

Diabetes, gum health closely linked

By Dr. Eric Gustavsen, Published in the Walla Walla Union Bulletin 11/25/11

Question: What disease is the leading cause of blindness, kidney failure, amputations, and 68% of people with this condition will die of heart disease? If you guessed diabetes you are correct. November is National Diabetes month but what connection does diabetes have to oral health and why would a dentist be writing about it?

In the early 1980's a researcher from Buffalo Periodontal Disease Research Center noticed a curious coincidence while studying the Gila River Community of Pima Indians in central Arizona. A 32 year old obese but otherwise healthy woman with a family history of diabetes had, in the span of under three years, gone from healthy gums, teeth and supporting jaw bone to requiring all her teeth removed because of rapidly progressing gum disease. She had

also developed type 2 diabetes in that same time frame. Researcher Dr. Robert Genco believed that the two were connected, but was unsure how. In the following years the relationship between diabetes and gum disease has been teased out and at present we now know there is a three way connection between diabetes, obesity, and gum (periodontal) disease.

We can blame at least part of these problems on pesky fat cells. In addition to settling where we don't want them to, we now know they take on a further unattractive role. Oozing

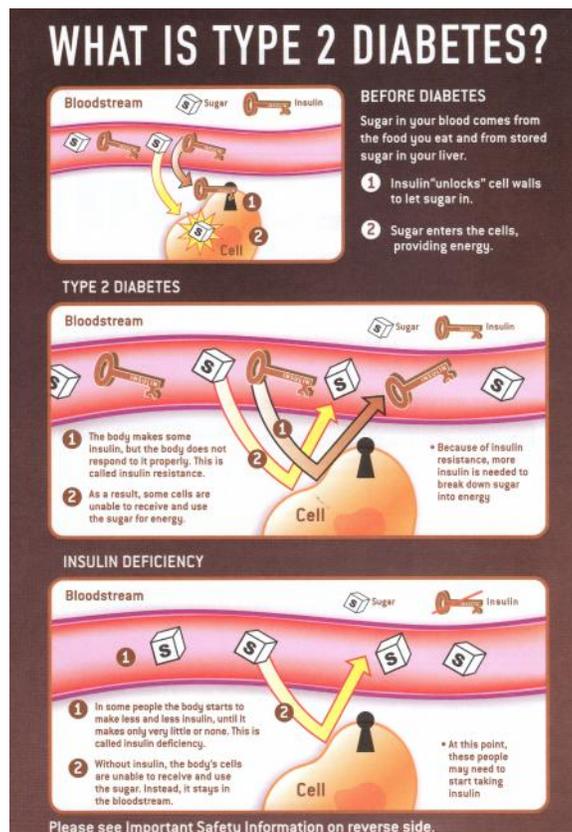
dangerous hormone like proteins with noxious names such as Tumor Necrosis Factor alpha and Interluken 6, these fat cell excretions can take over control of the bodies inflammatory process. TNF alpha creates body wide inflammation, causing changes in the cell walls of blood vessels, which leads to heart disease. It also causes insulin resistance by making

the cell unable to transport sugar from the blood stream to the inside of the cell where it is used as fuel. (See accompanying illustration of insulin resistance and insulin deficiency compliments of Sanofi Aventis Corporation.) Because of their genetic heritage, some people are much more likely to develop type 2 diabetes since their bodies are programmed to store up fat for lean times. This is known among

researchers as the "thrifty gene."

As if increased risk of heart attack, stroke, going blind, and loss of sensation in fingers and toes weren't enough, people with type 2 diabetes have twice the risk of losing their teeth as compared to the general population. Interestingly, researchers have discovered that infected gums also produce harmful hormones including Tumor Necrosis Factor alpha that destroy supporting gum and bone and cause insulin resistance as well.

So how does type 2 diabetes overlap with the health of your gums?



People tend to visit the dentist more frequently than their medical doctor. If a person's hygienist or dentist notices that their gums bleed excessively during routine periodontal (gum) evaluation they will advise them to be tested for diabetes with their medical doctor as soon as possible. This may be the first indication a patient has that they are developing a problem. After all, about a third of the people in the United States who have type 2 diabetes are unaware of their condition and the earlier a diagnosis is made, the better their chances of avoiding its serious complications.

If you have diabetes you know that controlling your blood sugar is very important. You also know that if you develop an infection it takes longer to heal. If you are diabetic and have gum (periodontal) disease then you have a low-grade infection that your body is trying to fight. This makes it harder for you to control your blood sugar. Bottom line is that keeping your gums healthy can help to keep your overall health and

blood sugar levels more stable. Maintaining a healthy weight, exercising 30 minutes a day and eating healthfully help to balance blood sugar. Of course eating a healthy diet is far easier when a person has their own teeth, as it can be difficult to properly chew nutritious whole foods with dentures. Keeping the gums healthy by brushing and flossing daily and having the teeth cleaned at least every six months eliminates one factor that contributes to blood sugar control problems. And of all the necessary ways to cut diabetes risk such as diet, exercise and choosing your parents wisely, practicing good oral hygiene is the easiest thing to do!

So is there any good news for those who already have diabetes? As a matter of fact if you keep your teeth and gums in good condition you will have fewer cavities than the average individual. Why? Because the low carbohydrate diet you follow to control your blood sugar won't support the miserable lives of cavity causing bacteria.