



## FACT SHEET:

# Blood glucose monitoring

Checking your blood glucose levels can help you manage your diabetes. You will be able to see what makes your numbers go 'up' or 'down', such as eating different foods, taking your medicine, being active or when you are unwell. You can discuss this information with your diabetes health professionals to help you make decisions about how to manage your diabetes. These decisions can help you keep your blood glucose levels in range and stay healthy.

## Why do I need to check my blood glucose levels?

Often, people living with diabetes can feel good unless their blood glucose levels are too high or too low. Checking your blood glucose levels (also known as self-monitoring or finger prick checks) throughout the day will help you make decisions that keep levels within your target range. Checking your blood glucose levels is an important part of managing your diabetes, just as changing lifestyle habits and taking medication prescribed by your doctor or diabetes nurse practitioner. Checking your blood glucose levels helps you to:

- know immediately if your levels are in your target range
- see if your diabetes medication is helping you to achieve your target levels
- better understand how activity, food, stress, travel and illness influence your blood glucose levels
- find patterns in your blood glucose levels through the day and night
- find patterns of low blood glucose levels (also known as hypoglycaemia or hypo) if you are using insulin or other types of blood glucose-lowering medications
- feel more confident about managing your diabetes
- know when you need to seek support from your doctor or diabetes health professionals to adjust your medications or insulin, or for advice on meal planning or physical activity.

Your doctor, diabetes nurse practitioner and diabetes educator can:

- help you choose a blood glucose meter that best suits you
- give you information about how to check your blood glucose levels
- work with you to decide how often and at what times it would be best to check your levels
- help you learn how checking your blood glucose levels regularly can show you patterns that you can use to make decisions about how to manage your diabetes.

### How do I check my blood glucose levels?

- To check your blood glucose levels, you need a blood glucose meter, a finger pricking device with lancets and blood glucose monitoring strips. There are a wide variety of blood glucose meters available. Your doctor, diabetes nurse practitioner or diabetes educator can show you how to use it.
- Meters record and store blood glucose levels. Most meters will also have computer software so you can download your blood glucose levels. This makes it easier to share the results with your diabetes health professionals. Some meters also allow you to record information about food choices, exercise and insulin doses.

- Some people check their glucose level using a continuous glucose monitoring (CGM) or flash glucose monitoring (Flash GM) device. These devices measure glucose in the fluid between your cells instead of in your blood.

### What is my 'target range'?

- Your doctor, diabetes nurse practitioner or diabetes educator will recommend a blood glucose target range that is best for you. They will consider your age, how long you have lived with diabetes, the diabetes medication you take, and any other relevant health conditions you may have.
- The following ranges for blood glucose targets are a guide only. Talk to your diabetes health professionals about your individual target.

#### Blood glucose targets

	Fasting/ before meals	Two hours after starting meals
Type 1 diabetes	4–7 mmol/L	5–10 mmol/L
Type 2 diabetes	4–7 mmol/L	5–10 mmol/L



## When should I check?

Your doctor, diabetes nurse practitioner or diabetes educator will help you decide when and how often to check your blood glucose levels. Ask for help to develop a routine that suits your lifestyle. Common times for people to check blood glucose levels include:

- before breakfast (fasting)
- before lunch or dinner
- two hours after a meal
- before bed
- before driving or exercising.

You may be advised to check your blood glucose levels more often if you are:

- feeling sick or stressed
- being more or less physically active than usual
- having more hypos than usual
- changing your routine, such as travelling or starting a new job
- changing or adjusting your diabetes medication or insulin
- changing your eating pattern
- having night sweats or morning headaches
- noticing high blood glucose levels above the target range more often
- planning pregnancy, are pregnant or breast feeding
- preparing for, or recovering from, surgery
- starting on new medications, for example steroids.

## What causes blood glucose levels to go up or down?

There are many reasons why your blood glucose levels may go up or down during the day. The most common causes include:

- food intake (the time, type and amount of food eaten)
- the amount of exercise or physical activity you do
- diabetes medication
- emotional stress and excitement
- hormonal changes
- illness and pain
- alcohol
- medications, such as steroids.

## Are low blood glucose levels dangerous?

Blood glucose levels will change throughout the day. This is normal.

If you are using insulin and some glucose-lowering diabetes medicines, you may be at increased risk of hypos. If your level drops below 4 mmol/L you are having a hypo. Having blood glucose levels below the healthy range that is not treated can get dangerous.

## Are high blood glucose levels dangerous?

Having blood glucose levels above your target range can increase your risk of developing infections and other short-term diabetes related complications such as dehydration.

If you have type 1 diabetes and your blood glucose levels are high or if you are sick, you are at risk of developing diabetic keto acidosis (also known as DKA). Check for ketones in your blood or urine. Follow your sick day action plan.

Having blood glucose levels above your target range also increases your risk of developing long-term diabetes-related complications such as heart disease and stroke, kidney disease, or vision and nerve problems.



### What if my blood glucose level does not seem right?

Sometimes, you may be surprised by your blood glucose level. If it does not seem right to you, there are a couple of things you can check.

- Did you wash your hands and dry them well before you did the blood glucose check?
- Are the strips in-date?
- Was the strip the correct one for the meter?
- Have the strips been affected by climate, heat or light?
- Is the meter clean?
- Is the meter too hot or cold?
- Is the battery low?

If in doubt, check your blood glucose level again.

### What is the HbA1c test?

The abbreviation 'HbA1c' stands for glycosylated haemoglobin. It is a blood test that tells you about your average blood glucose level over the last 10–12 weeks.

It is recommended that you have this test done every six months. You may be advised to have it done every three months if you have type 1 diabetes, have recently changed your diabetes medications, or have not reached your blood glucose targets. The results of an HbA1c can help give you an overall picture of your blood glucose management.

The target HbA1c for many people is 53 mmol/mol (7%) or less. But HbA1c targets can vary depending on several factors. It is important to discuss your individual HbA1c target with your doctor, diabetes nurse practitioner or diabetes educator.

At times, your blood glucose levels may not be what you expect. Remember that blood glucose levels are not a test of how well you are managing your diabetes.



### More information and support

- Go to [ndss.com.au](https://www.ndss.com.au) to access programs and services or in your state or territory, or online.
- Go to [ndss.com.au](https://www.ndss.com.au) to search for the 'Managing hypoglycaemia', 'Living with type 2 diabetes – what to do when you are sick' or 'Living with type 1 diabetes – what to do when you are sick', 'Continuous glucose monitoring', 'Flash glucose monitoring' and other fact sheets.
- Call the NDSS Helpline on **1800 637 700** and ask to speak to a diabetes educator or go to [adea.com.au](https://www.adea.com.au) to find a diabetes educator.
- Go to [healthdirect.gov.au](https://www.healthdirect.gov.au) to find diabetes health professionals near you.
- The NDSS is an initiative of the Australian Government administered by Diabetes Australia. Registration with the NDSS is free and open to everyone who has been diagnosed with diabetes and has a Medicare card. Through the NDSS, you can access subsidised products to help you manage your diabetes, including blood glucose strips. To find out more about NDSS registration and how to access subsidised diabetes products, go to [ndss.com.au/about-the-ndss/registration/](https://www.ndss.com.au/about-the-ndss/registration/), email [info@ndss.com.au](mailto:info@ndss.com.au) or call the NDSS Helpline on **1800 637 700**.

