Perio & Diabetes

Recommendations for the oral-healthcare team

EFP
European Federation of Periodontology

The EFP thanks Sunstar for its support and its unrestricted grant.

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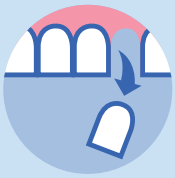
Periodontitis & diabetes mellitus **at a glance**

Diabetes and periodontitis are **chronic non-communicable diseases**, whose prevalence increases with age.

There is a **bidirectional (two-way) relationship** between periodontitis and diabetes.



If untreated, periodontitis causes **tooth loss**.

Periodontitis **is easily diagnosed** and **clinically controlled**. With regular high-quality supportive treatment, clinical results can be maintained.

People with sub-optimally controlled diabetes (both type 1 and 2) suffer from increased periodontal **inflammation/destruction/ breakdown**.

People with periodontitis **have an elevated risk** of pre-diabetes or developing type 2 diabetes.

People with both diabetes and periodontitis have a **greater likelihood of more severe medical complications** (affecting eyes and kidneys) **and even death** than people with diabetes alone.

Periodontal treatment in people with diabetes **results in a significant reduction in glycated haemoglobin (HbA1c) levels** three months after periodontal therapy, with emerging evidence available also for six months.

Early diagnosis, prevention, and co-management (dentists and physicians) of both diabetes and periodontitis is of utmost importance.

Successful periodontal treatment has a **clinically significant effect on general health** and should have a place in the treatment of people with diabetes.

Recommendations for the oral-healthcare team

Periodontal diseases and diabetes are both chronic diseases that become more common as people get older. About 80% of people aged over 35 suffer from some kind of gum problem and about 7% of the population suffers from diabetes, although in many cases this goes undiagnosed.

There are strong associations between the two diseases. Indeed, there is a two-way (bidirectional) relationship between periodontal disease and diabetes. This means that people with periodontitis have a higher risk of diabetes and patients with diabetes are three times more likely to develop periodontal disease.

On top of that, controlling diabetes is more complicated when a patient also has periodontitis, and people who have both diabetes and periodontitis are at greater risk of suffering some severe medical complications – including cardiovascular disease, chronic kidney disease, and retinopathy – than people who have diabetes alone.

Periodontitis is a chronic non-communicable disease (NCD) that shares social determinants and risk factors with the other major NCDs such as diabetes, hypertension, heart disease, and cancer.

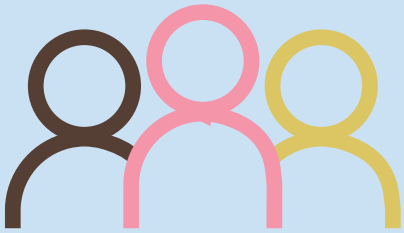
Dentists and other oral-healthcare professionals are encouraged to compile a careful history from their patients who have diabetes, ask them how well controlled their diabetes is and when their blood-glucose levels were last checked, and request a copy of their most recent HbA1c results.

A thorough oral examination should be carried out, comprising periodontal evaluation, full-mouth pocket chart, and bleeding scores. Oral-health education should be provided, together with individualised advice on risk factors and a tailored oral regime.

Diabetes patients without periodontitis should be placed on a preventive care regime and monitored regularly, while those with periodontal infections should be treated and periodontal therapy provided.

Dental patients without diabetes but with risk factors for type 2 diabetes should be informed of their risk and referred to a physician for risk assessment and screening.

Periodontitis and **diabetes mellitus** are **both widespread conditions** among the **world's population**



Diabetes mellitus

Approx. 415 million people

Prevalence:
constantly **rising**

Periodontitis

Western countries, more than 50% of the population

750

Prevalence:
750 million people around the world with **severe forms**

Diabetes general facts

- Diabetes is now a global epidemic.
- In 2017, diabetes caused an estimated 4 million deaths worldwide.
- There are an estimated 212 million people with undiagnosed diabetes.

Periodontitis general facts

- Periodontal diseases, i.e. gingivitis and periodontitis, are the most prevalent inflammatory diseases of mankind.
- If untreated, periodontitis causes tooth loss.
- If left untreated, people with periodontitis have poorer nutrition, speech, and self-confidence and a lower quality of life.
- Periodontitis is associated with a higher level of atherosclerosis, endothelial dysfunction, and higher levels of systemic inflammation.
- Periodontitis is easily diagnosed and clinically controlled; with regular high-quality supportive treatment, clinical results can be maintained.

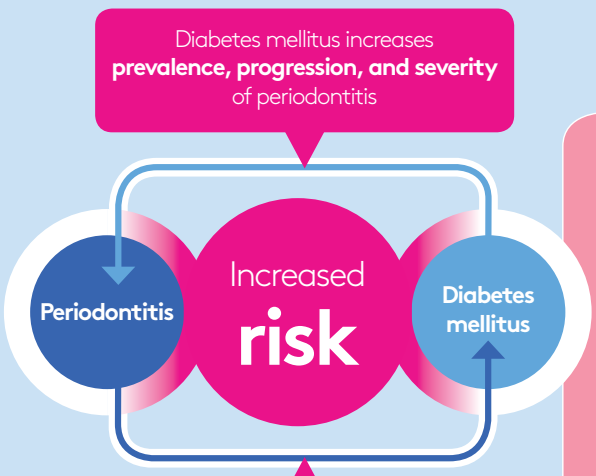
Gum disease requires lifelong attention and professional care.

Inform your patients!

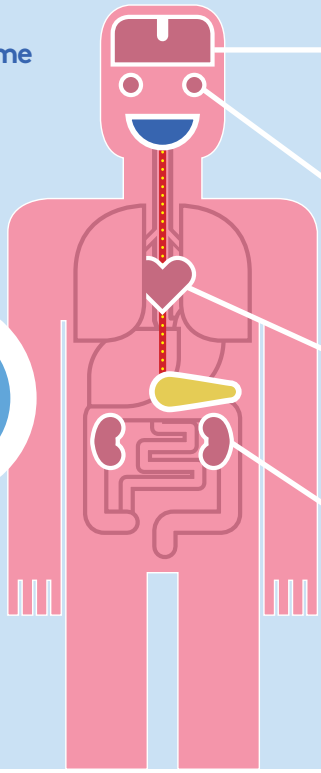
Periodontitis and diabetes mellitus, a **two-way relationship**

What happens when you have **periodontitis** and **diabetes at the same time**

Diabetes mellitus increases **prevalence, progression, and severity** of periodontitis



Periodontitis **influences blood-sugar control** in diabetes mellitus



Complications of diabetes

Stroke
Higher rate of cerebrovascular complications.

Retinopathy
Increased risk for larger retinal venular diameter and general diabetes-associated retinopathy.

Cardiovascular complications
Increased risk for coronary heart disease and dying from a heart attack (22% in 10 years.).

Kidney failure and **macroalbuminuria**
Increased all-cause mortality risk (41% in 10 years).

Evidence of associations between both diseases

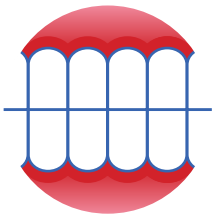
Impact of diabetes on periodontitis

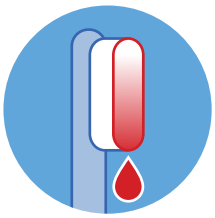
- Hyperglycaemia is associated with an increased risk and severity of periodontitis.
- There is a dose-dependent relationship between glycaemia and periodontal destruction.
- Patients with diabetes are three times more likely to develop gum disease.
- The control of diabetes is more complicated when periodontitis is also present in a patient (co-morbidity).
- People with diabetes who have good glycaemic control experience no more periodontitis than people without diabetes.

Impact of periodontitis on diabetes

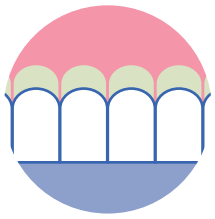
- Healthy patients with periodontitis exhibit a higher chance of developing pre-diabetes and diabetes.
- People with severe periodontitis have an increased risk of developing type 2 diabetes.
- Periodontitis is significantly associated with poorer glycaemic control (HbA1C) and higher blood-glucose levels (glycaemia) both in people with diabetes and in those without the disease.
- There are higher levels of insulin resistance in people with periodontitis.
- People with periodontitis and type 1 or 2 diabetes, when compared to patients with just diabetes, have higher:
  - ocular complications (retinopathy);
  - renal complications (chronic kidney disease);
  - cardiovascular complications (heart disease, cerebrovascular events);
  - risk of mortality.

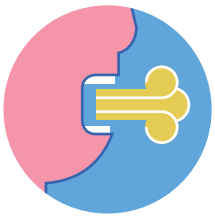
Signs and symptoms of periodontitis

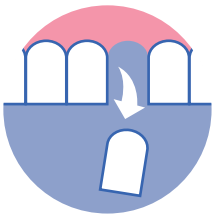

Red or swollen gums


Bleeding from the gums or blood in the sink after you brush your teeth

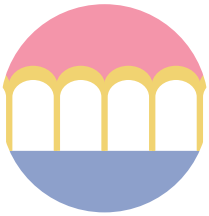

Bad taste

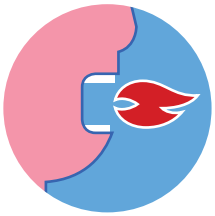

Longer-looking teeth

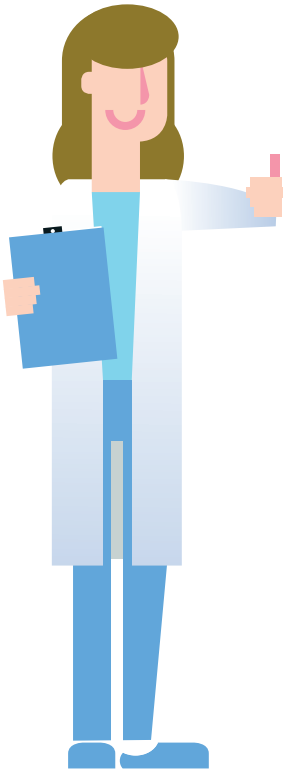

Bad breath (halitosis)


Loose teeth


Increasing spaces between your teeth


Calculus (tartar) on your teeth


Dry and/or burning mouth



Key messages for the oral-healthcare team

- ✔ Patients with diabetes may have difficulties controlling their blood-glucose levels and have a higher risk of complications.
- ✔ Oral-health education should be provided.
- ✔ Give personalised advice to your patients who suffer from diabetes.
- ✔ Individualised advice on risk factors and a tailored oral regime should be provided.
- ✔ Annual oral screening for children and adolescents.
- ✔ People without diabetes but with risk factors for type 2 diabetes should be informed of their risk and referred to a physician.
- ✔ Risks should be assessed through a questionnaire and screening carried out based upon the recommendations of the American Diabetes Association and the European Federation of Periodontology.
- ✔ Patients with either diabetes or periodontitis need lifelong professional oral care.

What you should do:

- People with diabetes should be advised that they have an increased risk of gingivitis and periodontitis.
- Collect a careful history of the patient to highlight the type of diabetes and duration of disease (presence of any complication/diabetes therapy/ concomitant therapies/other medications, etc.).
- Ask your patient how well controlled their diabetes is and when they last had blood-glucose levels checked.
- Request a copy of their most recent results (HbA1c).
- A thorough oral examination should be provided (periodontal evaluation/ full-mouth pocket chart/bleeding scores).
- If no periodontitis: patients with diabetes should be placed on a preventive care regime and monitored regularly.
- Patients with acute oral/periodontal infections require prompt care and should be managed without delay.
- Non-surgical periodontal therapy should be provided. It may help to improve glycaemic control.
- Surgical periodontal and implant therapy is not indicated in patients who do not have acceptable diabetes control.
- People with diabetes who have extensive tooth loss should seek dental rehabilitation to restore adequate mastication.
- Other periodontal complications such as dry and/or burning mouth should be evaluated.
- All patients should be given basic instructions on oral care including interdental cleaning.

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Take care of **your gums**, control **diabetes**.

visit your doctor regularly

visit your dentist regularly

control your diabetes

clean your teeth twice a day

watch your weight

eat healthy foods, do not smoke

visit:

perioand**diabetes**.efp.org