

| | | |
|---|---|---|
| Nuts* (e.g., almonds, peanuts-do not give to children under age 3 years or who have swallowing disorders) | Cheese cubes (e.g., cheddar, gouda, jack) | Vegetables-lightly steamed vegetables are safer for young children (e.g., zucchini, broccoli, carrots, cauliflower, celery, cucumber, mushrooms, peas, sweet peppers, tomatoes, turnips) |
| Sunflower, pumpkin seeds | Seltzer water | |
| Popcorn* | Seltzer water | |
| Tuna fish, chicken, eggs | Plain yogurt | |
| Cottage cheese | | |

#### Foods that minimize caries occurrence

| | | |
|---|---|---|
| Milk | Whole grain products | Fresh fruits (for example, oranges, peaches, berries, tangerines, apples, melons, pears, grapefruit, kiwi) |

**Foods that promote caries** – Offer these foods only when your child will be able to brush his/her teeth immediately after eating

| | | |
|---|---|---|
| Cookies | Fruit roll-ups, fruit leather | Pretzels |
| Cake | Breakfast bars | Sweetened dry cereals |
| Candy | Doughnuts | Granola bars |
| Raisins, other dried fruits | Soda crackers | Sweetened beverages (including fruit juices) |

# RESOURCES

Bright Futures in Practice: Oral Health

This publication addresses the oral health needs of children and adolescents from birth to age 21 by presenting specific guidelines on current oral health promotion and disease prevention and other preventive strategies and tools. The information in this guide can also be adapted for use with families. Ordering information and a downloadable version: www.brightfutures.org/oralhealth/about.html.

A Health Professionals Guide to Pediatric Oral Health Management www.mchoralhealth.org/PediatricOH/ - a series of 7 on-line modules designed to assist health professionals in managing the oral health of infants and young children.

MEDLINEplus: Child Dental Health

www.nlm.nih.gov/medlineplus/childdentalhealth.html

This website is a collection of links to information about child dental health. It includes links to articles, websites, and client education materials.

Access to Baby and Child Dentistry Extended (ABCD)

This resource focuses on preventive and restorative dental care for Medicaid-eligible children from birth to age 6. It is based upon the premise that starting dental visits early will yield positive behaviors by both parents and children, thereby helping to control the caries process and reduce the need for costly future restorative work. The website includes information about ABCDE projects in Washington, as well as general information. http://abcd-dental.org/

American Academy of Pediatric Dentistry-www.aapd.org

Preventing Dental Diseases in Children with Disabilities. This 12-page booklet, produced by Johnson and Johnson, provides practical oral care tips for families of children with disabilities. It can be downloaded from the Arc of the United States website (http://www.thearc.org or http://209.183.228.233).

Washington Association of Local WIC Agencies (WALWICA)

Videos available for purchase through WALWICA.

Contact:

WALWICA, 16901 76th W, Edmonds, WA 98026, or http://www.walwica.org/atwalwica.htm#products:

- Lift the Lip. A 4-minute video for clients to view in the waiting room, which details the procedure of lifting the lip of a child to check for white spot lesions.
- Baby Teeth: Love 'em & Lose 'em. 15-minute video
- Baby Teeth II: The first dental visit with Sam Smile. 10-minute video

Pacific West MCH Distance Learning Network

This group is developing a set of self-study modules, Nutrition and Oral Health for Children. It will be available at www.pacificwestmch.org.

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