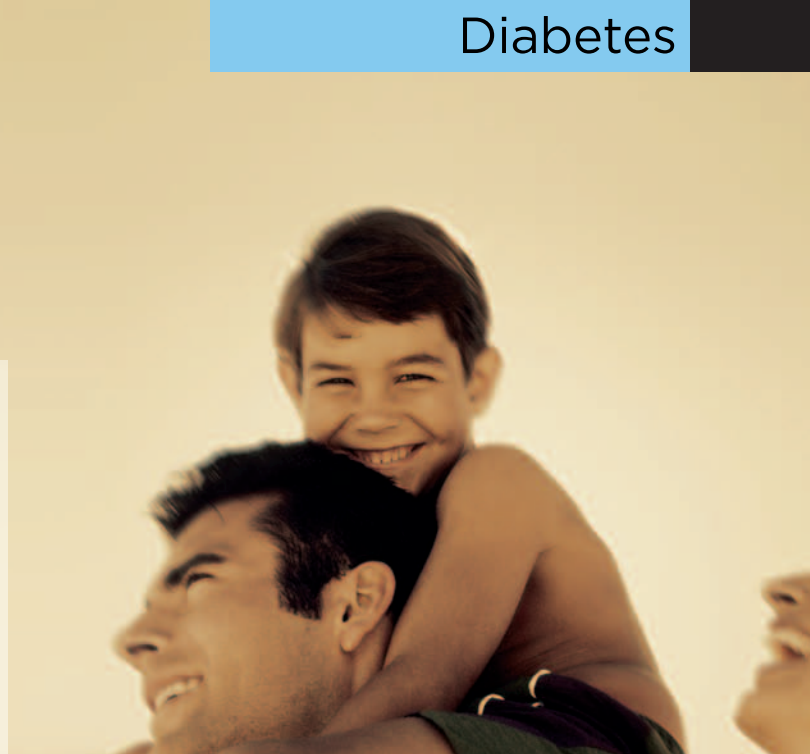


Taking care of diabetes

1 out of every 10 Canadian adults has diabetes

This proportion is on the rise and diabetes is being diagnosed in ever-younger individuals. Almost a third of diabetics are not aware of their condition and find out a few years after the onset of the disease. Unfortunately, diabetes does not wait for your diagnosis to start causing damage.

Fortunately, diabetes is a disease over which we have some control. By taking charge of treatment, complications can be avoided or delayed. When you are diagnosed with diabetes, your life is not over. It has simply taken a different turn.



What is diabetes?

Diabetes is a disease where blood sugar (glucose) levels are higher than normal. The problem is related to insulin.

Produced by the pancreas, insulin allows the glucose present in the blood to penetrate the cells in our body. The glucose is then used as a source of energy. When the pancreas no longer produces enough insulin or insulin does not work effectively, glucose accumulates in the blood.

There are two types of diabetes:

Type 1

Generally diagnosed before the age of 40, often during childhood, it touches about 10% of diabetics. In this type of diabetes, the pancreas no longer produces any insulin. Injections of insulin are therefore essential.

Type 2

By far **the most frequent type**, representing some 90% of diabetics, Type 2 diabetes appears as a result of one of the two following problems: the pancreas does not produce enough insulin or the cells have developed a resistance to insulin, which is often the case in overweight individuals. Heredity also plays an important role.

Type 2 diabetes is treated in different ways, through **lifestyle changes**, with or without oral medication or insulin injections.

Who is at risk?

While the causes of Type 1 diabetes are still unknown, individuals who have Type 2 diabetes generally present at least one of the following characteristics:

- over 40 years old
- diabetes in the family
- excess weight, especially at the waistline
- physically inactive
- personal history of gestational diabetes
- belong to an ethnic group with native, Hispanic, African or Asian ancestry



Controlling your diabetes

4 WINNING STRATEGIES

By adopting the “4 winning strategies”, you can better control your diabetes and avoid or reduce medication. Ideally, it is best to take care of your health before diabetes sets in, but it is never too late to start.

Why worry?

The complications related to diabetes don't happen overnight. They are often the result of a condition poorly controlled over several years. Over the long term, excess glucose in the blood harms blood vessels and impedes circulation. That's when the complications related to diabetes occur, affecting several parts of the body:

- **visual problems leading to blindness in some cases;**
- **poor kidney function that can lead to dialysis (artificial kidney) or a transplant;**
- **more frequent infections (infections of the bladder, vaginal and skin infections, influenza, etc.) and slower healing;**
- **numbness, tingling, pain and loss of feeling in the hands and feet;**
- **possibility of erectile dysfunction.**

Diabetes and your heart



The risks for cardiac disease and stroke are two to four times greater for diabetics. For these reasons, physicians are very concerned about the health of the diabetic's heart.

The good news is that when you take care of your diabetes, you're also taking care of your heart and health in general. The goal is not to change everything at once, but to go gradually. It doesn't matter where you begin; even a small step is a step in the right direction.

EAT HEALTHY



**BE ACTIVE 30 min.
ON MOST DAYS**

**MAINTAIN
OR REDUCE
YOUR WEIGHT**

DO NOT SMOKE

1 Eat healthy

Diet is the key to the treatment for diabetes. Contrary to popular opinion, diabetics can eat a varied and flexible diet similar to that of anyone who enjoys a healthy diet (more fibre and vitamins, less fat, etc.). A dietitian can help you recognize the foods that contain carbohydrates (like bread, pasta, fruit, sweet desserts, etc.) and how to spread them out over the day.

2 Be active 30 min. on most days

Physical activity is one of the best ways to help control diabetes because it helps lower blood glucose and control weight gain. If you have been inactive for a number of years, start slowly and increase the level of intensity gradually. Talk to your physician, especially if you intend to start an intensive program.

To take advantage of the benefits of physical activity, you don't have to work up a sweat! A brisk walk is an excellent investment. What's important is consistency: aim for at least 30 minutes on most days of the week, in one session or in blocks of 10 to 15 minutes.

3 Maintain or reduce your weight

Excess weight prevents insulin from playing its role, which leads to an increase in blood glucose levels. Weight loss, even a few pounds, helps lower blood sugar, as well as blood pressure and levels of cholesterol and triglycerides in the blood. To control your weight, it is best not to count on any miracle diet! The most efficient method is to eat healthy and be active!

4 Do not smoke

Smoking increases the risk of cardiovascular disease; so does diabetes. The double whammy of smoking and diabetes multiplies the risk. Obviously, it is not easy to quit smoking. There are however many methods and resources to help smokers kick the habit. What's important is to be really determined. Talk to your physician or your pharmacist about it. **You only lose when you stop trying!**



Self-monitoring: take **control** and don't bury your head in the sand

Testing your sugar levels

Self-monitoring means measuring your blood glucose level yourself with a blood glucose meter. This device measures the level of glucose in a tiny drop of blood drawn from the end of your finger. Your pharmacist can guide you on the purchase of the meter and explain how it works. Your physician will specify how often to test blood sugars. Mark your results in a notebook and bring it with you on your visits to the physician and dietitian. This information will help adjust your treatment for optimum effectiveness.

Target range*

Between 4 and 7 mmol/L, fasting and before meals
Between 5 and 10 mmol/L, 2 hours after meals

Reaching these blood glucose levels can be difficult for some people. The physician may determine other target values.

* These levels apply to diabetics except in the case of gestational diabetes.

Source: The 2003 Clinical Practice Guidelines of the Canadian Diabetes Association for the Prevention and Management of Diabetes in Canada.

High reading: don't panic!

A high blood glucose level is not necessarily cause for alarm, if your levels are generally normal.

Certain situations can explain an occasional jump in blood glucose levels: eating a very sweet food (like pastry, pie or fudge), eating a big meal, forgetting to take your diabetes medication, having an infection, flu, major stress or strong emotions. But when your glycemia stays above the target zone, you should see your physician.

If your body is telling you something

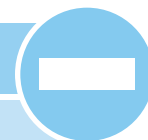
Certain physical sensations can give you clues to your blood glucose level. They can sound the alarm, letting you know you should take a blood glucose reading with your glucose meter. Some persons may have no symptoms. It is best not to rely only on physical sensations to determine if you are in a state of hyperglycemia (elevated blood glucose) or hypoglycemia (low blood glucose). The best way to find out is to test yourself with the glucose meter.

In a state of HYPERGLYCEMIA, you could feel:



- the urge to urinate frequently and profusely
- intense thirst
- drowsiness
- blurred vision

In a state of HYPOGLYCEMIA, you could feel:



- weakness
- trembling
- cold sweats
- intense hunger
- palpitations
- more severe symptoms: confusion, agitation, and loss of consciousness

Some clarifications about hypoglycemia

The people most susceptible to hypoglycemia are those who get insulin injections or take certain oral hypoglycemics.

Hypoglycemia can be caused by a variety of situations, such as an higher than required dose of diabetes medication, not eating enough, an increase in physical activity or drinking alcohol without eating.

If you believe you are in a state of hypoglycemia, first check your blood glucose level, if possible. If the reading is below 4 mmol/L, correct the situation by eating a sweet food. Among the best choices are glucose pills, soft drinks, sugar or honey.

It is true that the symptoms of hypoglycemia are very unpleasant. People who have experienced them may be tempted to keep their glycemia high to avoid having them again. However, hypoglycemia usually has no further impact on health, unlike hyperglycemia that causes damage in the long term.

To maintain blood glucose in the ideal zone, self-monitoring is the best strategy.

I'm taking control



Take care of your feet

Diabetes can make the skin on your feet drier and therefore more fragile. Add to that the loss of feeling, poor circulation and the greater risk of infection. These factors oblige you to take special care of your feet.

Get in the habit, for example, of examining your feet daily to check for small cuts. Always wear comfortable shoes that won't hurt your feet. Also, be careful of frostbite or burns. The loss of feeling means you may not know whether your feet are cold in winter, or whether your bath water is too hot.

Should you need medication...

If your physician recommends medication, whether for diabetes, cholesterol, blood pressure or anything else, it's important to take it as prescribed, even if you feel well. If you are having problems with the medication, tell your physician. And don't forget the "4 winning strategies". They can help limit the amount of medication you may need.

Follow-up with your physician

Diabetics must have follow up visits every six months at least. Blood pressure, blood and urine tests such as blood glucose, glycosylated hemoglobin (that reflects the average glycemia over the last two to three months), lipids (cholesterol and triglycerides) are all part of the routine.

You are not alone

The challenges you face are great, but you are not alone. No one can make the changes for you, but health professionals – physicians, dietitians, nurses, pharmacists, medical technologists and psychologists – are there to help. There are several centres for diabetes education and treatment in hospitals. Ask your physician.

The support of your friends and family is also very important. Diabetes associations offer the opportunity to meet and talk with other people who have diabetes and experiences similar to yours.

The original version of this document was developed by Doctors Louis Gagnon and Gilles Pineau and by dietitians Sylvie Desroches and Danièle Prévost of the ACTI-MENU Health Program as well as Raymonde Pineau, M.D., Direction de la santé publique de la Capitale-Nationale and Elise Latour, Dietitian, Montreal Heart Institute, in collaboration with: Julie St-Jean, Dietitian, Louise Tremblay, Nurse and Marc Aras, Director of Communications, Diabetes Québec; Louise Labrie, Health promotion specialist, Direction de la santé publique de Montréal; Huguette Bélanger, M.D., Direction de la santé publique de la Montérégie; Roxane Neron, M.D., Direction de la santé publique des Laurentides; François Croteau, M.D., Collège des médecins du Québec; Louise Roy, M.D., Fédération des médecins omnipraticiens du Québec, with the support of a scientific committee composed of: Renaldo Battista, Professor, Faculty of Medicine, University of Montreal; Monique D. Gélinas, Ph.D., Nutrition, University of Montreal; Jean Davignon, Internist, Clinical Research Institute of Montreal; Mireille Dubost, Dietitian, University of Montreal; Gaston Godin, Ph.D., Behavioural Sciences, Laval University; Martin Juneau, Cardiologist, Montreal Heart Institute; Réal Lacombe, M.D., Direction de la santé publique de l'Abitibi-Témiscamingue; and André Lacroix, Endocrinologist, Centre hospitalier de l'Université de Montréal.

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