

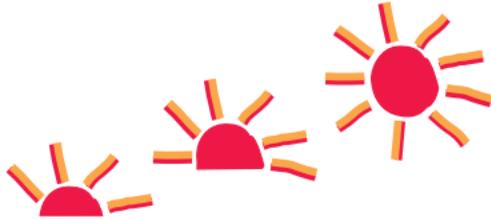


Bright Futures in Practice:

ORAL HEALTH

Pocket Guide





Bright Futures in Practice: Oral Health

Pocket Guide

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INTRODUCTION





INTRODUCTION

The Bright Futures project was initiated in 1990 by the Health Resources and Services Administration's (HRSA's) Maternal and Child Health Bureau (MCHB). The mission of the Bright Futures project is to promote and improve the health and well-being of infants, children, and adolescents. This is achieved through the development of educational materials and through fostering partnerships. Bright Futures provides comprehensive, culturally effective, family-centered, community-based child health supervision guidelines consistent with the needs of families and health professionals. The Bright Futures guidelines provide the foundation for a coordinated series of educational materials for health professionals and families.

Recognizing oral health as a vital component of health, HRSA's MCHB sponsored the development of *Bright Futures in Practice: Oral Health*. The information contained in *Bright Futures in Practice: Oral Health—Pocket Guide* is excerpted from *Bright Futures in Practice: Oral Health*, the cornerstone document *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents*, and other sources. The pocket guide is designed to be a useful tool for a wide array of health professionals including dentists, dental hygienists, physicians, physician assistants, nurses, dietitians, and others to address the oral health needs of infants, children, and adolescents.

This pocket guide offers health professionals an overview of preventive oral health supervision for five developmental periods—pregnancy and postpartum,



infancy, early childhood, middle childhood, and adolescence. Although age groupings are designed to take advantage of naturally occurring milestones, many oral health issues cut across multiple developmental periods. The information presented in the pocket guide is intended as an overview

rather than as a comprehensive description of pediatric oral health. The information does not prescribe a specific regimen of care but builds upon existing guidelines and treatment protocols such as those recommended by the American Academy of Pediatric Dentistry, the American Academy of Pediatrics, the American Academy of Family Physicians, and the American Dietetic Association.

Optimal oral health for infants, children, and adolescents can be achieved through an effective partnership between families, oral health professionals (e.g., dentists, dental hygienists), and other health professionals (e.g., obstetricians/gynecologists, pediatricians, family physicians, physician assistants, nurse practitioners, nurses, dietitians). Health professionals need to help families understand the





causes of oral disease, especially tooth decay, and how to reduce or prevent oral disease and injury in their infants, children, and adolescents.

Resistance to tooth decay in infants, children, and adolescents is determined partly by physiology and partly by behaviors. The younger the child when tooth decay begins, the greater the risk of future decay. Therefore, delaying the onset of tooth decay may reduce long-term risk for decay. For this reason, the time to begin preventing oral disease, especially tooth decay, is when teeth begin to erupt.

The first oral examination should occur within 6 months of the eruption of the first primary tooth, and no later than age 12 months. Thereafter the child or adolescent should be seen according to a schedule recommended by the dentist, based on the

child's or adolescent's individual needs and susceptibility to disease.

When an oral examination by a dentist is not possible, an infant should begin to receive oral health risk assessments by age 6 months by a pediatrician or other qualified health professional. Infants within one of the risk groups listed below should be entered into an aggressive anticipatory guidance and intervention program administered by a dentist as soon as possible. Risk groups are as follows:

- Infants with special health care needs
- Infants of mothers with a high rate of tooth decay
- Infants with demonstrable tooth decay, plaque, demineralization, and/or staining
- Infants who sleep with a bottle



- Late-order offspring
- Infants from families of low socioeconomic status

All infants, children, and adolescents need a dental home. A dental home is a comprehensive, continuously accessible, and affordable source of oral health care under the supervision of a dentist. The first visit establishes the dental home. This visit presents an opportunity to implement preventive health practices and reduce the risk for preventable oral disease.

A dental home should be able to provide the following:

- An accurate risk assessment for oral diseases and conditions
- An individualized preventive dental health program based on risk assessment

- Anticipatory guidance about growth and development issues (e.g., teething; thumb, finger, or pacifier habits; feeding practices)
- A plan for emergency dental trauma management
- Information about proper care of teeth and oral soft tissues
- Information about proper nutrition and dietary practices
- Comprehensive oral health care in accordance with accepted guidelines and periodicity schedules for pediatric oral health
- Referrals to other dental specialists, such as endodontists, oral surgeons, orthodontists, and periodontists, when care cannot be provided directly within the dental home



If the infant, child, or adolescent does not have a dental home, help parents find a source of care by doing the following:

- Provide a referral to a dentist in your community. Contact your state or local pediatric dental society or dental society or pertinent national organizations for a list of such dentists. The following national organizations may be helpful in locating dentists:

American Academy of Pediatric Dentistry
211 East Chicago Avenue, Suite 700
Chicago, IL 60611-2663
(312) 337-2169

To find a pediatric dentist:

<http://www.aapd.org/finddentist>

American Dental Association
211 East Chicago Avenue
Chicago, IL 60611-2678
(312) 440-2500

<http://www.ada.org>

To find a dentist:

<http://www.ada.org/public/disclaimer.asp>

- Work with local agencies to determine an infant's, child's, or adolescent's eligibility for public assistance programs such as Medicaid or the State Children's Health Insurance Program or other source of funding for oral health care, and help families enroll in these programs or obtain such funding.

COMPONENTS OF ORAL HEALTH SUPERVISION





COMPONENTS OF ORAL HEALTH SUPERVISION

Optimal oral health supervision for infants, children, and adolescents should contain the following components:

Components of Oral Health Supervision	Provided by Oral Health Professionals	Provided by Other Health Professionals
Family preparation	✓	✓
Interview questions	✓	✓
Risk assessment	✓	✓
Screening, including recognizing and reporting of suspected child abuse/neglect	✓	✓
Examination, including periodontal assessment and treatment for oral disease and injury	✓	
Preventive procedures (application of dental sealants or topical fluoride varnishes, gels, or foams) as approved by state practice acts or regulations	✓	✓
Anticipatory guidance	✓	✓
Measurable outcomes	✓	✓
Referrals, as needed	✓	✓



Family Preparation

Just as health professionals prepare for oral health supervision, families need to prepare, too. Families can gather health information, prepare questions, and complete forms in anticipation of the visit. This step is an essential component of oral health supervision, and health professionals should give the family information about how to prepare.

Interview Questions

The interview addresses key issues (e.g., oral development, teething/tooth eruption, oral hygiene, feeding and eating practices, exposure to fluoride, and injury prevention) during the health supervision visit. The interview needs to pick up information from previous health supervision

visits as well as to address current issues specific to the age and development of the infant, child, or adolescent. Health professionals need to assess whether the child, adolescent, or family has assumed personal responsibility for oral health and demonstrates mastery and consistent use of preventive oral health care techniques. As the child, and later the adolescent, becomes more responsible, health professionals should discuss these issues directly with the child or adolescent.

Risk Assessment

Risk assessment, which can be conducted by oral health and other health professionals, is based on the premise that not all infants, children, and adolescents are equally likely to develop oral health problems. Thus, individuals at high risk for



tooth decay likely need more, and more complex, preventive oral health care and treatment than those at lower risk. Oral health risk assessment involves identifying an individual's risk or protective factors that may impact oral health. Use the tables shown on pages 68–75 to assess the infant's, child's, or adolescent's risk and protective factors for oral health issues.

Health professionals may refer to the Caries-Risk Assessment Tool (CAT) developed by the American Academy of Pediatric Dentistry to assist in classifying risk of tooth decay in infants, children, and adolescents based on environmental, physical, and overall health factors (see Caries-Risk Assessment Tool [CAT] on pages 76–79).

Screening

Health professionals can perform a screening of the lips, tongue, teeth, gums, inside of the cheeks, and roof of the mouth to identify oral disease, especially tooth decay, or other oral conditions (e.g., delayed tooth eruption or premature tooth loss, abscesses, trauma) and to provide guidance for management. An oral health screening takes only 2 or 3 minutes. Screenings are not examinations and do not involve making diagnoses that lead to treatment plans. Only an oral health professional (a dentist or a dental hygienist who is qualified according to state practice acts or regulations to perform preliminary examinations) has the education, training, and tools needed to conduct oral health examinations.

A dental chair is not needed to perform a screening. For infants and children under age 3, the health professional and the parent should sit face to face with their knees touching, with the child placed in the health professional's and the parent's lap. The child's head should be nestled securely against the health professional's abdomen, with the child facing the parent. By age 3, children are able to lie flat on an examination table or to sit in front of the parent, with both the child and the parent facing the health professional so that the parent can help position and steady the child. For older children and adolescents, the parent's assistance is not necessary.

With a gloved hand, the health professional lifts the lip, views and feels the soft tissues, and views the teeth and the entire





mouth. Almost any type of lighting, such as a flashlight, a portable gooseneck lamp, an examination light, or a headlamp, will work for a screening. A tongue depressor or toothbrush can be used to move the tongue and view the teeth. A dental mirror or other similar-sized mirror can make it easier to see behind the teeth and to perform a more thorough screening, but such a mirror is not necessary.

When performing the oral health screening, health professionals should

- Note whether the infant, child, or adolescent is currently in pain or has an abscess on the gums above or below the teeth. An abscess may look like a “gum boil” and may or may not have localized or generalized swelling with or without pus draining from the area. If the infant,

child, or adolescent is in pain or has an abscess, refer to a dentist immediately.

- Check whether tooth eruption and loss are proceeding according to schedule (see Tooth Eruption Chart on pages 82–83).
- Check the teeth for plaque and food debris.
- Note whether any teeth appear to have unusual color or shape.
- Note whether any teeth have untreated decay. Tooth decay may occur on any tooth surface. Tooth decay initially appears as a chalky white area on the enamel. More advanced tooth decay appears as cavities or stains. When decay is observed, refer the infant, child, or adolescent to a dentist. Discolored teeth may be difficult to attribute to tooth decay. When in doubt, refer to a dentist.

- Note whether any dental trauma has occurred. If the teeth are prematurely missing, refer the infant, child, or adolescent to a dentist for space management. If trauma may be the result of physical abuse, record observations and call the local social service agency.

Health professionals should document oral health history, clinical findings, and recommended follow-up in the infant's, child's, or adolescent's permanent health record.

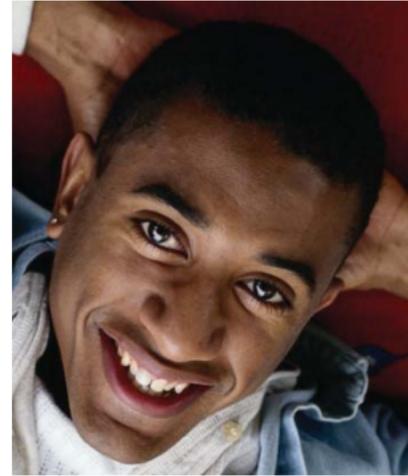
Examination

An oral examination includes a complete clinical oral assessment and appropriate diagnostic testing, including x-rays and other tests. The examination also includes an assessment of the infant's, child's, or adolescent's risk for developing oral

diseases and a determination of an appropriate prevention plan and interval for periodic reevaluation based on that assessment. If stains or other deposits are present, they may be removed by the dentist or dental hygienist. Another appointment will be scheduled if other treatment needs exist.

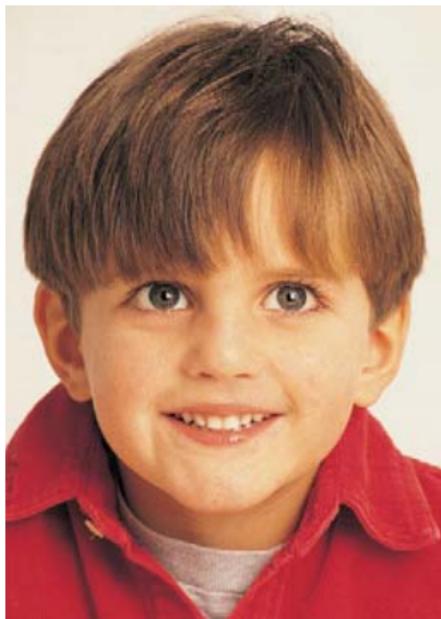
Preventive Procedures

Health professionals, as approved by state practice acts or regulations, can assess the infant's, child's, or adolescent's





exposure to systemic and topical fluoride, apply dental sealants or topical fluoride (e.g., varnishes, gels, foams), and prescribe systemic fluoride supplements, if indicated.



Anticipatory Guidance

Anticipatory guidance refers to the key information (e.g., about oral development, teething and tooth eruption, oral hygiene, feeding and eating practices, exposure to fluoride, and injury prevention) provided to the family about the infant's, child's, or adolescent's current oral health and what to expect during the next developmental stage. The guidance should be modified based on risk assessment responses. When providing anticipatory guidance, health professionals are encouraged to discuss age-related risk and protective factors. Working in partnership with the family, health professionals can be remarkably effective in promoting health. Creating opportunities for thoughtful dialogue between families and health professionals is one of the most



effective ways to establish trust and build a partnership that promotes health and prevents illness or injury. Older children and adolescents, as they mature, should actively participate in the health partnership and should assume increasing responsibility for their own health.

Measurable Outcomes

The success of oral health supervision can be measured by whether the parent(s), infant, child, or adolescent has achieved certain outcomes. In quality assurance, outcomes are important measurable health indicators that both health professionals and families can identify and track. Outcomes also help oral health professionals determine the necessary periodicity for subsequent visits and help health professionals provide anticipatory guidance. Examples of out-

comes are (1) good oral hygiene as measured by a periodic plaque score, (2) the absence of tooth decay, (3) obtaining and using prescribed fluoride, and (4) using a mouth guard during sports.

Referrals

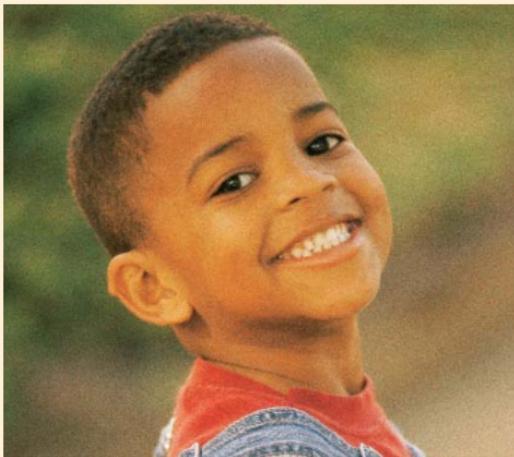
Because infants, children, and adolescents often do not visit an oral health professional on a regular basis, it is critical that other health professionals who have frequent contact with infants, children, and adolescents be able to help prevent or reduce the risk of oral disease, especially tooth decay, and to provide referrals to a dentist for intervention and/or treatment.

Conversely, oral health professionals may be the “first line” in assessing the overall health and well-being of infants, children, and adolescents. Oral health professionals



can make referrals to other health professionals and can reinforce preventive messages about developmental milestones, nutrition, non-nutritive sucking, injury, and other health issues such as tobacco use.

ORAL HEALTH SUPERVISION



PREGNANCY AND POSTPARTUM

Health professionals should select the information in this section that is most appropriate, using clinical judgment to decide what is timely and relevant for each individual pregnant woman or new mother (or other intimate caregiver).

Family Preparation

To help prepare families for oral health supervision visits, health professionals can provide pregnant women and new mothers (or other intimate caregivers) with a list of topics to discuss at the next visit. Topics may include the following:

- Changes in the teeth or the gums
- Oral hygiene practices (frequency, problems)



- Use of fluoridated water for drinking and cooking
- Fluoride use (fluoridated toothpaste)
- Eating practices
- Illnesses or infections
- Use of medications (over the counter and prescription)

Interview Questions

Following are examples of questions that health professionals may use to ask pregnant women and new mothers (or other intimate caregivers) during the first 30 months of the child's life. In addition to asking these or other interview questions, discuss any issues or concerns the family has.

- Are you brushing and flossing regularly?
- Do you know the fluoride status of your drinking water?
- Have you had any problems with your gums or teeth?
- Do you have any problems with your gums or teeth?
- Does your family have any inherited problems/diseases affecting the teeth?
- As your child grows up, do you think you can help your child prevent tooth decay?

What kinds of things do you want to do to protect your child's teeth?

Examination

Pregnant women and new mothers (or other intimate caregivers) should be seen according to a schedule recommended by the dentist, based on the individual's needs or susceptibility to disease.

Anticipatory Guidance

Discuss with Pregnant Women and New Mothers (or Other Intimate Caregivers):

Oral Hygiene

- Brushing teeth thoroughly twice a day (after breakfast and before bed) with fluoridated toothpaste, and flossing daily. Spitting out the toothpaste after

brushing, but not rinsing with water.

The small amount of fluoridated toothpaste that remains in the mouth helps prevent tooth decay.

- Rinsing every night with an alcohol-free over-the-counter fluoridated mouth rinse.
- Using certain over-the-counter and prescription medications can decrease salivary flow and increase risk for dental caries and gingivitis.
- Visiting a dentist for an examination and restoration of all active decay as soon as feasible. Hormonal changes (increases in estrogen and progesterone) that occur during pregnancy can increase a woman's risk for developing gingivitis. With gingivitis, the gums become inflamed, swollen, and sensitive and tend to bleed.

Nutrition

- Eating healthy foods such as fruit, vegetables, grain products (especially whole grain), and dairy products (milk, cheese, cottage cheese, and unsweetened yogurt) during meals and snacks. Limit eating (grazing) in between.
- Eating foods containing sugar at meal-times only, and limiting the amount. Frequent consumption of foods high in sugar, such as candy, cookies, cake, sweetened beverages (e.g., fruit drinks, soda), and fruit juice, increases the risk for tooth decay. In addition, frequent consumption of foods that easily adhere to the tooth surface, such as dried fruit, fruit roll-ups, and candy, increases the risk for tooth decay. When checking for sugar, looking beyond the sugar bowl



and candy dish. A variety of foods contain one or more types of sugar, and all types of sugars can promote tooth decay.

- Choosing fruit rather than fruit juice. Drinking fruit juice at mealtimes only, if at all.
- Avoiding carbonated beverages during pregnancy and for the first 30 months of the infant's life.
- Drinking fluoridated water (via a community fluoridated water source) to prevent tooth decay; for families that prefer bottled water, drinking a brand in which fluoride is added at a concentration of approximately 0.7 to 1.2 mg/L (ppm) is recommended.
- Once the infant is born, avoiding testing the temperature of the bottle with the mouth, sharing utensils (e.g., spoons), or orally cleaning a pacifier or a bottle nipple. This practice helps prevent transmission of bacteria that cause tooth

decay from the parent, especially the mother, to the child via saliva.

Injury Prevention

- Wearing a safety belt while riding or driving in a vehicle. If you are driving, insisting that your passengers also wear safety belts.
- Wearing protective gear (e.g., mouth guard, face protector, helmet) when participating in physical activities or sports that could potentially result in injuries to the mouth, such as biking or playing baseball or soccer.
- Avoiding oral piercings, which can damage teeth and gums.

Substance Use

- Not smoking cigarettes or using spit tobacco.



Outcomes

- Pregnant women and new mothers (or other intimate caregivers) are under the care of an oral health professional.
- Pregnant women and new mothers (or other intimate caregivers) are informed of preventive dentistry and oral development issues.
- Pregnant women and new mothers (or other intimate caregivers) understand and practice good oral hygiene and eating behaviors.
- Pregnant women and new mothers (or other intimate caregivers) have no oral disease or injury.



INFANCY

Health professionals should select the information in this section that is most appropriate, using clinical judgment to decide what is timely and relevant for each individual infant and family.

Family Preparation

To help prepare families for oral health supervision visits, health professionals can provide parents with a list of topics to discuss at the next visit. Topics may include the following:

- Changes in the teeth and the mouth
- Oral hygiene practices (frequency, problems)
- Use of fluoridated water for drinking, cooking, or formula preparation

- Fluoride use (fluoridated toothpaste, fluoride supplements)
- Use of bottle or cup by infant
- Feeding practices



- Non-nutritive sucking (pacifier, thumb, finger)
- Illnesses or infections
- Medications
- Injuries to the teeth or the mouth
- Use of tobacco by parents

Interview Questions

Following are examples of questions that health professionals may use. In addition to asking these or other interview questions, discuss any issues or concerns the family has.

- Does Felicity have any teeth?
- Do you clean Alexander's gums and teeth? How do you do that? How has this been going?
- Do you use toothpaste?

- Are you breastfeeding, bottle feeding, or both? How is feeding going?
- How well does Julia fall asleep? Do you give her a bottle in bed?
- Does Thomas use a pacifier? Does he suck his thumb or finger?
- Do you put Celeste in a safety seat when she rides in a vehicle?
- Do you have a family dentist? Did you see a dentist during your pregnancy?
- Has Carlos been to the dentist? Does he have a dental home? If not, have you made an appointment for his first dental visit?
- Has Natalie been to a health professional? If not, have you made an appointment for her first health supervision visit?





Risk Assessment

Use the tables and tool shown on pages 68–79 to assess the infant’s risk and protective factors for oral health issues.

Screening

Visually inspect the lips, tongue, teeth, gums, inside of the cheeks, and roof of the mouth (see pages 11–13).

Examination

The first oral examination should occur within 6 months of the eruption of the first primary tooth, and no later than age 12 months.



Anticipatory Guidance

Discuss with Parents:

Oral Hygiene

- Making an appointment for the infant's first oral examination within 6 months of the eruption of the first primary tooth, and no later than age 12 months, thereby establishing a dental home.
- After the initial dental visit, making the next appointment for the infant according to the schedule recommended by the dentist, based on the infant's individual needs or susceptibility to disease.
- For infants with special health care needs, making appointments for more frequent dental visits as directed by the dentist based on the infant's needs or susceptibility to disease. Obtaining special oral health equipment (e.g., a mouth prop) to brush the infant's teeth.
- Cleaning the infant's gums with a clean damp cloth or toothbrush and plain water after each feeding. Using a soft-bristled toothbrush with a small head, preferably one designed specifically for infants.
- Brushing the infant's teeth as soon as the first tooth erupts, usually around age 6 to 10 months, twice a day (after breakfast and before bed). Using a soft-bristled toothbrush with a small head, preferably one designed specifically for infants, and plain water. Lifting the lip to brush at the gum line and behind the teeth. Not giving the infant anything to eat or drink (except water) after brushing at night.
- For infants at increased risk for tooth decay, consulting with a dentist or





physician about brushing their teeth with fluoridated toothpaste.

- Becoming familiar with the normal appearance of the infant's gums and teeth so that problems can be identified if they occur (see Tooth Eruption Chart on pages 82–83). Checking the infant's gums and teeth about once a month by lifting the infant's lip to look for decay on the outside and inside surfaces of the teeth.
- Giving the infant age 6 months or older fluoride supplements only as recommended by a dentist or physician based on the infant's risk for developing tooth decay and the known level of fluoride in the infant's drinking water (see Systemic Fluoride Supplements: Recommended Dosage on page 84).

- If the infant has sore gums caused by tooth eruption, giving the infant a clean teething ring, cool spoon, or cold wet washcloth. Other options include giving the infant a chilled teething ring or simply rubbing the infant's gums with a clean finger.

Nutrition

- Breastfeeding the infant exclusively for approximately the first 6 months of life and continuing to breastfeed until age 12 months or as long as the mother and infant wish to continue.
- For mothers who cannot breastfeed or choose not to breastfeed, feeding the infant a prepared infant formula. No additional nutrients are needed.
- Avoiding testing the temperature of the bottle with the mouth, sharing utensils



- (e.g., spoons), or orally cleaning a pacifier or a bottle nipple. This practice helps prevent transmission of bacteria that cause tooth decay from the parent, especially the mother, to the child via saliva.
- Not putting the infant to sleep with a bottle or sippy cup or allowing frequent and prolonged bottle feedings or use of sippy cups containing beverages high in sugar (e.g., fruit drinks, soda, fruit juice), milk, or formula during the day or at night to prevent sugary fluids from pooling around the teeth, which can increase the infant's risk for tooth decay.
 - Holding the infant while feeding. Making sure to never prop a bottle (that is, use pillows or any other objects to hold a bottle in the infant's mouth).
 - Never adding cereal to a bottle. This causes sugary fluids to pool around the teeth. Feeding the infant solid foods with a spoon or fork, or, once the infant is able, encouraging self-feeding.
 - Introducing a small cup when the infant can sit up without support.
 - Weaning the infant from the bottle as the infant begins to eat more solid foods and drink from a cup. Beginning to wean the infant gradually, at about age 9 to 10 months. By age 12 to 14 months, most infants can drink from a cup.
 - Not introducing juice into infants' diets before age 6 months. Serving the infant juice in a cup, and limiting juice to 4 to 6 oz per day. Serving 100-percent fruit juice or reconstituted juice.



- For infants ages 6 months and older, serving age-appropriate healthy foods during planned meals and snacks, and limiting eating (grazing) in between.
- Serving foods containing sugar at meal-times only (not between meals), and limiting the amount. Frequent consumption of foods high in sugar, such as candy, cookies, cake, sweetened beverages (e.g., fruit drinks, soda), and fruit juice, increases the risk for tooth decay. In addition, frequent consumption of foods that easily adhere to the tooth surface, such as fruit-roll-ups and candy, increases the risk for tooth decay. When checking for sugar, looking beyond the sugar bowl and candy dish. A variety of foods contain one or more types of sugar, and all types of sugars can promote tooth decay.

- Drinking fluoridated water (via a community fluoridated water source) to prevent tooth decay; for families that prefer bottled water, drinking a brand in which fluoride is added at a concentration of approximately 0.7 to 1.2 mg/L (ppm) is recommended.

Non-Nutritive Sucking

Sucking is a natural reflex for infants. Most infants require some amount of additional sucking beyond that needed for nourishment. This type of sucking, known as non-nutritive sucking, provides emotional benefits, enabling the infant to calm himself/herself and focus attention. If parents choose to have their infant suck a pacifier, health professionals can advise them to take certain safety precautions. The following precautions are recommended:



- Never attaching a pacifier to a ribbon or string around the infant's neck.
- Making sure the pacifier is of sturdy, one-piece construction and that the material is flexible, firm, and not brittle.
- Keeping the pacifier clean.
- Not dipping a pacifier in sweetened foods (e.g., sugar, honey, syrup) to encourage sucking.
- Never orally cleaning a pacifier before giving it to an infant.

Injury Prevention

- Being aware that injuries to the head, face, and mouth are common among infants.
- Learning how to prevent oral injuries and how to handle oral emergencies. Because of the danger of damaging the

underlying permanent teeth, never attempting to reinsert an avulsed (lost) primary tooth. It is impossible to relocate the tooth accurately, and there is danger of pushing it too far into the soft alveolar bone.

- Always keeping one hand on an infant on high places such as changing tables, beds, sofas, or chairs.
- Using a rear-facing infant-only or convertible car safety seat that is reclined at the angle specified by the manufacturer in the back seat of the vehicle at all times. Infants should ride rear facing until they are at least age 1 and weigh at least 20 lbs. Most infant-only car safety seats accommodate infants up to 20 to 22 lbs, and many convertible seats allow infants up to 33 to 35 lbs to ride rear facing.



- Not placing an infant at any age in a shopping cart. Instead, consider using a stroller or a backpack or frontpack while shopping with an infant.
- Using safety locks on cabinets. Keeping all poisonous substances, medicines, cleaning agents, health and beauty aids, and paints and paint solvents locked in a safe place.
- Keeping pet food and dishes out of reach. Not permitting the infant to approach the pet while it is eating.
- Keeping appliances and dangling telephone, electric, blind, and drapery cords out of reach.
- Locking doors or using safety gates at the top and bottom of stairs, and using safety locks and safety devices on windows above the ground floor.
- Supervising the infant on the stairs or furniture.
- Not giving toys small enough to be placed in the mouth. Making sure that toys do not have parts that can become detached. Keeping toys with small parts or sharp edges out of reach.
- Making sure that playgrounds are carefully maintained and that equipment is in good condition. All playground equipment should be surrounded by a soft surface (e.g., fine, loose sand; wood chips; wood mulch) or by rubber mats manufactured for this use.
- Supervising the infant on playground equipment. Making sure infants play only on developmentally appropriate equipment.



- Making sure that toys are soft (e.g., balls not made with leather or hard materials).
- Not using an infant walker with wheels.
- Providing the infant's caregivers with the dentist's emergency phone contacts, and ensuring that the caregivers know how to handle all emergencies.

Outcomes

- Parents and infant are under the care of an oral health professional.
- Parents are informed of oral development issues.
- Parents understand and practice good oral hygiene, feeding, and eating behaviors.
- Parents establish a safe environment and practice safety behaviors.
- Infant has no oral disease or injury.





EARLY CHILDHOOD

Health professionals should select the information in this section that is most appropriate, using clinical judgment to decide what is timely and relevant for each individual child and family.

Family Preparation

To help prepare families for oral health supervision visits, health professionals can provide parents with a list of topics to discuss at the next visit. Topics may include the following:

- Changes in the teeth and the mouth
- Oral hygiene practices (frequency, problems)
- Use of fluoridated water for drinking, cooking, or formula preparation
- Fluoride use (fluoridated toothpaste, fluoride supplements)
- Use of bottle or cup by child
- Feeding and eating practices





- Non-nutritive sucking (pacifier, thumb, finger)
- Illnesses or infections
- Medications
- Injuries to the teeth or the mouth
- Use of tobacco by parents

Interview Questions

Following are examples of questions that health professionals may use. In addition to asking these or other interview questions, discuss any issues or concerns the family has.

- Do you help Lynne with brushing her teeth? How has this been going?
- Does Jon's brother have fillings? Have you had any problems with your own teeth?
- Are you using fluoridated toothpaste on Benita's teeth?
- Does Benita drink from a cup? Does she take a bottle?
- How often does Marcos snack? What does he usually eat?
- Does Marie use a pacifier? Does she suck her thumb or finger?
- What would you do if Kevin knocked out one of his teeth?
- Has Carlos been to the dentist? Does he have a dental home? If not, have you made an appointment for his first dental visit?
- When was Tracy's last visit to a health professional? Is it time for her next health supervision visit?



Risk Assessment

Use the tables and tool shown on pages 68–79 to assess the child’s risk and protective factors for oral health issues.

Screening

Visually inspect the lips, tongue, teeth, gums, inside of the cheeks, and roof of the mouth (see pages 11–13).

Examination

The first oral examination should occur within 6 months of the eruption of the first primary tooth, and no later than age 12 months. Thereafter the child should be seen according to a schedule recommended by the dentist, based on the child’s individual needs and susceptibility to disease.

Anticipatory Guidance

Discuss with Parents:

Oral Hygiene

- If the child has not yet been to a dentist, making an appointment for the child’s first dental visit, thereby establishing a dental home.
- After the initial dental visit, making the next appointment for the child according to the schedule recommended by the dentist, based on the child’s individual needs or susceptibility to disease.
- For children with special health care needs, making appointments for more frequent dental visits based on the child’s individual needs or susceptibility to disease. Obtaining special oral health



- equipment (e.g., a mouth prop) to brush the child's teeth.
- For children under age 2, brushing the teeth with plain water twice a day (after breakfast and before bed). For children at increased risk for tooth decay, consulting with a dentist or physician about brushing the teeth with a pea-sized amount (small smear) of fluoridated toothpaste.
 - For children ages 2 and above, brushing the teeth with no more than a pea-sized amount (small smear) of fluoridated toothpaste twice a day (after breakfast and before bed). Making sure the child spits out the toothpaste after brushing, but does not rinse with water. The small amount of fluoridated toothpaste that remains in the mouth helps prevent tooth decay.
 - For effective plaque removal, making sure that a parent brushes the child's teeth. Because brushing requires good fine motor control, young children cannot clean their teeth without parental help. After children acquire fine motor skills (e.g., the ability to tie their shoelaces), typically by age 7 or 8, they can clean their teeth effectively but should be supervised by a parent.
 - Becoming familiar with the normal appearance of your child's gums and teeth so that problems can be identified if they occur (see Tooth Eruption Chart on pages 82–83). Checking the child's gums and teeth about once a month.
 - Giving the child fluoride supplements only as prescribed by a dentist or physician, based on the risk of developing tooth decay and the known level of



fluoride in the child's drinking water (see Systemic Fluoride Supplements: Recommended Dosage on page 84).

- Discussing with a dentist or other qualified health professional the need to apply fluoride topically (via varnishes, gels, foams), which renews the high levels of fluoride in the outer layer of the tooth enamel. Topical fluoride may be especially effective for children at high risk for tooth decay because they have a history of decay, are not exposed to fluoridated water, snack frequently on foods containing sugar, or have a medical problem that decreases their resistance to decay.
- Discussing with a dentist or other qualified health professional the need to apply dental sealants (thin plastic coatings applied to pits and fissures on the



chewing surfaces of the teeth) to prevent tooth decay by creating a physical barrier against dental plaque. Dental sealants should be applied shortly after the teeth erupt.

- If the child has sore gums caused by tooth eruption, giving the child a clean teething ring, cool spoon, or cold wet washcloth. Other options include giving



the child a chilled teething ring or simply rubbing the child's gums with a clean finger.

Nutrition

- Avoiding sharing utensils (e.g., spoons) or orally cleaning a pacifier or a bottle nipple. This practice helps prevent transmission of bacteria that cause tooth decay from the parent, especially the mother, to the child via saliva.
- Continuing to encourage the child to drink from a cup. Weaning the child from the bottle by age 12 to 14 months.
- Not putting the child to sleep with a bottle or sippy cup or allowing frequent and prolonged bottle feedings or use of sippy cups containing beverages high in sugar (e.g., fruit drinks, soda, fruit juice), milk, or formula during the day or at

night to prevent sugary fluids from pooling around the teeth, which can increase the child's risk for tooth decay.

- Serving age-appropriate healthy foods during planned meals and snacks, and limiting eating (grazing) in between.
- Serving fruit, vegetables, grain products (especially whole grain), and dairy products (milk, cheese, cottage cheese, and unsweetened yogurt).
- Serving foods containing sugar at meal-times only (not between meals), and limiting the amount. Frequent consumption of foods high in sugar, such as candy, cookies, cake, sweetened beverages (e.g., fruit drinks, soda), and fruit juice, increases the risk for tooth decay. In addition, frequent consumption of foods that easily adhere to the tooth surface, such as fruit-roll-ups and candy,



increases the risk for tooth decay. When checking for sugar, looking beyond the sugar bowl and candy dish. A variety of foods contain one or more types of sugar, and all types of sugars can promote tooth decay.

- Encouraging the child to eat fruit rather than drink fruit juice.
- Serving the child juice in a cup, and limiting the child's consumption of juice to 4 to 6 oz per day. Serving 100-percent fruit juice or reconstituted juice.
- If the child drinks beverages between meals, encouraging the child to drink water or milk rather than fruit juice or sweetened beverages (e.g., fruit drinks, soda).
- Drinking fluoridated water (via a community fluoridated water source) to pre-

vent tooth decay; for families that prefer bottled water, drinking a brand in which fluoride is added at a concentration of approximately 0.7 to 1.2 mg/L (ppm) is recommended.

Non-Nutritive Sucking

Sucking is a natural reflex for children. Most children require some amount of additional sucking beyond that needed for nourishment. This type of sucking, known as non-nutritive sucking, provides emotional benefits, enabling the child to calm himself/herself and focus attention. If parents choose to have their child suck a pacifier, health professionals can advise them to take certain safety precautions. The following precautions are recommended:

- Never attaching a pacifier to a ribbon or string around the child's neck.

- Making sure the pacifier is of sturdy, one-piece construction and that the material is flexible, firm, and not brittle.
- Keeping the pacifier clean.
- Not dipping a pacifier in sweetened foods (e.g., sugar, honey, syrup) to encourage sucking.
- Never orally cleaning a pacifier before giving it to a child.

Injury Prevention

- Being aware that injuries to the head, face, and mouth are common among children.
- Learning how to prevent oral injuries and how to handle oral emergencies. Because of the danger of damaging the underlying permanent teeth, never attempting to reinsert an avulsed (lost)





primary tooth. It is impossible to relocate the tooth accurately, and there is danger of pushing it too far into the soft alveolar bone.

- Using an appropriate car safety seat in the back seat of the vehicle at all times.

Children should ride rear facing until they weigh at least 20 lbs; it is preferable if they ride rear facing to the highest weight and height allowed by the car safety seat. Children who weigh at least 20 lbs should ride in a forward-facing car safety seat (unless their rear-facing car safety accommodates a higher weight); most forward-facing seats have a weight limit of 40 lbs, but a few have higher weight limits. After a child reaches the weight or height limit of the forward-facing car safety seat, the child should ride in a belt-positioning booster seat with a lap and shoulder belt.

- Not placing a child of any age in a shopping cart. Instead, consider using a stroller or a backpack or frontpack while



shopping with a child.

- Using safety locks on cabinets. Keeping all poisonous substances, medicines, cleaning agents, health and beauty aids, and paints and paint solvents locked in a safe place.
- Keeping pet food and dishes out of reach. Not permitting the child to approach the pet while it is eating.
- Keeping appliances and dangling telephone, electric, blind, and drapery cords out of reach.



- Locking doors or using safety gates at the top and bottom of stairs, and using safety locks and safety devices on windows above the ground floor.
- Supervising the child on the stairs and when climbing on and off furniture.
- Not giving toys small enough to be placed in the mouth. Making sure that toys do not have parts that can become detached. Keeping toys with small parts or sharp edges out of reach.
- Making sure that playgrounds are carefully maintained and that equipment is in good condition. All playground equipment should be surrounded by a soft surface (e.g., fine, loose sand; wood chips; wood mulch) or by rubber mats manufactured for this use.



- Supervising the child on playground equipment. Making sure children play only on developmentally appropriate equipment.
- Making sure that toys are soft (e.g., balls not made with leather or hard materials).
- Ensuring that the child wears a bicycle helmet, even on a tricycle.
- Providing the child's caregivers with the dentist's emergency phone contacts, and ensuring that the caregivers know how to handle all emergencies.





Outcomes

- Parents and child are under the care of an oral health professional.
- Parents are informed of oral development issues.
- Parents understand and practice good oral hygiene, feeding, and eating behaviors.
- Parents establish a safe environment and practice safety behaviors.
- Child has no oral disease or injury.



MIDDLE CHILDHOOD

Health professionals should select the information in this section that is most appropriate, using clinical judgment to decide what is timely and relevant for each individual child and family.

Family Preparation

To help prepare families for oral health supervision visits, health professionals can provide parents with a list of topics to discuss at the next visit. As the child becomes more mature, ask the child questions directly. Topics may include the following:

- Changes in the teeth and the mouth
- Oral hygiene practices (frequency, problems)
- Use of fluoridated water for drinking or cooking



- Fluoride use (fluoridated toothpaste, fluoride supplements)
- Dental sealant use
- Eating practices
- Non-nutritive sucking (pacifier, thumb, finger)

- Illnesses or infections
- Medications
- Physical activity and sport participation
- Injuries to the teeth or the mouth
- Use of tobacco by parents or child

Interview Questions

Following are examples of questions that health professionals may use. In addition to asking these or other interview questions, discuss any issues or concerns the family has. As the child becomes more mature, ask the child questions directly.

To parent:

- How often does Sarah brush or floss her teeth? Do you think it helps?
- Is Jee brushing and flossing his teeth without being reminded?

- Has Andrea lost any teeth yet?
- Does Mark ever comment about his teeth and how they look?
- How often does Selena see the dentist? Does she have a dental home?
- Is your water fluoridated? Do you have any questions about fluoride supplements, fluoride varnish, or dental sealants?
- Does your child with special health care needs require more assistance or special equipment when brushing her teeth?
- Does Justin snack at school? After school? What types of snacks are available for Justin to eat?
- Does the school have vending machines? If so, do they offer healthy beverage choices such as water or milk?





- Do you and your family members wear safety belts in a car?
 - Does Mary participate in physical activities and sports that could potentially result in injuries to the mouth? Does she wear protective gear (e.g., mouth guard, face protector, helmet)?
 - Do you understand what to do if Jon knocks out one of his teeth?
 - When was Elisa's last visit to a health professional? Is it time for her next health supervision visit?
- To child:**
- How often and when do you brush your teeth? Floss? Do you think it helps?
 - Do you think your teeth look okay?
 - Do any of your teeth hurt?
 - How many teeth have you lost?
 - When was the last time you went to the dentist?
 - Do you snack at school? After school? What do you eat?
 - Do you wear a safety belt in a vehicle?
 - Do you wear a helmet when riding a bicycle?
 - What sports do you play? Do you wear protective mouth gear when you participate in contact sports?
 - What do you think about smoking? Spit tobacco? Did you smoke any cigarettes in the last month? Use spit tobacco? How often?



Risk Assessment

Use the tables and tool shown on pages 68–79 to assess the child’s risk and protective factors for oral health issues.

Screening

Visually inspect the lips, tongue, teeth, gums, inside of the cheeks, and roof of the mouth (see pages 11–13).

Examination

The child should be seen according to a schedule recommended by the dentist, based on the child’s individual needs and susceptibility to disease.

Anticipatory Guidance

Discuss with Parents (as child becomes more mature, direct discussion toward the child):

Oral Hygiene

- Scheduling a dental visit for the child according to the schedule recommended by the child’s dentist, based on the child’s individual needs or susceptibility to disease.
- For children with special health care needs, making appointments for more frequent dental visits based on the child’s individual needs or susceptibility to disease. Providing more assistance with brushing the child’s teeth, if needed, and obtaining special oral health equipment (e.g., a mouth prop) to complete the task.



- Ensuring that the child brushes his or her teeth twice a day (after breakfast and before bed) with no more than a pea-sized amount (small smear) of fluoridated toothpaste and that the child flosses daily. Making sure the child spits out the toothpaste after brushing but does not rinse with water. The small amount of fluoridated toothpaste that remains in the mouth helps prevent tooth decay. Because effective plaque removal requires good fine motor control, young children cannot clean their teeth without parental help. After children acquire fine motor skills (e.g., the ability to tie their shoelaces), typically by age 7 or 8, they can clean their teeth effectively but should be supervised by a parent.
- Becoming familiar with the normal appearance of your child's gums and teeth so that you can identify problems if they occur (see Tooth Eruption Chart on pages 82–83). Checking the child's gums and teeth about once a month.
- Giving the child fluoride supplements only as prescribed by a dentist or physician, based on the risk of developing tooth decay and the known level of fluoride in the child's drinking water (see Systemic Fluoride Supplements: Recommended Dosage on page 84).
- Discussing with a dentist or other qualified health professional the need to apply fluoride topically (via varnishes, gels, foams), which renews the high levels of fluoride in the outer layer of the tooth enamel. Topical fluoride may be especially

effective for children at high risk for tooth decay because they have a history of decay, are not exposed to fluoridated water, snack frequently on foods containing sugar, or have a medical problem that decreases their resistance to decay.



- Discussing with a dentist or other qualified health professional the need to apply dental sealants (thin plastic coatings applied to pits and fissures on the chewing surfaces of the teeth) to prevent tooth decay by creating a physical barrier against dental plaque, shortly after the teeth erupt.
- Discussing with a dentist the need to schedule a visit to the orthodontist to have the child evaluated for braces.

Nutrition

- Serving healthy foods such as fruit, vegetables, grain products (especially whole grain), and dairy products (milk, cheese, cottage cheese, and unsweetened yogurt) for meals and snacks. Limit eating (grazing) in between.





- Serving foods containing sugar at meal-times only (not between meals), and limiting the amount. Frequent consumption of foods high in sugar, such as candy, cookies, cake, sweetened beverages (e.g., fruit drinks, soda), and fruit juice, increases the risk for tooth decay. In addition, frequent consumption of foods that easily adhere to the tooth surface, such as dried fruit, fruit-roll-ups, and candy, increases the risk for tooth decay. When checking for sugar, looking beyond the sugar bowl and candy dish. A variety of foods contain one or more types of sugar, and all types of sugars can promote tooth decay.
- Encouraging the child to eat fruit rather than drink fruit juice.
- If the child drinks beverages between meals, encouraging the child to drink

water or milk rather than fruit juice or sweetened beverages (e.g., fruit drinks, soda).

- If the school has vending machines, encouraging the child to choose water or milk rather than fruit juice or sweetened beverages (e.g., fruit drinks, soda).
- Drinking fluoridated water (via a community fluoridated water source) to prevent tooth decay; for families that prefer bottled water, drinking a brand in which fluoride is added at a concentration of approximately 0.7 to 1.2 mg/L (ppm) is recommended.

Non-Nutritive Sucking

Although most children discontinue non-nutritive sucking behaviors on their own before the permanent teeth begin to erupt, some continue beyond that stage. If the child

regularly engages in non-nutritive sucking behaviors, gently intervene to help the child stop. These methods are presented in the order in which they should be attempted:

- Talking with the child. Discussing the problems caused by the habit. Sometimes this alone is enough to make the child stop sucking.
- Using reminder therapy. This approach is appropriate for children who want to stop sucking but need some help. An adhesive bandage secured with waterproof tape on the finger or thumb can remind the child not to suck. A mitten or sock placed on the hand at night can also be effective. Stress to the child that this is a reminder, not a punishment.
- Using a reward system. Under this system, the child, a parent, and the health professional agree that the child will

discontinue the habit within a specified time period and will then receive a reward. The reward must be motivating to the child. Charting small successes may help (e.g., placing colored stars on a calendar for each day the child does not suck a pacifier or his or her finger or thumb).

- Physically interrupting the habit. If none of the preceding methods are successful, and the child truly wants to stop the habit, two other methods can be tried: (1) The child's arm can be loosely wrapped in an elastic bandage during the night to prevent flexing the arm and inserting the thumb or fingers into the mouth. Stress to the parent that the bandage should not be wrapped tightly. (2) A dentist can place an appliance in the mouth that interferes with sucking.





Injury Prevention

- Learning how to prevent oral injuries and handle oral emergencies, especially the loss or fracture of a tooth.
 - If a permanent tooth is knocked out, the parent or other adult should
 - (1) find the avulsed (lost) tooth,
 - (2) hold it by the crown (top part) only, not the root,
 - (3) rinse it under cold water gently if the root is dirty, but do not scrub,
 - (4) reinsert it into the socket quickly, making sure that the front of the tooth is facing you, and
 - (5) take the child to the dentist immediately. If it is not possible to replace the tooth, place the tooth in a container of cold milk or in a cold wet cloth and take the child and the tooth to a dentist immediately.
 - Because of the danger of damaging the underlying permanent teeth, never attempt to reinsert an avulsed (lost) primary tooth. It is impossible to relocate the tooth accurately, and there is danger of pushing it too far into the soft alveolar bone.

- If a tooth is fractured or chipped, the parent or other adult should (1) rinse the child's mouth with water, (2) apply cold compresses to the cheek to reduce swelling, and (3) take the child to the dentist immediately.
- Using an appropriate car safety seat in the back seat of the vehicle at all times. Children should ride in a forward-facing car safety seat until they reach the weight or height limit of the seat, after which they should ride in a belt-positioning booster seat with a lap and shoulder belt. Children should ride in a booster seat until the vehicle's safety belt fits properly without a booster seat—when the shoulder belt lies across the chest, not the neck or the throat, the lap belt is low and snug across the thighs, not the stomach, and the child is tall



- enough to reach the vehicle seat back with the legs bent at the knees and feet hanging down.
- Being aware that the risk of injury is higher during periods of rapid growth.





- Ensuring that the child wears protective gear when participating in physical activities or sports that could potentially result in injuries to the mouth, such as biking, riding a scooter, skateboarding, in-line skating, or playing baseball, soccer, or lacrosse.
- Teaching the child about injury prevention, including the need to wear protective gear such as a mouth guard, a face protector, and a helmet.
- Providing the child's caregivers with the dentist's emergency phone contacts, and ensuring that the caregivers know how to handle oral emergencies.

Substance Use

- Teaching parents and children about the dangers of cigarette smoking or using spit tobacco.





Outcomes

- Parents and child are under the care of an oral health professional.
- Parents and child are informed of oral development issues.
- Parents and child understand and practice good oral hygiene and eating behaviors.
- Parents establish a safe environment, and parents and child practice safety behaviors.
- Child has no oral disease or injury.



ADOLESCENCE

Health professionals should select the information in this section that is most appropriate, using clinical judgment to decide what is timely and relevant for the adolescent and family.

Family Preparation

To help prepare families for oral health supervision visits, health professionals can provide adolescents with a list of topics to discuss at the next visit. Topics may include the following:

- Changes in the teeth or the mouth
 - Oral hygiene practices (frequency, problems)
 - Use of fluoridated water for drinking or cooking
- 
- A young woman with dark hair pulled back, wearing a plaid shirt and a chain necklace, is smiling broadly and holding a green pear up to her face. The background is blurred, showing what appears to be a parking lot with a red car.
- Fluoride use (fluoridated toothpaste, fluoride supplements)
 - Dental sealant use

- Eating practices
- Illnesses or infections
- Medications
- Physical activity and sports participation
- Injuries to the teeth or the mouth
- Use of tobacco by adolescent

Interview Questions

Following are examples of questions that health professionals may use. In addition to asking these or other interview questions, discuss any issues or concerns the family has. Ask the adolescent questions directly.

- How often do you brush and floss your teeth? Do you think it helps?
- Do you think your teeth look okay?
- Have your wisdom teeth erupted?

- When was the last time you went to the dentist?
- Do you snack at school? After school? What do you eat or drink?
- Does your school have vending machines? If so, do they offer healthy beverage choices such as water or milk?
- Do you wear a safety belt while driving or riding in a vehicle?
- Do you wear a helmet when riding a bicycle? An all-terrain vehicle? Motorcycle?
- Do you participate in physical activities and sports that could potentially result in injuries to the mouth? Do you wear protective gear (e.g., mouth guard, face protector, helmet)?
- Do you wear protective mouth gear when you participate in contact sports?





- What have you heard about smoking or spit tobacco?
- What do you think about smoking? Spit tobacco? Did you smoke any cigarettes in the last month? Use spit tobacco? How often?
- When was your last visit to a health professional? Is it time for your next health supervision visit?

Risk Assessment

Use the tables and tool shown on pages 68–79 to assess the adolescent’s risk and protective factors for oral health issues.

Screening

Visually inspect the lips, tongue, teeth, gums, inside of the cheeks, and roof of the mouth (see pages 11–13).

Examination

The adolescent should be seen according to a schedule recommended by the dentist, based on the adolescent’s individual needs and susceptibility to disease.

Anticipatory Guidance

Discuss with Adolescent and/or Parents:

Oral Hygiene

- Scheduling a dental visit according to the schedule recommended by your dentist, based on your individual needs and susceptibility to disease.
- If you have special health care needs, making appointments for more frequent dental visits based on your individual needs and susceptibility to disease.



Obtaining assistance with brushing your teeth, if needed, and obtaining special oral health equipment (e.g., a mouth prop) to complete the task.

- Brushing your teeth twice a day

(after breakfast and before bed) with fluoridated toothpaste, and flossing daily. Spitting out the toothpaste after brush-

ing, but not rinsing with water. The small amount of fluoridated toothpaste that remains in your mouth helps prevent tooth decay.

- Becoming familiar with the normal appearance of your gums and teeth so that you can identify problems if they occur (see Tooth Eruption Chart on pages 82–83).
- Taking fluoride supplements only as prescribed by a dentist or physician, based on the risk of developing tooth decay and the known level of fluoride in your drinking water (see Systemic Fluoride Supplements: Recommended Dosage on page 84).
- Discussing with a dentist or other qualified health professional the need to apply fluoride topically (via varnishes,





gels, foams), which renews the high levels of fluoride in the outer layer of the tooth enamel. Topical fluoride may be especially effective for adolescents at high risk for tooth decay because they have a history of decay, are not exposed to fluoridated water, snack frequently on

foods containing sugar, or have a medical problem that decreases their resistance to decay.

- Discussing with a dentist or other qualified health professional the need to apply dental sealants (thin plastic coatings applied to pits and fissures on the chewing surfaces of the teeth) to prevent tooth decay by creating a physical barrier against dental plaque, shortly after the teeth erupt.
- Discussing with a dentist the need to establish a preventive oral health regimen, including an evaluation of the bite and third molar development.

Nutrition

- Eating health foods such as fruit, vegetables, grain products (especially whole grain), and dairy products (milk, cheese,



cottage cheese, and unsweetened yogurt) for meals and snacks. Limit eating (grazing) in between.

- Eating foods containing sugar at meal-times only (not between meals), and limiting the amount. Frequent consumption of foods high in sugar, such as candy, cookies, cake, sweetened beverages (e.g., fruit drinks, soda), and fruit juice, increases the risk for tooth decay. In addition, frequent consumption of foods that easily adhere to the tooth surface, such as dried fruit, fruit-roll-ups, and candy, increases the risk for tooth decay. When checking for sugar, looking beyond the sugar bowl and candy dish. A variety of foods contain one or more types of sugar, and all types of sugars can promote tooth decay.
- Choosing fruit rather than fruit juice.



- Drinking water or milk between meals rather than fruit juice or sweetened beverages (e.g., fruit drinks, soda).
- If the school has vending machines, choosing water or milk rather than fruit



juice or sweetened beverages (e.g., fruit drinks, soda).

- Drinking fluoridated water (via a community fluoridated water source) to prevent tooth decay; for families that prefer bottled water, drinking a brand in which



fluoride is added at a concentration of approximately 0.7 to 1.2 mg/L (ppm) is recommended.

Injury Prevention

- Learning how to prevent oral injuries and handle oral emergencies, especially the loss or fracture of a tooth.
 - If a permanent tooth is knocked out, you or an adult should (1) find the avulsed (lost) tooth, (2) hold it by the crown (top part) only, not the root, (3) rinse it under cold water gently if the root is dirty, but do not scrub, (4) reinsert it into the socket quickly, making sure that the front of the tooth is facing you, and (5) go to the dentist immediately. If it is not possible to replace the tooth, place the tooth in a container of cold milk or in



a cold wet cloth and go to a dentist immediately.

- If a tooth is fractured or chipped, you or an adult should (1) rinse your mouth with water, (2) apply cold compresses to the cheek to reduce swelling, and (3) go to the dentist immediately.
- Wearing a safety belt while riding or driving in a vehicle. If you are driving, insisting that your passengers also wear safety belts.
- Wearing a helmet when riding a bicycle, all-terrain vehicle, or motorcycle. Adolescents under age 16 should not ride an all-terrain vehicle or motorcycle.
- Wearing protective gear when participating in physical activities or sports that could potentially result in injuries to the mouth, such as biking, skateboarding,

in-line skating, or playing baseball, soccer, or lacrosse.

- Avoiding oral piercings, which can damage teeth and gums.

Substance Use

- Not smoking cigarettes or using spit tobacco.



Outcomes

- Parents and adolescent are under the care of an oral health professional.
- Parents and adolescent are informed of oral development issues.
- Parents and adolescent understand and practice good oral hygiene and eating behaviors.
- Parents and adolescent establish a safe environment, and parents and adolescent practice safety behaviors.
- Adolescent has no oral disease or injury.

RISK ASSESSMENT



DENTAL CARIES RISK ASSESSMENT TABLE

RISK FACTORS

PROTECTIVE FACTORS

Physical: Examples

*Previous dental caries experience

Increased frequency of oral health supervision

*High *Streptococcus mutans* count

Reduction of *Streptococcus mutans* count

History of tooth decay

Increased frequency of oral health supervision

Variations in tooth enamel; deep pits and fissures; anatomically susceptible areas

Dental sealants (if possible) or observation

Special health care needs

Preventive intervention to minimize effects

Gastric reflux

Management of condition

Behavioral: Examples

*Frequent snacking

Reduction in snacking frequency

*Inadequate oral hygiene

Good oral hygiene

Frequent or prolonged bottle feedings during the day or night

Less-frequent and less-prolonged bottle feedings, and weaning from bottle by age 12 to 14 months

Eating disorders (bulimia nervosa) including self-induced vomiting

Referral for counseling

* Indicates an item that corresponds to American Academy of Pediatric Dentistry's Caries-Risk Assessment Tool (CAT)

DENTAL CARIES RISK ASSESSMENT TABLE (CONTINUED)

RISK FACTORS

PROTECTIVE FACTORS

Socioenvironmental: Examples

*Inadequate fluoride	Optimal systemic and/or topical fluoride
*Poverty	Access to care
Poor family oral health	Access to care and good oral hygiene
High parental levels of bacteria (<i>Streptococcus mutans</i>)	Good parental oral health and hygiene

Disease or Treatment Related: Examples

*Special carbohydrate diet	Preventive intervention to minimize effects
*Frequent intake of sugared medications	Alternate medications or preventive intervention to minimize effects
Orthodontic appliances	Good oral hygiene for appliances
Reduced saliva flow from medication or irradiation	Saliva substitute

* Indicates an item that corresponds to American Academy of Pediatric Dentistry's Caries-Risk Assessment Tool (CAT)

PERIODONTAL DISEASE RISK ASSESSMENT TABLE

RISK FACTORS

PROTECTIVE FACTORS

Physical: Examples

*Gingivitis	Treatment of disease
*Puberty	Preventive measures to address oral effects
*Pregnancy	Preventive measures to address oral effects
Mouthbreathing	Management of mouthbreathing
Malpositioned or crowded teeth	Orthodontic care
Genetic predisposition (e.g., Down or Papillon Lefevre syndrome)	Preventive intervention to minimize effects
Anatomical variations (e.g., frenum)	Surgical correction

Behavioral: Examples

*Inadequate oral hygiene	Good oral hygiene
*Tobacco use	Tobacco use cessation
Birth control pills	Preventive measures to minimize effects

* Indicates an item that corresponds to American Academy of Pediatric Dentistry's Caries-Risk Assessment Tool (CAT)

PERIODONTAL DISEASE RISK ASSESSMENT TABLE (CONTINUED)

RISK FACTORS

PROTECTIVE FACTORS

Socioenvironmental: Examples

*Poverty	Access to care
Poor family oral health	Access to care and good oral hygiene

Disease or Treatment Related: Examples

*Infectious disease (e.g., HIV/AIDS)	Treatment of disease and preventive intervention to minimize effects
*Medications (e.g., Dilantin)	Preventive intervention to minimize effects
*Unrestored or poorly restored tooth decay	Properly contoured and finished restorations
Metabolic disease (e.g., diabetes, hypophosphatasia)	Treatment of disease
Neoplastic disease (e.g., leukemia or its treatment)	Treatment of disease and preventive intervention to minimize effects
Injury	Use of age-appropriate safety measures and treatment of injury
Nutritional deficiencies (e.g., vitamin C)	Good eating behaviors

* Indicates an item that corresponds to American Academy of Pediatric Dentistry's Caries-Risk Assessment Tool (CAT)

MALOCCLUSION RISK ASSESSMENT TABLE

RISK FACTORS

PROTECTIVE FACTORS

Physical: Examples

*Familial tendency for malocclusion

Early intervention

*Conditions associated with malocclusion
(e.g., cleft lip/palate)

Early intervention

Variations in development (e.g., tooth
eruption delays and malpositioned teeth)

Early intervention

Congenital absence of teeth

Early intervention

Mouthbreathing

Management of mouthbreathing

Muscular imbalances

Early therapy

Behavioral: Examples

Non-nutritive sucking habits in children ages 4
and above

Elimination of habit

* Indicates an item that corresponds to American Academy of Pediatric Dentistry's Caries-Risk Assessment Tool (CAT)

MALOCCLUSION RISK ASSESSMENT TABLE (CONTINUED)

RISK FACTORS

PROTECTIVE FACTORS

Disease or Treatment Related: Examples

*Loss of space owing to dental caries	Early intervention for dental caries
*Skeletal growth disorders (e.g., renal disease)	Dental intervention as a part of medical care
Acquired problem from systemic condition or its therapy	Dental intervention as a part of medical care
Musculoskeletal conditions (e.g., cerebral palsy)	Dental intervention as a part of medical care
Injury	Use of age-appropriate safety measures (e.g., car safety seats, vehicle safety belts, stair gates, mouth guards) and treatment of injury

* Indicates an item that corresponds to American Academy of Pediatric Dentistry's Caries-Risk Assessment Tool (CAT)

INJURY RISK ASSESSMENT TABLE

RISK FACTORS

PROTECTIVE FACTORS

Physical: Examples

*Poor coordination (e.g., children with special health care needs)

Referral for appropriate physical therapy

Protruding front teeth

Orthodontic care

Lack of protective reflexes

Referral for appropriate therapy

Behavioral: Examples

Failure to use age-appropriate safety measures (e.g., car safety seats, stair gates, vehicle safety belts, mouth guards)

Use of age-appropriate safety measures

Participation in contact physical activities and sports

Use of protective gear

* Indicates an item that corresponds to American Academy of Pediatric Dentistry's Caries-Risk Assessment Tool (CAT)

INJURY RISK ASSESSMENT TABLE (CONTINUED)

RISK FACTORS

PROTECTIVE FACTORS

Socioenvironmental: Examples

*Multiple family problems	Referral for family counseling
*Child abuse or neglect	Reporting of suspected abuse or neglect to local social service agency
Substance use by child or adolescent	Referral for substance abuse counseling
Substance abuse in family	Referral for substance abuse counseling

Disease or Treatment Related: Examples

*Hyperactivity	Management of condition
Overmedication	Adjustment of medications

* Indicates an item that corresponds to American Academy of Pediatric Dentistry's Caries-Risk Assessment Tool (CAT)

CARIES-RISK ASSESSMENT TOOL (CAT)

Health professionals using the Caries-Risk Assessment Tool (CAT) should

1. Be able to visualize adequately an infant's, child's, or adolescent's teeth and mouth and have access to a reliable historian for nonclinical data elements.
2. Assess all three components of caries risk: clinical conditions, environmental characteristics, and general health conditions.
3. Be familiar with footnotes that clarify use of individual factors in the CAT.
4. Understand that each infant's, child's, or adolescent's ultimate risk classification is determined by the highest risk category in which a risk indicator exists. That is, the presence of a single risk indicator in the "high-risk" category results in a "high-risk" classification; the presence of a single risk indicator in the "moderate-risk" category, with no indicator in the "high-risk" category, results in a "moderate-risk" classification; and no indicators in the "moderate-risk" or "high-risk" categories results in a "low-risk" classification.

Users of the CAT must understand the following caveats:

1. The CAT provides a means of classifying caries risk at a point in time and, therefore, should be applied periodically to assess changes in an infant's, child's, or adolescent's risk status.
2. The CAT is intended for use when clinical guidelines call for caries risk assessment. Decisions about clinical management of caries, however, are left to qualified dentists (ideally, the dentist at the infant's, child's, or adolescent's dental home).
3. The CAT can be used by both oral health and non-oral health professionals. It does not render a diagnosis. However, health professionals using the CAT must be familiar with the clinical presentation of caries and with factors related to caries initiation and progression.

4. Since health professionals with differing skill levels working in a variety of settings will use the CAT, advanced technologies, such as radiographic assessment and microbiologic testing (shaded areas), have been included. However, such technologies are not essential for using the CAT.

Caries-Risk Assessment Tool

Caries-risk indicators	Low risk	Moderate risk	High risk
Clinical conditions	<ul style="list-style-type: none"> • No carious teeth in past 24 months • No enamel demineralization (enamel caries “white-spot lesions”) • No visible plaque; no gingivitis 	<ul style="list-style-type: none"> • Carious teeth in the past 24 months • 1 area of enamel demineralization (enamel caries “white-spot lesions”) • Gingivitis* 	<ul style="list-style-type: none"> • Carious teeth in the past 12 months • More than 1 area of enamel demineralization (enamel caries “white-spot lesions”) • Visible plaque on anterior (front) teeth • Radiographic enamel caries • High titers of <i>mutans streptococci</i> • Wearing dental or orthodontic appliances† • Enamel hypoplasia‡

(continued on next page)

Caries-Risk Assessment Tool (continued)

Caries-risk indicators	Low risk	Moderate risk	High risk
Environmental characteristics	<ul style="list-style-type: none"> • Optimal systemic and topical fluoride exposure§ • Consumption of simple sugar or foods strongly associated with caries initiation primarily at mealtimes • High caregiver socioeconomic status¶ • Regular use of dental care in an established dental home 	<ul style="list-style-type: none"> • Suboptimal systemic fluoride exposure with optimal topical exposure§ • Occasional (i.e., 1-2) between-meal exposures to simple sugars or foods strongly associated with caries • Midlevel caregiver socioeconomic status (i.e., eligible for school lunch program or SCHIP) • Irregular use of dental services 	<ul style="list-style-type: none"> • Suboptimal topical fluoride exposure§ • Frequent (i.e., 3 or more) between-meal exposures to simple sugars or foods strongly associated with caries • Low-level caregiver socioeconomic status (i.e., eligible for Medicaid) • No usual source of dental care
General health conditions			<ul style="list-style-type: none"> • Children with special health care needs# • Conditions impairing saliva composition/flow**

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*Although microbial organisms responsible for gingivitis may be different than those primarily implicated in dental caries, the presence of gingivitis is an indicator of poor or infrequent oral hygiene practices and has been associated with caries progression.

†Orthodontic appliances include both fixed and removable appliances, space maintainers, and other devices that remain in the mouth continuously or for prolonged time intervals and which may trap food and plaque, prevent oral hygiene, compromise access of tooth surfaces to fluoride, or otherwise create an environment supporting dental caries initiation.

‡Tooth anatomy and hypoplastic defects, such as poorly formed enamel, developmental pits, and deep pits, may predispose a child to develop dental caries.

§Optimal systemic and topical fluoride exposure is based on the American Dental Association/American Academy of Pediatrics guidelines for exposure from fluoride drinking water and/or supplementation and use of a fluoride dentifrice.

||Examples of sources of simple sugars include carbonated beverages, cookies, cake, candy, cereal, potato chips, French fries, corn chips, pretzels, breads, juices, and fruits. Clinicians using caries-risk assessment should investigate individual exposures to sugars known to be involved in caries initiation.

¶National surveys have demonstrated that children in low-income and moderate-income households are more likely to have dental caries and more decayed or filled primary teeth than children from more affluent households. Also, within income levels, minority children are more likely to have caries. Thus, sociodemographic status should be viewed as an initial indicator of risk that may be offset by the absence of other risk indicators.

#Children with special health care needs are those who have or are at increased risk for a chronic physical, developmental, behavioral, or emotional condition and who also require health and related services of a type or amount beyond that required by children generally.

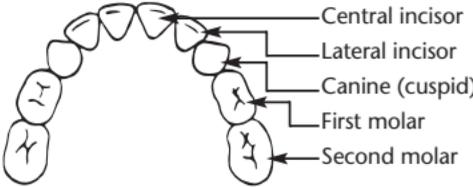
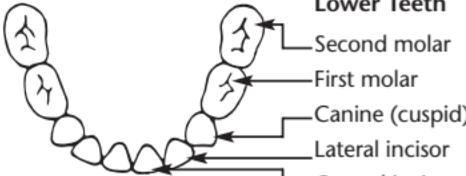
**Alteration in salivary flow can be the result of congenital or acquired conditions, surgery, radiation, medication, or age-related changes in salivary function. Any condition, treatment, or process known or reported to alter saliva flow should be considered an indication of risk unless proven otherwise.

APPENDICES

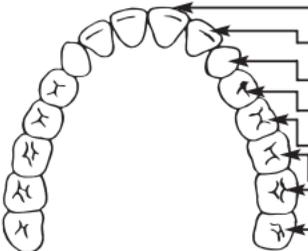
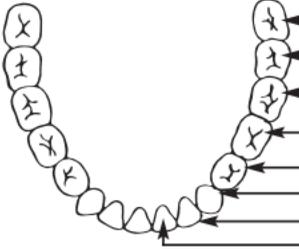


TOOTH ERUPTION CHART

PRIMARY DENTITION

	Upper Teeth	Erupt	Exfoliate
	Central incisor	8-12 months	6-7 years
	Lateral incisor	9-13 months	7-8 years
	Canine (cuspid)	16-22 months	10-12 years
	First molar	13-19 months	9-11 years
	Second molar	25-33 months	10-12 years
	Lower Teeth	Erupt	Exfoliate
	Second molar	23-31 months	10-12 years
	First molar	14-18 months	9-11 years
	Canine (cuspid)	17-23 months	9-12 years
	Lateral incisor	10-16 months	7-8 years
Central incisor	6-10 months	6-7 years	

PERMANENT DENTITION

Upper Teeth		Erupt
	Central incisor	7-8 years
	Lateral incisor	8-9 years
	Canine (cuspid)	11-12 years
	First premolar (first bicuspid)	10-11 years
	Second premolar (second bicuspid)	10-12 years
	First molar	6-7 years
	Second molar	12-13 years
	Third molar (wisdom tooth)	17-21 years
Lower Teeth		Erupt
	Third molar (wisdom tooth)	17-21 years
	Second molar	12-13 years
	First molar	6-7 years
	Second premolar (second bicuspid)	10-12 years
	First premolar (first bicuspid)	10-11 years
	Canine (cuspid)	11-12 years
	Lateral incisor	8-9 years
	Central incisor	7-8 years

Adapted with permission from the Arizona Department of Health Services, Office of Oral Health, courtesy of Don Altman, D.D.S., M.P.H. The assistance of the American Dental Hygienists' Association is gratefully acknowledged.

SYSTEMIC FLUORIDE SUPPLEMENTS: RECOMMENDED DOSAGE

Age	Fluoride Ion Level in Drinking Water ^a		
	< 0.3 ppm	0.3–0.6 ppm	> 0.6 ppm
Newborn–6 months	None	None	None
6 months–3 years	0.25 mg/day ^b	None	None
3–6 years	0.50 mg/day	0.25 mg/day	None
6–16 years	1.0 mg/day	0.50 mg/day	None

^a1.0 ppm = 1 mg/L.

^b2.2 mg sodium fluoride contains 1 mg fluoride ion.

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GLOSSARY

amalgam (silver filling): dental material used to repair cavities

bacteria: microorganisms commonly referred to as “germs” capable of producing disease under the right conditions

bruxism: habitual grinding and clenching of teeth, often unintentionally

carbohydrates: sugars and starches found in many foods

caries (dental caries): infectious disease process leading to tooth decay

cariogenic: decay-causing

cavity (cariou lesion): hollow area or hole in the tooth caused by bacterial acids that attack the enamel

crown: the part of the tooth above the gum line; also a restorative “cap” that covers a cracked or broken tooth, unfixed by a filling

debris: soft foreign matter attached loosely to tooth

deciduous teeth: see *primary teeth*

demineralization: loss of mineral from tooth enamel during early stages of caries; may appear as a small white area on tooth surface

dental home: a dentist who provides primary, preventive, and maintenance oral health services to an individual on a periodic basis

dental pulp: soft tissue inside the tooth that contains nerves, blood vessels, and connective tissue

dental sealant: thin, plastic film that is painted on chewing surfaces of back teeth (molars and premolars) to prevent tooth decay

early childhood caries: in an infant or child up to age 6, the presence of one or more decayed teeth, missing teeth (resulting from caries), or filled tooth surfaces

enamel: hard, glossy, white material that covers the outside of the tooth

eruption: when a tooth emerges from the gums

fissure: anatomic groove in the surface of a tooth

fluoridation: addition of fluoride to community water systems

fluoride: mineral that can be found in water and toothpaste that helps prevent and reduce tooth decay

fluoride varnish: lacquer containing 5 percent sodium fluoride that is painted on teeth to reduce tooth decay

fluorosis: condition that results from consuming excessive fluoride; causes teeth to become discolored and the enamel of the teeth to look spotted, pitted, or stained

halitosis: bad breath

hard palate: roof of the mouth

incisors: teeth adapted for cutting or gnawing, located at the front of the mouth

malocclusion (“bad bite”): teeth that fit together poorly as a result of crowded, missing, or crooked teeth; extra teeth; or a misaligned jaw

molars: large, broad teeth at the back of the mouth used for crushing and grinding food

occlusion (“bite”): way teeth fit together when jaws are closed

overbite: up-and-down (vertical) overlapping of lower teeth by upper teeth

periodontal disease: bacterial infection of supporting structures of the teeth (gums, bones, and ligaments) which, if left untreated, can destroy the support of the teeth in their sockets, thus causing tooth loss

permanent teeth (adult teeth): second set of teeth (32 in number) that come into the mouth after the loss of the primary teeth

pit: small developmental indentation in the crown of the tooth

plaque: thin, colorless, sticky film of bacteria that forms on teeth; main cause of caries and periodontal disease when allowed to remain on teeth over a period of time

primary teeth (deciduous teeth): first set of teeth (20 in number) that come into the mouth, usually when an infant is around ages 6 to 10 months

remineralization: replacement of minerals into the tooth’s enamel; reversal of demineralization and thus of the decay process

saliva: watery secretions of glands of the mouth

Streptococcus mutans: type of bacteria commonly found in the mouth, associated with caries

tooth decay: see *caries*

RESOURCES

National Maternal and Child Oral Health Resource Center

The National Maternal and Child Oral Health Resource Center (OHRC) responds to the needs of states and communities in addressing current and emerging public oral health issues. OHRC supports health professionals, program administrators, educators, policymakers, and others with the goal of improving oral health services for infants, children, adolescents, and their families. OHRC collaborates with federal, state, and local agencies; national and state associations and organizations; and foundations to gather, develop, and share high-quality information and materials. OHRC also maintains the online Bright Futures Oral Health Toolbox to highlight materials that advance the Bright Futures philosophy of promoting and improving the oral health of infants, children,

and adolescents. OHRC is funded by the Health Resources and Services Administration's Maternal and Child Health Bureau located at Georgetown University.

National Maternal and Child Oral Health
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Georgetown University
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Washington, DC 20057-1272
(202) 784-9771
(202) 784-9777 fax
E-mail: info@mchoralhealth.org
Web site: <http://www.mchoralhealth.org>

Bright Futures Education Center and Pediatric Implementation Project

The Bright Futures Education Center (BFEC) implements strategies to enhance health professionals' prevention and health promotion efforts for infants, children, and adolescents, as well as to enhance health professionals' recognition and implementation of the Bright Futures guidelines. BFEC activities include revising *Bright Futures: Guidelines for Health Supervision of Infants, Children, and Adolescents* (2nd ed., rev.); providing training and continuing education on prevention and health promotion content and philosophy; updating key Bright Futures guidelines and tools; developing and implementing an evaluation plan to assess and monitor efforts; creating and distributing a tool kit of Bright Futures materials; and tracking collaboration and partnerships of key child health constituencies and Bright Futures supporters. The Bright Futures Pediatric Implementation Project (PIP) aims to improve prevention and

health promotion practices among all child and adolescent health professionals through the effective implementation of the *Bright Futures* guidelines by developing practical strategies and tools to overcome obstacles to prevention and health promotion services within the medical home and to improve access to these services for children at the community and system levels. The BFEC and the PIP are funded by the Health Resources and Services Administration's Maternal and Child Health Bureau and are located at the American Academy of Pediatrics.

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