

Oral Health for Diabetics

Dr. Harold Loe at the National Institute of Dental Health has published that periodontal disease is the 6th complication of diabetes.

Emerging research is establishing that there is a clinical relevance for the treatment of people with diabetes mellitus and periodontal disease.

It has long been observed that diabetics (especially poorly controlled diabetics) have more gum infections and periodontal disease. Current research is confirming that diabetics are indeed more susceptible to gum disease. But there is more

to it than that. There is a classic vicious cycle going on because not only does diabetes create periodontal complications, but having periodontal disease makes diabetes more difficult to control.

New research suggests that the relationship between gum disease and diabetes goes both ways. Periodontal disease can make it more difficult for diabetics to control their blood glucose levels, and people with diabetes tend to have more gum disease. This means that this disease equation is really a double ended arrow.

Diabetics have a higher risk for developing infections, including periodontal disease which is a chronic low-grade infection persistent in the mouth. Infections (such as periodontal disease) in diabetics generally impair the ability to process and/or utilize insulin. This can cause blood sugars to be more difficult to manage, and in turn can make the gum infections (or any infection in the body) more severe.



Signs and symptoms of gum disease include:

- Gums that bleed
- Red, swollen and tender gum tissues
- Bad breath
- Loose or migrating teeth
- Elevated C-reactive protein levels

Because gum disease is more common and more serious in people with diabetes, periodontal disease has now been called an “oral complication” of diabetes. In fact, one in three diabetics have chronic gum disease problems. Because gum disease is an infection, and diabetics generally have problems dealing with infections and wound healing, gum disease represents a significant complication for diabetics. The problem is that physicians often fail to examine the mouths and teeth of their patients, or fail to refer to a dentist for an evaluation.

And too often, dentists fail to recognize the important implications and relevance which diabetes and periodontal disease have with each other.

Because periodontal disease is a bacterial infection of the gums and bone around teeth, it automatically increases local inflammatory factors. The inflammation which occurs in the gums allows bacteria and inflammatory by-products to enter the blood stream and produce systemic inflammation in the body generally. This inflammation is believed to affect the health of blood vessels, tissues and organ systems throughout the body.

The science has uncovered that as control of diabetes decreases, levels of inflammatory proteins in gum tissues increase. What this means is that poorly controlled diabetics have more harmful proteins (called inflammatory cytokines) in their gum tissues which can cause destructive inflammation of the periodontal gum and bone tissues. Additionally, beneficial proteins (such as growth factors) have been found to be at reduced levels in diabetics. This obviously interferes with the body's natural healing response to infection, of which gum disease is a classic example.

These findings strongly suggest that poorly controlled diabetics experience a dysregulation that can contribute to periodontal breakdown and diminished tissue repair capacity. As a consequence, diabetics respond differently to the oral bacterial microfilm that naturally accumulates at the gum line around teeth, compared to non-diabetics.

Effective control of diabetes increases and improves the health of the gum tissues, and improved health of oral tissues improves the ability to control blood sugars and increasing diabetic control. The good news is that when chronic oral infections are treated and when people have good oral health, the management of diabetes markedly improves. This information should give diabetics and their care-takers another reason to smile, because healthy gums aid in the overall control of diabetes, and vice-versa.

Dental and Periodontal Treatment for Diabetics

Effective treatment for periodontal disease requires the control of oral bacteria. While tooth brushing is a good start, much more is required of diabetics. If tooth brushing were enough to control bacterial levels 80% of the adult population would not be suffering from gingivitis and/or periodontal inflammation. Clearly something more needs to happen to deal with oral bacteria.

Modern oral hygiene measures and professional therapies must include effective mechanical debridement (i.e. tooth brushing, flossing, water pick, etc) as well as the use of chemical antimicrobial solutions to combat the continual growth of the bacteria present in the mouth. Antimicrobials in mouth rinses, toothpastes, and gels can help to decrease bacterial biofilm and aid in the control of gingivitis and gum disease. Lasers have recently begun to be

used to decontaminate periodontal pockets and to help induce healing and improved health in pathogenic gum pockets.

Nutritional strategies must be employed to supplement the diet with important vitamins and minerals which play important roles in the metabolic pathways that support health. It is suspected and believed that too often in-born errors of metabolism affect wound healing capability, tissue repair, and immune system functioning. When these genetic polymorphisms exist, it is important to provide the necessary nutritional and medicinal “work-arounds” solutions so that metabolic pathways can proceed normally and health can be regained and/or maintained.

Cross-professional support is highly recommended, as dentists and physicians must be communicating with each other in support of their mutual patient’s health. This requires a sufficient amount of understanding on the part of the dentist with regards to diabetes and its clinical management, as well as a willingness on the part of the physician to understand the periodontal implications of diabetes. Often the dentist is the key player in helping the physician to come to these understandings.

Treatment for Diabetes

At present, diabetes is considered a life-long disease, a life-long condition. It affects eating habits, daily schedules, medication usage, physical activity, relationships, and health status. The negative health consequences of diabetes are serious and the key to preventing consequences is to achieve control of blood sugars, diet, infections, and physical activity.

Treatment for diabetes generally is aimed at improving the ability to remove glucose from the blood stream and normalize its levels. This happens on several fronts, including:

- Decreasing insulin resistance
- Slowing down digestion and assimilation of carbohydrates in the gut
- Slowing down the release of stored glucose from the liver
- Increasing the quantity of insulin in the body, as necessary
- Controlling all sites of infection/inflammation

Treatment for (type 2) diabetes ranges from dietary control and lifestyle changes, to oral medication, to insulin injections. Type 1 diabetics always receive exogenous insulin, along with other medications and lifestyle recommendations specific to their condition.