

# Type 2 diabetes

Diabetes is an illness that occurs when the body is unable to create enough insulin, or the body is unable to respond properly to the insulin it produces. Insulin is required to move glucose (sugar) out of the blood and into the cells of the body for storage or use. When the body does not have enough insulin to keep blood glucose (sugar) levels in the normal range the result is high levels of glucose in your blood (hyperglycaemia). This can damage your body over time. Although there is potential for serious complications with type 2 diabetes, early diagnosis and appropriate management considerably reduce the risk of these problems.

Maori, Pacific Islanders and South Asian people are at higher risk of developing diabetes. Anyone with a blood relative with diabetes is also at a higher risk of developing diabetes.

There is a link between type 2 diabetes and high blood pressure (hypertension), and/or high cholesterol levels in the blood (dyslipidaemia). You are also more likely to develop type 2 diabetes if you have been diagnosed as having 'pre-diabetes'.

People who are overweight (especially if most of the weight is around the waist) are also more at risk of developing type 2 diabetes, including children.

For many people, type 2 diabetes can be prevented by making healthy food choices and staying active.

## What are the symptoms of type 2 diabetes?

It is possible to have had type 2 diabetes for many years without realising it or without having obvious symptoms.

Symptoms include:

- Feeling tired and lacking energy
- Feeling thirsty often
- Often feeling hungry
- Going to the toilet often
- Getting frequent infections
- Infections that take a long time to heal (eg, skin infections)
- Poor eyesight or blurred vision

## Diagnosing diabetes

A blood test for HbA1c is used to screen for and diagnose type 2 diabetes. You do not need to fast for this test. In a patient with symptoms HbA1c  $\geq 50$  mmol/mol gives a diagnosis of type 2 diabetes. In a patient with no symptoms

(who had an HbA1c to screen for diabetes), an HbA1c  $\geq 50$  mmol/mol requires a second test (after 3 months) to confirm the diagnosis. An HbA1c between 41–49 mmol/mol is called 'pre-diabetes' and will require repeat testing (every 6–12 months). HbA1c is not used to diagnose diabetes in women who are pregnant.

## Complications of type 2 diabetes

Appropriate management of type 2 diabetes is important to reduce the risk of complications arising from having too much blood glucose circulating in the blood stream. These include:

- Increased risk of heart disease and stroke
- Nerve and blood vessel damage: leading to tingling, pain, numbness or weakness in the feet and hands. This can increase the chances of ulcers and for some may lead to the need for limb amputation
- Damage to the blood vessels of the eyes: possibly leading to blindness (diabetic retinopathy) if untreated
- Damage to the kidneys: can eventually lead to kidney failure in some people

## Monitoring diabetes

Regular health checks are essential for people with diabetes in order to reduce the frequency and long-term impact of complications.



**HbA1c is used to monitor glycaemic control** in people with diabetes. This is checked on a blood test. People with diabetes should be tested at least annually (sometimes testing every three months is required). HbA1c targets should be individualised (taking into account the person's age and other illnesses), but for most people with type 2 diabetes, a target HbA1c of 50–55 mmol/mol is recommended.

**Lipid (cholesterol) levels** are a good measure of the likelihood of developing cardiovascular disease.

**Kidney (renal) function tests.** Renal or kidney disease (nephropathy) is a common complication of poorly-controlled diabetes. Regular assessment (at least each year) can indicate whether kidney damage is occurring. This assessment will usually involve a blood test and a urine test.

**Foot checks** are important (every three to 12 months) because diabetes can lead to foot ulcers. It is important that you or someone in your family/whanau check your feet regularly for calluses or ulcers and that a health professional also does a check at least every year.

**Eye checks.** Diabetes can damage the retina of the eye (retinopathy). You may not notice symptoms until the damage is advanced, so retinopathy testing every 1–2 years is important. Diabetic retinopathy can lead to loss of vision.

## What can be done about my diabetes?

The aim is to control your blood glucose level throughout every day – by exercising more, making changes to your diet and using medication if necessary – and to work with your doctor to control your blood pressure, lose weight if necessary and lower your cholesterol levels. The combined effect will be to reduce your overall risk of heart disease and diabetes complications.

The most important thing you can get from your doctor and diabetes nurse/educator is a good understanding about diabetes – ultimately you are in charge of the day-to-day management of your diabetes. Home blood glucose testing kits can help you learn what causes changes in your blood glucose level and, with some medication, regular testing is advised. Your doctor will help you stay on course with an agreed plan and carry out the free annual diabetes check-ups you are entitled to. The key parts of your plan may include:

- Keeping to a healthy weight by starting an exercise programme approved by your doctor. Sustained exercise that makes you breathe a bit harder also lowers your blood glucose, blood cholesterol and your blood pressure
- Not smoking – diabetes already raises your heart risk
- Eating a 'heart and diabetes friendly' diet – Diabetes NZ has good diet leaflets; call 0800 342 238 or visit [www.diabetes.org.nz](http://www.diabetes.org.nz)

- Controlling blood pressure with a low-salt diet, exercise and medication
- Testing your own blood glucose levels when necessary
- Understanding medications and using them correctly.

Some people are able to regain control of their blood glucose levels through diet change, weight loss and regular exercise. This does not mean the type 2 diabetes is cured; you have just gained control of it.

### What can I do to cope with my type 2 diabetes?

- Talk to others (your family/friends or others with diabetes). You are not alone
- See a dietician for help with healthy food choices and weight loss
- See your diabetes nurse educator or local diabetes groups; contact your local diabetes organisation to see what groups/services they offer
- Take one step at a time
- See a counsellor or your GP if you are finding it difficult
- Look around for community groups that help support your lifestyle changes, eg, walking or activity groups

## Did you know?

Gout is more common in people with type 2 diabetes and needs to be managed properly.

Insulin is the most effective glucose-lowering medicine and more than half of patients with type 2 diabetes may eventually require insulin to achieve good glycaemic control.

Depression is twice as common in people with type 2 diabetes. Please talk to your doctor if you feel you may be affected (for more information visit [www.depression.org.nz](http://www.depression.org.nz)).

## Further information

Contact your GP or practice nurse, your diabetes specialist, your local diabetes organisation or [www.diabetes.org.nz](http://www.diabetes.org.nz)

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