

Blood Glucose Monitoring

Blood glucose monitoring means checking on the amount of glucose in your blood. It helps to guide the treatment of diabetes mellitus ('diabetes'). Many people with diabetes measure their own blood glucose levels using a personal blood glucose meter. Your diabetes healthcare team, which includes your pharmacist, can advise you about blood glucose monitoring.

Glucose (a type of sugar) is the main source of energy for our bodies. It comes from the carbohydrates in food. People with diabetes cannot use glucose properly and glucose builds up in their bloodstream. High blood glucose levels cause the symptoms of diabetes and over time can also damage blood vessels and nerves (which damages the eyes, kidneys, heart and other organs). In order to limit this damage, diabetes treatment aims to keep blood glucose levels within or close to the 'normal' (non-diabetes) range of 4.0-7.7mmol/L.

Self-monitoring of blood glucose

Monitoring your own blood glucose can show you how your blood glucose level changes during the day, and can help you to manage your diabetes.



Self-monitoring can:

- Show you how food, physical activity, medicines, stress, illness and other factors affect your blood glucose levels

- Show you at once if your blood glucose level is too high (hyperglycaemia) or too low (hypoglycaemia), so you can act quickly to correct it
- Help you to adjust your diet and exercise to improve your blood glucose levels
- Show you how well your diabetes medicines are working
- Help you know when you need to ask your diabetes healthcare team about changing your insulin or medicines to improve your blood glucose levels.

Your diabetes healthcare team can teach you how to monitor your blood glucose and use your results.

When to check blood glucose

Your diabetes healthcare team can help you decide when and how often to check your blood glucose. The decision depends on a number of factors including your age, the type of diabetes you have and your treatment. People with type 1 diabetes usually need to check their blood glucose more often than people with type 2 diabetes. Common times used for checking are before meals, two hours after meals and at bedtime. Most people need to check their blood glucose more often at certain times including when they are:

- Exercising
- Sick or stressed
- Changing routine (e.g. travelling)
- Changing or adjusting insulin or other diabetes medicine
- Having symptoms of high or low blood glucose levels
- Having night sweats or morning headaches.

How to check blood glucose

To measure your blood glucose you need to apply a small drop of blood to the test strip or test cassette in a blood glucose meter. The meter displays the blood glucose level within a few seconds. Even though most blood glucose meters can store blood glucose results, diabetes healthcare teams often advise people to record their results, along with details about their diet and daily activities, in a log book or diary which can easily be reviewed at clinic visits.

Blood glucose meters

A blood glucose meter is a small, electronic device that measures blood glucose. There is a range of blood glucose meters on the market, with different features and different prices to suit different people.

Most meters can download blood glucose data onto a computer. Computer software can then display the data in different ways (e.g. graphs, charts) to show blood glucose patterns and trends.

Your diabetes healthcare team, which includes your pharmacist, can help you choose a suitable meter and teach you how to use it correctly. Always read and follow the manufacturer's instructions for correct use, cleaning and checking of your meter. Most meters need to be checked for accuracy at regular intervals.

Diabetes clinics and some pharmacies offer 'meter clean and check' services.

Test strips

A test strip holds the drop of blood in the meter. Some meters need to have a test strip inserted each time, while some meters use a preloaded cassette of test tape.

Getting a drop of blood

Blood from a fingertip is usually best. Always check with your diabetes healthcare team before using alternate sites. The skin must be clean and dry. Glucose readings can be affected by dirt, food or liquids (e.g. sweat, fruit, jam).

1. Wash hands with soap and warm water. Warm water helps increase blood flow.
2. Dry hands completely.
3. Hang test arm down for 30-60 seconds, and shake, massage or warm hand (to increase blood flow).

4. Gently massage the test finger toward the fingertip.
5. Prick the side of the fingertip with a lancet. Do not prick the padded area of the finger, as it is more painful.
6. Use a new finger site each time. Avoid pricking the index finger or thumb if possible (to avoid pain to major fingers).
7. Hang hand down and hold the finger until a small drop of blood appears.
8. Follow the meter instructions for placing the drop of blood onto the test strip or cassette.

Things to check if blood glucose results do not seem correct

- Are the test strips out of date?
- Are you using the right test strip for your meter?
- Did you put enough blood on the test strip?
- Has the test strip been put into the meter the right way?
- Have the test strips been stored correctly?
- Did you wash and dry your hands before doing the test?
- Is the meter clean?
- Is the meter too hot or too cold?
- Has the meter been calibrated with the test strips?
- Is the meter battery low or flat?
- When was the accuracy of the meter last checked?
- Product instructions. Some companies have an enquiry phone line and trouble shooting guide.

Read and follow the product information for correct use, storage and disposal of test strips.

- Always use the correct test strips for your meter.
- The meter must be programmed (calibrated) to recognise each new batch of test strips.
- Do not use test strips after their expiry date.

The NDSS is an Australian Government program, administered by Diabetes Australia, that subsidises the cost of blood glucose test strips. To access the NDSS you must complete a NDSS registration form, have it signed by a doctor or Credentialed Diabetes Educator (CDE), and send it to your state or territory diabetes

organisation. Some pharmacies are 'NDSS Access Points' where you can lodge NDSS forms and buy the subsidised test strips.

Lancets and lancing devices

A lancet is a small needle used to pierce the skin. Lancet devices are spring-loaded, pen-shaped devices that insert the lancet into the skin. Read and follow the product information for correct use.

- To avoid infection, lancet devices should not be shared, and need to be cleaned regularly.
- Lancets should be used once only.
- Some types of lancets need to be put into a sharps bin after use. Many pharmacies stock suitable sharps bins.

For more information

Diabetes Australia

Phone: 1300 136 588

Website: www.diabetesaustralia.com.au

Healthdirect Australia

Phone: 1800 022 222

Website: www.healthinsite.gov.au

Consumer Medicine Information (CMI)

Your pharmacist can advise on CMI leaflets.

NPS – Better choices, Better health

Medicines Information

Phone: 1300 MEDICINE (1300 633 424)

Website: www.nps.org.au

The Poisons Information Centre

In case of poisoning phone 13 11 26 from anywhere in Australia.

Pharmacists are medicines experts.

Ask a pharmacist for advice when choosing a medicine.

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