Diabetes puts teeth and **gums more at risk**

Recent evidence suggests that good dental health may help people with diabetes to manage glycaemic control, write periodontists **Dr Rachel Doody** and **Dr Barry Dace**

Probably the greatest impact of diabetes on dental health is that it can leave people more prone to gum disease (periodontal disease). Gum disease is the leading cause of tooth loss in the population, once they are aged over 30. Gum disease is a long-term, usually painless, condition where the bone around the teeth is affected by inflammatory disease. Most gum and bone destruction and ultimately tooth loss, are caused by the immune system poorly regulating our inflammatory response.

The inflammatory response in those with diabetes differs from those without. The result is that those with diabetes are more at risk of losing teeth from gum disease.

Most people in the population will experience or encounter some degree of gum disease (to a greater or lesser extent) throughout life. Gum disease is caused by oral bacteria. Diabetes can make the disease worse because it changes the immune response to these bacteria.

This is especially so if someone has not yet been diagnosed or treated for their diabetes.

The effects of gum disease

Gum disease may just affect your teeth and gums, but can also be more widespread affecting your overall general health and glycaemic control. In its earliest form (gingivitis), it causes the gums to be inflamed so that they bleed on brushing and flossing. In its more progressive and advanced form (periodontitis), it causes bone and tooth loss by destroying the tissues that support and hold your teeth in place.

Severe gum disease adversely affects blood glucose levels in people with and without diabetes. Gum disease may also be associated with an increased risk of other diabetes complications such as cardiovascular (heart disease), cerebrovascular (blood vessels supplying the brain) or peripheral vascular (obstruction of arteries outside the heart and brain) problems.

One recent study found that the overall mortality rate from cardio-renal disease (heart and kidney) in a group of people with type 2 diabetes was three and a half times higher in people with severe gum disease. However, there is some evidence that if someone with diabetes has their gum disease treated, there may be an improvement in their longer term blood sugar control (measured by the A1c).

How do I know if I have gum disease?

Like diabetes, you may not notice any

symptoms of gum disease. It is usually silent and progressive. You may have gum disease if you have ever noticed:

- Red, bleeding or swollen gums
- Pus from the gums
- Foul taste or persistent bad breath
- Longer looking teeth or your gums receding
- Loose teeth
- Increasing spaces between your teeth
- Tartar on your teeth.

Most of these signs and symptoms come to light when the disease is well under way. For example, for a tooth to become loose, it needs to have lost more than half of its surrounding support. Therefore the best way of finding out if you have any gum problems is to be screened by a dental professional.

They can often pick it up at a much earlier stage by carefully and gently probing around the gums to measure the separation between the tooth and the gum ('pocketing'). This is also checked against dental X-rays that record the bone levels around the teeth.

How is gum disease treated?

The good news is that gum disease is very treatable in most cases. The earlier it's picked up, the better the outcome of treatment. Treatment involves removing tartar and bacterial deposits from the teeth (above and below the gum line). The effect of this is to reduce gum inflammation, stop gum disease progressing and prevent tooth loss.

Reassuringly, evidence suggests that in people with well-controlled blood sugars, the response to gum treatment appears to be very similar to that of people without diabetes.

Special precautions with diabetes

What special precautions do people with diabetes need to take for their teeth and gums?

People newly diagnosed with type 1 or type 2 diabetes should get a thorough oral examination. This should include a detailed assessment of your gums and teeth (including X-rays). A periodontal (gum) examination is essential to investigate for the presence of gum disease. If no gum disease is diagnosed initially, an annual review of this is recommended.

Similarly, a dental check-up for decay or other dental issues is recommended at 6-12 month intervals (depending on your previous dental history). If gum disease is diagnosed you should get it treated promptly. If you have lost multiple teeth, you should consider replacing them so you can eat properly and have a healthy diet.

Oral conditions such as dry mouth, burning mouth and oral fungal infections may occur more commonly in those with diabetes. If they do occur, you should seek the advice from your dental professional about how to manage the particular problem. In general, early treatment is usually best.

How do I look after my teeth and gums?

Tooth decay is caused by the combination of bacteria and frequently ingested carbohydrate. Saliva is an important natural protection against tooth decay. A dry mouth (a common problem for those with diabetes) means less protection for teeth against acid attack, which can predispose someone to tooth decay. A regular dental checkup should help to pick up any decay at an early stage, and you should have any cavities treated with fillings and other dental restorations as needed.

Prevention is better than cure

As always though, prevention is better than cure, so there are some steps that those with diabetes can put in place to make sure that you avoid decay.

Brush twice daily for at least two minutes a day with a fluoride toothpaste. Fluoride will often be listed on the ingredients as sodium monofluorophosphate or sodium fluoride, or something similar – ask your pharmacist if you are in doubt, Some pastes (often in herbal stores) do not contain fluoride, and they provide little protection from decay. They are not recommended.

Floss between all your teeth once a day (if you don't feel comfortable wrapping the floss around your fingers, then some companies make a little stick with a piece of floss attached – they are very useful).

Many carbonated drinks contain very high levels of sugar. Try not to sip frequently on these drinks, as the frequency of intake is the key factor in the development of decay.

Acidic drinks such as carbonated soft drinks, energy drinks, and water mixed with lemon juice, erode the enamel surface of the tooth, which can lead to tooth decay and loss of the enamel (dental erosion).

If you need to take glucose or drink a sugar containing drink to treat a hypo (episode of low blood sugar), rinse your mouth with plain water or chew some sugar free gum afterwards to prevent the sugary acid sitting on your teeth.

You do not need to brush your teeth each time you treat a hypo with glucose. Saliva is a very effective neutraliser, so that's why sugar-free gum helps to neutralise the acid attacks after sugar snacking.

What should I tell my dentist?

You should let your dentist know:

- That you have diabetes
- If you have noticed any bleeding when brushing
- New spacing of your teeth
- Looseness or movement of your teeth.

It would also be helpful to let them know if you tend to suffer from a lot of hypos and need to take multiple glucose doses during the day, so that they can take this into consideration when screening during check-ups.

Regular checks

Having your teeth and gums checked regularly tends to be the best form of defence when it comes to making sure you don't run into problems. But don't forget – if you do have problems, they are usually very easily managed. In general, the earlier they are diagnosed and treated, the better.

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