ORAL HEALTH

An introduction to aging science brought to you by the American Federation for Aging Research
WHY IS ORAL HEALTH IMPORTANT?

The substantial gains in oral health made over the past generation, unfortunately, have not benefited all Americans equally. The burden of oral and dental disease, particularly untreated disease, falls heaviest on individuals from lower socioeconomic groups — including the elderly. Low-income and uninsured seniors, however, have options. Sources of care range from patient clinics within our nation’s dental schools to other programs targeted specifically toward the elderly and other populations in need.

By finding professional care you can afford, and caring for your teeth and gums every day, you should be able to keep your teeth for a lifetime.

TAKING CARE OF YOUR TEETH AND MOUTH

You can preserve healthy teeth and avoid gum disease by taking some simple steps below.

Brushing and flossing

Teeth are meant to last a lifetime. By taking good care of your teeth, you can protect them for years to come. Knowing how to brush and floss the right way is a big part of good oral health. Here’s how:

- Twice a day, gently brush your teeth on all sides with a soft-bristle brush and a fluoride toothpaste accepted by the American Dental Association (ADA) www.ADA.org.
- Small round motions and short back-and-forth strokes on all teeth surfaces work best. Take the time to brush carefully and gently, holding the brush at a 45 degree angle, along the gum line. Lightly brushing your tongue also helps. Along with brushing, clean around your teeth with dental floss to keep your gums healthy. Careful flossing once a day will remove plaque and leftover food that a toothbrush can’t reach. Rinse after you floss. If brushing or flossing causes your gums to bleed or hurt your mouth, see your dentist.
- Your dentist also may prescribe a bacteria-fighting mouth rinse to help control plaque and swollen gums. Use the mouth rinse in addition to careful daily brushing and flossing.
- To be sure any dental product you buy is safe and effective, look for the ADA Seal of Acceptance on the package.

You can prevent gum disease

Gum diseases — sometimes called periodontal or gingival diseases — are infections that harm the gum tissue and bone that hold teeth in place. When plaque, a sticky film of bacteria, forms on your gums and teeth, it releases acids that attack and break down both, especially after eating. When it remains on gums and teeth too long, it forms a hard, harmful covering, called tartar, which brushing doesn’t remove. The longer the plaque and tartar remain in place, the more damage they cause. Your teeth will break down with decay. Your gums may become red, swollen, and bleed easily—a condition called gingivitis.

If gingivitis is not treated, over time it can make your gums pull away from your teeth and form pockets of infection. This is called periodontitis. If not treated, this infection can ruin the bone, gums, and tissue that support your teeth. In time, it can cause loose teeth that your dentist may have to remove.
Using an ADA-accepted mouth rinse [www.ada.org/5266.aspx?supercategory=4] may also be helpful in maintaining healthy gums. However, since the 1970s, there has been some concern among researchers that alcohol in these products may increase the risk for oral cancers. So far the evidence is inconclusive. Scientists do know that drinking alcoholic beverages increases that risk, and doing so in combination with smoking increases it dramatically. So, if you smoke or have either a personal or family history of oral cancer, you might want to consider limiting your use of these products.

Here’s how you can prevent gum disease:

- Brush your teeth twice a day (with a fluoride toothpaste)
- Floss once a day
- Make regular visits to your dentist for a checkup and cleaning
- Eat a well-balanced diet
- Don’t use tobacco products

**AGE-RELATED CHANGES TO YOUR MOUTH AND TEETH**

Older Americans make up a growing percentage of the population of the United States. According to the 2010 U.S. Census, more than 40 million are 65 years or older. By 2050, that number is expected to more than double and reach 90 million.

Older Americans are keeping their natural teeth longer than ever before. Among those aged 65 years and over, however, there are sharp differences in tooth retention by income, with those having low income twice as likely as those with higher incomes to have lost all their teeth.

Older adults with the poorest oral health are those who are economically disadvantaged, lack insurance, and are members of racial and ethnic minorities. Being disabled, homebound, or institutionalized also increases the risk of poor oral health. The large majority of older Americans do not have dental insurance. Often these benefits are lost when they retire. The situation may be worse for older women, who generally have lower incomes, and may never have had dental insurance.

Medicare, which provides health insurance for people over age 65 and certain people with disabilities, was not designed to provide routine dental care. Medicaid, the jointly funded Federal-State health insurance program for certain low-income and disabled people, however, funds dental care for low income and disabled elderly in some states, but payment for this care are low.

Oral diseases and conditions are common among many older Americans who grew up without the benefit of community water fluoridation and other fluoride products. The following estimate provides a glimpse of the severity of oral health problems among these individuals:

- **Lack of teeth**
  About 25 percent of adults 60 years old and older no longer have any natural teeth. Having missing teeth can affect nutrition, because people without teeth often prefer soft, easily chewed foods. As dentures are not as efficient in chewing performance as natural teeth, denture wearers also may choose soft diets and avoid fresh fruits and vegetables.

- **Dental cavities**
  Along with gum disease, dental cavities are most often the cause of tooth loss. Older Americans continue to experience dental decay on both the crowns and roots of their teeth. More than one-third of adults aged 65 years and over have untreated dental cavities.

- **Periodontal (gum) disease**
  Gum disease is the other leading cause of tooth loss in indi-
individuals and the severity of gum disease increases with age. Slightly less than 20 percent of individuals aged 65 and over have gum disease. About 23 percent of 65- to 74-year-olds have severe disease, which is measured by 6mm loss of attachment of the tooth to the adjacent gum tissue. At all ages, men are more likely than women to have more severe gingival disease. At all ages, people at the lowest socioeconomic level have the highest rates and the most severe periodontal disease.

- **Oral and throat cancers**
  These cancers are diagnosed in some 31,000 Americans each year — primarily the elderly. They result in about 7,400 deaths annually. The five-year survival rate for white patients is 56 percent and for African American patients is only 34 percent. This disparity is partly attributed to the fact that African Americans are usually diagnosed in the advanced stages. Periodic care from a dentist usually includes screening for oral cancer.

- **Dry mouth**
  Dry mouth happens when salivary glands do not work properly. Doctors once thought that dry mouth was a normal part of aging, but they now know that this is not true. Most older Americans, however, take both prescription and over-the-counter drugs, and more than 400 commonly used medications can cause dry mouth. Reduction of salivary flow is not simply annoying; it can make it difficult to eat, swallow, taste, and even speak. It also increases the risk for oral disease because saliva contains antimicrobial components, as well as minerals that help rebuild tooth enamel attacked by decay-causing bacteria.

- **Facial pain**
  Painful conditions that affect facial nerves are more common among the elderly. These conditions, which can be severely debilitating, can affect mood, sleep, and oral-motor functions such as chewing and swallowing. Neurological diseases associated with age — such as Parkinson’s disease, Alzheimer’s disease, Huntington’s disease, and stroke — also affect oral sensory and motor functions, in addition to limiting the ability to perform oral hygiene regimens.

**WHAT CAN I DO TO MAINTAIN MY ORAL HEALTH?**

- Drink fluoridated water and use fluoride toothpaste.
- Practice good oral hygiene. Brush and floss regularly.
- Get professional oral care — even if you have no natural teeth.
- Avoid tobacco. Smokers have seven times the risk of developing gum disease than non-smokers.
- Limit alcohol. Alcohol and tobacco used together are the primary risk factors for oral and throat cancers.
- Get dental care prior to cancer treatment.
- If you experience a sudden change in taste or smell, see your doctor.

**DISEASES AND DISORDERS OF THE MOUTH**

Oral diseases affect the most basic human needs: the ability to eat and drink, swallow, maintain proper nutrition, smile, and communicate. A number of medical conditions have important oral symptoms, manifestations, or complications. Further, the lips, tongue, gingivae (gums), oral mucosa, and salivary glands can all signal clinical disease elsewhere in the body. Long considered to be localized infections only, periodontal or gum diseases are now being investigated as potential risk factors for the development of heart disease and lung disorders. Oral diseases can be detrimental to the overall health and well-being of individuals. Fortunately, many of the diseases and disorders of the mouth can be prevented or reduced in severity by vigilant hygiene practices and regular checkups.

**Dental cavities**

Despite tremendous declines in the past three decades, tooth decay — the end result of a bacterial infection — remains the single most common chronic disease of childhood in the United States, a troubling trend that continues throughout life. Recurrent cavities and root cavities are prevalent among adults and the elderly.

The subset of the general population most prone to cavities is also the most vulnerable — the elderly, the poor, the very young, and those with compromising medical conditions or disabilities. New approaches to diagnose, manage, and prevent cavities throughout the lifespan may come from further research to understand the molecular consequences of the interaction between host and microbes, and from deciphering the genomic
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makeup of bacteria implicated in dental cavities.

**Gingivitis and periodontal diseases**

Gingivitis and other periodontal diseases are a result of infections caused by bacteria in the biofilm that forms on the teeth in the cul de sac between the tooth and gum. They come in several versions — from mild forms such as gingivitis to severe disease that can destroy the periodontal ligament and surrounding bone — in some cases leading to the loss of teeth.

According to the American Academy of Periodontology (www.perio.org/consumer/smileforlife.htm):

- More than half of all people over age 55 and not institutionalized have some degree of periodontitis (gum inflammation)
- Nearly 25 percent of people age 65 and older have no teeth, most often because of gum disease and/or tooth decay
- Most older people suffer with receding gum tissue

Tobacco use is a major risk factor for the development and progression of periodontal diseases. There is also considerable evidence that diabetes — particularly if poorly controlled — increases the risk for periodontal disease.

At present, treatment of periodontal diseases includes surgical as well as non-surgical approaches. Substantial advances in our understanding of how cells adhere to one another, and increased knowledge about the molecules that support and regulate nearly all cells are giving clinicians potential new options to manage periodontal diseases through the regeneration of tissues.

**Salivary gland diseases**

Saliva is a remarkable fluid essential for oral health. It guards against infections by favoring the accumulation of “beneficial” bacteria and helping to eliminate other microorganisms, lubricates the soft tissues of the mouth, buffers acids produced by bacteria, aids digestion, and facilitates speech and swallowing. Salivary gland obstruction can result in dry mouth — clinically known as xerostomia.

A number of common medical disorders involve the salivary glands. Additionally, an estimated 40,000 people lose salivary gland function each year as a result of radiation treatment for head and neck cancer. No matter what causes damaged salivary glands, the resulting loss of saliva flow markedly impairs quality of life.

Without adequate saliva, people may experience difficulty speaking, chewing, and swallowing. They may also experience rampant tooth decay, certain kinds of infections, loss of taste, and considerable oral discomfort.

Currently, there is no effective treatment for this condition. You can, however, drink extra water to reduce the dryness. You can also cut back on sugary snacks, drinks that have caffeine or alcohol, and tobacco. Your dentist or physician may suggest that you keep your mouth wet by using artificial saliva, which you can get from most drug stores. New treatments such as the potential use of adult and embryonic stem cells for regeneration of salivary gland tissue and function, and gene transfer technology may offer new hope for patients with salivary gland damage or disorders.

**Oral and throat cancers**

The most disturbing aspect about oral and throat cancer is the survival rate. In the United States, the overall five-year survival rate is approximately 50 percent — a statistic that has not improved in more than 20 years. The good news is that if the cancer is diagnosed early, survival goes up to 80 percent. However, African American men suffer the highest incidence of these cancers and have a much poorer five-year survival rate than do white men regardless of diagnostic stage.

The consequences of oral cancer can be devastating and may include impaired ability to chew, swallow, and speak, as well as possible disfigurement from extensive surgery to remove parts of the face and oral structures. Reconstruction and management of the oral cancer survivor come at a high price, both economically and socially.
A dental check-up is a good time for your dentist to look for early signs of oral cancer. Even if you have lost all your natural teeth, you should still see your dentist for regular oral cancer exams.

You also want to see your dentist or physician if you have trouble with swelling, numbness, sores, or lumps in your mouth, or if it becomes difficult for you to chew, swallow, or move your jaw or tongue. These problems could be early signs of oral cancer.

You can reduce your risk of getting oral cancer by not smoking, not using snuff or chewing tobacco, and drinking in moderation. In addition, use lip cream with sunscreen, and eat lots of fruits and vegetables, which are rich in antioxidants and help fight all kinds of disease.

Pain and chronic disabling conditions

Whether by itself, or as a symptom of an untreated oral problem, facial pain is often a major cause of poor quality of life. Sources of facial pain include dental cavities, periodontal diseases, and various neuropathic and musculoskeletal conditions. Facial pain also is a major symptom of joint and temporomandibular muscle disorders, including trigeminal neuralgia. These disorders are estimated to affect 10 million people in the United States. Facial pain may also result from conditions involving dental pulp (the innermost part of a tooth, which contains blood vessels and nerves) and the area around the root, leading to symptoms that can range from sensitivity to thermal changes to severe pain and/or abscesses. Many of these conditions cause excruciating pain to the mouth and head, greatly interfering with one’s quality of life.

Today, pain researchers know that chronic pain can become a disease in itself, causing long-term detrimental changes in the nervous system. These changes may affect resistance to other diseases, as well as effectively destroy quality of life. There is considerable need for research that integrates knowledge gained from cell biology, genetics, molecular biology, imaging technologies, neuroscience, behavioral sciences, and epidemiology to better understand the mechanisms underlying the causes and progression of facial pain and dysfunction associated with various painful conditions.

Much progress has been made in treating some of these painful conditions and in managing pain itself, when the underlying problem cannot be corrected. In fact, Congress declared 2001 through 2010 the Decade of Pain Control and Research to raise awareness of pain and its impact on the quality of life as well as productivity of many people.

For more information on the management of facial pain, please visit the National Institute of Dental and Craniofacial Research.


DENTURES AND DENTAL IMPLANTS

As people get older and begin to lose their teeth, they may decide to replace them with dentures or implants. Below is some information to help you in deciding which is the right choice for you.

Dentures (sometimes called false teeth) may feel strange at first. When you are learning to eat with them, it may be easier if you:

- Start with soft, non-sticky food
- Cut your food into small pieces
- Chew slowly using both sides of your mouth

Dentures may make your mouth less sensitive to hot foods and liquids. They also may make it more difficult for you to notice harmful objects such as bones, so be careful. During the first few weeks you have dentures, your dentist may want to see you often to make sure they fit. Over time, your mouth changes and your dentures may need to be replaced or adjusted. Be sure to let your dentist handle these adjustments.

Keep your dentures clean and free from food that can cause stains, bad breath, or swollen gums. Once a day, brush all surfaces with a denture brush. If you use a denture adhesive, such as pastes, powders, or pads, completely remove the adhesive and thoroughly clean dentures before re-applying new adhesive. When you go to sleep, take your dentures out of your mouth and put them in water or a denture cleansing liquid.
Take care of partial dentures the same way. Because bacteria can collect under the clasps (clips) that hold partial dentures, be sure to carefully clean that area.

**Dental implants**
Dental implants are small metal pieces placed in the jaw to hold false teeth or partial dentures in place. Replacement of teeth with dental implants provides more natural and stable function than do dentures, but they are not for everyone. You need a complete dental and medical checkup to find out if implants are right for you. Your gums must be healthy and your jawbone able to support the implants. Your dentist can help guide you in making this decision.

While continuing efforts to prevent tooth loss, there is a need to evaluate the appropriate replacement of tooth function, and to pursue evolving technologies that enable the development of biologic materials to repair and eventually regenerate teeth.

The ADA [www.ada.org], and the Academy of General Dentistry (ADG) [www.agd.org] can answer many of your questions about dentures. Additional information about Denture Basics and Living With Your Dentures are available, courtesy of Aetna Dental Plans.

**DENTAL CARE FOR SPECIAL GROUPS**

A number of older adults have special problems that make brushing their teeth difficult. For instance, individuals with arthritis or other conditions that limit motion may find it challenging to hold a toothbrush. If you have arthritis, try attaching the toothbrush handle to your hand with a wide elastic band. Some people make the handle bigger by taping it to a sponge or Styrofoam ball.

Persons with limited shoulder movement may find that attaching a long piece of wood or plastic to the handle can make brushing easier. Electric toothbrushes can be helpful as well.

**ACCESSING DENTAL CARE**

The American Dental Association can help you find an accredited dentist in your community. However, simply finding a dentist may not be your only hurdle.

According to the Centers for Disease Control and Prevention (CDC), only 22 percent of all older Americans have dental insurance; most elderly dental expenses are paid out of pocket. The American Dental Association explains, however, that many of our country’s accredited dental schools have clinics for patients, where dental work may be done for reduced rates. Contact the school closest to you for more clinic hours and other information.

To learn answers to the most Frequently Asked Questions related to Access to Care most, please visit the ADA Web site.

The Dental Lifeline Network, formerly the National Foundation of Dentistry for the Handicapped (NFDH), has been an affiliate of the ADA since 1988. The Dental Lifeline Network develops and implements three major programs providing care for low-income and uninsured persons who are elderly, disabled, and medically compromised.

Other possible sources of humanitarian or low-cost dental care may be found among a number of groups within your state or community. These include the following:

- Medicaid in some states
- State dental societies
- State Department of Public Health — Department of Dentistry
- County Public Health Department
- Some Church-related groups, local Lions Clubs, and Rotary Clubs may also have special funds to help local residents with medical and dental care.

Websites:
www.afar.org
www.afar.org/infoaging

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