



Diabetes Research &  
Wellness Foundation



# Periodontal disease and **DIABETES**

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# What is periodontal disease?

Periodontal disease is the scientific name used to describe gum disease. There are two common forms of periodontal disease. The first is called gingivitis, which is mild inflammation of the gums. The other, more serious, form of gum disease is called periodontitis, in which there is more advanced inflammation of the gums, and the bone that holds the teeth in place begins to be gradually destroyed. If you have diabetes you are more likely to have periodontal disease. There is increasing evidence that serious gum disease can also make it harder for you to control your diabetes. Reassuringly, treatment of the gum disease can improve this problem.

## Recognising the symptoms

The most certain way to find out if you have periodontal disease is to visit a dentist. Healthy gums are pink and firm, are tightly attached to the teeth, and don't usually bleed when you brush your teeth (**Figure 1**). Gingivitis develops when the teeth are not brushed effectively. Plaque builds up on the teeth, next to the gum, and the bacteria in plaque cause the gums to become inflamed. As a result, the gums look inflamed and swollen (**Figure 2**), and may bleed when you brush your teeth. Gingivitis is totally reversible, and with good oral hygiene the gums can return to normal.

Periodontitis, the more serious form of gum disease, results from prolonged (over several years) inflammation of the gums as a result of long-term plaque build up.

The gum inflammation becomes more and more advanced (**Figure 3**), and the gums start to detach from the tooth. This creates a space between the gum and the tooth called a 'pocket' which is measured by the dentist with a probe. As the pocket gets deeper, the jaw bone holding the teeth in place is gradually destroyed.



**Figure 1** Healthy gums are pink and firmly attached to the tooth.



**Figure 2** Gingivitis: inflamed gums that look red and swollen (particularly the part of gum next to the tooth), and may bleed on brushing.

This process is typically painless, and it progresses very slowly. After many years, so much bone may have been destroyed that the tooth starts to become mobile or loose and gums begin to recede, making the teeth look longer than they used to. This may be the first indication to some patients (who don't regularly visit the dentist) that there is a problem.

## How is periodontal disease linked with diabetes?

In the general population, around 10% of all adults suffer from advanced periodontitis. The risk of developing periodontitis is approximately three times higher in people with diabetes, particularly if their diabetes is poorly controlled.

We still do not know the precise reasons why people with diabetes are more likely to suffer from periodontal disease, and this is an ongoing area of research. There are probably several factors which are important, including:

- The immune system may not function properly in people with diabetes, thereby increasing the risk of periodontal disease.
- Excess lipid tissue (body fat) in obese people with diabetes may produce chemicals which make the gums more likely to become inflamed.
- Damage to capillaries (the small delicate blood vessels) in the gums may reduce the blood supply to the gums, thereby limiting the actions of defence cells.
- Wound healing is impaired in diabetes, and therefore, healing in the gums is also reduced.

The key thing to remember is that glycaemic control (of blood sugar levels) seems to be very important in determining how likely someone may be to develop periodontal disease. Previous research has suggested that people with diabetes with good glycaemic control did not have any greater risk of periodontal disease than people without diabetes. In the other direction, gum disease might affect your diabetes by increasing inflammation in your body and reducing how well your own insulin works.



**Figure 3** *Periodontitis: the gums are very inflamed, red and swollen. There is bleeding from the gums, and the gums around the lower teeth are receding.*



**Figure 4** *Using a single tufted toothbrush to clean an awkward area with slightly overlapping teeth. The brush is cleaning the point where the gum meets the tooth.*

## Diagnosis and treatment

If the dentist suspects that you may have periodontal disease, x-rays of your teeth may be taken to check the health of the bone that holds the teeth in place. As with most diseases, prevention is better than a cure. Periodontal disease can generally be prevented by maintaining good oral hygiene (i.e. cleaning your teeth effectively).

Brush your teeth twice per day, for approximately 2-3 minutes each time (which is longer than you think when brushing your teeth!). Be sure to brush every surface of the teeth, and particularly the point where the gum meets the tooth (**Figure 4**).

A powered brush for most people is as effective as a manual toothbrush. They can also be useful if you have restricted movement. Clean between your teeth before toothbrushing. Use the correct size of interdental brush (bottle brushes) if you have enough space, or dental floss if not, and ask your dental professional to help you with the right technique and type of brush.

If you have problems with gum disease, you might benefit from using an antibacterial mouthrinse. Your dentist will be able to advise you on which is best for you, and be sure that it contains fluoride as this will help to protect against tooth decay.

## Summing up

It is very important for all people with diabetes to visit a dentist regularly, so that any gum problems can be detected and treated before they become too severe. Your dentist may also clean your teeth for you on a regular basis, or may ask you to see a dental hygienist for cleaning.

People with diabetes are more prone to gum disease, especially if their diabetes is poorly controlled. Good oral hygiene and regular dental check-ups are particularly important for people with diabetes.

## Top tips to avoid periodontal disease

- As someone with diabetes you may be more likely to develop gum problems. See your dentist regularly.
- By keeping good control of your diabetes, and having good blood sugar control, you can reduce the likelihood of gum disease.
- Brush your teeth regularly, being careful to brush every part of the tooth. If this makes the gum bleed, it may be a sign of gum inflammation. If you are concerned about bleeding gums, visit a dentist.
- Even if you no longer have your own teeth, you should still see a dentist periodically to check the health of your mouth.
- If you have had periodontal disease in the past, it is especially important to continue to see the dentist to make sure the disease does not return.
- Don't smoke. Smoking makes gum disease worse.

## More information

For more information on dental health please visit the NHS Choices website at:  
**[www.nhs.uk/livewell/dentalhealth](http://www.nhs.uk/livewell/dentalhealth)**

Oral Health Foundation:  
**[www.dentalhealth.org](http://www.dentalhealth.org)**

More information on gum health awareness for people with diabetes is available at the British Society of Periodontology website at:  
**[www.bsperio.org.uk](http://www.bsperio.org.uk)**





# Diabetes Research & Wellness Foundation

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## *Staying well until a cure is found...*

The Diabetes Research & Wellness Foundation works towards educating, informing and reminding you of the best and healthiest choices to make. Contact us to join the Diabetes Wellness Network and request the full series of diabetes information leaflets.



Source references can be provided on request.  
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