

Helping Patients with Diabetes Understand the 2-Way Relationship Between Diabetes and Gum Disease

Most people think of gum disease, or periodontal disease, as an infection localized to the oral cavity with tissue destruction confined to the mouth. However, mounting research over the last 20 years provides evidence that pathways of inflammation link oral infections, such as periodontal disease, to whole body damage. The strongest evidence of a link relates to diabetes and periodontal disease. Periodontal disease is often referred to as the sixth long-term complication of diabetes, but it often goes unrecognized by physicians who treat diabetic patients. People with diabetes are much more susceptible to periodontal disease and once periodontal disease is established in a diabetic patient, metabolic control (glycemic control or blood sugar levels) of diabetes is complicated from the constant reservoir of gram-negative anaerobic bacteria that sit at the bottom of the gum pockets producing infection and low grade inflammation throughout the body. That is why the relationship between diabetes and periodontal disease is sometimes referred to as a two-way street, and the reason why diagnosis and treatment of periodontal disease, just like optimal glycemic control, are essential in the medical management of diabetes.

What does glycemic control have to do with periodontal disease?

Diabetic patients who have good control over blood sugar levels (good glycemic/metabolic control) can prevent or delay the onset and slow the progression of the complications associated with diabetes, particularly retinopathy, nephropathy, and neuropathy. The same is true for delaying the onset or slowing the progression of periodontal disease. However, for people with diabetes who have poor glycemic control (high blood sugar levels), the risk of infection becomes much greater. For instance, it is estimated that poorly controlled diabetic people are at a 2 to 4 times greater risk for developing periodontal infection than non-diabetic people. That is why it is important for diabetic patients to achieve and sustain the same level of glycemic control as a healthy, non-diabetic individual. Good glycemic control, an HbA1c value of less than 6% for most patients, significantly reduces the risk for the serious complications of diabetes noted above. Another important aspect of this 2-way street is the research that suggests chronic periodontal infection causes systemic inflammation that enhances insulin resistance and hyperglycemia. Insulin resistance makes it difficult for patients and their physicians to achieve and sustain optimal glycemic control, and increases the risk for coronary heart disease.

Diabetes



Diabetic people are 2-4 times more susceptible to periodontal disease

Periodontal infection then complicates glycemic control and enhances insulin resistance and hyperglycemia

Poor glycemic control causes increased susceptibility to re-infection and more severe periodontal disease

Periodontal Disease



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What happens if I have periodontal disease and it is not treated?

Most importantly, when a periodontal infection goes untreated in diabetic patients, this puts them at greater risk for developing the long-term complications associated with diabetes and cardiovascular disease. There is also research to suggest that insulin-dependent diabetic individuals may be genetically predisposed to an exaggerated inflammatory response to gram-negative bacterial infections like those found in periodontal disease.

Currently there is no cure for diabetes or periodontal disease, but if you are a motivated patient who complies with your dental and medical providers' recommendations, these diseases can be controlled. Successful management of these diseases requires frequent monitoring of and careful attention to your immune system's response to treatment, and monitoring of both glycemic control (blood sugar levels) and periodontal status.

"What kind of recommendations will my physician and dentist make to manage my diseases?"

The following are recommendations often provided by healthcare providers to successfully control diabetes and periodontal disease:

- Maintain excellent oral hygiene including thorough brushing with a toothpaste that contains triclosan/copolymer at least twice a day, the use of dental floss daily, and tongue brushing
- Undergo the treatment that your dentist or dental hygienist recommends for active periodontal disease
- Take all medications prescribed by physicians and dentists as indicated
- Have regular periodontal maintenance visits that include periodontal evaluation and re-treatment as needed
- Commit to smoking cessation if applicable
- Engage in adequate physical activity
- Reduce weight, if applicable
- Eat balanced meals with proper nutrition
- Comply with your healthcare provider's recommendations for HbA1c testing at least every 3 months, and request copies of the results be forwarded to your dentist, which allows your dental care provider to monitor your glycemic control against your periodontal status.

This level of diabetes care is best facilitated by a team of healthcare providers from both medicine and dentistry including physicians, nurses, diabetes educators, dieticians, dentists, dental hygienists, and a number of other specialists. More information on the relationship between diabetes and periodontal disease may be accessed through the Web site of the American Academy of Periodontology, found at www.perio.org.