



# **Oral and General Health - Exploring the Connection**

*Research Review September 2009*

**Associations between Periodontal Disease and Diabetes Mellitus**

**CONSUMER VERSION**

The research for this report was generously provided by Delta Dental Plans Association and performed by the University of Michigan by George W. Taylor, Wenche S. Borgnakke, Patricia F. Anderson and Carol Shannon. DDPA 2009.

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#### **Introduction**

Gum disease (periodontitis) and having too much sugar in the blood most of the time (diabetes) are both very common diseases. Often, you cannot feel you have gum disease.

There are two main kinds of diabetes. Type 1 most often begins in childhood. It is treated with shots of insulin every day. Type 2 diabetes often comes later in life. It can be treated by insulin, pills or tablets, exercise, and diet. More than nine of ten people with diabetes have type 2. Many people with diabetes do not know they have it.

Because more and more people get diabetes, researchers at the University of Michigan looked at scientific reports to see if there is any relationship between diabetes and gum disease. The questions the researchers wanted to answer were:

Do diabetes and gum disease make each other worse?

Does gum disease change the chance of getting diabetes?

Does gum disease change the chance of getting other health problems that often come with diabetes?

#### **Does diabetes change the health of the gums?**

Most studies found that more people with diabetes had gum disease. Also, their gum disease was worse than in people without diabetes. Therefore, diabetes seems to change the health of the gums. People with diabetes have more gum disease.

#### **Does the amount of long-term sugar in the blood change the health of the gums?**

People with poorly controlled diabetes have too much sugar in the blood most of the time. Most studies found that people who controlled their disease had less gum disease than those who did not.

#### **Does having healthy gums change diabetes?**

#### **If gum disease is treated, does this change the amount of long-term sugar in the blood?**

Most studies found that the amount of long-term blood sugar was lower after gum treatment. This means that treating gum disease seems to help diabetes become better controlled.

## **Can gum disease make people get diabetes?**

A large study showed that people with gum disease have a much greater chance—up to two times greater— of getting type 2 diabetes than people with healthy gums.

## **Other health matters**

Some women get diabetes while they are pregnant. This disease can change the health of their gums, so the women get gum disease. If they already have gum disease, it can get worse. Pregnant women who have gum disease may have a greater chance of getting pregnancy diabetes.

Many people with diabetes get other health problems because of their disease. Heart attack and stroke, kidney disease, and blindness are examples. Gum disease can make heart disease and kidney disease worse in people with diabetes.

## **Summary and Conclusions**

Diabetes makes gum disease worse. People with diabetes get gum disease more easily. Their gum disease also gets worse faster than it does in healthy people. Gum disease may also be one of the reasons people get type 2 diabetes or pregnancy diabetes.

It is very important to treat gum disease to have a healthy mouth. It is also helpful for people with diabetes to lower the amount of long-term sugar in their blood. Keeping blood sugar lower means they control their disease better. If the gums are healthy some people might not get diabetes at all, or not get it so soon. A healthy mouth could even help people with diabetes to not get the very serious health problems that often come with diabetes.

Many people have both gum disease and diabetes and do not know it. So it is very important for everybody to get dental checkups. Dental care teams, who find and treat gum disease, have important roles to play in people's health. They help keep or make people with diabetes healthier. Healthier people have a better quality of life.