

Periodontal Health Report



Periodontal disease is highly preventable and treatable, yet remains one of the most prevalent, and least discussed persistent conditions around the world. A bacterial, chronic inflammatory disease of the gums, periodontal disease can destroy bone and connective tissue. This not only causes discomfort, but may lead to social anxiety from swollen, pus-ridden gums, loss of teeth, and bad breath.

Periodontal disease is the most common non-infectious chronic inflammatory condition in people worldwide.¹

In the U.S. alone, 47.2 percent of adults age 30 and older have periodontal disease – that is 64.7 million Americans.² To put this in perspective, 2.5 times more people in the U.S. have periodontal disease than diabetes.³ As such, periodontal disease has proven to be a major public health issue.

Despite the pervasive nature of periodontal disease and the alarming number of Americans who are affected, there is a lack

of motivation and urgency for the public to take notice and control their gum health. More than a billion bacteria converge to form film on teeth and gums, also known as plaque. Poor oral hygiene is a primary cause of periodontal disease, and brushing alone does not remove the bacteria that live below the gum line and can lead to tooth loss. Periodontal disease typically does not cause pain until it is in its advanced form, at which point much tooth support has been lost.

Coupled with the lack of urgency around gum health, many Americans are unsure of how to properly care for their gums, and unaware that they should visit a periodontist for the treatment of periodontal disease. A periodontist is a dentist who studies an additional three years to specialize in the prevention, initial diagnosis, and treatment of periodontal disease, and in the placement of dental implants. The American Academy of Periodontology is working to increase awareness of periodontal disease and reduce the staggering number of people affected by this disease through an educational campaign called “Love the Gums You’re With.”

STUCK ON YOU (BACTERIA, THAT IS)

More than 500 different species of bacteria can be found in dental plaque.⁴ Plaque that forms below the gum line can irritate the gums and stimulate a prolonged inflammatory response that initiates gingivitis and periodontitis. Gingivitis is the mildest form of periodontal disease. Caused by inadequate oral hygiene, gingivitis is recognized by red, swollen, or bleeding gums.

Periodontitis is advanced gum disease that occurs if gingivitis is not managed, if oral hygiene is poor, and/or if there is a family history or genetic predisposition. With periodontitis, gums separate from the teeth, forming pockets that become infected with bacteria. Left untreated, this disease can damage the attachment of the teeth to the bone and can eventually destroy gum tissue and bone altogether. The most common type is chronic periodontitis, in which inflammation slowly increases within the supporting tissues of the teeth and progressive detachment and bone loss occurs.

Genetic factors can cause aggressive periodontitis, or rapid bone destruction, in an otherwise healthy individual. Failure to properly diagnose and treat the earliest symptoms of periodontitis enables the reversible condition to progress to advanced stages such as tooth loss.

GUMS

PROVIDE THE FOUNDATION
FOR A HEALTHY SMILE

The early stages of periodontal disease are painless, and even moderate stages may cause little or no pain. Consequently, people may not know they are at risk and may need treatment. Therefore, it is crucial to contact a dentist or periodontist for proper evaluation and diagnosis. Common symptoms of periodontal disease are red, swollen, tender, or bleeding gums; receding gums that cause teeth to look longer than before; and pus between gums and teeth. Additional symptoms beyond the gums include loose or separating teeth, mouth sores, persistent bad breath, a change in the way teeth fit together when biting, and a change in the fit of partial dentures.

ARE YOUR GUMS AT RISK?

Biological makeup and lifestyle choices such as smoking, age, hormones, medications, genetics, diseases, obesity, poor nutrition, stress, and teeth grinding can affect the risk for developing periodontal disease.

Smoking and tobacco use is one of the most significant risk factors in the development and progression of periodontal disease.

Of the 64.7 million Americans with periodontal disease, 64.2 percent are current smokers.² Smoking causes a stronger inflammatory reaction to bacteria and release of more tissue-damaging substances in the body.⁵

As one ages, the rates of periodontal disease and tooth socket bone loss increase – 70 percent of Americans over

age 65² have periodontal disease. Risk for periodontal disease can increase earlier in life as well. Hormonal fluctuations during puberty and pregnancy can also contribute to periodontal disease.

Medications such as oral contraceptives, anti-depressants, and certain heart medicines can increase susceptibility to periodontal disease. Dental care providers should be aware of any changes to their patients' medication history.

People with a genetic predisposition may be more likely to develop periodontal disease despite aggressive oral care habits; however, early diagnosis and intervention can prevent progression of periodontal disease.

Other systemic diseases, such as cardiovascular disease, diabetes, and rheumatoid arthritis may contribute to periodontal disease. Obesity may also increase the risk of periodontal disease. Poor nutrition or stress can compromise the body's immune system, making it harder to fight the bacteria associated with disease. Additionally, excessive force on the supporting tissues of the teeth, such as teeth grinding or clenching, may speed up the rate of periodontal tissue loss.

AGE

GENETICS

HORMONES

SMOKING

MEDICATIONS

How many
risk factors do
you have?

DISEASES

POOR NUTRITION

TEETH GRINDING/
CLENCHING

OBESITY

STRESS

VISIT

WWW.PERIO.ORG

TO TAKE THE RISK ASSESSMENT.

HEALTHY GUMS, HEALTHY BODY

The most noticeable effects of periodontal disease are visible in the mouth. Infected gums are usually red and swollen. As bacteria ferment any food or residual sugars left between the teeth, the acid that is produced causes destruction of bone that supports the teeth and the hard tissues of the teeth, resulting in tooth loss. These bacteria can also cause persistent bad breath.

However, periodontal disease has wider-reaching effects than the mouth.

Scientific studies suggest that periodontal disease is associated with other inflammatory diseases such as cardiovascular disease and diabetes. When periodontitis forms pockets in the gums, bacteria may enter the bloodstream and contribute to the body's inflammatory response.

Research shows that people with periodontitis have higher levels of inflammatory products in their blood than those who do not have periodontal disease.⁶

Periodontal disease is associated with cardiovascular disease, including higher levels of triglycerides and lower levels of high-density lipoprotein (HDL, or “good” cholesterol).⁶ The incidence of atherosclerosis, or thickening of the artery walls due to cholesterol or triglyceride accumulation, is higher in individuals with periodontitis – independent of other cardiovascular risk factors.⁷ Poor periodontal status is also correlated with a higher risk for heart attack-related events.⁸

Moderate-to-severe periodontitis is associated with an increased risk for the development of diabetes.¹

Individuals with severe periodontal disease may have a harder time controlling blood sugar levels, in both people with or without type 2 diabetes.¹ There may also be an increased risk for diabetic complications such as kidney and cardiovascular dysfunction.¹

Research also shows that people with periodontal disease are five times more likely to have severe asthma than people without periodontitis.⁹ Although it isn't proven that periodontitis directly causes other inflammatory diseases, there is strong scientific evidence that supports a relationship between gum health and general well-being.

HOW TO KEEP YOUR GUMS HEALTHY

Though the symptoms and effects of periodontal disease can be serious, there are easy and effective ways to prevent it. Tooth-brushing after meals helps to reduce food trapped between teeth and gums. Flossing, as well as the use of interdental brushes, is the most effective way to remove debris and plaque between teeth and gums that brushing cannot reach. Tongue-brushing also assists in the removal of excess bacteria from the mouth.

Knowing your risk for periodontal disease and discussing it with your dental professional is a vital step in prevention of gingivitis and periodontitis. For a comprehensive periodontal evaluation,

visit a periodontist, who will visually examine every tooth above and below the gum line.

Each patient is unique and a periodontist can provide a specialized treatment plan based on disease severity.

There are many treatment options for periodontal disease. The good news is that gingivitis is fully reversible with professional treatment and good oral hygiene.

Periodontitis has a range of treatment options based on the severity of the disease. Non-surgical treatments include scaling, root planing, and antimicrobial medications. Scaling and root planing cleans the surface of the roots of teeth to remove plaque, tartar, and bacteria from periodontal pockets. Bacteria reside in a biofilm on teeth and gums, so a systemic antibiotic alone cannot resolve chronic periodontitis, but may be prescribed along with scaling and root planing for the treatment of severe or aggressive periodontal disease.⁸

For more limited periodontal disease, locally applied antibiotics can be placed beneath the gums to suppress or kill the bacteria adjacent to the roots.

For more advanced periodontal disease, surgical treatments are available.

Periodontal pocket reduction involves folding back affected gum tissue, removing the bacteria and their products, and securing the gums back into place. If used in combination with good daily oral hygiene, this can prevent further damage to the gums and teeth. To reduce gum recession, bone loss, and temperature sensitivity, gum graft surgery can be performed. This involves transferring tissue from the roof of the mouth (palate) to the exposed root of the tooth. Regenerative procedures can be used to reverse some of the damage by regenerating lost bone and tissue.

Periodontal interventions may improve other inflammatory diseases as well.

Periodontal treatment has been shown to reduce systemic inflammation and vascular

dysfunction in short-term studies, but it is unknown if this treatment can prevent or modify cardiovascular outcomes.⁸ Longer-term studies are needed in this area. There is conflicting evidence on periodontal interventions improving diabetic outcomes for people with type 2 diabetes.^{10,11} Severe periodontitis may not be eradicated with non-surgical intervention, thus further studies should be performed to determine if more aggressive treatment may have greater effects on diabetes status and blood sugar levels. Altogether, there is increasing evidence that people living with, or at risk for, systemic inflammatory disease should maintain their periodontal health.

SHOW YOUR GUMS SOME LOVE

Taking care of gums should not be an afterthought – they are the foundation of good oral health, and support the sparkling white teeth and fresh breath that people aspire to have. Ask a dental professional if seeing a periodontist is right for you. Visit Perio.org for more information on gum health and how to Love the Gums You're With.

REFERENCES

¹ Chapple IL, Genco R, Beglundh T, et al. Diabetes and periodontal diseases: consensus report of the Joint EFP/AAP Workshop on Periodontitis and Systemic Diseases. *J Clin Periodontol.* 2013;40(14)(suppl 14):S106–S112.

² Eke PI, Dye BA, Wei L, et al. Prevalence of periodontitis in adults in the United States: 2009 and 2010. *J Dent Res.* 2012;91(10):914–920.

³ CDC 2011 National Diabetes Fact Sheet. <http://www.cdc.gov/diabetes/pubs/factsheet11.htm>. Accessed December 12, 2013.

⁴ Moore WE, Moore LV. The bacteria of periodontal diseases. *Periodontol.* 2000;1994(5):66–77.

⁵ Johannsen A, Susin C, Gustafsson A. Smoking and inflammation: evidence for a synergistic role in chronic disease. *Periodontol.* 2000;64(1):111–126.

⁶ Monteiro AM, Jardim MA, Alves S, et al. Cardiovascular disease parameters in periodontitis. *J Periodontol.* 2009;80(3):378–388.

⁷ Dietrich T, Sharma P, Walter C, Weston P, Beck J. The epidemiological evidence behind the association between periodontitis and incident atherosclerotic cardiovascular disease. *J Clin Periodontol.* 2013;40(14)(suppl 14):S70–S84.

⁸ Lockhart PB, Bolger AF, Papapanou PN, et al. Periodontal disease and atherosclerotic vascular disease: does the evidence support an independent association?: a scientific statement from the American Heart Association. *Circulation.* 2012;125(20):2520–2544.

⁹ Gomes-Filho IS, Soledade-Marques KR, Seixas da Cruz S, et al. Does periodontal infection have an effect on severe asthma in adults? *J Periodontol.* 2013;Nov 14. [Epub ahead of print].

¹⁰ Engebretson S, Kocher T. Evidence that periodontal treatment improves diabetes outcomes: a systematic review and meta-analysis. *J Clin Periodontol.* 2013;40(14)(suppl 14):S153–S163.

¹¹ Engebretson SP, Hyman LG, Michalowicz BS, et al. The effect of nonsurgical periodontal therapy on hemoglobin A1c levels in persons with type 2 diabetes and chronic periodontitis: a randomized clinical trial. *JAMA.* 2013;310(23):2523–2532.