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From time to time, the Massachusetts Department of Public Health may update some of the materials. Please check the School Health Manual online to see if there are any recent updates.

Please be certain to check for new laws and regulations that may be in effect after publication of this Manual. You may find the Massachusetts General Laws online at <http://www.mass.gov/legis/laws/mgl/> and the Code of Massachusetts Regulations at <http://www.lawlib.state.ma.us/cmr.html>. These sites are periodically updated, but are not the official version of the Massachusetts General Laws (MGL) or Code of Massachusetts Regulations (CMR). You should always refer to an official edition of the MGL and CMR. Official editions may be found at the Statehouse Bookstore and many public and law libraries.

Chapter 15

ORAL HEALTH

As an essential component of overall health, oral health should be an integral part of a comprehensive school health program. Poor oral health can negatively affect general physical condition, appearance, speech, and interpersonal relations. A diseased mouth can cause pain, infection, lowered concentration, absence from school, limited ability to chew foods, speech defects, poor appearance, and premature tooth loss, among other conditions, all of which can impact a child's long-term physical and emotional health, contributing to systemic illnesses, damaging self-esteem, and limiting social and academic potential.

THE SCOPE OF THE PROBLEM

In 2000, Surgeon General David Satcher released *Oral Health in America: A Report of the Surgeon General*, the first-ever Surgeon General's report on the subject. The report identified tooth decay as the *single most common* chronic childhood disease — 5 times more common than asthma and 7 times more common than hay fever. The report estimated that 51 million school hours are lost each year to oral disease (U.S. Department of Health and Human Services, 2000).

Through its Healthy People 2010 initiative, the U.S. government has set many national goals to improve the oral health of children and youth, including:

- reducing the proportion of children and adolescents with untreated dental decay in primary and permanent teeth to 21%;
- reducing the proportion of adolescents with untreated dental decay to 15%;
- increasing the proportion of children and adolescents who receive dental sealants on their molar teeth to 50%; and
- reducing the proportion of children and adolescents who have dental caries experience in their primary or permanent teeth to 42%.

Tooth decay, periodontal disease, malocclusion (irregularity in the jaw or crowding of the teeth), and oral injuries affect schoolchildren across Massachusetts. In 2003, a statewide oral health survey of Massachusetts third-graders found that 48% of those screened had experienced dental disease, 26% had untreated disease, and nearly 7% had urgent dental treatment needs (Office of Oral Health: Massachusetts Department of Public Health, 2004).

Poor children tend to suffer disproportionately from both incidence and severity of dental disease. Nationally, 25% of children experience 80% of all childhood tooth decay, and this affected group is largely made up of cultural and ethnic minority children, economically disadvantaged children, and children with special health care needs. Lack of financial means and/or dental insurance, limited

access to dental services, lack of parental education, minority status, and fear of pain all contribute to the problem.

The Massachusetts dental safety net provides dental care to Medicaid recipients through its 57 dental clinics across the state. Located in community health centers, school-based health centers, hospitals, dental and dental hygiene schools, and other community settings, these clinics are MassHealth dental providers, and many have a sliding fee-scale and/or participate in other public safety net programs.

LEGAL/REGULATORY ISSUES

Massachusetts statutes do not refer directly to the subject of dental health or dental treatment in the school program. Although M.G.L. c.111, s.50 grants local boards of health the authority to establish clinics, the majority of communities do not provide dental clinics.

Massachusetts does not specifically mandate that children entering school have a dental examination. However, this objective may be linked locally to other medical requirements for children entering school, such as physical examinations, hearing/vision and height/weight screenings, and immunizations.

M.G.L. c.71, s.1, the legal basis for health education in Massachusetts public schools, states that instruction in health education should include dental health. The implementation of health education requirements is the responsibility of local school districts.

POLICY IMPLICATIONS FOR SCHOOLS

As caregivers of children, all school health administrators should consider the need to incorporate oral health services in school health programs. Every school health program should be asking the following questions:

Is our community's water fluoridated? All water contains trace amounts of fluoride; community water fluoridation is the adjustment of the amount of fluoride to an optimal level that ranges from 0.7 to 1.2 parts per million. Community water fluoridation is the most cost-effective measure for preventing and reducing tooth decay for all members of a community, and it reduces dental disease in children by up to 40%. In a 2004 statement endorsing community water fluoridation, U.S. Surgeon General Dr. Richard H. Carmona noted:

“A significant advantage of water fluoridation is that all residents of a community can enjoy its protective benefit — at home, work, school, or play — simply by drinking fluoridated water or beverages and foods prepared with it. A person's income level or ability to receive routine dental care is not a barrier to receiving fluoridation's health benefits.”

The cost of community water fluoridation is low — approximately 25 to 75 cents per person per year. All the scientific evidence conclusively shows that fluoridation is safe and effective.

As of 2005, 135 of Massachusetts's 351 communities, representing approximately 62% of the state's population, have fluoridated water. Information about the level of water fluoridation in a particular community can be obtained using the oral health data system My Water's Fluoride, maintained by the

National Center for Chronic Disease Prevention and Health Promotion's Division of Oral Health. Data for Massachusetts communities can be accessed at <http://apps.nccd.cdc.gov/MWF/index.asp>.

Is our school eligible for the Fluoride Mouth Rinse Program? Since 1978, Massachusetts has offered a free school-based Fluoride Mouth Rinse Program in communities where city/town water or well water is not optimally fluoridated. Over 45,000 schoolchildren across the state currently participate in this program, which provides school-age children in grades 1–6 with a simple, effective, and inexpensive means of preventing dental decay.

The mouth rinse kits used in this program contain a 0.2% solution of sodium fluoride, which has been shown to be effective in preventing dental decay, especially in high-risk children. Fluoride rinse programs are an important adjunct to good oral health, along with the use of fluoride toothpaste at home and professionally applied fluorides in the dental office.

School systems using this program find it appropriate and effective for the following reasons: (1) the procedure is brief, taking approximately 5 minutes of classroom time per week, (2) few materials are needed, (3) it is easy for schoolchildren to participate, (4) non-dental professionals can supervise the process with minimal training, and (5) it is free of charge to the school, as all supplies are provided by DPH's Office of Oral Health (OOH).

Is oral health education part of our Comprehensive School Health Education Program? Oral health education should be part of a comprehensive health education program. A comprehensive oral health education curriculum has multiple components and should begin in grade 1 and continue through grade 12.

Does our school comply with Massachusetts Interscholastic Athletic Association (MIAA) regulations regarding use of mouth guards? Mouth guards are mouth protectors used to prevent injury during sports. Wearing mouth guards helps prevent injury to the teeth, lips, cheeks, and tongue. MIAA regulates the use of mouth guards during specific sporting activities. In Massachusetts, mouth guards are currently required in seven scholastic sports — football, field hockey, ice hockey, lacrosse, soccer, wrestling, and basketball.

In addition to these sports, the Massachusetts Dental Society (MDS) recommends that participants wear mouth guards in all sports in which injury to the mouth may occur, including baseball, volleyball, and other contact sports. MDS recommends that even athletes who use helmets or face masks wear mouth guards, since they also protect against head and neck injuries by cushioning blows that could otherwise cause concussions or jaw fractures.

Increasing the proportion of schools that require use of appropriate head, face, eye, and mouth protection for students participating in school-sponsored physical activities is also a developmental goal of Healthy People 2010 (no exact target has yet been established). (See Traumatic Oral Injuries under the section "Specific Oral Health Issues" for additional information on mouth guards.)

Are oral screenings included in the annual screenings performed in our school? Like screenings for vision and hearing, oral screenings assist children by identifying oral disease and providing appropriate referrals. Many schools have community dental professionals who volunteer to perform annual oral health screenings. **Note:** Data collected from school-based dental screenings should be considered confidential and handled in accordance with HIPAA regulations.

Are dental sealants part of our comprehensive school health program? Dental sealants are plastic coatings applied to the chewing surfaces of back teeth to seal out food and bacteria and

prevent decay. The ideal time for dental sealant placement is immediately after eruption of 6-year and 12-year molars. The Task Force on Community Preventive Services, an independent strategy evaluation group convened by the U. S. Department of Health and Human Services to address a variety of public health and health promotion topics, has found strong evidence that school-based and school-linked dental sealant delivery programs are effective in reducing tooth decay in children and adolescents.

Based on these findings, the Task Force recommends including these programs as part of a comprehensive population-based strategy to prevent or control dental caries in communities. Massachusetts has surpassed the Healthy People 2010 goal of 50% of third-graders with dental sealants; according to the 2003 *Give Kids a Smile* oral health survey of third-grade schoolchildren, 54% of Massachusetts third-graders have at least one dental sealant.

THE SCHOOL'S ROLE

School health programs can play an important role in promoting and maintaining students' oral health. The main goals of a school oral health program are to: (1) promote oral health as an important component to physical health, (2) maintain oral health for those who have achieved it, (3) prevent oral disease, and (4) link children and their families to a consistent dental provider. A school-based or school-linked health program can be especially helpful for children who may not have access to routine dental care. The program should emphasize disease prevention and equip all students with the knowledge and skills necessary to maintain healthy teeth and mouths. It should also work to motivate professionals in the community to make affordable dental treatment available and promote preventive measures such as community water fluoridation and the use of fluorides and sealants for school-age children.

Dental Screening

In addition to providing population-based information to state health agencies, school-based dental screenings provide an opportunity to identify and refer children needing oral health care services. (See Chapter 5 for detailed information on dental screening methodology.) Dental screenings should always include a referral system and follow-up to ensure that referrals are completed. Regular dental exams (twice a year) are important for maintenance of children's oral health.

For families who cannot afford dental care, the school nurse may be able to help by contacting the local dental society, the Massachusetts Dental Society, or the local board of health to obtain the names of dentists who offer low-cost services or accept Medicaid. In addition, three programs are available that may offer coverage to many children in working families:

- **MassHealth** has comprehensive dental coverage for children under the age of 19. Eligibility is based on family income. It is important for families to check first to determine if their children are eligible for MassHealth.
- **Children's Medical Security Plan (CMSP)** is available for children who are not eligible for MassHealth because of income or immigration status. CMSP provides dental coverage up to a specified amount per child per year. The amount the family pays for CMSP is dependent on family size and income.
- **Massachusetts Uncompensated Care Pool** is available to provide dental coverage for children who are ineligible for other insurance and who receive care in a hospital or health center dental clinic.

For more information on eligibility for any of these programs, call the Mass Health Service Center at 877-KIDS-NOW.

Special efforts should also be made to reach children in groups known to be at increased risk for developing dental disease, such as developmentally disabled children and those with special health care needs. (See Exhibit 15-1 for information about oral conditions that can occur in children with special needs.)

Oral Health Education

Oral diseases can be largely eliminated through oral health education and promotion activities, along with primary and secondary prevention initiatives. Oral hygiene instruction, information about fluoride in drinking water and school fluoride mouth-rinse programs, the use of fluoride toothpastes, dental sealants, and dietary and nutrition recommendations should all be included in dental disease education programs. The dangers of tobacco use, risks involved in practices such as oral piercing, and ways to prevent injury (e.g., use of mouth guards during sports) should also be stressed. Bulimia nervosa, an eating disorder experienced by some young people today, can also have a destructive influence on the oral health of those who suffer from it.

The Massachusetts Comprehensive Health Curriculum Framework, created in 1999 by the Massachusetts Department of Education (DOE), suggests the following Health Maintenance learning standards related to oral health within the study of Disease Prevention and Control:

- **PreK–5:** Identify tooth functions, causes of tooth health and decay, and proper dental health skills (such as choosing healthy snacks, brushing, and flossing).
- **Grades 6–8:** List the factors contributing to tooth decay and diseases of the mouth, and then list preventive measures.

The American Dental Association (ADA) recommends several practices for good oral hygiene:

- **Brush** teeth twice a day with an ADA-accepted fluoride toothpaste.
- **Clean** between teeth daily with floss or an interdental cleaner. Decay-causing bacteria linger between teeth where toothbrush bristles cannot reach. Flossing removes plaque and food particles from between teeth and under the gum line.
- **Eat** a balanced diet, and limit between-meal snacks.
- **Visit** a dentist regularly for professional cleanings and oral exams.

Replace toothbrushes every three or four months, or sooner if the bristles become frayed. A worn toothbrush will not do a good job. Children's toothbrushes often need replacing more frequently than adults' because they can wear out sooner.

The following are recommended methods for brushing and flossing, used with permission from Aetna IntelliHealth and Simple Steps to Better Dental Health, a comprehensive dental-information website developed and owned by Aetna (<http://www.simplestepsdental.com>).

Brushing

- Place the toothbrush alongside teeth with bristles at a 45-degree angle to the gum line.
- Gently move the brush in a small circular motion cleaning one tooth at time. To ensure no teeth are missed, use a system — for example, starting with the bottom back tooth, moving toward the front, and repeating on the opposite side of the mouth before switching to the top teeth.

- Brush across chewing surfaces, making sure bristles penetrate grooves and crevices. Clean the side of the teeth that face the tongue using the same circular motion, starting in the back and progressing forward. Remember to brush the inside of the top teeth, too.
- Brush the tongue lightly to remove bacteria and keep breath smelling good.

Flossing

- Take about 18 inches of dental floss and wrap ends around middle fingers.
- Using thumbs and index fingers as guides, gently slide the floss between two teeth, using a saw-like motion.
- Once at the gum line, pull both ends of the floss in the same direction to form a C shape against one tooth. Pull the floss tightly and move it up and down against one tooth.
- Pull the floss against the other tooth and repeat the motion.
- Repeat this for all teeth. Be sure to floss both sides of the teeth farthest back in the mouth.

Within the section of the Comprehensive Health Curriculum Framework related to oral health studies, DOE suggests the following activity for teaching PreK–5 students about flossing: “Using a large cardboard model of the mouth with the teeth labeled, students close their eyes and floss with yarn covered with colored chalk. Students open their eyes and see which teeth were and were not missed. Practice until flossing is complete.”

The World Health Organization (WHO), in its report *Oral Health Promotion: An Essential Element of a Health Promoting School* (Kwan & Petersen, 2003), recommends using a variety of learning and teaching strategies for oral health education, including lectures, storytelling, seminars, practical experiments, discussions, games, debates, group work, role plays, research and investigation, computer-aided instruction, and problem-solving exercises. Methods used should be age-appropriate and culturally sensitive and should aim to promote active involvement and reinforcement.

While some methods are more suitable for conveying knowledge, others are designed to promote skills and attitudes. For example, lectures are more efficient in providing knowledge to large numbers of students, but they are less effective in teaching skills or influencing beliefs or attitudes. Discussions, debates, and problem-solving exercises may be more useful in challenging perceptions and myths. Practical sessions, such as laboratory experiments and toothbrushing exercises, are more effective in building skills (Kwan & Petersen, 2003).

A comprehensive oral health education program should also teach students to make healthier food choices by restricting intake of foods and drinks high in sugar, as well as sticky foods that become lodged in the biting surfaces of back teeth. Frequent between-meal snacks should also be avoided, because frequent sugar intake promotes disease progression. The school environment should also reinforce these messages. Sweet snacks, juices, and sports drinks should be limited and not readily available in vending machines or as part of school lunches and breakfast programs. (See Chapter 9 for more information on nutrition.)

A variety of curricula available for use by schools are listed in the Resources section at the end of this chapter. In addition, education about oral and dental health can be integrated into other academic subjects. For example, oral health can be integrated into math lessons by having students:

- count the number of teeth;
- collect oral health statistics for family, community, or country and present the graphed results; and
- chart growth and development, including tooth eruption.

Physical education classes can also present opportunities for oral health education in discussions about sports safety, use of mouth guards, and first aid for mouth injuries (Kwan & Petersen, 2003).

According to the Surgeon General's 2000 oral health report (U.S. Department of Health and Human Services, 2000), daily individual oral hygiene routines, along with healthy lifestyle behaviors, promote oral health and benefit general health and well-being. When these behaviors are learned and adopted early in life and promoted at home and in healthy school environments, children learn the value of such practices and are more likely to retain them throughout life.

Promotion of Oral Health Through Engagement of Families and Communities

Schools can also do much to safeguard students' oral health by educating parents/guardians and communities about its importance; about the types of dental and oral health problems that can occur (see "Specific Oral/Dental Health Issues" section below); and about preventive measures such as community water fluoridation, supplemental fluoride treatments, brushing twice a day with a fluoride toothpaste, routine dental care, proper nutrition, mouth guards, and dental sealants. Topical fluorides (e.g., toothpaste, gels, rinses, varnish) may be used in combination with systemic fluorides (e.g., bottled fluoridated water, dietary fluoride supplements) for an additive benefit, providing more protection for persons at risk of dental decay (e.g., those with orthodontic braces) and those living in areas where optimally fluoridated drinking water is not available.

The current recommendations for prescribing dietary fluoride supplements depend on the age of the child and the concentration of fluoride already in the drinking water. The American Dental Association recommends prescribing fluoride vitamin supplements for children between the age of 6 months and 16 years living in nonfluoridated communities.

Parents as well as students should be educated about the importance of regular dental visits, toothbrushing and flossing, and restricting intake of sugar and refined carbohydrates, and about the dangers to oral health posed by tobacco use, sports participation without mouth guards, and oral piercing.

SPECIFIC ORAL HEALTH ISSUES

The most common dental problems children experience are dental caries (cavities), malocclusion, and tooth injury. Oral cancer is rare in children. Most of these oral problems are highly preventable. Early diagnosis and prompt treatment can eliminate pain, infection, and progressive oral diseases. (See Exhibit 15-1 for additional information on oral health conditions associated with special-needs children.)

Dental Caries (Cavities)

Dental caries, or tooth decay, is a chronic bacterial infection that destroys tooth structure. A soft, sticky, colorless film, or *plaque*, of harmful germs collects on teeth and combines with sugars in the mouth to form acids, which dissolve tooth enamel (outer layer of a tooth) and initiate the process of tooth decay. Decay in children usually begins in the pits and grooves of the teeth, where most plaque accumulates. If not treated, it dissolves the enamel and works into the dentin (the main, calcareous part of a tooth that surrounds the pulp chamber). When both enamel and dentin are destroyed, the pulp (the innermost portion of the tooth, which consists of connective tissue, nerves, and blood vessels) may become involved, and an abscess can occur.

Risk Assessment: Early risk assessment by a dental professional or other trained health care provider is recommended by the American Dental Association (ADA), American Academy of Pediatrics (AAP), and American Academy of Pediatric Dentistry (AAPD). Other school health services may play a key role in identifying children at risk and making early referrals.

Prevention: The two evidence-based strategies for cavity prevention include use of fluorides and application of dental sealants. Children at risk should have access to these important preventive measures.

Periodontal Disease

Periodontal disease is an inflammation of the soft tissues and bone that surround and support the teeth. The major cause is an accumulation of bacterial plaque at the gum line. Although periodontal disease is most common among adults, it can occur at any age. Gingivitis — red, swollen, and irritated gum tissues — is common among school-age children and occurs often among teens because of poor oral hygiene practices. Nationally, 60% of adolescents at age 15 have gum infections. Other contributors to the development of periodontal disease include tobacco use, poorly aligned teeth, clenching or grinding the teeth, some systemic diseases, and improperly fitting fillings or crowns.

Prevention: Thorough daily plaque removal through brushing and flossing helps prevent periodontal disease. Most cases of gingivitis (the beginning stage of periodontal disease) are reversible with adequate plaque control. Oral hygiene education is an important component in the prevention of periodontal disease.

Malocclusion

Malocclusion, also called crooked teeth or improper bite, is an irregularity in the teeth or jaw position that prevents the upper and lower teeth from biting together properly. It may be caused by hereditary factors or environmental factors. Hereditary factors include large tooth size, small jaw, and incorrect jaw alignment. Malocclusion occurs frequently in people with developmental disabilities. Environmental factors, which are generally preventable, include premature loss of primary teeth, early loss of six-year molars, thumb and finger sucking, incorrect swallowing, and fingernail biting.

Crooked teeth and improper bites affect not only dental health but also general health, food choice, speech, and personal appearance. Crooked teeth are harder to brush and are more susceptible to tooth decay, gum disease, and temporomandibular joint disorders (TMJ), which may also have a negative psychological impact on the child.

Prevention: Parents, children, and teachers should be educated about the harmful effects of nail biting, prolonged sucking of thumbs or fingers, and other habits such as pencil chewing. Although common for the first several years of life, thumbsucking can cause problems if continued beyond age 5, because it can affect the position of incoming permanent teeth and the shape of the jaw, pushing the teeth out and narrowing the dental arches.

Oral Cancer

The most frequent symptom of oral cancer is a sore or irritation (white or red patch) in the mouth that persists over a period of time and does not respond to therapeutic treatment. It may be present on the lips, cheeks, gums, tongue, throat, or palates.

Tobacco (smoking and smokeless) and alcohol use are the major risk factors for oral and pharyngeal cancers. Of increasing concern to health professionals is the use of smokeless tobacco among youth. It is estimated that tobacco use plays a major role in 75% of mouth and pharyngeal cancer. Increased consumption increases risk. Overall, fewer than half of patients with oral cancer are cured. Treatment can cause pain and suffering; loss of speech, hearing, and chewing functions; disfigurement of the head and neck; and death.

Prevention: Promote avoidance of tobacco products (smoking and smokeless). Routine screening aids in early detection, which is important for therapeutic intervention.

Negative Health Impacts of Oral Piercings

Because the mouth contains millions of bacteria, infection is a common complication of oral piercing. Common symptoms after oral piercing include pain, swelling, infection, increased flow of saliva, and injuries to gum tissue. In some cases, chipped or cracked teeth, blood poisoning, or blood clots can occur. Swelling of the tongue is a common side effect that in extreme cases can actually close off the airway and prevent breathing. Oral piercing has also been identified by the National Institutes of Health as a possible factor in transmission of hepatitis B, C, D, and G.

Prevention: Educate teens about the dangers of oral piercing. Teens who are informed about the hazards of oral piercing are more likely to avoid it. (See Exhibit 15-2, “Oral Piercing and Health,” for an information sheet from the ADA’s Division of Communications. This sheet may be copied and distributed to students.)

Traumatic Oral Injuries

The most common oral injuries are fractured and chipped teeth, broken jaw, severed lips, and lacerated gums. These traumas occur most often at athletic competitions and recreational events and are most common among adolescents. Auto accidents are another major cause of oral injuries. Children also may receive trauma to the head, face, or mouth if they are abused or if they accidentally fall, trip, or are pushed against a hard object such as a water fountain.

Prevention: Promote use of mouth guards, helmets, and facemasks during sports and recreation. According to the Massachusetts Dental Society (MDS), athletes are 60 times more likely to suffer damage to the mouth when not wearing a protective mouth guard.

There are three types of mouth guards: the stock mouth guard, the boil-and-bite mouth guard, and the custom-made mouth guard. Storebought stock mouth guards and storebought boil-and-bite mouth guards offer some protection at a low cost. However, for maximum protection, MDS recommends custom-made mouth guards, constructed by a dentist from an impression of the athlete’s teeth.

To encourage and promote mouth guard use, MDS has developed a new mouth guard program called Grin and Wear It, in which member dentists provide school-age children with custom-made mouth guards at a discounted price. Information about participating dentists is available by calling MDS at 800-342-8747 or using the search function provided on the MDS website (<http://www.massdental.org>) in the section devoted to the Grin and Wear It program.

Use of seatbelts in autos as well as proper adult supervision on playgrounds, on stairs, and at drinking fountains also helps prevent traumatic mouth injuries. Early orthodontic evaluation is recommended, since children with protruding anterior teeth may be more prone to trauma.

FIRST AID FOR DENTAL PROBLEMS AND EMERGENCIES

The following information is designed to assist school nurses and other personnel in treating minor dental emergencies. Although the first aid procedures should provide temporary relief, they cannot always solve the dental problem. Should a dental emergency occur, those providing care should:

- notify the parent/guardian immediately of the existing emergency;
- consult with a dentist as soon as possible; and
- obtain a thorough history of the injury, including how it occurred, why it occurred, and what the symptoms are.

First Aid Kit

A dental first aid kit kept in the school health office should contain the following (note that administering medications requires a licensed provider's order):

Basic Supplies:

- cotton and cotton swabs
- sterile gauze pads (square 2 x 2)
- tea bags
- dental floss
- toothbrushes
- sterile tweezers
- ice pack or wet frozen washcloth
- paraffin, candle wax
- Hank's Balanced Salt Solution (Save-a-Tooth)

Medications:

- salt
- hydrogen peroxide
- acetaminophen
- oil of cloves
- Orabase with benzocaine

First Aid Procedures

Toothache

Ask the parent/guardian to call a dentist at once, because a toothache may be a forewarning of an abscessed tooth. Rinse the mouth with warm water to clean out any debris. If swelling is present, apply a cold compress to the outside of the cheek. If fever is present, an aspirin substitute may be given to relieve pain, provided medical order and parental consent are obtained.

Broken tooth

Tell the parent/guardian the child should see a dentist immediately. If a broken tooth is not cared for, the tooth can be permanently damaged and may have to be removed. If the broken tooth has a sharp edge, cover it with paraffin (wax) to prevent tissue laceration.

Bleeding gums

This may be a result of gum disease, poor oral hygiene, trauma to the mouth, or vitamin deficiency. Rinse red, sore, or swollen gums with either warm saltwater ($\frac{1}{2}$ teaspoon salt in 8 ounces of warm water) or a

diluted 3% hydrogen peroxide solution (equal amounts water and peroxide). If bleeding is due to trauma, apply direct pressure using a 2 x 2 gauze square. Apply cold compresses to the outside of the cheek to reduce swelling. If the problem is systemic or does not improve with good oral hygiene, tell the parent/guardian to consult a dentist.

Knocked-out tooth

Contact the parent/guardian and consult a dentist. *Save the tooth.* Rush the child and tooth to a dentist immediately (within 30 minutes, if possible). Knocked-out (avulsed) teeth can often be replanted under favorable conditions. If the tooth can be replanted within 30 minutes after the accident, there is a greater than 90% chance the tooth will be retained for life. Rinse the tooth gently but *do not wipe or scrub it*, because important cells that allow the root to be reattached will be lost. Try to insert it back into the tooth socket. If this procedure is too painful, place the tooth in a transport liquid.

According to the American Association of Endodontics, Hank's Balanced Salt Solution (also sold under the trade name Save-a-Tooth) is the ideal environment for an avulsed tooth and should be part of the first aid kit at schools and part of the sports medicine medical kit of athletic trainers and coaches available at all sporting events. If this solution is not available, however, use a glass of milk or water. According to the National Youth Sports Safety Foundation, victims of tooth avulsions who do not have teeth properly preserved or replanted will face lifetime dental costs estimated from \$10,000 to \$15,000 per tooth, the inconvenience of hours spent in the dental chair, and possibly other dental problems. If the child's gums are bleeding also, see the previous item for treatment.

Fever blister, cold sore, and canker sore

Some cold sores are viral infections and may be contagious. Proper infection control should be maintained when caring for a child with a fever blister or cold sore. Apply Orabase with benzocaine (in moderate amounts) for temporary relief of canker sores. Acetaminophen may be given systemically for pain or fever. (See Chapter 6 for regulations governing the administration of medications in schools.) Never place the acetaminophen tablet on the sore, as this will cause chemical burn. Have the student avoid "kissing" contact with others, sun or wind exposure, and spicy or acidic foods. Recommend that the parent/guardian consult with a dentist if pain or fever persists.

Trauma to face and head

Stop any bleeding, control for shock if necessary, contact the parent/guardian, and arrange for the child to be taken immediately to an oral surgeon or hospital emergency room. Obtain a detailed history of the accident, including determining whether the child lost consciousness and whether the child is experiencing any pain (if so, its location). A child with nausea or dizziness should be seen by a neurologist. At the hospital, the child should be seen by an oral-maxillofacial, orthopedic, or plastic surgeon, if available.

Lacerated lip/tongue

Apply direct pressure to the bleeding area with a sterile gauze square for 15 to 30 minutes. If swelling is present in a lip injury, apply a cold compress. Check for broken, fractured, or lost teeth. If the bleeding does not stop readily or the injury is severe, contact the parent/guardian to take the child to a physician, oral surgeon, or hospital emergency room. Vigorous bleeding may be expected initially.

SCREENING/ASSESSMENT

Although Massachusetts does not require dental examination, school-based dental screening, conducted at set intervals, is recommended for monitoring schoolchildren's oral health and identifying and referring children with problems. (See Chapter 5 for more detailed information.) Dental screening also provides an excellent opportunity to educate schoolchildren about the importance of oral health.

The Basic Screening Survey (BSS) is the methodology recommended by DPH's Office of Oral Health (OOH) to screen schoolchildren for dental disease and access to preventive dental sealants. Developed by the Association of State and Territorial Dental Directors (ASTDD) in collaboration with the Ohio Department of Health and the Centers for Disease Control and Prevention, the BSS tool utilizes a direct-observation dental screening methodology to assess oral health and access to preventive dental sealants. The examiner records presence of untreated cavities and urgency of need for treatment for all age groups. In addition, for preschool and school-age children, caries experience (treated and untreated decay) is also recorded. School-age children are also examined for presence of sealants on permanent molars.

A parental questionnaire is recommended to assess access to dental treatment services. All children participating in a dental screening *should have parental consent prior to being screened*.

When dental providers are not available, school nurses and other health personnel may be trained to conduct a Basic Screening Survey. Both the survey and planning/training materials are available at nominal cost and may be ordered from the ASTDD website:

<http://www.astdd.org/index.php?template=surveybss.html>.

For more information on the Basic Screening Survey, see Chapter 5. School health personnel may also log on to the ASTDD website at <http://www.astdd.org>. Technical assistance is available to all school health programs by contacting DPH's Office of Oral Health at 617-624-6074.

SUMMARY

Oral health is critical to general physical health and academic achievement. Schools can play a significant role in maintaining and improving students' oral health through education; screening and referral; injury prevention; first aid preparedness; and a healthy school environment that is tobacco-free and does not offer unhealthy food, snacks, or beverages. For maximum effectiveness, the school must also collaborate with parents, local oral health providers, and communitywide initiatives.

RESOURCES: CURRICULA AND TEACHING MATERIALS

Bright Smiles, Bright Futures

Colgate-Palmolive

Website: <http://www.colgatebsbf.com>

Web-based oral health instructional materials and activities for grades K–3. Winner of a 2002 Distinguished Achievement Award from the Association of Educational Publishers.

Cleaning Your Teeth and Gums: Frequently Asked Questions

American Dental Association

Website: http://www.ada.org/public/topics/cleaning_faq.asp#2

The ADA supports education and prevention campaigns for the reduction and prevention of oral diseases. This link provides information on the proper technique for adult toothbrushing and a frequently asked questions section.

Dental Health Lesson Plans

Braun Oral-B

Website: <http://www.oralb.com/learningcenter/teaching>

These lesson plans are designed to help primary school teachers teach the importance of good dental health care by integrating the information into standards-based science, health, math, and language arts curricula.

Healthy Teeth

Canadian Dental Association, Nova Scotia Dental Association, and Halifax County Dental Society

Website: <http://www.healthyteeth.org>

Healthy Teeth is an oral education database built upon the science of oral health and designed for elementary grades 3–6. It features animated graphics, easy-to-understand text, simple classroom experiments, and much more. The Healthy Teeth site will be updated with new features and sections over time.

Just for Kids

Massachusetts Dental Society

Website: <http://www.massdental.org/kids/>

The Massachusetts Dental Society, through its website, supports education and prevention campaigns for the reduction and prevention of oral diseases. This link, established for children, provides information on a variety of oral health topics in a simple, easily navigated format.

KidsHealth

The Nemours Foundation

Website: <http://www.kidshealth.org>

The KidsHealth website offers helpful articles for kids, teens, and parents on dental hygiene and other oral health topics.

Oral Health Educational Tools & Resources

Healthy Schools! Healthy Kids Oral Health Initiative

Website: http://www.healthri.org/disease/primarycare/oralhealth/tools_resources.pdf

This resource guide from the Healthy Schools! Healthy Kids Oral Health Initiative (a joint project of the Rhode Island Departments of Health and Education) contains information about a variety of oral health education materials.

Open Wide and Trek Inside

National Institutes of Health (NIH) and

National Institute of Dental and Craniofacial Research (NIDCR)

Website: <http://science.education.nih.gov/supplements/nih2/oral-health/default.htm>

A curriculum supplement for grades 1 and 2, *Open Wide and Trek Inside* focuses on the science of the oral environment and major scientific concepts relating to oral health. The program features stories and games that teach about the structures and functions of the mouth, hands-on experiments to investigate the process of tooth

decay, playacting and stories about bacteria's role in decay, and interactive games and stories to identify healthy behaviors. All content is available in a Web version. A print version with multimedia activities may also be downloaded or ordered (one copy only) from the site.

Oral Health and Nutrition

International Food Information Council Foundation

Website: <http://www.fluoridefacts.org/resources/pdfs/nutrition%20and%20Oral%20Health1.pdf>

This link provides a brief summary of the relationship between good nutrition and maintaining sound, healthy teeth. Tips for good food choices to reduce the risk of dental disease are included.

Proper Brushing

American Dental Hygienists' Association

Website: <http://www.adha.org/oralhealth/brushing.htm>

The American Dental Hygienists' Association supports education and prevention campaigns for the reduction and prevention of oral diseases. This link provides information on proper toothbrushing technique.

Proper Flossing

American Dental Hygienists' Association

Website: <http://www.adha.org/oralhealth/flossing.htm>

The American Dental Hygienists' Association supports education and prevention campaigns for the reduction and prevention of oral diseases. This link provides information on the proper technique for dental flossing.

Tattletooth II: A New Generation

Texas Department of Health, Oral Health Services

PHR1

1109 Kemper Street

Lubbock, TX 79403

Phone: 806-767-0423

Fax: 806-767-0442

Consisting of five core lessons and two enrichment lessons for PreK to grade 6, *Tattletooth II: A New Generation* is a multicultural program designed by teachers, dental professionals, and the Texas Department of Health to help school-age children understand what causes oral disease and develop effective methods for its prevention. Lessons correlate with Texas health and science curricula.

RESOURCES: MASSACHUSETTS AGENCIES AND ORGANIZATIONS

Massachusetts Coalition for Oral Health (MCOH)

465 Medford Street

Boston, MA 02129

Website: <http://www.fluoridefacts.org>

MCOH is dedicated to improving the oral health of Massachusetts residents through effective, community-based oral health education and preventive measures. Through a collaborative effort with other health agencies and oral health prevention programs in the state, MCOH is educating parents, teachers, school nurses, and others on the availability of low-cost and free dental insurance for many Massachusetts children. For more information or help with determining children's eligibility for programs, call 877-KIDS-NOW. M.G.L. c.111, s.8C, the 1968 legislation enacted to support local boards of health in their promotion of community water fluoridation for the prevention of dental disease, may be viewed at

http://www.fluoridefacts.org/resources/pdfs/MGL_Chapter_111.pdf.

Massachusetts Department of Public Health

Office of Oral Health (OOH)

250 Washington Street, 5th Floor

Boston, MA 02108-4619

Phone: 617-624-6074

Website: <http://www.mass.gov/dph/fch/ooh.htm>

OOH operates a fluoride mouth rinse program in 190 schools and a clearinghouse of dental health education materials, training materials, and parental information material on dental sealants, as well as training and professional education for community groups, dental and non-dental health professionals, teachers, health educators, school administrators, and boards of health.

Massachusetts Dental Society

2 Willow Street, Suite 200

Southborough, MA 01745

Phone: 800-342-8747 (in-state) or 508-480-9797

Fax: 508-480-0002

Website: <http://www.massdental.org>

Massachusetts Interscholastic Athletic Association (MIAA)

33 Forge Parkway

Franklin, MA 02038

Phone: 508-541-7997

Fax: 508-541-9888

E-mail: miaa@miaa.net

Website: <http://www.miaa.net>

The Massachusetts Interscholastic Athletic Association is an organization of 360 high schools that sponsor athletic activities in 33 sports. Rules governing participation in sports, including tooth protector and mouth guard regulations, may be found in MIAA's Blue Book, which is directly accessible at <http://www.miaa.net/bluebook.htm>. Rules updates are published regularly on the website.

RESOURCES: NATIONAL AGENCIES AND ORGANIZATIONS

American Academy of Pediatric Dentistry

211 East Chicago Avenue, #700

Chicago, IL 60611-2663

Phone: 312-337-2169

Fax: 312-337-6329

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

American Academy of Periodontology

737 North Michigan Avenue, Suite 800

Chicago, IL 60611-2690

Phone: 312-787-5518

Fax: 312-787-3670

Website: <http://www.perio.org/consumer/children.htm>

The American Academy of Periodontology is a national membership association of dental professionals specializing in the prevention, diagnosis, and treatment of diseases affecting the gums and supporting structures of the teeth. The site address shown above links directly to a special section on children's oral health.

American Association of Orthodontists

401 North Lindbergh Boulevard

St. Louis, MO 63141-7816

Phone: 800-STRAIGHT or 314-993-1700

Fax: 314-997-1745

E-mail: info@aaortho.org

Website: <http://www.braces.org>

This site offers answers to frequently asked questions about orthodontics for growing children, a glossary of terms, a short educational guide, *Problems to Watch for in Growing Children* (available in pdf format), and more. **Particularly useful:** "Handling Orthodontic Emergencies at School," a detailed fact sheet for school nurses.

American Association of Public Health Dentistry

National Office
P.O. Box 7536
Springfield, IL 62791-7536
Phone: 217-391-0218
Fax: 217-793-0041
E-mail: natoff@aaphd.org
Website: <http://www.aaphd.org>

American Dental Association (ADA)

211 East Chicago Avenue
Chicago, IL 60611-2678
Phone: 312-440-2500
Website: <http://www.ada.org>

The "Your Oral Health" section of the ADA website offers oral health news and information and interactive learning tools for students, teachers, and consumers. The ADA also provides position statements for consumers and professionals regarding topics of special interest, such as amalgam, antibiotic prophylaxis, fluorides and sealants, infection control (including HIV), piercing and tongue splitting, tobacco and nicotine, and tooth whitening. Position statements may be found at <http://www.ada.org/prof/resources/positions/statements/index.asp>.

American Dental Hygienists' Association (ADHA)

444 North Michigan Avenue, Suite 3400
Chicago, IL 60611
Phone: 312-440-8900
Website: <http://www.adha.org>

ADHA seeks to improve the public's total health by advancing the art and science of dental hygiene, ensuring access to quality oral health care, and increasing awareness of the cost-effective benefits of prevention.

Association of State and Territorial Dental Directors (ASTDD)

322 Cannondale Road
Jefferson City, MO 65109
Phone: 573-636-0453
Fax: 573-636-0454
E-mail: astdd@earthlink.net
Website: <http://www.astdd.org>

ASTDD is involved in public health programs and awareness concerning oral health. It assists in formulating and implementing dental health policy and publishes position statements for professionals. ASTDD developed the Basic Screening Survey (BSS) dental screening methodology discussed in this chapter and collaborates with the CDC's Division of Oral Health on the National Oral Health Surveillance System (NOHSS). (NOHSS is described below, under CDC.) The ASTDD website contains information about best practices and state activities as well as links to publications and newsletters.

Bright Futures Project

Georgetown University
P.O. Box 571272
Washington, DC 20057-1272
Phone: 202-784-9556
Fax: 202-784-9777
E-mail: Brightfutures@ncemch.org
Website: <http://www.brightfutures.org>

The Bright Futures Project was initiated and is guided by the Health Resources and Services Administration's Maternal and Child Health Bureau, which maintains the website in conjunction with Georgetown University. In 1994, the Bright Futures Project developed comprehensive health supervision guidelines with the collaboration of interdisciplinary panels of experts in infant, child, and adolescent health. These guidelines, updated and revised in 2000, are consistent with those of the American Academy of Pediatrics (AAP) and the American Academy of Pediatric Dentistry (AAPD) and have the support of more than 70 key national organizations.

Publication: *Bright Futures in Practice: Oral Health (1996)* — Designed for health professionals and educators, this guide addresses the oral health needs of children and adolescents from birth to age 21 by presenting specific guidelines on oral health promotion and disease prevention and other preventive strategies and tools. Hard copies may be ordered at the website. A pdf version is also available for download at <http://www.brightfutures.org/oralhealth/index.html>.

Centers for Disease Control and Prevention National Center for Chronic Disease Prevention and Health Promotion Division of Oral Health

4770 Buford Highway NE, MS F-10
Atlanta, GA 30341-3717
Phone: 888-CDC-2306 or 770-488-6054
Website: <http://www.cdc.gov/OralHealth>

- **Children and Oral Health**

Website: <http://www.cdc.gov/OralHealth/topics/child.htm>

This link contains resources on oral health topics, a resource library, guidelines and recommendations for clinicians and public health professionals, access to databases, and state-by-state reports.

- **National Oral Health Surveillance System (NOHSS)**

Website: <http://www.cdc.gov/nohss/>

A collaborative effort between CDC's Division of Oral Health and the Association of State and Territorial Dental Directors (ASTDD), NOHSS is designed to help public health programs monitor the burden of oral disease, usage of the oral health care delivery system, and the status of community water fluoridation on both state and national levels. NOHSS includes indicators of oral health, information on state dental programs, and links to other important sources of oral health information.

The Center for Health and Health Care in Schools

2121 K Street NW, Suite 250
Washington, DC 20037
Phone: 202-466-3396
Fax: 202-466-3467
Website: <http://www.healthinschools.org/dentalhealth.asp>

This site offers a bibliography on dental health services in schools, as well as resources and links.

Children's Dental Health Project

1990 M Street NW, Suite 200
Washington, DC 20036
Phone: 202-833-8288
Fax: 202-318-0667
Website: <http://www.cdhp.org>

Children's Dental Health Project is dedicated to helping policy makers, health care providers, advocates, and parents improve children's oral health and increase their access to dental care. CDHP directs a multiyear project for the American Academy of Pediatric Dentistry on the interface between medical and dental care for disadvantaged preschool children. It manages a dental coalition of over 20 professional groups committed to improving teens' health and welfare. It also operates a biweekly "clipping service" that collects and widely disseminates press reports on children's oral health and dental care.

Community Preventive Services

Website: <http://www.thecommunityguide.org/oral/>

This link provides consumers with information on community health services, including oral health.

Healthy People 2010

Website: <http://www.healthypeople.gov/>

Healthy People 2010 is a set of national health objectives established by experts and health professionals nationwide to help Americans achieve better overall health and well-being by the year 2010. This website provides a list of the Healthy People 2010 National Health Objectives.

Hispanic Dental Association (HDA)

1224 Centre West, Suite 400B

Springfield, IL 62704

Phone: 800-852-7921 or 217-793-0035

Fax: 217-793-0041

E-mail: HispanicDental@hdassoc.org

Website: <http://www.hdassoc.org>

Contact this office for information regarding Massachusetts HDA chapters.

National Institute of Dental and Craniofacial Research (NIDCR)

National Institutes of Health

Building 45, Room 4AS-19

45 Center Drive MSC 6400

Bethesda, MD 20892-6400

Phone: 301-496-4261

E-mail: nidcrinfo@mail.nih.gov

Website: <http://www.nidcr.nih.gov>

Part of the National Institutes of Health, NIDCR conducts research in oral diseases and craniofacial development and epidemiology. This site contains information on all of NIDCR's research activities and current relevant news and publications. The online *Practical Health Care Series* explains the oral health care problems of individuals with developmental disabilities and chronic illnesses and discusses strategies for care.

National Maternal and Child Oral Health Resource Center

Georgetown University

P.O. Box 571272

Washington, DC 20057-1272

Phone: 202-784-9771

Fax: 202-784-9777

E-mail: info@mchoralhealth.org

Website: <http://www.mchoralhealth.org/>

The National Maternal and Child Oral Health Resource Center (OHRC), funded by the Maternal and Child Health Bureau (MCHB), supports health professionals, program administrators, educators, policy makers, and others with the goal of improving oral health services for infants, children, adolescents, and their families. It collaborates with federal, state, and local agencies; national and state organizations and associations; and foundations, to gather, develop, and share information and materials. OHRC also collects and makes available information about oral health programs and initiatives, standards, guidelines, curricula, and professional and consumer education materials. Available materials include:

- *Early Childhood Caries Resource Guide* — A guide containing journal articles and materials such as reference books, reports, surveys, manuals, guidelines, standards, and curricula, as well as descriptions of agencies and organizations that may serve as resources.
- *A Health Professional's Guide to Pediatric Oral Health Management* — Seven self-contained online modules designed to assist health professionals in managing the oral health of infants and young children. The modules provide information about prevention of oral diseases in at-risk groups, as well as information about screening, referral, and anticipatory guidance for parents.
- *Open Wide: Oral Health Training for Health Professionals* — Four self-study modules designed to help health and early-childhood professionals working in community settings to promote oral health.

The modules offer information about tooth decay, risk factors, and prevention, and they highlight anticipatory guidance to share with parents.

- *Open Wide: Oral Health Training for Non-Dental Health and Human Services Providers* — A curriculum developed by the Connecticut Department of Public Health, Oral Health Unit, for the oral health training of physicians, nurses, nutritionists, child care workers, and others.
- *Preventing Tooth Decay and Saving Teeth with Dental Sealants* — A fact sheet on the use of dental sealants in preventing tooth decay and in arresting the progression of decay. The document discusses strategies for improving awareness of dental sealants, costs and benefits related to the application of dental sealants, access to care issues, and school- and community-based dental sealant programs.

National Oral Health Information Clearinghouse (NOHIC)

1 NOHIC Way
Bethesda, MD 20892-3500
Phone: 301-402-7364
Fax: 301-907-8830
E-mail: nohic@nidcr.nih.gov
Website: <http://www.nohic.nidcr.nih.gov>

NOHIC is a service of the National Institute of Dental and Craniofacial Research, one of the National Institutes of Health. It directs patients and professionals to sources of information and materials on topics relating to special care in oral health. NOHIC maintains a database of descriptions and ordering information for publications and educational materials, as well as producing and distributing patient and professional education materials.

National Youth Sports Safety Foundation (NYSSF)

1 Beacon Street, Suite 3333
Boston, MA 02108
Phone: 617-367-6677
Fax: 617-722-9999
E-mail: NYSSF@aol.com
Website: <http://www.nyssf.org>

NYSSF is a national nonprofit educational organization dedicated to reducing the number and severity of injuries youth sustain in sports and fitness activities.

Oral Health America

410 North Michigan Avenue, Suite 352
Chicago, IL 60611
Phone: 312-836-9900
Fax: 312-836-9986
Website: <http://www.oralhealthamerica.org>

Oral Health America is the only national, independent nonprofit organization dedicated to improving oral health for all Americans. Its educational efforts include:

- **National Fluoridation Center**
Website: <http://www.fluoridationcenter.org/>
National Fluoridation Center is an online resource providing data and information on the positive impact of community water fluoridation.
- **National Spit Tobacco Education Program**
Website: <http://www.nstep.org>
The National Spit Tobacco Education Program's mission is to prevent people, especially young people, from starting to use spit tobacco, and to help all users quit. NSTEP is funded in part by the Robert Wood Johnson Foundation.
- **Smiles Across America (SAA)**
Smiles Across America is a campaign to link local governments, businesses, and funders with care providers and schools to help fight untreated oral disease.

Special Care Dentistry (SCD)

401 North Michigan Avenue
Chicago, IL 60611
Phone: 312-527-6764
Fax: 312-673-6663
E-mail: SCD@SCDonline.org

Website: <http://www.scdonline.org>

SCD, a national organization dedicated to improving oral health for people with special needs, publishes the bimonthly journal *Special Care in Dentistry* and the bimonthly newsletter *Interface*.

Special Olympics Special Smiles

1133 19th Street NW
Washington, DC 20036
Phone: 202-628-3630
Fax: 202-824-0200

Website: <http://www.specialolympics.org>

Special Olympics Special Smiles is an oral health initiative designed to improve access to dental care for people with special needs and to raise the public's and the dental community's awareness of the oral health problems faced by many of those with special needs. This initiative works with Special Olympics, an international program of year-round sports training and athletic competition for children and adults with mental retardation.

Publication: *A Guide to Good Oral Health for Persons With Special Needs*.

Sports Dentistry Online

Website: <http://www.sportsdentistry.com>

Research, recommendations, resources, and links related to prevention and treatment of sports injuries.

Surgeon General's Conference on Children and Oral Health

Website: <http://www.nidcr.nih.gov/sgr/children/abstracts.htm>

Downloadable abstracts on a variety of topics related to children and oral health, including school health, children with special health care needs, and hard-to-reach populations.

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Note: Articles with PMID number have been indexed by PubMed for MEDLINE.

EXHIBITS

Exhibit 15-1 Oral Conditions in Children with Special Needs

Exhibit 15-2 Oral Piercing and Health

Exhibit 15-1 Oral Conditions in Children With Special Needs A Guide for Health Care Providers

ORAL DEVELOPMENT

Tooth eruption may be delayed, accelerated, or inconsistent in children with growth disturbances. Gums may appear red or bluish-purple before erupting teeth break through into the mouth. Eruption depends on genetics, growth of the jaw, muscular action, and other factors. Children with Down syndrome may show delays of up to 2 years.

Offer information about the variability in tooth eruption patterns and refer to an oral health care provider for additional questions.

Malocclusion, a poor fit between the upper and lower teeth, and crowding of teeth occur frequently in people with developmental disabilities. Nearly 25 percent of the more than 80 craniofacial anomalies that can affect oral development are associated with mental retardation. Muscle dysfunction contributes to malocclusion, particularly in people with cerebral palsy. Teeth that are crowded or out of alignment are more difficult to keep clean, contributing to periodontal disease and dental caries.

Refer to an orthodontist or pediatric dentist for evaluation and specialized instruction in daily oral hygiene.

Tooth anomalies are variations in the number, size, and shape of teeth. People with Down syndrome, oral clefts, ectodermal dysplasia, or other conditions may experience congenitally missing, extra, or malformed teeth.

Consult an oral health care provider for dental treatment planning during a child's growing years.

Developmental defects appear as pits, lines, or discoloration in the teeth. Very high fever or certain medications can disturb tooth formation, and defects may result. Many teeth with defects are prone to dental caries, are difficult to keep clean, and may compromise appearance.

Refer to an oral health care provider for evaluation of treatment options and advice on keeping teeth clean.

ORAL TRAUMA

Trauma to face and mouth occurs more frequently in people who have mental retardation, seizures, abnormal protective reflexes, or muscle incoordination. People receiving restorative dental care should be observed closely to prevent chewing on anesthetized areas.

If a tooth is avulsed or broken, take the patient and the tooth to a dentist immediately. Counsel the parent/caregiver on ways to prevent trauma and what to do when it occurs.

Bruxism, the habitual grinding of teeth, is a common occurrence in people with cerebral palsy or severe mental retardation. In extreme cases, bruxism leads to tooth abrasion and flat biting surfaces.

Refer to a dentist for evaluation; behavioral techniques or a bite guard may be recommended.

ORAL INFECTIONS

Viral infections are usually due to the herpes simplex virus. Children rarely get herpetic gingivostomatitis or herpes labialis before 6 months of age. Herpetic gingivostomatitis is most common in young children, but may occur in adolescents and young adults. Viral infections can be painful and are usually accompanied by a fever.

Counsel the parent/caregiver about the infectious nature of the lesions, the need for frequent fluids to prevent dehydration, and methods of symptomatic treatment.

Dental caries, or tooth decay, may be linked to frequent vomiting or gastroesophageal reflux, less than normal amounts of saliva, medications containing sugar, or special diets that require prolonged bottle feeding or snacking. When oral hygiene is poor, the teeth are at increased risk for caries.

Counsel the parent/caregiver on daily oral hygiene to include frequent rinsing with plain water and use of a fluoride-containing toothpaste or mouth rinse. Explain the need for supervising children to avoid swallowing fluoride. Refer to an oral health care provider and/or gastroenterologist for prevention and treatment. Prescribe sugarless medications when available.

Early, severe periodontal (gum) disease can occur in children with impaired immune systems or connective tissue disorders and inadequate oral hygiene. Simple gingivitis results from an accumulation of bacterial plaque and presents as red, swollen gums that bleed easily. Periodontitis is more severe and leads to tooth loss if not treated. Professional cleaning by an oral health care provider, systemic antibiotics, and instructions on home care may be needed to stop the infection.

Explain that the parent/caregiver may need to help with daily toothbrushing and flossing and that frequent appointments with an oral health care provider may be necessary.

GINGIVAL OVERGROWTH

Gingival overgrowth may be a side effect from medications such as calcium channel blockers, phenytoin sodium, and cyclosporine. Poor oral hygiene aggravates the condition and can lead to superimposed infections. Severe overgrowth can impair tooth eruption, chewing, and appearance.

Refer to an oral health care provider for prevention and treatment. A preventive regimen of antimicrobial rinses and frequent appointments may be needed. Consider alternative medications if possible.

Credits: Beverly Isman, RDH, MPH and Renee Nolte Newton, RDH, MPA, California Connections Project (MCJ#06R005), Maternal and Child Health Bureau, Health Resources and Services Administration, U.S. Department of Health and Human Services. Reprinted by the National Oral Health Information Clearinghouse, National Institute of Dental and Craniofacial Research.

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Exhibit 15-2

ORAL PIERCING AND HEALTH
Prepared by the ADA Division of Communications

Not too long ago, teens wanted to avoid the moniker “metal mouth,” but the oral piercing trend seems to have overshadowed that social fear. Now piercing the tongue, lip, or cheeks is a fairly popular form of self-expression. People interested in this trend, however, should be aware that it carries specific health risks.

PROCEDURE-RELATED RISKS

Infection. Infection is a possibility with any opening in skin or oral tissues. Given that the mouth is teeming with bacteria, oral piercing carries a high potential for infection at the site of the piercing. Handling the jewelry once it has been placed also increases the chances of developing an infection.

Prolonged bleeding. Damage to the tongue’s blood vessels can cause serious blood loss.

Swelling and possible nerve damage. Swelling is a common symptom experienced after oral piercing. Unlike an earlobe that is pierced, the tongue is in constant motion, which can slow and complicate the healing process. There have been some reports of swelling subsequent to tongue piercing that has been serious enough to block the airway.

Bloodborne disease transmission. Oral piercing also has been identified by the National Institutes of Health as a possible factor in transmission of hepatitis B, C, D and G. Although no cases of tetanus or tuberculosis transmission have been reported with regard to oral piercing, both have been documented in association with ear piercing.

Endocarditis. In addition, oral piercing carries a potential risk of endocarditis, a serious inflammation of the heart valves or tissues. The wound created during oral piercing provides an opportunity for oral bacteria to enter the bloodstream, where they can travel to the heart. This presents a risk for people who have cardiac abnormalities, on which the bacteria can colonize.

JEWELRY-RELATED COMPLICATIONS

Injury to the gums. Not only can the metal jewelry injure the gums, but also, if it is placed so that it makes constant contact with the gums, it can cause the soft tissues to recede.

Damage to the teeth. Contact with the jewelry can chip or crack teeth. Likewise, teeth that have restorations can be damaged if jewelry strikes them.

Interference with normal oral function. Oral jewelry can stimulate excessive saliva production, can impede the ability to pronounce words clearly, and may cause problems with chewing and swallowing food. Furthermore, metal alloys used in the manufacturing of oral jewelry can potentially sensitize susceptible people, resulting in allergic contact dermatitis.

Interference with oral health evaluation. Jewelry in the mouth can block the transmission of X-rays. Clear radiographs, what you know as “X-rays,” are essential to a complete oral health evaluation. Jewelry can prevent a radiograph from revealing abnormalities like cysts, abscesses, or tumors.

Aspiration. There is always a possibility that the jewelry can come loose. As with any loose object in the mouth, unfastened jewelry becomes a choking hazard. The jewelry also could be ingested, which could result in injury to the digestive tract.

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