

# Diabetes and Oral Health

While everyone is at risk of tooth decay and other oral health problems, people with diabetes are particularly at high risk for these complications. More than one-quarter of Canadians are living with diabetes or prediabetes, which means they are susceptible to infections and should be especially vigilant about their oral health.

**Dental hygienists are responsible for preventing and treating oral infections that can damage teeth and gums.**

## ABOUT DIABETES

There are three main types of diabetes.

**Type 1 diabetes**, usually diagnosed in children and adolescents, occurs when the pancreas is unable to produce insulin. Insulin is a hormone that controls the amount of glucose (sugar) in the blood. Approximately 10 per cent of people with diabetes have type 1 diabetes.

The remaining 90 per cent have **type 2 diabetes**, which occurs when the pancreas does not produce enough insulin or when the body does not effectively use the insulin that is produced. Type 2 diabetes usually develops in adulthood, although increasing numbers of children are being diagnosed.

A third type of diabetes, **gestational diabetes**, is a temporary condition that occurs during pregnancy. It affects approximately 2 to 4 per cent of all pregnancies (in the non-Aboriginal population) and involves an increased risk of developing diabetes for both mother and child.

**Prediabetes** refers to a condition when a person's blood sugar levels are higher than normal, but not yet high enough to be diagnosed as type 2 diabetes.

## IMPACT ON ORAL HEALTH

With increasing scientific evidence, the connection between oral infections and other diseases in the body is becoming widely understood and accepted. Bacteria from gum infections can enter the blood stream or airways and travel to other parts of the body. These bacteria have the potential to worsen or increase the risk for other types of health problems.

People with diabetes are prone to a variety of infections, including gum disease. Oral infections can make it difficult to control diabetes and cause complications, since the bacteria from severe gum disease may increase both blood sugar levels and the length of time the body struggles with high blood sugar.



## RISK FACTORS

Managing blood sugar level is key for those with diabetes. The higher the blood sugar level, the higher the risk of:

**Tooth decay.** The mouth naturally contains many types of bacteria. The white, sticky substance that forms on teeth, especially around the gum line, is known as plaque bacteria. Starches and sugars in food and beverages interact with these bacteria, forming acids that can attack the teeth and lead to cavities. The higher the blood sugar level, the greater the supply of sugars – and the more acid to decay the teeth.

**Gum disease.** This is a chronic bacterial infection that affects the gum tissue and bone that supports the teeth. Over time, the buildup of plaque bacteria, which collects at the gum line, eventually hardens into calcium deposits called calculus or tartar. Brushing and flossing cannot remove hardened plaque. If the tartar isn't removed with professional scaling by a dental hygienist, the bacteria can cause inflammation of the gums (gingivitis), penetrate the gum line and finally spread into the underlying bone.

If left untreated, gum disease can result in abscesses or the complete destruction of the tooth's supporting tissues and, ultimately, tooth loss.

Gum disease tends to be more severe among people who have diabetes because the disease lowers the ability to fight infection and slows healing. An infection causes blood sugar

level to rise, which makes diabetes more difficult to control. Preventing and treating gum disease can help improve blood sugar control.

**Fungal infections.** A yeast infection can often appear as lesions on the skin, mouth and throat. Oral fungal infections are treated with special mouthwashes and antifungal medication and by controlling blood sugar levels.

**Dry mouth.** Uncontrolled diabetes can decrease the saliva flow and cause dry mouth, which can increase the risk of tooth decay and gum disease. It can also affect chewing, speaking, swallowing and the ability to taste. To help relieve dry mouth, sip water throughout the day, chew sugarless gum or suck on sugarless mints, or use a mouth moisturizer available over the counter.

## PREVENTION AND CARE

To help prevent infections and complications that can damage teeth and gums, people with diabetes must take their condition and oral care seriously:

**Make a commitment to manage diabetes.** Monitor blood sugar levels and follow physician/nurse practitioner's instructions for keeping the levels within the target range. With better control of blood sugar level and good oral hygiene, people with diabetes are less likely to develop gum disease and other oral problems.

**Schedule regular dental hygiene visits.** Dental hygienists will assess teeth and gums and review any changes in medication. To prevent low blood sugar, clients should schedule morning appointments when glucose levels are highest. It is also important for clients to eat normally and take medications as usual to prevent hypoglycemia.

**Look for early signs of gum disease.** Report any signs of gum disease – including redness, swelling and bleeding gums – to a dental hygienist. Also mention any other signs and symptoms such as dry mouth, loose teeth or mouth pain.

Don't smoke or use tobacco products. Tobacco increases the risk of serious diabetes complications, including gum disease. Dental hygienists provide advice and information on options for tobacco cessation.

### **Maintain good oral hygiene:**

- Brush twice a day for two minutes with a soft toothbrush and fluoridated toothpaste.
- Clean or floss between teeth once a day to remove food and plaque.
- Clean or scrape the tongue daily.
- Avoid mouth rinses with alcohol, as they tend to make dry mouth worse.
- Remove and clean dentures daily.



### **Dental hygienists will:**

- Update the client's medical history and any changes in medication.
- Devise a treatment plan and develop a customized home-care program.
- Give advice on the various types of oral care products and how to use them.
- Instruct clients on the most effective way to brush and floss.
- Provide information and counselling on tobacco cessation and dietary measures to support diabetic management.
- Refer clients to a physician/nurse practitioner if diabetes is suspected but not diagnosed.

*As professional health-care providers, dental hygienists are primarily concerned with promoting good oral health. Dental hygiene is among the largest of the regulated health-care professions in the province. In Ontario all dental hygienists are registered with the College of Dental Hygienists of Ontario, which regulates the profession to ensure the public receives safe and ongoing comprehensive oral care.*

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