

What is diabetes?

- Diabetes is a condition in which your body does not use sugar (glucose) properly. Your body may not make enough insulin or it may not use the insulin in the right way. Therefore, too much sugar stays in the blood, making the blood sugar level high.
- Your body changes most foods into sugar through digestion. This sugar travels throughout your body in your blood. Some of the sugar is used for energy and some is stored in the muscles and liver to be used later. The extra sugar is made into fat and stored.
- As you eat, your pancreas makes insulin and puts it into the blood.
- Insulin is needed to allow sugar from the blood to:
 - get into the cells of the body, where it is used as fuel for energy
 - be stored in the liver, muscle, and fat
- **Pre-diabetes** is when the blood sugar levels are above the normal range but are not yet high enough to be called diabetes.
 - People with these high blood sugar levels have **impaired glucose tolerance (IGT)** or **impaired fasting glucose (IFG)**. This means that there is an increased risk of developing diabetes (and its complications) over time.
 - **Sometimes dietary and lifestyle changes can make these pre-diabetes blood sugar levels go back to normal, or at least delay the onset of diabetes.**

How is diabetes diagnosed?

Often diabetes is discovered during a routine check up or when blood work is done for other reasons. There may be no symptoms. However, most people have one or more symptoms.

What are the symptoms of diabetes?

Although the symptoms of diabetes vary, below are the most common:

- passing water (urinating) often
- being more thirsty than usual
- hunger
- feeling very tired
- blurred vision
- irritability and mood changes
- muscle cramps
- headaches
- tingling and numbness in the hands and feet
- dry skin
- wounds that take a long time to heal
- skin, mouth, bladder, or vaginal infections that keep coming back

Is there a blood test for diabetes?

Yes. Blood sugar (glucose) tests can be done before and/or 2 hours after breakfast.

An oral glucose tolerance test (OGTT) can be done to learn if you have diabetes or pre-diabetes. If your doctor orders an OGTT, you will be given a sweet drink. Your blood sugar will be measured before the drink and 2 hours after the drink.

Table 1 shows the lab values that your doctor uses to diagnose diabetes and pre-diabetes.

Table 1: Lab Values

	Fasting blood sugar (morning test)	2 hours after eating or after oral glucose tolerance test (OGTT)
No Diabetes	3.9–6.0 mmol/L	4.4–7.7 mmol/L
Diabetes	Equal to or greater than 7.0 mmol/L	Equal to or greater than 11.1 mmol/L
Pre-Diabetes		
Impaired Glucose Tolerance (IGT)	Not tested	7.8–11.0 mmol/L
Impaired Fasting Glucose (IGT)	6.1–6.9 mmol/L	Not tested

Current diabetes guidelines suggest that people with a fasting blood sugar of 6.1–6.9 mmol/L should be tested with an OGTT. People with a fasting blood sugar of 5.6–6.0 and some risk factors for developing diabetes may need to have an OGTT.

How many types of diabetes are there?

There are 3 main types of diabetes:

Type 1

- Type 1 diabetes develops when the pancreas produces little or no insulin.
- Insulin injections, meal planning, and exercise are needed to control the blood sugar.
- Only 10–15 percent of people with diabetes have type 1. Type 1 diabetes is usually seen in children and young adults, but can happen at any age.

- The cause is not known and there is no cure. Research suggests some of the following may be involved:
 - an auto-immune disease (the body attacks itself)
 - environmental factors, such as a virus
 - heredity
 - pancreatitis

Type 2

- Type 2 diabetes develops when the body does not use the insulin properly (insulin resistance).
- Sometimes type 2 diabetes is because the pancreas slowly decreases insulin production over time.
- Many people with type 2 diabetes have higher fasting blood sugars when they awake in the morning. This is caused by the liver returning too much sugar to the blood overnight.
- 85–90 percent of people with diabetes have type 2.

Gestational

- This type of diabetes is only seen in some women when they are pregnant. It goes away after the baby is born. However, these women are at a higher risk of developing type 2 diabetes later on.

Who is more likely to develop type 2 diabetes?

You are more likely to develop type 2 diabetes when you:

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| • are overweight, especially if you carry the fat around the waist | • are not active | • are of Aboriginal, Hispanic, Asian, South Asian, or African descent |
| • are over 40 years old, although today more people under 30 years are being diagnosed | • have given birth to a baby that weighed more than 4 kg (9 lbs.) | • have high blood pressure or high cholesterol |
| • have a family history of diabetes | • have had diabetes in pregnancy (gestational diabetes) | • have schizophrenia |
| • are under stress | • have polycystic ovary syndrome (PCOS) | • have impaired fasting glucose or impaired glucose tolerance |
| | • have artery disease | |

How do I manage my type 2 diabetes?

Ways to help you manage your diabetes include:

- eating healthy and following Canada's Food Guide
- eating healthy portions
- getting regular activity
- monitoring your blood sugar
- monitoring your blood pressure
- learning ways to manage stress
- eating lower glycemic index foods (foods that change to sugar more slowly in the bloodstream)
- taking your diabetes pills or insulin as prescribed
- visiting your healthcare team regularly—doctor, nurse, dietitian, etc.
- learning everything you can about diabetes

This material is for information purposes only. It should not be used in place of medical advice, instruction and/or treatment. If you have questions, speak with your doctor or appropriate healthcare provider.