

## Oral Health in Older Adults



Gum disease is seen in 97 percent of the population. It is one of the most common diseases to affect humans, more prevalent than the common cold. According to the Centers for Disease Control and Prevention, about 64 percent of seniors age 65 and over have moderate or severe periodontal disease. In one recent study, people with serious gum disease were 40% more likely to have a chronic condition on top of it. The mouth reflects the culmination of multiple stressors over the years and as the mouth ages, it is less able to tolerate these stressors.

Gum disease can cause inflammation, a response by the immune system to invaders that features swelling, redness, and heat and pain, as fluids and white blood cells rush to the affected area. Bacteria can travel from the mouth by being swallowed, inhaled or

by entering the bloodstream through the gums, according to Frank Sannapieco, chairman of the department of oral biology at the University of Buffalo School of Dentistry. If harmful bacteria and viruses spread from the mouth, that could explain inflammation that leads to disease elsewhere in the body.

Poor oral health is associated with malnutrition, dehydration, brain abscesses, heart disease, pneumonia, aspiration pneumonia, and poor glycemic control in type 1 and 2 diabetes (1). Poor oral health problems can dramatically affect a person's wellbeing. Poor oral health impacts the person's ability to chew and eat, maintain weight, speech, hydration, and social interactions.

Oral health is essential to overall health and disease prevention. Unfortunately, when older adults become functionally dependent or cognitively impaired, their oral health and lifelong habits of oral care are often neglected, compromising their health, self-esteem, and quality of life. As dependence increases, oral hygiene frequently declines and incidence of oral diseases often increases. Chronic infection from poor health compromises the immune system and complicates the management of many general illnesses, such as diabetes.

Being disabled, homebound or institutionalized increase the risk of poor oral health. It is important that direct care providers have a basic understanding of the mouth, oral diseases and preventive care.

## Consequences of poor oral health

Research has indicated that oral diseases occur at high levels in high-risk older adults while living in the community and that they then enter long term care facilities with compromised oral health. As mentioned above, there are many adverse consequences of poor oral care. The first ill effect is cardiac related diseases. Though the reasons are not fully understood, it's clear that gum disease and heart disease often go hand in hand. Up to 91% of patients with heart disease have periodontitis, compared to 66% of people with no heart disease. The theory is that inflammation in the mouth causes inflammation in the blood vessels. This can increase the risk for heart attack in a number of ways. Inflamed blood vessels allow less blood to travel between the heart and the rest of the body, raising blood pressure. The bacteria from inflammation of the gums and periodontal disease can enter the bloodstream and travel to the arteries in the heart and cause atherosclerosis (hardening of the arteries). Atherosclerosis causes plaque to develop on the inner walls of arteries which thicken and this decreases or may block blood flow through the body. There's also a greater risk that fatty plaque will break off the wall of a blood vessel and travel to the heart or the brain, causing a heart attack or stroke. (2) The inner lining of the heart can also become infected and inflamed.

Additionally, the accumulation of oral bacteria and food debris in the mouth due to oral neglect is one of the oral health related risk factors for aspiration pneumonia. The

Journal of Periodontology warns that gum disease could cause you to get infections in your lungs, including pneumonia. Bacteria found in the oral cavity can be aspirated into the lungs which presents a risk for pneumonia and other respiratory diseases in older adults. Respiratory infections have been associated with breathing in bacteria from unhealthy mouths. While the connection might not be completely obvious at first, think of what might happen from breathing in bacteria from infected teeth and gums over a long period of time.

Use of medications, particularly those that reduce salivary flow can create swallowing problems, caries and periodontal disease, and poor oral function. More than 400 medications can cause the salivary glands to make less saliva. Low levels of saliva result in the oral environment becoming more acidic, and, together with decreased buffering capacity, result in dental caries. Saliva does more than just keep the mouth wet; it helps digest food, protects teeth from decay, and prevents infection by controlling bacteria in the mouth. Symptoms of low saliva production include: dry feeling in the mouth, trouble chewing or swallowing, cracked lips, dry tongue, and mouth sores.

For dry mouth, encourage clients to avoid caffeine which can dry out the mouth. Advise them to sip on sugarless gum or hard candy to stimulate the saliva flow. Cinnamon or mint-flavored candies are good choices (as long as not contra-indicated). Advise them to avoid tobacco or alcohol as they dry out the mouth. The use of a

humidifier at night may also help with dry mouth.

Oral bacteria from poor dental hygiene have also been linked to brain tissue degeneration. The bacteria from gingivitis may enter the brain through either nerve channels in the head or through the bloodstream. According to the study, researchers think the bacterium found in the brain can trigger immune system responses and pathological changes, which may lead to diseases such as Alzheimer's. Chronic periodontal disease experienced early in a person's life **quadruples** the risk of developing Alzheimer's disease. To complicate matters, oral health generally declines when cognitive impairment progresses. Families often notice when poor bathing hygiene begins, but seem not to notice poor oral hygiene. The reality is that poor oral care has a much more negative impact on the older person than poor bathing technique. Poor oral hygiene may make those with cognitive impairment progress more quickly than they otherwise might.

The relationship between diabetes and periodontitis may be the strongest of all the connections between the mouth and body. Inflammation that starts in the mouth seems to weaken the body's ability to control blood sugar. People with diabetes have trouble processing sugar because of a lack of insulin, the hormone that converts sugar into energy. Periodontal disease further complicates diabetes because the inflammation impairs the body's ability to utilize insulin. To further complicate matters, diabetes and periodontitis have a

two way relationship. High blood sugar provides ideal conditions for infection to grow, including gum infections. Gum infections have been called the sixth complication of diabetes, because people with diabetes are more likely to have periodontal disease.

And finally, poor oral health can lead to severe pain. Dental cavities (caries), an infection of the teeth, represent another physiological burden, especially important for those whose systems are already weakened by diseases and aging. 50% of those greater than age 75 have untreated caries that can cause mouth pain, abscesses, and infection that can lead to septicemia.

### What Can You Do

To prevent gum disease, the American Academy of Periodontology recommends brushing both teeth and tongue after meals, flossing and rinsing with a mouthwash once daily and seeing a dentist or periodontist regularly. Eating a healthy diet rich in vitamin C can also help.

Prevention is better than intervention. The gold standard for providing oral hygiene is the toothbrush. Toothbrushes should have soft nylon bristles. It is the mechanical action of the toothbrush that is important for plaque removal. If the client has any decrease in their function or manual dexterity, they will need assistance.

Antibacterial and anti-gingivitis mouth rinses are the best for fighting plaque and gingivitis. Currently there is only one rinse

available over the counter (Listerine) and several that are available by prescription that have been proven by the ADA to help reduce plaque and gingivitis.

Not smoking is one of the most important things that a person can do for their mouth and body. According to the CDC, a smoker's risk of severe gum disease is three times higher than someone who does not smoke. Nicotine in cigarettes causes blood vessels to constrict which interferes with a person's ability to fight infection.

The message is clear: providing proper dental care is important in many ways you might not have thought. Encourage your clients to practice good oral hygiene and don't just assume the client has the functional ability to perform adequate tooth brushing. Try to observe them performing their oral care and if you have any concerns that the client's oral care is not good, contact your supervisor. Providing and encouraging proper oral care may be one of the most important things you can do to protect your client's health.

### **Resources:**

- 1 Boltz, Marie. "Oral Health Care." *Evidence-based Geriatric Nursing Protocols for Best Practice*. New York: Springer Pub., 2012
- 2 Johnson, Valerie. "Oral Hygiene Care for Functionally Dependent and Cognitively Impaired Older Adults." *Journal of Gerontological Nursing* 38.11 (2012): 11-19.