

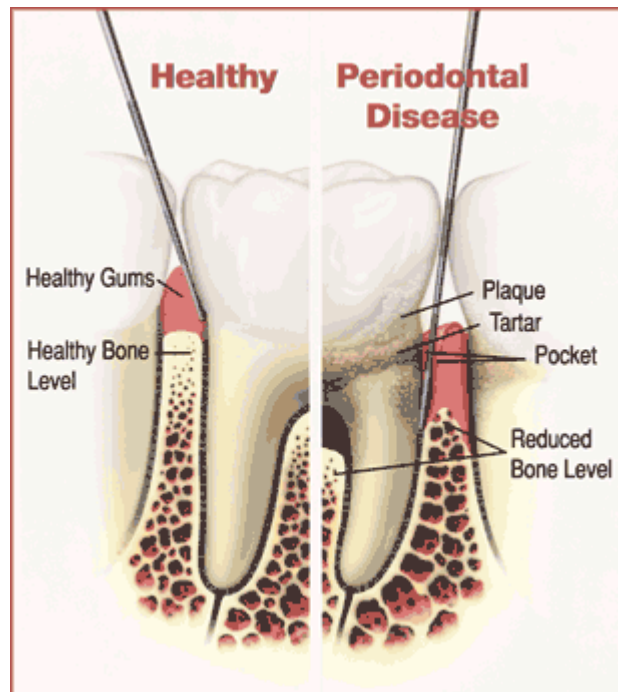


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Periodontal (Gum) Disease

Periodontal (gum) diseases, including gingivitis and periodontitis, are serious infections that, left untreated, can lead to tooth loss. The word *periodontal* literally means "around the tooth." Periodontal disease is a chronic bacterial infection that affects the gums and bone supporting the teeth.

Periodontal disease can affect one tooth or many teeth. It begins when the bacteria in plaque (the sticky, colorless film that constantly forms on your teeth) causes the gums to become inflamed.



In the mildest form of the disease, **gingivitis**, the gums redden, swell and bleed easily. There is usually little or no discomfort. Gingivitis is often caused by inadequate oral hygiene. Gingivitis is reversible with professional treatment and good oral home care.

Untreated gingivitis can advance to **periodontitis**. With time, plaque can spread and grow below the gum line. Toxins produced by the bacteria in plaque irritate the gums. The toxins stimulate a chronic inflammatory response in which the body in essence turns on itself, and the tissues and bone that support the teeth are broken down and destroyed. Gums separate from the teeth, forming pockets (spaces between the teeth and gums) that become infected. As the disease progresses, the pockets deepen and more gum tissue and bone are destroyed. Often, this destructive process has very mild symptoms. Eventually, teeth can become loose and may have to be removed.

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Causes of Periodontal Disease

The main causes of periodontal disease are bacteria and plaque, a sticky, colorless film that constantly forms on your teeth. However, factors like the following also affect the health of your gums.

Smoking/Tobacco Use

Tobacco users also are at increased risk for periodontal disease. In fact, recent studies have shown that tobacco use may be one of the most significant risk factors in the development and progression of periodontal disease.

Genetics

Research proves that up to 30% of the population may be genetically susceptible to gum disease. Despite aggressive oral care habits, these people may be six times more likely to develop periodontal disease. Identifying these people with a genetic test before they even show signs of the disease and getting them into early interventive treatment may help them keep their teeth for a lifetime.

Pregnancy and Puberty

As a woman, you know that your health needs are unique. You know that brushing and flossing daily, a healthy diet, and regular exercise are all important to help you stay in shape. You also know that at specific times in your life, you need to take extra care of yourself. Times when you mature and change, for example, puberty or menopause, and times when you have special health needs, such as menstruation or pregnancy. During these particular times, your body experiences hormonal changes. These changes can affect many of the tissues in your body, including your gums. Your gums can become sensitive, and at times react strongly to the hormonal fluctuations. This may make you more susceptible to gum disease. Additionally, recent studies suggest that pregnant women with gum disease are seven times more likely to deliver preterm, low birth weight babies.

Stress

As you probably already know, stress is linked to many serious conditions such as hypertension, cancer, and numerous other health problems. What you may not know is that stress also is a risk factor for periodontal disease. Research demonstrates that stress can make it more difficult for the body to fight off infection, including periodontal diseases.

Medications

Some drugs, such as oral contraceptives, anti-depressants, and certain heart medicines, can affect your oral health. Just as you notify your pharmacist and other health care providers of all medicines you are taking and any changes in your overall health, you should also inform your dental care provider.

Clenching or Grinding Your Teeth

Has anyone ever told you that you grind your teeth at night? Is your jaw sore from clenching your teeth when you're taking a test or solving a problem at work? Clenching or grinding your teeth can put excess force on the supporting tissues of the teeth and could speed up the rate at which these periodontal tissues are destroyed.

Diabetes

Diabetes is a disease that causes altered levels of sugar in the blood. Diabetes develops from either a deficiency in insulin production (a hormone that is the key component in the body's ability to use blood sugars) or the body's inability to use insulin correctly. According to the American Diabetes Association, approximately 16 million Americans have diabetes; however, more than half have not been diagnosed with this disease. If you are diabetic, you are at higher risk for developing infections, including periodontal diseases. These infections can impair the ability to process and/or utilize insulin, which may cause your diabetes to be more difficult to control and your infection to be more severe than a non-diabetic.

Poor Nutrition

As you may already know, a diet low in important nutrients can compromise the body's immune system and make it harder for the body to fight off infection. Because periodontal disease is a serious infection, poor nutrition can worsen the condition of your gums.

Other Systemic Diseases

Diseases that interfere with the body's immune system may also worsen the condition of the gums.

Types of Periodontal Disease

There are many forms of periodontal disease. The most common ones include the following.

Gingivitis

Gingivitis is the mildest form of periodontal disease. It causes the gums to become red, swollen, and bleed easily. There is usually little or no discomfort at this stage. Gingivitis is reversible with professional treatment and good at home oral care.

Aggressive Periodontitis

A form of periodontitis that occurs in patients who are otherwise clinically healthy. Common features include rapid attachment loss and bone destruction and familial aggregation.

Chronic Periodontitis

A form of periodontal disease resulting in inflammation within the supporting tissues of the teeth, progressive attachment and bone loss and is characterized by **pocket formation** and/or **recession of the gums**. It is recognized as the most frequently occurring form of periodontitis. It is prevalent in adults, but can occur at any age. Progression of attachment loss usually occurs slowly, but periods of rapid progression can occur.

Periodontitis as a Manifestation of Systemic Diseases

Periodontitis, often with onset at a young age, associated with one of several systemic diseases, such as diabetes.

Necrotizing Periodontal Diseases

An infection characterized by necrosis of gingival tissues, periodontal ligament and alveolar bone. These lesions are most commonly observed in individuals with systemic conditions including, but not limited to, HIV infection, malnutrition and immunosuppression.

Treatment of Periodontal Disease

- If you're diagnosed with periodontal disease, your dentist may recommend *periodontal surgery*. Periodontal surgery is necessary when your dentist determines that the tissue around your teeth is unhealthy and cannot be repaired with non-surgical treatment. An alternative treatment option to conventional periodontal surgery is laser periodontal surgery.
- In 2004, the PerioLase® Nd:YAG Laser received FDA approval to perform a procedure known as: *Laser Assisted New Attachment procedure* (LANAP) which has been shown in a university study to regenerate a new periodontal attachment.

Don't Ignore Your Oral Health

If you value your oral as well as your overall health, a *periodontal evaluation* is a good idea. Sometimes the only way to detect periodontal disease is through a periodontal evaluation. A periodontal evaluation may be especially important if you:

- Notice any symptoms of periodontal disease (bleeding or receding gums, bad breath, etc.)
- Have heart disease, diabetes, respiratory disease or osteoporosis.
- Are thinking of becoming pregnant.
- Have a family member with periodontal disease. Research suggests that the bacteria that cause periodontal disease can pass through saliva. This means the common contact of saliva in families puts children and couples at risk for contracting the periodontal disease of another family member.
- Have a sore or irritation in your mouth that does not get better within two weeks.

The Mouth & Body Connection

In July of 1998, the American Academy of Periodontology launched an effort to educate the public about new findings which support what dental professionals had long suspected: Infections in the mouth can play havoc elsewhere in the body.

Periodontal disease is a bacterial infection, and all infections are cause for concern. Periodontal bacteria can enter the blood stream and travel to major organs and begin new infections. Research is suggesting that this may:

- Contribute to the development of **heart disease**, the nation's leading cause of death.
- Increase the risk of **stroke**.
- Increase a woman's risk of having a **preterm, low birth weight baby**.
- Pose a serious threat to people whose health is compromised by **diabetes, respiratory diseases, or osteoporosis**.

Heart Disease and Stroke

Heart Disease

Several theories exist to explain the link between periodontal disease and heart disease. One theory is that oral bacteria can affect the heart when they enter the blood stream, attaching to fatty plaques in the coronary arteries (heart blood vessels) and contributing to clot formation. Coronary artery disease is characterized by a thickening of the walls of the coronary arteries due to the buildup of fatty proteins. Blood clots can obstruct normal blood flow, restricting the amount of nutrients and oxygen required for the heart to function properly. This may lead to heart attacks.

Another possibility is that the inflammation caused by periodontal disease increases plaque build up, which may contribute to swelling of the arteries. Researchers have found that people with periodontal disease are almost twice as likely to suffer from coronary artery disease as those without periodontal disease. Periodontal disease can also exacerbate existing heart conditions. Patients at risk for infective endocarditis may require antibiotics prior to dental procedures. Your dentist and cardiologist will be able to determine if your heart condition requires use of antibiotics prior to dental procedures.

Stroke

Additional studies have pointed to a relationship between periodontal disease and stroke. In one study that looked at the causal relationship of oral infection as a risk factor for stroke, people diagnosed with acute cerebrovascular ischemia were found more likely to have an oral infection when compared to those in the control group.

Preterm Low Birth Weight Births

For a long time we've known that risk factors such as smoking, alcohol use, and drug use contribute to mothers having babies that are born prematurely at a low birth weight. Now evidence is mounting that suggests a new risk factor – periodontal disease. Pregnant women who have periodontal disease may be seven times more likely to have a baby that is born too early and too small.

It appears that periodontal disease triggers increased levels of biological fluids that induce labor. Furthermore, data suggests that women whose periodontal condition worsens during pregnancy have an even higher risk of having a premature baby.

Diabetes

People with diabetes are more likely to have periodontal disease than people without diabetes, probably because diabetics are more susceptible to contracting infections. In fact, periodontal disease is often considered the sixth complication of diabetes. Those people who don't have their diabetes under control are especially at risk.

A study in the *Journal of Periodontology* found that poorly controlled type 2 diabetic patients are more likely to develop periodontal disease than well-controlled diabetics are. Research has emerged that suggests that the relationship between periodontal disease and diabetes goes both ways - periodontal disease may make it more difficult for people who have diabetes to control their blood sugar.

Severe periodontal disease can increase blood sugar, contributing to increased periods of time when the body functions with a high blood sugar. This puts diabetics at increased risk for diabetic complications. Thus, diabetics who have periodontal disease should be treated to eliminate the periodontal infection.

Respiratory Diseases

Bacterial respiratory infections are thought to be acquired through aspiration (inhaling) of fine droplets from the mouth and throat into the lungs. These droplets contain germs that can breed and multiply within the lungs to cause damage. Recent research suggests that bacteria found in the throat, as well as bacteria found in the mouth, can be drawn into the lower respiratory tract. This can cause infections or worsen existing lung conditions. People with respiratory diseases, such as chronic obstructive pulmonary disease, typically suffer from reduced protective systems, making it difficult to eliminate bacteria from the lungs.

Scientists have found that bacteria that grow in the oral cavity can be aspirated into the lung to cause respiratory diseases such as pneumonia, especially in people with periodontal disease. This discovery leads researchers to believe that these respiratory bacteria can travel from the oral cavity into the lungs to cause infection.

Chronic obstructive pulmonary diseases (COPD) cause persistent obstruction of the airways. The main cause of this disease is thought to be long-term smoking. Chemicals from smoke or air pollution irritate the airways to cause obstruction. Further damage to the tissue and working function of the lungs can be prevented, but already damaged tissue cannot be restored - untreated or undetected COPD can result in irreversible damage. Scientists believe that through the aspiration process, bacteria can cause frequent bouts of infection in patients with COPD. Studies are now in progress to learn to what extent oral hygiene and periodontal disease may be associated with more frequent bouts of respiratory disease in COPD patients.

Osteoporosis

Researchers have suggested that a link between osteoporosis and bone loss in the jaw. Studies suggest that osteoporosis may lead to tooth loss because the density of the bone that supports the teeth may be decreased, which means the teeth no longer have a solid foundation. However, hormone replacement therapy may offer some protection.

A study published in the *Journal of Periodontology* concludes that estrogen supplementation in women within five years of menopause slows the progression of periodontal disease. Researchers have suspected that estrogen deficiency and osteopenia/osteoporosis speed the progression of oral bone loss following menopause, which could lead to tooth loss. The study concluded that estrogen supplementation may lower gingival inflammation and the rate of attachment loss (destruction of the fibers and bone that support the teeth) in women with signs of osteoporosis, thus helping to protect the teeth.

Some warning signs of gum disease include: tender, bleeding gums, persistent bad breath, receding gums, changes in your bite, and tooth movements such as migration and mobility.

We hope that this information was helpful in better understanding periodontal disease.