

CHAPTER THIRTEEN – DENTAL HEALTH

Oral Health Is Essential to General Health

Promoting oral health in a school setting is important to reduce the incidence of tooth decay, a preventable condition. Tooth decay is one of the most common chronic diseases among school aged children. School administrators, nurses, counselors, teachers, students and parents should promote the existence of school-based or school-linked oral health services. The 2000 United States Surgeon General Report “Oral Health in America: A Report of the Surgeon General” stated that over more than 51 million school hours are lost each year to dental-related illness. Poor children suffer nearly 12 times more than children from higher income families. Pain and suffering due to untreated oral diseases can lead to problems in eating, speaking, and attending school. A healthy child will learn and contribute to society in later years. School-based or school-linked oral health prevention programs should provide good oral health education, provide preventive services, assist students in obtaining dental care and integrate oral health into the school curriculum (US Surgeon General, 2000).

Tooth Function

How one feels about his or her smile, mouth, and teeth may affect his/her self-image. Teeth also help maintain space in the mouth, preventing malocclusions. The primary teeth are especially important in these functions because they are the teeth that are initially present when a young child begins to eat, speak, and develop a self-image.

The oral cavity is not healthy if it has teeth missing, that are painful, broken, loose, or shifting, or gums that have sores, or are red, swollen, or tender. When any of these conditions exist, the oral cavity cannot function properly, and dental disease may develop. Food may not be chewed properly or completely before swallowing, leading to digestive problems. An individual may limit food selection to soft foods that do not require chewing. This limited food selection may lead to an unbalanced diet, and as a result, the body's general health suffers.

A healthy oral cavity has fresh breath, pink gums, cavity-free teeth, no prematurely missing teeth, and correct spacing. Maintaining a healthy oral cavity promotes overall health. Children who have poor oral health often miss more school and receive lower grades than children who have good oral health (Griffin, Wei, Gooch, Weno, & Espinoza, 2016).

Oral Disease

Tooth Decay/Cavities

An individual may be able to tell if the tooth is decaying by the following warning signs:

- A tooth sensitive to heat, cold, or sweets.
- Pain during chewing.
- Swelling or drainage at or below the gum line.

- A dark spot on a tooth.
- Persistent pain in the mouth or sinus.

If tooth decay is suspected, a dentist can determine if there is a cavity and what must be done to repair the damage.

Periodontal Disease

Tooth decay is not the only cause of oral health problems or missing teeth. Plaque is the primary cause of most periodontal conditions, but other factors may contribute to its severity or an individual's susceptibility to it. These factors include: smoking or chewing tobacco, certain metabolic diseases (such as diabetes), hormonal changes (such as puberty and pregnancy), harmful habits (such as grinding and clenching the teeth), sugar in the diet, and growth and development processes such as misaligned teeth and faulty bite (NIH,2013).

An individual may be able to tell if gum disease is developing by the following warning signs:

- Gums that bleed when they are brushed or flossed.
- Red, swollen, or tender gums.
- Gums that have pulled away from the teeth.
- Pus that appears between gums and teeth.
- Teeth that are loose or shifting.
- Changes in the way teeth fit together.
- Persistent bad breath or bad taste in the mouth.

Malocclusion

Another dental and facial problem is malocclusion, referring to the irregular way the teeth fit together. The causes of malocclusion can be inherited or acquired. The treatment of malocclusion is often provided by an orthodontist, a dentist who has additional training in this area of dentistry.

Oral Cancer

Oral cancer is another significant dental concern. The most common sites of oral cancer are the tongue, floor of the mouth, lips, soft palate, and tonsillar area. Since oral cancers vary widely in appearance, they are often difficult to recognize. Some warning signs of oral cancer are:

- Swelling, lump or growth anywhere in or about the mouth or neck.
- A sore that does not heal after two weeks.
- White or red patches in the mouth or on the lips.
- Repeated bleeding from the mouth or throat.
- Difficulty in swallowing or persistent hoarseness.

A Diet for Good Oral Health

A diet for good oral health can be achieved by eating a balanced diet from the food groups, limiting between meal sweet snacks, eliminating habits which allow foods to remain in the mouth for long periods of time (sucking on hard candies or sipping sweet beverages), and choosing more noncariogenic promoting snacks. Foods high in sugar should be eaten with other foods to reduce the amount of acid exposure. Between-meal snacks should be nutritious and low in sugar. Reading labels on processed foods and recognizing the "hidden" sugars in those foods can help to choose foods that have the necessary nutrients and promote

good oral health. A healthy diet will also contribute to reduced obesity among preschool and school aged children.

Water Consumption

A good diet includes drinking plenty of water in lieu of soda pop. Water from the tap is recommended because about 76% of New Mexico water systems provide fluoridated water to their customers. Fluoridated water combats tooth decay.

Brushing and Flossing

The purpose of brushing and flossing is to remove the plaque that is the major cause of tooth decay and gum disease. One removes surface debris and plaque. The other removes plaque and debris from between the teeth and at the gum line.

Tooth Brushing

Brushing removes the plaque from all surfaces of the teeth. Most adults should brush a minimum of once a day while children and caries-prone adults should brush more frequently, especially following meals and snacks. Teeth should always be brushed before going to bed at night as the saliva flow decreases during sleep, while the bacterial activity continues.

Flossing

Flossing removes plaque from the sides of the teeth and should be done once a day. Parents should assist young children as flossing requires a level of manual dexterity that children do not have; therefore, they should be supervised when flossing until around age ten. As with brushing, a regular pattern for flossing should be established to ensure all sides of the teeth are cleaned routinely.

Fluoride

The single most effective element in the reduction of tooth decay is fluoride. Fluoride makes teeth stronger and increases resistance to tooth decay; it is also an essential nutrient for the growth and development of teeth and bones. It may be found naturally in water, food, and soil. Fluoride is also available through dietary supplements, gels, toothpastes, and mouth rinses.

Systemic Fluorides

There are two ways that fluoride is used – systemically and topically. Systemic fluoride is ingested and enters the bloodstream. The fluoride becomes incorporated into the enamel of the developing teeth, making them more resistant to decay throughout life. Systemic fluoride is obtained from drinking water that has a fluoride content of 1 ppm (parts per million). All water from the tap contains some fluoride. Local water systems are tested to provide the optimal level of fluoride for communities and private wells can be tested to determine their natural level of fluoride before adding additional fluoride supplements. Fluoridation is supported by the American Dental Association, American Dental Hygienists' Association, American Medical Association and the American Public Health Association (CDC, 2016).

Topical Fluorides

Topical fluoride, applied directly to the enamel surface, helps provide additional protection against decay after the teeth have erupted into the mouth. The decay process can be stopped and even reversed during the initial stages by using fluoride.

There are a number of common methods for applying topical fluorides:

- Most common method is the daily use of fluoride toothpaste.
- Second most common method is fluoride mouth rinse.
- Fluoride may be applied by a dentist or dental hygienist.

Preschool and kindergarten aged children can participate in a fluoride varnish school program, where available. Students have fluoride varnish applied to their teeth three times a year.

Dental Sealants

The most common type of decay that children have today is found on the chewing surfaces of the back teeth. These teeth have irregular surfaces where bacteria and food can hide and cause tooth decay. Plastic coatings called dental sealants can be applied to these surfaces to protect them from decay. The teeth most likely to benefit from sealant applications are the first and second permanent molars just after they have erupted and before they have had a chance to decay. Sealants help maintain sound, healthy teeth by helping to prevent the need for fillings. The cost of applying a sealant to each tooth is less than the cost of a filling for that tooth. It is also a painless procedure, whereas filling a tooth may not be.

Applying a sealant is very simple and may be done by a dentist, dental hygienist, or specially trained and certified dental assistant. School sealant programs exist in some schools in New Mexico.

Prevention of Oral Injury

80% of all fractured teeth occur in children with the upper front teeth being most often involved. Injuries are the most frequent causes of mouth trauma. Biking, baseball, and skateboarding are the three main causes of tooth injuries. Home injuries, such as tripping over objects on the floor, stairway or ground, and not using handrails on stairways, cause many oral injuries. Many injuries happen on school playgrounds.

Mouth Guards

Many experts recommend that mouth guards or mouth protectors be worn during any recreational sport as they help prevent injury to the mouth area, especially to the teeth, lips, cheeks, and tongue. They also protect against head and neck injuries by cushioning blows that might otherwise cause concussions or lead to jaw fractures. Some of the sports for which mouth guards are recommended include:

Acrobatics

Handball

Skydiving

Baseball

Ice Hockey

Soccer

Basketball	Lacrosse	Squash
Bicycling	Martial Arts	Surfing
Boxing	Racquetball	Volleyball
Discus	Rugby	Water Polo
Field Hockey	Shot putting	Weightlifting
Football	Skateboarding	Wrestling
Gymnastics	Skiing	

Dental First Aid

Please see Chapter 8.

References and Resources

Centers for Disease Control and Prevention (2016), [Community water fluoridation](#). 1600 Clifton Road Atlanta, GA 30329-4027 USA, 800-CDC-INFO (800-232-4636), TTY: 888-232-6348.

Griffin SO, Wei L, Gooch BF, Weno K, Espinoza L. *Vital Signs: Dental sealant use and untreated tooth decay among U.S. school-aged children*. MMWR Morb Mortal Wkly Rep 2016;65:1141-1145. DOI: <http://dx.doi.org/10.15585/mmwr.mm6541e1>

NIH, National Institute of Dental and Craniofacial Research, [Periodontal \(gum\) disease: Causes, symptoms, and treatments](#), NIH Publication No.13-1142, September 2013