WARNING

If your glucose level is elevated (≥14 mmol/L) or you are feeling unwell, please contact your primary provide for an urgent assessment.

Diabetes is a complex disease that is comprised of many types of diabetes. The two main types are Type 1 Diabetes Mellitus and Type 2 Diabetes Mellitus. If you have been diagnosed with diabetes mellitus type 2, this information applies to you. For more information on all the types of diabetes, please visit Diabetes Canada.

GENERAL INFORMATION ON DIABETES (Please scroll down to "What is it?")

MANAGING YOUR HYPOGLYCEMIA

MANAGING YOUR DIABETES MEDICATIONS ON SICK DAYS

What is it?

In Diabetes Mellitus, a sugar called glucose is present at abnormally high levels in your blood. All the cells in your body use glucose as the source of energy to power its operations. Therefore, they need to let glucose in to work normally and glucose should not stay in the blood. It enters within the cell with the help of insulin, a hormone naturally produced by your body. In other words, **Insulin** acts as the key to the door that allows glucose to get in a cell. When glucose is unable to enter your cells, it accumulates in the blood.

In **type 1 Diabetes Mellitus**, the pancreas does not make enough **insulin**.

In **type 2 Diabetes Mellitus**, your body no longer responds to insulin properly. For some people, as the disease evolves, the pancreas stops making enough insulin. These changes will lead to a rise of your blood glucose levels.

How can I know if I have diabetes?

In order to know if you have Type 2 Diabetes, you will need to consult with your health care provider to have your glycemia (or glucose blood level) tested.

Different glucose blood level tests are available. The 3 main ones are listed below along with their threshold values.

	Pre-diabetes	Diabetes Mellitus
HbA1C	6.0% to 6.4%	≥6.5%
Fasting Blood Glucose	6.1 to 6.9 mmol/L	≥7.0 mmol/L
Random Blood Glucose	Not Applicable	≥11.1 mmol/L

It is important to see Type 2 diabetes Mellitus as the end outcome along a continuum. Before we are diagnosed with Type 2 diabetes, there are changes that take place in the way our body handles carbohydrates. Pre-diabetes is the stage that precedes over-diabetes type 2 and can be measured with tests currently available. We hope that as we gain increasing knowledge, we will be able to quantify and screen for even earlier stages along the continuum of type 2 diabetes.

What are the symptoms of type 2 Diabetes Mellitus?

The accumulation of glucose in your blood is called hyperglycemia**.** When the hyperglycemia is mild to moderate, you might not experience symptoms. As the hyperglycemia continues to rise, symptoms do occur. They include but are not limited to: needing to urinate frequently, feeling very thirsty, loosing weight involuntarily, having a blurry vision.

Even when the hyperglycemia may not cause identifiable symptoms, it is still silently causing damage to your body. Glucose is not meant to stay in the blood above a level. Over time it will damage small and large blood vessels leading to: heart attacks, strokes, kidney disease and vision problems. It will also damage the nerves in your extremities causing you to feel pain or loss of sensation in the feet and even in your hands with time.

By controlling your diabetes early on, these complications can be delayed and even prevented.

What should I do?

The treatment of your diabetes rests upon 3 main elements: your diet, your physical activity and your diabetes (anti-hyperglycemia) medication.

In addition to the **specific treatment and monitoring** schedule established with your health care provider, here are additional information to help you control your blood glucose level.

Glucose levels in the blood are greatly affected by your lifestyle. To stay as healthy as possible with type 2 Diabetes, it is important to **incorporate all the tools** that help control your glucose levels.

This includes but is not limited to:

Optimizing your diet :

Your diet has a pivotal role in your diabetes control and evolution**.** The glucose circulating in your blood mostly comes from the digestion of the carbohydrates that you eat. Nevertheless, it is not recommended to eliminate all carbohydrates from your diet. When you have been diagnosed with type 2 diabetes in addition

to applying the general food guidelines, you overall need to prioritize food that have less simple carbohydrates and that are less caloric. Here are few steps to get you started:

- Avoid food with added sugar. sugar is added to food in the form of fructose (example: high fructose corn syrup). Many food might not taste “sweet” but still have added sugar. Added sugar is often used in the food industry to enhance food flavors.(1) It is essential to read the ingredients in the food label to identify these foods. Typical foods with added sugar include:
    - Sweetened beverages
    - Alcohol
    - Food that tastes sweet. If you are start by decreasing it, we recommend that you eat any sweets right after a main meal rather than isolated as a snack.
    - Restaurant and pre-made meals:
        - Limit eating out to a restaurant or pre-made meals to at most four times per week (1).
- **A dietician specialized in diabetes is key to optimizing your diet**. They are equipped to assist you in developing a specific diet that meets your needs. You can access a database of Canadian dietitians through Dietitians of Canada.
- **Is a dietician essential?** If you have seen a general dietician in the past or you feel that your diet is already well balanced or even fear that dietary recommendations will take away food that you like, contacting a dietician specialized in diabetes can transform your experience and your life. Investing time to find a dietician you feel comfortable with is essential. A dietician can be your best alie in establishing a strategy that integrates your diabetes to your lifestyle (1).
- If you already apply these tips regularly and suffer from obesity and would like to know about Lower Carbohydrates Diet, click on the link below.

Lower Carbohydrates Diets

Being active

When we work out, our muscles use the blood glucose and therefore it decreases the glycemia. Therefore, regular physical activity is an important element of your diabetes treatment. We recommend exercising 3 times through out the week.

Warning

If you develop any chest pain or new shortness of breath while exercising, please get an urgent assessment at your local Emergency Department or through your health care professional.

Optimizing your weight:

Weight control is a complex phenomenon. It is managed through diet and physical activity. It takes place in multiple stages.

1. Stabilizing your weight where your weight is no longer increasing;
2. Developing a new diet that can be maintained long term;
3. Progressive weight loss combining an improved diet, exercises.

Monitoring your glucose level from home:

To assess how well your treatment is working, a glucometer is a handy device. Please consult your local pharmacist to know which ones are available and how it works. Your health care provider can specify at which frequency you should monitor your blood glucose at home.

The general glucose level targets are as follows:

- Before meals: between 4.0-7.0
- 2 hours after the beginning of a meal: between 5.0-10.0

References

Pelletier V., Maha S., Diabète et Nutrition : les deux font la paire… Pour les patients bien dans leur assiette!, Médecin du Québec, April 2019, Vol 54, No 4, P.27-31

Marette A, Pilon G. La vérité sur le sucre. Montréal: VLB Éditeur; 2016. 159 p