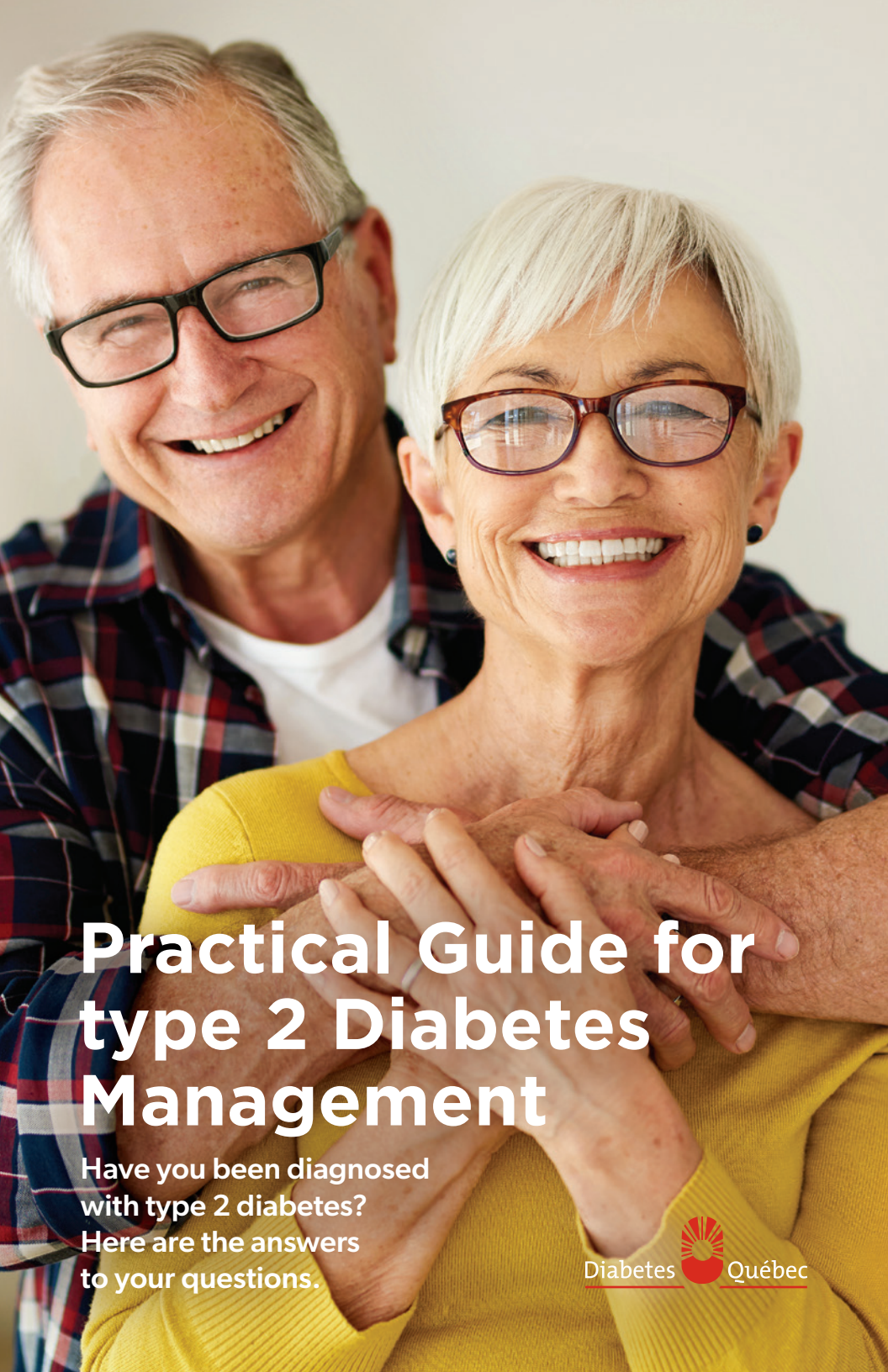

Practical Guide for type 2 Diabetes Management

Have you been diagnosed with type 2 diabetes? Here are the answers to your questions.

Diabetes Québec

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Did you know…

In Quebec, more than 1.2 million people are affected by diabetes. This number is rising daily at an alarming rate, and we believe it is essential to diagnose people with diabetes as soon as possible to avoid serious health consequences.

In recent years, various health professionals have expressed concern about the lack of information for people who have just been diagnosed with type 2 diabetes. When individuals get this diagnosis, it is not uncommon for them to feel knocked off balance and unsure of what to do or where to turn for help.

Diabetes Québec's health professionals have created this practical guide to help people with type 2 diabetes, especially when they have just been diagnosed. This guide contains some basic information about diabetes that we hope will help you talk in an informed way with the team of health professionals who will be involved in your care.

Sylvie Lauzon, *CEO, Diabetes Québec*

Diabetes Québec would like to thank its partners who have made the creation of this guide possible:

- Abbott
- Ascensia Diabetes Care
- AstraZeneca
- Bayer
- Dexcom
- Eli Lilly
- Janssen
- LifeScan
- Merck
- Novo Nordisk
- Roche Diabetes Care

This guide does not replace in any way the advice of a health professional.

It is intended to complement the care provided by your team of professionals, such as a nurse and a dietitian working at a diabetes educational centre.

These centres are located in specific family medicine groups (FMGs), CLSCs and hospitals.

Contents

Dealing with a new reality

You may feel many conflicting emotions after being diagnosed with type 2 diabetes: shock, fear, denial, confusion, indifference, etc. **All these emotions are perfectly normal**. They generally progress in various stages, more or less predictable and intense, before you are able to adjust to this new reality.

Diabetes will force you to grieve—for the loss of your self-image, your body image and the way you think about your health. You will have to adopt new habits, acquire a great deal of knowledge and learn to live with all the components of managing this disease.

These changes may seem like a daunting challenge. You may feel overwhelmed by all the information you receive. This may make you feel helpless, incompetent, out of control and unable to take in and retain all this information. This can cause stress and anxiety.

Give yourself time. Your family or significant other can be of great help by lending an ear and offering support. Don't hesitate to talk to a health professional, who can refer you to the support resources you need.

To help you on your way to acceptance of type 2 diabetes, consult our leaflet Learning to *Live with type 2 Diabetes – The path to acceptance*

As someone living with diabetes, you have a great deal of power to alter the progression of your disease.

One day at a time. One goal at time.

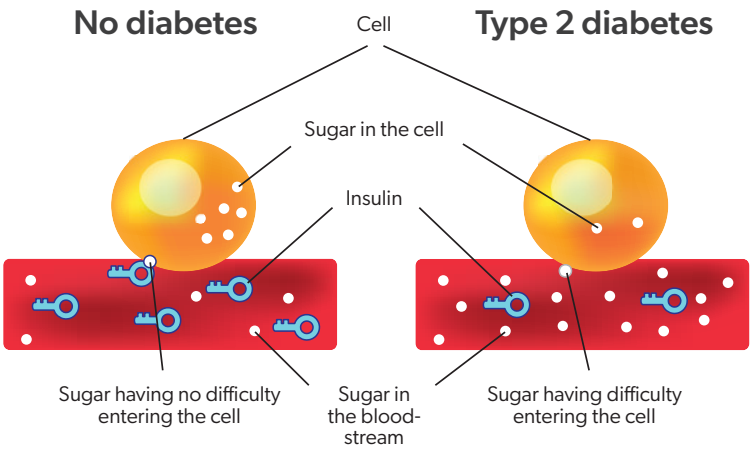
Section 1

Type 2 Diabetes

Type 2 Diabetes

Diabetes is a **chronic disease that cannot be cured but can be managed**. It is characterized by **higher than normal levels of sugar in the bloodstream**.

Usually, blood sugar is maintained at normal values due primarily to the action of insulin. Insulin is a hormone produced by the pancreas. It acts like a key, allowing the sugar in the blood to enter the body's cells to be used as a source of energy.



In type 2 diabetes, two phenomena are generally at work:

1. **the body's resistance to the action of insulin;**
2. **a reduction in the production of insulin.**

Consequently, sugar accumulates in the bloodstream, which raises blood sugar above normal values.

Diabetes prevents the body from properly using sugar as a source of energy.

What is the difference between type 1 and type 2 diabetes?

	Type 1 diabetes	Type 2 diabetes
Percentages of diabetes diagnoses	10%	90%
When diagnosed	Usually in childhood, adolescence or early adulthood	Usually after 40 years of age
Phenomena	Destruction by the body's immune system of the cells of the pancreas that produce insulin	Resistance of the body to the action of insulin and reduction in insulin production
Treatments	Insulin injections several times a day or insulin pump	Healthy lifestyle habits, oral or injectable medications, or insulin injections
Cause	Unknown	Multiple (e.g., genes, lifestyle)
Prevention possible in some cases	No	Yes

What increases the risk of developing type 2 diabetes?

- Being a male
- Being 40+ years of age
- Having a parent, brother, sister or child living with type 2 diabetes
- Belonging to an ethnic group at high risk of developing diabetes (African, East, South or West Asian, Arab, Latin-American, Afro-Caribbean, Indigenous)
- Having had abnormally high blood sugar levels in the past (e.g., gestational diabetes when pregnant)
- Having given birth to a baby weighing more than 4 kg (9 lb.)
- Having high blood pressure
- Being overweight, especially with belly fat
- Doing less than 30 minutes of physical activity a day
- Not eating vegetables and fruits every day

How is type 2 diabetes diagnosed?

Type 2 diabetes is diagnosed using a laboratory blood test. Three different tests can be used:

1. **Fasting blood glucose (FPG)**: This measures the blood sugar level after fasting for at least 8 hours. The data is expressed in mmol/L.
2. **Glycated hemoglobin (HbA1c or A1C)**: This reflects the average blood sugar levels in the previous three months. This data is expressed as a percentage (e.g., 7%) or in decimals (e.g., 0,07).
3. **Oral glucose tolerance test (OGTT)**: This measures the fasting blood sugar level, then measures it again two hours after drinking a sugary liquid.

If you have been diagnosed with type 2 diabetes, it is because the result of one or more of these tests has returned higher than normal values.

Section 2

Complications

Diabetes Complications

High blood sugar over a long period can cause serious and irreversible damage to both the small and large blood vessels.

Small blood vessels

The small blood vessels that can be affected are primarily those that feed the:

— **Eyes** (retinopathy)

Retinopathy can lead to blindness. Diabetes also increases the risk of developing cataracts and glaucoma.

Normal sight

Cataracts

Retinopathy

Glaucoma

— **Kidneys** (nephropathy)

Nephropathy can lead to dialysis (replacement treatment for the kidneys) and kidney transplantation.

— **Nerves** (neuropathy)

Neuropathy can lead to numbness, pain or loss of sensitivity, especially in the legs and feet. One of the dangers is injuring yourself without realizing it and having a wound become infected to the point of gangrene and amputation.

Neuropathy can also affect other organs and lead to sexual dysfunction and gastrointestinal problems.

Large blood vessels

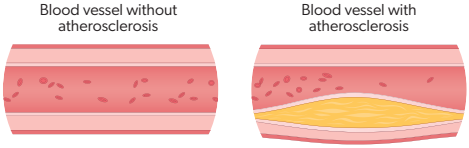
The large blood vessels that can be affected are primarily those that feed the:

– **The heart** (angina, arrhythmia, heart attack, etc.)

– **The brain** (stroke)

– **The lower limbs** (calf pain when walking, gangrene, etc.)

Frequent high blood sugar levels contribute to the development of **atherosclerosis**. Atherosclerosis is a buildup of fat in the form of plaque in the arteries, causing hardening and narrowing of the arteries. The flow of blood in damaged arteries is slowed and may even become blocked. A clot can also break away from the plaque and block other blood vessels.



Other complications

Having high blood sugar levels is also associated with other health problems, such as **periodontitis**, **capsulitis** and **sleep apnea**, in addition to increasing the risk of infections.

For more information about the complications associated with diabetes, consult our various leaflets:

It is possible to reduce the risk of developing diabetes-associated complications or delay their onset by managing your diabetes properly and by adopting healthy lifestyle habits.

Section 3

Blood Sugar Self-Monitoring

Blood Sugar Self-Monitoring

Following a diagnosis of type 2 diabetes, your doctor will prescribe a **blood sugar meter**, also known as a glucometer[1]. This is a small device that lets you test your blood sugar levels yourself, at home.

Why should I test my blood sugar ?

By testing your blood sugar, you can make sure you are managing your diabetes properly. The readings will help you understand the impact of your lifestyle on your blood sugar, as well as check the effect of your treatment and adjust it as necessary on the advice of your team of health professionals.

How often should I test my blood sugar ?

The timing and frequency of blood sugar testing vary from person to person since this is determined by the type of diabetes, the prescribed treatment and the risk of a drop in blood sugar below target values. Your team of health professionals will advise you when to test your blood sugar.

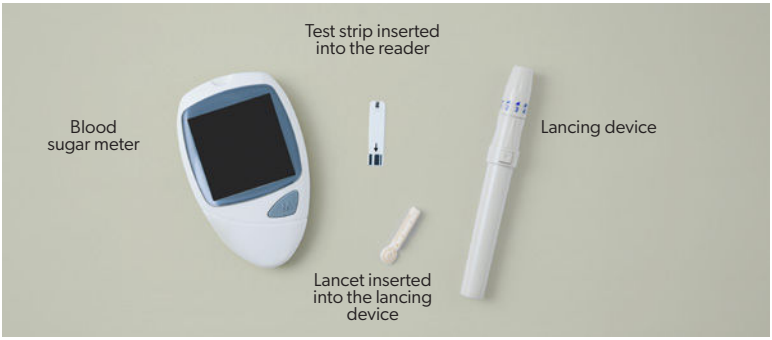
What are the target values for blood sugar?

Fasting (on awakening or more than 4 hours after a meal)	Between 4 and 7 mmol/L
2 hours after the start of a meal	Between 5 and 10 mmol/L

Your doctor may give you different target values.

1. There are other devices, called continuous glucose monitoring systems, to test sugar levels. Ask your team of health professionals to learn more about them.

How to use a blood sugar meter?



1. Wash your hands with a mild, unscented soap and dry them thoroughly.
2. Insert a test strip into the opening of your blood sugar meter and close the test-strip container.
3. Insert a lancet into the lancing device.
4. Prick the side of the end of your finger with the lancing device.
5. Place the test strip in contact with the drop of blood that has formed.
6. Read the result. If required, write it down in a logbook and include any observations that help you better understand the result.
7. Discard the used test strip and lancet in a sharps disposal container.

Ask your treatment team for more information or consult the Répertoire des produits pour la gestion du diabète de Diabète Québec (in french only) to select the blood sugar meter that best meets your needs.

Section 4

High and Low Blood Sugar

High and Low Blood Sugar

High Blood Sugar

High blood sugar, also known as hyperglycemia, is characterized by a blood sugar level:

— **Above 7 mmol/L**, when fasting (on awakening or more than four hours after eating)

— **Above 10 mmol/L**, two hours after the start of a meal

The symptoms most commonly associated with high blood sugar are the following:

Some of these symptoms may have been present when you were diagnosed. They should disappear with the proper management of your blood sugar levels.

Blood sugar levels that are often high increase the long-term risk of developing diabetes-associated complications (see the section on complications on page 13).

What can raise your blood sugar:

— You have eaten a meal or snack that is higher in carbohydrates (sugars) than usual.

— You are less active than usual.

— You are experiencing physical stress (e.g., illness, surgery) or psychological stress (e.g., bereavement, new job).

— You are taking certain medications that can raise your blood sugar (e.g., cortisone).

— You have forgotten to take your medication or didn't take the prescribed dose.

— Your treatment needs adjusting.

What should you do if you have high blood sugar?

— Drink water regularly to prevent dehydration.

— If possible, do a light physical activity, such as walking.

— Identify the cause and take appropriate action.

See a doctor immediately if one or more of these situations arise:

— Your blood sugar is above 25 mmol/L and you feel extremely drowsy.

— You are confused, agitated, hallucinating or behaving in uncharacteristic ways.

— You are not able to keep down any liquids or solid food.

— You are showing signs of dehydration, such as dry mouth, hollow eyes, loss of skin elasticity, etc.

— Your body temperature has stayed above 38.5°C for more than 48 hours.

Low Blood Sugar

Low blood sugar, also known as hypoglycemia, is characterized by a blood sugar level **below 3.9 mmol/L**.

The symptoms most commonly associated with low blood sugar are the following:

Not everyone living with diabetes is at risk of low blood sugar. You are at risk, if you are being treated with insulin or with drugs that increase the production of insulin by the pancreas[1].

1. Gliclazide (Diamicron® and Diamicron® MR), Glimepiride (Amaryl®), Glyburide (Diaßeta®), Repaglinide (GlucoNorm®)

What can make your blood sugar drop?

- You have skipped or delayed a meal.
- You have eaten fewer carbohydrates (sugars) than usual.
- You have exercised intensely or for a prolonged period of time.
- You have been drinking alcohol on an empty stomach.
- You have taken a higher than prescribed dose of your medication.

What should you do if you have low blood sugar?

1. **Take 15 g of rapidly absorbed carbohydrates (one of the following choices):**
   - 4 tablets of Dex4®;
   - 15 ml (1 tablespoon) of corn syrup, honey or maple syrup;
   - 15 ml (1 tablespoon or 4 packets) of sugar dissolved in water;
   - 150 ml (⅔ cup) of a regular soft drink, fruit beverage or fruit juice;
   - 15 to 20 g of candies (e.g. 6 Life Savers® or 2 rolls Rockets® candies).
2. **Rest for 15 minutes.**
3. **Test your blood sugar again.**
   - If the reading is below 3.9 mmol/L: treat again by following steps 1 to 3.
   - If the reading is 3.9 mmol/L or higher: if no meal or snack is planned within the next hour, eat a snack with 15 g of carbohydrates and a source of protein (e.g., 1 slice of bread with 1 oz. of cheese).

Section 5

Treatment

Treatment

It is important to remember that **diabetes cannot be cured**. Rather, the goal of treatment is to **maintain blood sugar levels within target values** to reduce the risk of developing complications, while minimizing the potential risk of low blood sugar.

The four pillars of type 2 diabetes treatment:

1 **Diet**

2 **Exercise**

3 **Medication**

4 **Stress management**

Healthy lifestyle habits are the basis for the treatment of type 2 diabetes. The recommendations are essentially the same as for the general population and will also help you improve your overall health.

Remember: type 2 diabetes is a disease that progresses over time. Therefore, it is possible that your treatment will need to be adjusted. This does not mean that you have failed in any way.

Notes

Section 6

Diet

Diet

Do people living with diabetes need to cut sugar from their diet?

No. People living with diabetes should instead eat a healthy and balanced diet while **monitoring the amount and quality of carbohydrates consumed and ensuring that they are properly distributed throughout the day**.

Foods contain different types of carbohydrates:

- **SUGARS:** They give food a sweet taste. They can be found naturally, as in fruits and milk, or added, as in desserts, sugary drinks and certain processed foods. **Sugars make your blood sugar rise**.
- **STARCH:** It does not give foods a sweet taste. Starch is found in grain products (e.g., bread, pasta, rice, cereal), legumes (e.g., lentils, chickpeas, beans) and starchy vegetables (e.g., green peas, potatoes). **Starch makes your blood sugar rise**.
- **FIBRE:** It is found in whole grain products, fruits, vegetables, legumes, nuts and seeds. Fibre is not digested and therefore does not increase blood sugar. In fact, **fibre helps limit the increase in blood sugar after a meal**. You should choose foods that are high in fibre.

Here are some tips for healthy eating:

- Cook as often as possible with fresh and unprocessed ingredients.
- Eat a wide variety of foods.
- Take the time to savor what you are eating.
- Pay attention to your body's signals so you know when you are truly hungry and when you are full.
- Choose water when you are thirsty.
- Eat three meals a day at regular mealtimes.
- If needed, have a nutritious snack to satisfy your hunger between meals or to prevent a drop in blood sugar, if applicable.
- Choose foods that are high in fibre: whole grain products, legumes, whole fruits and vegetables with their peel, nuts and seeds.
- Choose heart-healthy monounsaturated and polyunsaturated fats, such as olive oil, canola oil, nuts and seeds, fatty fish and avocados.

On average, most people living with diabetes need:

- 45 to 75 g of carbohydrates per meal;
- 15 to 30 g of carbohydrates per snack, if required.

A dietitian can provide you with personalized advice and offer support as you begin to make changes to your dietary habits.

Let the balanced plate be your guide when you prepare your meals!

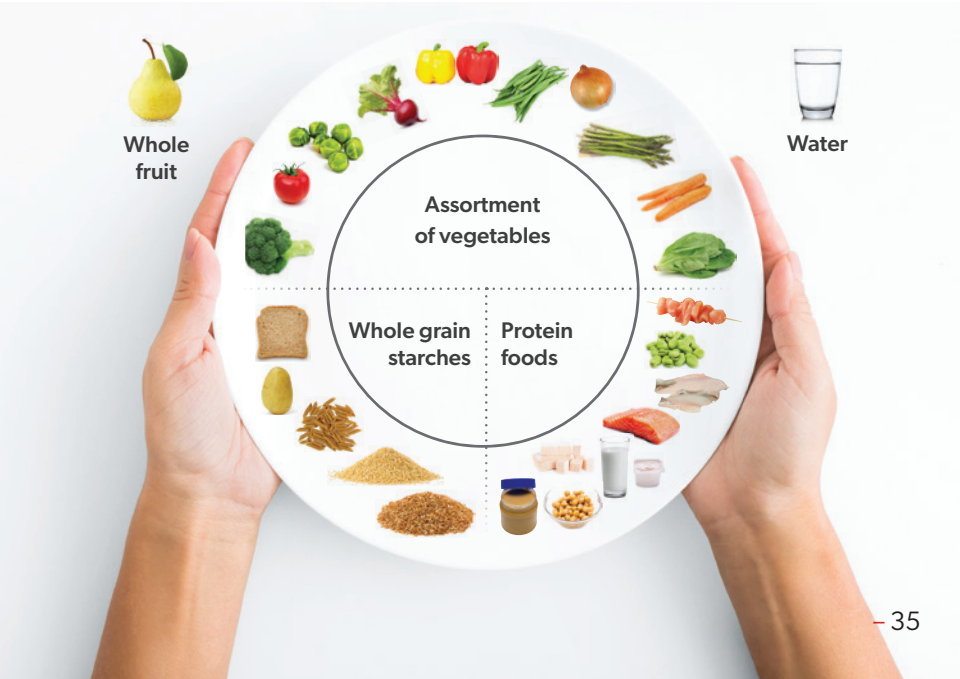
Half of your plate should be composed of vegetables.
Be sure to eat a variety of vegetables. Don't hesitate to choose frozen vegetables; they are just as nutritious as fresh vegetables.

A quarter of your plate should be composed of starches.
Starches include starchy vegetables (e.g., potatoes, green peas), as well as grains and grain products (e.g., bread, pasta, rice, quinoa, barley). Choose whole grains and whole grain products.

A quarter of your plate should be composed of protein foods.
Make room for plant-based protein foods (e.g., tofu, legumes) and fish. Choose milk and yogurt with 2% milk fat or less, and cheese with 20% milk fat or less. When eating meat, choose lean cuts and remove visible fat. Also remove the skin from poultry.

Fruits can be eaten as a dessert or as a snack.
Eat the whole fruit with the peel. Don't hesitate to choose frozen fruits; they are just as nutritious as fresh fruit.

Water is the ideal drink for hydration.
Carbonated water, homemade flavoured waters, herbal teas, and unsweetened teas and coffee are also good choices.



What does the diet of a person living with diabetes look like?

Example of a daily meal plan providing 60 g of carbohydrates per meal

Breakfast

TOAST AND YOGURT

2 slices **whole wheat toast**
30 g OF CARBOHYDRATES

30 ml (2 tablespoons) plain peanut butter

½ **banana**
15 g OF CARBOHYDRATES

125 ml (½ cup) of **flavoured Greek yogurt**
15 g OF CARBOHYDRATES

TOTAL CARBOHYDRATES: 60 g

Lunch

MEAL-SIZED SALAD

160 ml (⅔ cup) **whole wheat couscous**
30 g OF CARBOHYDRATES

125 ml (½ cup) **chickpeas**
15 g OF CARBOHYDRATES

60 ml (¼ cup) slivered almonds

Various vegetables

Homemade salad dressing (olive oil and lemon juice)

1 small **pear**
15 g OF CARBOHYDRATES

TOTAL CARBOHYDRATES: 60 g

Supper

PASTA WITH MEAT SAUCE AND SALAD

160 ml (⅔ cup) **whole wheat spaghetti**
30 g OF CARBOHYDRATES

125 ml (½ cup) meat sauce

Garden salad

Homemade salad dressing (olive oil and balsamic vinegar)

250 ml (1 cup) **milk**
15 g OF CARBOHYDRATES

250 ml (1 cup) **melon** cubes
15 g OF CARBOHYDRATES

TOTAL CARBOHYDRATES: 60 g

Snack if needed

1 small **homemade bran muffin**
30 g OF CARBOHYDRATES

250 ml (1 cup) enriched unsweetened soy beverage

375 ml (1 ½ cups) **strawberries**
15 g OF CARBOHYDRATES

80 ml (⅓ cup) cottage cheese

Example of a daily meal plan providing 45 g of carbohydrates per meal

Breakfast

GARNISHED OATMEAL

125 ml (½ cup) **oatmeal**
30 g OF CARBOHYDRATES

250 ml (1 cup) enriched unsweetened soy beverage

1 **orange**
15 g OF CARBOHYDRATES

30 ml (2 tablespoons) roasted pumpkin seeds

TOTAL CARBOHYDRATES: 45 g

Lunch

CHICKEN SANDWICH WITH CRUDITÉS

2 **slices whole-wheat bread**
30 g OF CARBOHYDRATES

Lettuce and tomato slices

60 g (2 oz.) grilled chicken

Mayonnaise

Crudités (vegetable sticks)

Yogurt dip

15 **red grapes**
15 g OF CARBOHYDRATES

TOTAL CARBOHYDRATES: 45 g

Supper

SALMON, BROCCOLI AND QUINOA

90 g (3 oz.) grilled salmon with mango

125 ml (½ cup) **quinoa**
15 g OF CARBOHYDRATES

Broccoli

125 ml (½ cup) **flavoured yogurt**
15 g OF CARBOHYDRATES

180 ml (¾ cup) **blueberries**
15 g OF CARBOHYDRATES

TOTAL CARBOHYDRATES: 45 g

Snack if needed

1 **apple**
15 g OF CARBOHYDRATES

30 g (1 oz.) cheese

Carrots and cucumbers

60 mL (¼ cup) **hummus**
15 g OF CARBOHYDRATES

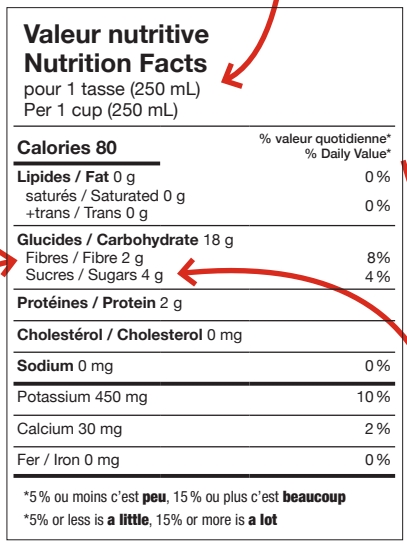
How to read the Nutrition Facts table

Reference serving size

The reference serving size represents the amount used to calculate the values in the table. It does not necessarily represent the recommended serving size or the amount you will actually eat.

Carbohydrates

This number includes all types of carbohydrates: sugars, starches and fibre. Starches are not usually listed on the table.



Valeur nutritive
Nutrition Facts
pour 1 tasse (250 mL)
Per 1 cup (250 mL)

	% valeur quotidienne* % Daily Value*
Calories 80	
Lipides / Fat 0 g	0 %
saturés / Saturated 0 g +trans / Trans 0 g	0 %
Glucides / Carbohydrate 18 g	
Fibres / Fibre 2 g	8%
Sucres / Sugars 4 g	4 %
Protéines / Protein 2 g	
Cholestérol / Cholesterol 0 mg	
Sodium 0 mg	0 %
Potassium 450 mg	10 %
Calcium 30 mg	2 %
Fer / Iron 0 mg	0 %

*5 % ou moins c'est **peu**, 15 % ou plus c'est **beaucoup**
*5% or less is **a little**, 15% or more is **a lot**

Fibre

To find out the amount of carbohydrates that will impact your blood sugar, subtract the fibre. E.g., 18 g carbohydrates – 2 g fibre = 16 g of carbohydrates having an effect on blood sugar

Sugars

The amount of sugars includes both added sugar and the sugars naturally present in the food, such as those in milk and fruits. To find the sources of these sugars, you need to read the list of ingredients.

What do the percentages mean?

Percentages indicate the percentage of your daily needs that you get from the reference serving size. The percentages let you quickly see if a food contains a low or high amount of a nutrient. **Five percent (5%) or less is considered a little; 15% or more is considered a lot**.

Don't forget to read the list of ingredients!

This list tells you precisely what a food contains. The ingredients are listed in descending order by weight. Thus, the first ingredient on the list is found in the greatest quantity. For example, when salt and sugar are the first two ingredients, this tells you that this product contains a large amount of both.

Opt for products with a short list of ingredients that you are familiar with.

Brochure
A closer look: Diet for people living with diabetes,
MSSS

Brochure
Carbs Counting Guide for People Living with Diabetes ,
MSSS

Read these publications to help you adopt a healthy diet

Leaflet
Snacks and diabetes,
Diabetes Québec

Section 7

Exercise

Exercise

Being physically active has many health benefits:

- Improved blood sugar management
- Reduced risk of osteoporosis, arthritis, cardiovascular diseases and neuropathy
- Reduced stress
- Increased self-esteem, a sensation of well-being and better quality of life
- Improved sleep quality
- More energy and better fitness
- Improved weight management

Check with your doctor before starting an exercise program.

It is recommended that you do **two and a half hours of aerobic exercise per week**, spread over at least three days, without being inactive for more than two days in a row.

It is also recommended that you add **a minimum of two strength exercise sessions per week**.

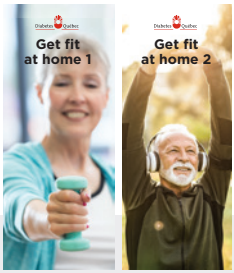
Following these recommendations

These recommendations may seem ambitious. **Start slowly and gradually increase, going at your own pace**. For example, you could start with 10 minutes of physical activity a day, five days a week, then increase by 5 minutes every week until you reach 30 minutes.

Look for every opportunity to get moving. **Remember: every effort counts! Here are some examples:**

- Walk or bike to work or when running errands.
- Take the stairs instead of the elevator.
- Get off the bus or metro one or two stops before your destination.
- Park your car a few streets away from your workplace and walk the rest of the way.
- Do strength exercises while watching television.
- Dance to upbeat music while doing your daily chores.
- Play with your children or grandchildren in the park.

For simple muscular strength exercise routines you can do at home, consult our leaflets *Get Fit at Home 1 and 2. Also available in video on YouTube.*



A kinesiologist can give you personalized advice and support you in your journey to increase your physical activity level.

Section 8

Medication

Medication

Diabetes medication may be prescribed if adopting healthy lifestyle habits fails to maintain your blood sugar within the target values. You may also be prescribed medication right away if your blood sugar is very high at the time of diagnosis. It is important to note that **medication is not a substitute for a healthy lifestyle, but a complement to it**.

What are the different types of medication?

Diabetes medications are known as antidiabetic drugs and are intended to lower blood sugar levels. There are different classes of antidiabetic drugs, each with its own mode of action. Some drugs combine several classes. They can be oral (i.e., taken by mouth in tablet form) or injectable.

Your doctor will assess the your health status and prescribe the appropriate medication.

Mode of action for classes of antihyperglycemic drugs

Biguanides

Metformin (Glucophage®, Glumetza®)

- Reduces the amount of sugar produced by the liver
- Helps the body's cells use sugar more efficiently

Alpha-glucosidase inhibitor

Acarbose (Glucobay®)

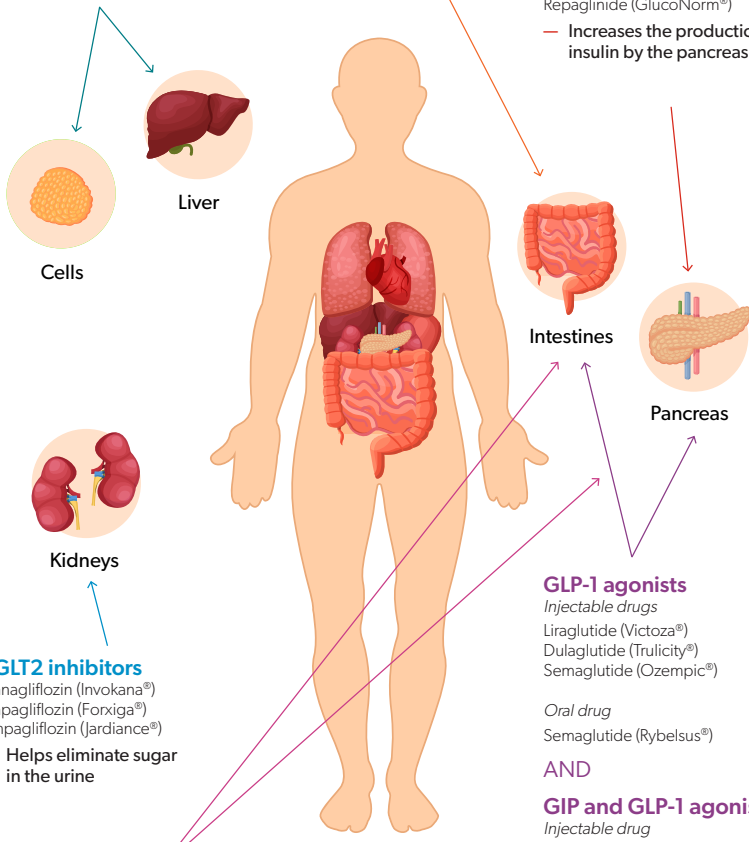
- Slows the digestion of certain carbohydrates (sugars) in the intestine

Insulin secretagogues

Drugs that increase the risk of hypoglycemia.

Gliclazide (Diamicron®) Gliclazide (Diamicron® MR)
Glimepiride (Amaryl®) Glyburide (Diaßeta®)
Repaglinide (GlucoNorm®)

- Increases the production of insulin by the pancreas



SGLT2 inhibitors

Canagliflozin (Invokana®)
Dapagliflozin (Forxiga®)
Empagliflozin (Jardiance®)

- Helps eliminate sugar in the urine

GLP-1 agonists

Injectable drugs

Liraglutide (Victoza®)
Dulaglutide (Trulicity®)
Semaglutide (Ozempic®)

Oral drug

Semaglutide (Rybelsus®)

AND

GIP and GLP-1 agonist

Injectable drug

Tirzepatide (Mounjaro®)

- Slows digestion in the stomach
- Reduces appetite
- Imitate certain intestinal hormones (incretins) that act when blood sugar is high: increase insulin production and reduce glucagon production by the pancreas

DPP-4 inhibitors

Sitagliptin (Januvia®)
Linagliptin (Trajenta®)
Alogliptin (Nesina®)
Saxagliptin (Onglyza®)

- Increases the effect of certain intestinal hormones (incretins), which act when blood sugar raises after a meal: increase insulin production and reduce glucagon production by the pancreas

What you should know if you are taking a diabetes medication:

- It may take **some time for the medication to take full effect**. It may also take some time to find the right dose or combination of drugs that will help you reach and maintain your blood sugar values within targets.
- It may be necessary to **test your blood sugar more often** after starting a new medication to determine its impact on the management of your blood sugar.
- Often, by the time your diabetes is diagnosed, it has been present for several years. As a result, your body may have become used to high blood sugar levels and **symptoms may appear when blood sugar levels return to normal**. This is known as "false hypoglycemia." This phenomenon is not dangerous. You need to let your body get used to these new blood sugar levels.
- All diabetes medications are approved by Health Canada. However, some might **cause side effects**. Often, these side effects go away over time. If they persist or affect your quality of life, discuss them with your doctor or pharmacist.
- **Not all drugs cause a risk of low blood sugar**. If you are at risk, you need to be proactive! Be sure to:
  - always have on hand nutritious snacks and fast-acting sources of sugar;
  - quickly treat low blood sugar;
  - identify the cause of any drops in blood sugar;
  - make the necessary changes to avoid low blood sugar again (see the section on low blood sugar on page 25).

What other medications might be prescribed for you?

In addition to antihyperglycemic drugs, your doctor may prescribe other medications to prevent diabetes-related complications, or to slow their progression.

Blood pressure will be closely monitored. High blood pressure can accelerate the development of heart, blood vessel and kidney disease.

Certain antihyperglycemic drugs, such as dulaglutide, liraglutide and semaglutide, as well as canagliflozin, danagliflozin and empagliflozin, may also be prescribed because of their protective effect on the heart and kidneys.

Regardless of the medications you are taking, it is still important to implement the basic strategies to reduce the risk of complications, which are to:

- Keep your blood sugar level within your target range
- Exercise regularly
- Eat a balanced diet

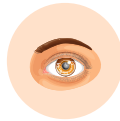
Target values for blood pressure in diabetes are 130/80 mmHg and below.

Medications to prevent or slow the progression of complications associated with diabetes

Eyes diseases

Aflibercept (Eylea®)
Ranibizumab (Lucentis®)
Faricimab (Vabysmo®)

— Reduces the growth and permeability of retinal blood vessels



Eye

Cholesterol

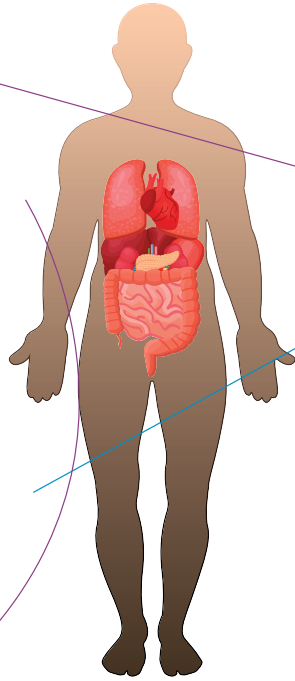
Atorvastatin (Lipitor®)
Pravastatin (Pravachol®)
Rosuvastatin (Crestor®)
Simvastatin (Zocor®)
Ezetimibe (Ezetrol®)

— Reduces cholesterol and other fats in the blood
— Reduces the risk of cardiovascular diseases

Heart and kidney diseases

Dulaglutide (Trulicity®)
Liraglutide (Victoza®)
Semaglutide (Ozempic® Rybelsus®)

— Promotes weight loss
— Slows the progression of kidney disease
— Reduces the risk of cardiovascular diseases



Heart

Blood Vessels

Canagliflozin (Invokana®)
Danagliflozin (Forxiga®)
Empagliflozin (Jardiance®)

— Reduces blood pressure
— Promotes weight loss
— Slows the progression of kidney disease
— Reduces the risk of cardiovascular diseases

Blood pressure

Enalapril (Vasotec®)
Perindopril (Coversyl®)
Ramipril (Altace®)
Candesartan (Atacand®)
Irbesartan (Avapro®)
Losartan (Cozaar®)
Olmesartan (Olmetec®)
Telmisartan (Micardis®)
Valsartan (Diovan®)

— Reduces blood pressure
— Slows the progression of kidney disease
— Reduces the risk of cardiovascular diseases

Kidneys

Kidney disease

Finerenone (Kerendia®)

— Slows the progression of kidney disease

I am afraid to take insulin!

Insulin injections can seem intimidating. You should know that **insulin is rarely prescribed when type 2 diabetes is first diagnosed**. Adopting a healthy lifestyle, with or without antidiabetic drugs, is the usual treatment plan. However, since diabetes is a disease that progresses, you may be prescribed insulin later. **This does not mean that your diabetes is more "serious" or that you have failed**. Insulin is just another treatment option to help keep your blood sugar within target values.

It is essential to take your medication as prescribed and discuss any adjustments in advance with your team of health professionnals.

Section 9

Stress Management

Stress Management

Stress can affect you both physically and psychologically.

Here are some examples of situations that cause physical stress:

- Surgery or hospitalization
- An infection (e.g., a cold, gastrointestinal infection)
- Chronic or episodic pain

Here are some examples of situations that cause psychological stress (they can be positive or negative):

- Bereavement
- Losing a job or starting a new job
- Marriage

When you experience stress, you might feel these effects:

- Your heart beats faster
- You sleep poorly
- You are more irritable
- You smoke or drink more than usual, if applicable

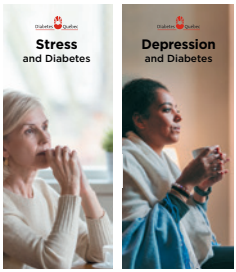
Can stress impact blood sugar?

Yes. Anything that upsets your normal balance is considered a threat by your body. It will react by producing stress hormones (adrenalin, cortisol). These hormones cause an increase in blood sugar levels by prompting the liver to produce sugar in order to provide energy to the cells.

How to manage stress?

- Take a few deep breaths.
- Talk to a close friend or loved one about what you are experiencing and feeling.
- Relax by doing something you enjoy: reading a book, watching a movie, listening to music, etc.
- Do some form of exercise.
- Write down what causes you stress, as well as the advice you would give to someone experiencing the same thing as you.

Would you like to know more about the subject? Consult our leaflets *Stress and Diabetes and Depression and Diabetes.*



Consult a professional (psychologist, social worker) if the stress persists and negatively affects your quality of life.

Section 10

Your Personal Goals

Your Personal Goals

The four pillars of diabetes treatment (diet, exercise, medication and stress management) require making changes to your lifestyle. However, it is impossible to change everything at once. Set yourself one goal at a time. To ensure success, this goal must be **realistic, precise, measurable and time-limited**. Start with the easiest goal to achieve. You can also ask your team of healthcare professionals for advice.

Ask yourself the following questions:

1. What are my reasons for wanting to achieve this goal?
2. What actions do I need to take to achieve my goal?
3. What difficulties could become an obstacle to achieving my goal and how can I overcome them?

Here are two examples of personal goals:

1 **Starting next Monday, I am going to walk for 15 minutes after lunch at least 3 times a week.**

1. I want to achieve this goal because I understand that exercise will help me better manage my blood sugar levels and promote feelings of well-being.
2. I am going to ask my neighbour to join me, and we will plan our walking days at the beginning of each week.
3. On bad-weather days or when my neighbour is not available, I will do an exercise routine for 15 minutes at home on my own.

2 **Starting today, I will take my medication every day as prescribed by my doctor.**

1. I want to achieve this goal because I understand that taking medication is essential for my health.
2. Every Sunday evening, I will prepare my pillbox for the week.
3. So that I don't forget to take my medication, I will leave my pillbox in full view on the kitchen counter.

My goal:

1. The reasons why I want to achieve this goal:

2. The actions I am going to take to achieve my goal:

3. The difficulties that could become an obstacle to achieving my goal and how I can overcome them:

Section 11

Follow-Up Tests

Follow-Up Tests

In order to assess the management of your diabetes and to detect any complications associated with diabetes, you will need to have regular follow-up tests. Following these tests, adjustments to your treatment may be necessary.

DIABETES MONITORING	
Blood test to measure glycated hemoglobin (HbA1c ou A1C) which reflects the average blood glucose values over the last two to three months.	Every 3 to 6 months.
HEART AND BLOOD VESSEL MONITORING	
Blood test to measure the different types of fats in the blood, such as cholesterol.	At the time of diagnosis, then every year thereafter. Every 3 months, if there is a change in your treatment.
Blood pressure test.	At the time of diagnosis, then regularly at medical appointments or at home, depending on your situation.
Resting or exercise electrocardiogram (ECG).	At the time of diagnosis, then every 3 to 5 years thereafter depending on your situation.
Other parameters need to be considered when assessing your heart and blood vessel health, such as age, duration of diabetes, smoking habits, etc.	
KIDNEY MONITORING (NEPHROPATHY)	
Blood and urine test.	At the time of diagnosis, then every year thereafter. Every 6 months, if nephropathy is present.
NERVE MONITORING (NEUROPATHY)	
Monofilament or tuning fork test and foot exam by a doctor, podiatrist, or footcare nurse.	At the time of diagnosis, then every year thereafter.
EYE MONITORING (RETINOPATHY)	
Eye exam by an optometrist or ophthalmologist.	At the time of diagnosis, then every 1 to 2 years thereafter depending on your situation.
TEETH AND GUM MONITORING (PERIODONTITIS)	
Complete examination of the mouth and teeth by a dental hygienist or a dentist.	Every year

Other tests may be suggested depending on your situation.

People living with diabetes need to pay particular attention to their feet on a daily basis. For more information, consult our leaflet Footcare and Diabetes.

Resources

For reliable information about diabetes
- Diabetes Québec: diabete.qc.ca/en
  514-259-3422 | 1-800-361-3504

For answers to your questions about diabetes
- Diabetes Québec's InfoDiabète Service:
  514-259-3422 | 1-800-361-3504 or infodiabete@diabete.qc.ca

For diabetes training
- Universi-D: universi-d.com

For people without a family doctor
- Diabetes Quebec Support Program
  514-259-3422 | 1-800-361-3504 option 7

To arrange an appointment with a dietitian
- Public sector, with a physician's referral (free of charge)
  Contact your FMG, CLSC or the diabetes educational centre in your region
- Private sector (charges apply)
  Ordre des diététistes-nutritionnistes du Québec : odnq.org
  514-393-3733 | 1-888-393-8528

To arrange an appointment with a footcare professional (charges apply)
- Association des infirmières et infirmiers en soins podologiques du Québec (AIISPQ): aiispq.org 1-800-771-9664
- Ordre des podiatres du Québec: ordredespodiatres.qc.ca
  514-288-0019 | 1-888-514-7433

For your mental health
- Psychosocial services from your CLSC
- Hotlines (centres d'écoute) by region: lignedecoute.ca
  (services in english may vary)
- Social information: 811, option 2
- Mental health access point in your area with a referral from your doctor
- Ordre des psychologues (charges apply): ordrepsy.qc.ca/english
  514-738-1223 | 1-800-561-1223
- Mental Health + Diabetes Directory: directory.breakthrought1d.ca

To arrange an appointment with a kinesiologist (charges may apply)

— Fédération des kinésiologues du Québec: kinesiologue.com/en
514-343-2471

To stop smoking

— *Tobacco-Free Quebec*: tobaccofreequebec.ca/iquitnow
Telephone support: 1-866-527-7383
— *Quit to Win!* Challenge: quitchallenge.ca

Other resources

— Ordre des optométristes du Québec: ooq.org/en
— Québec Association of Chronic Pain: aqdc.info/en
— Centre for Studies on Human Stress (CSHS): humanstress.ca
— The Kidney Foundation of Canada: kidney.ca
— Heart and Stroke Foundation of Canada: heartandstroke.ca
— Ordre des dentistes du Québec: maboucheensante.com/en

Notes

How can I help Diabetes Québec?

Become a member

By becoming a member of Diabetes Québec, you receive a subscription to the ***DIA·LOGUE*** (French only), a quarterly magazine devoted to diabetes and related topics (print or digital version). In addition, your membership entitles you to numerous privileges with Diabetes Québec's partners.

FIND OUT MORE

Make a donation

By making a donation, you contribute to Diabetes Québec's mission of helping people living with diabetes to enhance their well-being. Call us or make an online donation on our website. Online donations are quick and easy, and you'll receive your tax receipt by e-mail.

DONATE NOW

Follow us on social media

Follow us on our social networks to keep up to date with news on diabetes and Diabetes Québec.

SUBSCRIBE

Universi D

The reference for diabetes education and training in Quebec

Universi-D is a non profit organization whose mission is to help diabetes self-management by offering educational and stimulating training.

Our online training courses cover a wide range of diabetes-related topics such as :

Diabetes is complicated to manage but Universi-D is there for you!

Also available on YouTube

UNIVERSI-D.COM

Diabetes School

Universi D

universi-d.com

Questions about diabetes?

InfoDiabetes Service

514-259-3422

1-800-361-3504

infodiabete@diabete.qc.ca

Diabetes Québec

diabete.qc.ca