

Glucose Monitoring

» A Guide to Checking Your Blood Sugar

Nearly 24 million U.S. residents have diabetes, according to the Centers for Disease Control and Prevention. If you are one of these people, managing your blood glucose (sugar) level is important for you to feel your best and to prevent complications. To keep track of your levels, you'll need a blood glucose meter.

Your health care provider will set your target blood glucose ranges for you, and let you know how many times per day you should self-monitor. People with type 1 diabetes will likely need to check their blood glucose levels at least three times a day or more, while people with type 2 diabetes may need to check their levels less often.

Choosing a Meter

Many blood glucose meters are on the market. You should consider the following points:

- the amount of blood needed — some meters include lancets that do not poke the skin as deeply as others.
- testing speed — some meters can give results in as little as 5 seconds, which is important if you're experiencing hypoglycemia (low blood sugar).
- overall size — some of today's meters are smaller and more portable, making them easier to carry in a small purse or pocket.
- memory capacity — some meters store a small number of readings, while others can store hundreds of readings.
- software availability — some meters can sync with a personal computer to store, print out and share readings with your health care provider.

Finally, the cost of the meter is important, but so is the price of the test strips. Some strips cost more than a \$1 each. This can be a big expense depending on how many times you test each day. In addition, you may need to choose a specific meter because it is covered by your health insurance.

How to Use the Meter

To measure your blood glucose using a meter, first wash your hands and completely dry them so that the testing site is free of any sugar residue.

Next, prick the tip of your finger with a lancet, and place a drop of blood on a test strip. Follow the meter's instructions for how to insert the test strip into the meter. The test strips are coated with a chemical that combines with the drop of blood. Meters measure your glucose in differ-

ent ways. For example, some measure the electricity that can pass through the sample, while others measure how much light reflects from it.

The glucose level will be displayed as a number. Always record it, whether on paper or electronically.

Proper Use Tips

Here are some tips to make sure you are using your meter correctly:

- Read the manufacturer's instructions carefully; if you have any questions, call the company's toll-free number.
- Use the test strips that are recommended for your meter so that you get accurate results.
- Take your meter to your health care provider's office, so he or she can watch you use it and make sure you are measuring blood glucose correctly.
- Perform quality control checks to ensure that your meter is measuring accurately. This may involve using a test quality control solution instead of blood. This solution is sometimes included with the meter, or it can be ordered from the manufacturer or a pharmacy. In addition, some meters have electronic controls to make sure the meter itself is working properly.
- Know when and how to clean your meter. Follow the included directions so that you know whether your meter requires regular cleaning or whether electronic alerts will tell you when to clean it.

New Glucose Monitoring Technologies

Although no blood glucose monitoring method trumps the fingerstick, some new technologies are available. For example, some meters can use blood from alternative sites, such as the upper arm, forearm, base of the thumb or the thigh. Blood from your fingertip still shows changes in glucose more quickly than any other site.

There are also two other options for glucose monitoring, but they do not take the place of regular fingersticks. These are as follows:

- A skin testing device that is worn like a watch pulls tiny amounts of fluid from the skin without puncturing it.
- A continuous glucose monitoring system consisting of a small plastic tube placed under the skin collects small amounts of liquid.

Finally, researchers are exploring technology that would use a beam of infrared light that penetrates the skin to measure blood glucose levels. ^{NP}

Some information is from the U.S. Food and Drug Administration, available at www.fda.gov.

Additional Notes:
