

Monitoring Blood Glucose

Ingrid Adams, Dietetics and Human Nutrition

Blood glucose monitoring lets you know what your blood glucose level is at the time of testing. The reading provides helpful information on how well you are managing your diabetes. Keeping your blood glucose level within the target range set by you and your doctor reduces the risk of diabetes complications. It is important to check your blood glucose regularly so you can see how certain foods, activities and medicine affect your blood glucose level.

Benefits of monitoring blood glucose

- Tells you your blood glucose level at the time of testing
- Shows whether your blood glucose level is high, low, or within target range and allows you to correct it
- Helps you make appropriate changes in your behavior to manage your blood glucose level
- Helps the doctor know if your diabetes treatment plan is working

When should I check my blood glucose level?

Ask your doctor how often you should check your blood glucose and what your blood levels should be. The frequency will vary from person to person but usually includes before meals, two hours after meals and at bedtime. It is okay to test more often if you feel like your blood glucose is too high or too low.

You may have to check your blood glucose more often if you are sick, stressed, or doing any physical activity that is unusual for you, or if your blood glucose levels have consistently been out of your target range. Talk with your doctor or diabetes educator about how often to test in these situations.

What do I need to check my blood glucose?

- Blood glucose meter. The glucose meter displays a number that shows the amount of glucose in your blood. Make sure your blood glucose meter is working and that the test strips are not expired. Ask your doctor, pharmacist, diabetes educator, or other health care team member to show you the right way to use your meter.
- Lancet (tool used to get a drop of blood)
- Alcohol pads
- Soap and water to wash hands before testing

How to test blood glucose

- Wash and dry your hands.
- Insert the test strip into the meter.
- Wipe your finger with the alcohol pad.
- Prick yourself on the side of your finger with a sterile lancet.
- Squeeze your finger until the drop of blood forms.
- Bring the test strip in contact with the blood, according to the instructions for your meter.
- Record the blood glucose number (test result) in your diabetes record book. Include date, time, medicine you are taking and the dosage, what you ate, and exercise. Make a note about anything that was out of the ordinary.
- Dispose of the lancet and strip in a safe place.

TESTING TIPS

A safe place to dispose of used lancets and test strips:

Use an empty milk jug or a coffee can with a lid to collect used materials. Keep the container covered between uses. Before discarding, place tape around the lid or cover.

If you have problems getting a drop of blood:

Wash your hands in warm water and shake them at your sides for about 30 seconds. Then try again. You may want to try your thumb or fourth finger, as they have a rich supply of blood. All meters are slightly different, so always refer to the manual for your meter for specific instructions.

What should you do with the results when you check your blood glucose level?

- Use the results to make changes in your diet and physical activity, based on the plan you have made with your doctor or diabetes educator.
- Call your doctor if your blood glucose numbers are outside your target range for two to three days.

Questions to ask your doctor about your blood glucose level

- What should be the target range for my blood glucose level?
- What should I do if my numbers are higher or lower than the range set for me?
- What factors affect my test results?

Causes of high and low blood glucose levels.

HIGH	LOW
Eating more than usual	Eating less than usual or delaying or skipping a meal
Exercising less than usual	Exercising more than usual
Taking some medicines	Taking more insulin than needed
Not taking your diabetes medicines	Taking too much medicine
Sickness	Sickness
Stress	Drinking alcohol
Eating foods high in sugar	

Source: National Diabetes Education Program

Checking your blood glucose level each day lets you know what your glucose level is at the time of testing. It is important to have an A1C test at least twice a year. The A1C test shows your average blood glucose level over the past three months. Daily blood glucose testing along with the results of the A1C tests let you and your doctor know how well the treatment plan is working.

Hypoglycemia

Take immediate action!

Sometimes your blood glucose might be too low. This condition is called **hypoglycemia** and can be a serious problem. The actual number that means your blood glucose is too low will be different for different people. For some people, this number is 70, for others it may be 60, and for others it may be 75. **It is important to know what is normal for you** and to know how to take care of any problems that occur.

Symptoms of low blood glucose

Check your blood glucose level right away!

- Shakiness
- Sweating
- Heart pounding and racing
- Sudden nervousness
- Headaches
- Hunger
- Difficulty paying attention
- Tingling sensation around the mouth
- Sudden moodiness or behavior changes (such as crying for no reason)

If any of these symptoms are severe, don't wait to check your blood glucose—

Take immediate action!

To raise blood glucose quickly

Try any of the following:

- Take two glucose tablets.
- Drink half a cup of juice or regular soda.
- Eat two tablespoons of raisins.
- Eat one tablespoon of sugar or honey.
- Eat 4 to 5 saltine crackers.

Resources

American Diabetes Association. <http://www.diabetes.org/>.
National Diabetes Education Program. <http://ndep.nih.gov/index.aspx> and <http://diabetes.niddk.nih.gov/>.

References

American Diabetes Association. Living with Diabetes. Accessed April 20, 2015, at: <http://www.diabetes.org/living-with-diabetes/>.
American Diabetes Association (2011). Complete Guide to Diabetes (5th ed). Alexandria: VA.
American Diabetes Association. Checking your blood glucose. Accessed April 21, 2015, at: <http://www.diabetes.org/living-with-diabetes/treatment-and-care/blood-glucose-control/checking-your-blood-glucose.html>.
National Diabetes Education Program. Know your Blood Sugar Numbers. Accessed April 21, 2015, at: <http://ndep.nih.gov/media/NDEP-10-508.pdf>.
National Diabetes Information Clearinghouse. What I need to know about eating and diabetes. Accessed April 21, 2015, at: http://diabetes.niddk.nih.gov/DM/PUBS/eating_ez/index.aspx.

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