



Blood Glucose Monitoring



People with diabetes need to monitor their blood sugar (glucose) to keep it as close to normal as possible. Maintaining your targeted blood glucose range can help prevent or delay the onset of diabetes complications such as nerve, eye, kidney and blood vessel damage.

While anyone with diabetes should monitor their blood glucose, the American Diabetes Association recommends blood glucose checks if you have diabetes and are:

- taking insulin or diabetes pills
- on intensive insulin therapy
- pregnant
- having a hard time controlling your blood glucose levels
- having severe low blood glucose levels or ketones from high blood glucose levels
- having low blood glucose levels without the usual warning signs.

APPROPRIATE RANGES

Blood glucose ranges for adults with diabetes are as follows:

Glycemic Control

- A1C: <7.0%
- Preprandial plasma glucose: 90–130 mg/dl (5.0–7.2 mmol/l)
- Postprandial plasma glucose: <180 mg/dl (<10.0 mmol/l)
- Blood pressure: <130/80 mmHg.

Lipids

- LDL: <100 mg/dl (<2.6 mmol/l)
- Triglycerides: <150 mg/dl (<1.7 mmol/l)
- HDL: >40 mg/dl (>1.1 mmol/l).

CHECKING BLOOD GLUCOSE

Prior to using a lancet needle to check your blood sugar, use soap and water to wash your hands and the area where you are going to stick. To obtain a drop of blood, you can stick your finger, forearm, thigh or the fleshy part of your hand. If you use your fingertip, stick the side of your fingertip by your fingernail so you won't have sore spots on the part of your finger that you use frequently.

Blood glucose meters are small, computerized machines that give you blood glucose readings. Be sure your health care provider shows you the correct way to use your meter. With all the advances in blood glucose meters, using a meter is better than visual checking.

CHOOSING METERS

You can select from various types of meters—from those that have large print to those that have memory capability so you can store your results. The American Diabetes Association doesn't endorse any

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products or recommend one meter over another. If you plan to buy a meter, consider the following:

- What meter does your health care provider suggest? They may use certain meters often and know them best.
- What will it cost? Some insurance companies may only pay for a certain meter. Before you buy a meter, call your insurance company and ask how to get a meter and supplies. If your insurance company doesn't pay for blood glucose checking supplies, you may be able to get a rebate to put toward the purchase of your meter. You still have to consider the cost of the matching strips and lancets so shop around.
- How easy is the meter to use? Some have fewer steps than others, but they all vary.
- How simple is the meter to clean and maintain? How is the meter calibrated (set correctly for the batch of strips you are using)?

ACCURACY

Experts testing meters in the lab setting found them accurate and precise but meter errors usually come from the person who is checking the blood. For accurate results, follow each step carefully. In addition, keep in mind that certain factors can cause your meter to give a poor reading, including:

- a dirty meter
- a meter or strip that's not at room temperature
- an outdated test strip
- a meter not calibrated for the current box of test strips
- a blood drop that is too small.

KEEPING TRACK

After you check your blood glucose, record your results and use them to gauge how food, activity and stress affect your blood glucose. Examine your blood glucose record to see if your level is too high or too low for consecutive days at about the same time. If this keeps happening, you might need to consult with your health care provider about changing your diabetes care plan. Ask your health care provider if you should immediately report results out of a certain range.

Blood glucose numbers may leave you upset, confused, frustrated, angry or sad. Remind yourself that your blood glucose level is a way to track how well your diabetes care plan is working and not a judgment of you as a person.

Information adapted from: The American Diabetes Association. Managing Your Blood Glucose. Retrieved from www.diabetes.org/type-2-dia-betes/blood-glucose-checks.jsp Oct. 3, 2005.

This patient education handout was made possible through a sponsorship from:

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(Cut along the dotted line and photocopy this helpful handout for your patients.)

