



Education

Blood Glucose Test

What is the blood glucose test?

This test measures the amount of glucose (sugar) in your blood. Sugar is an important source of energy, especially for the brain. The amount of glucose in your blood is carefully controlled by the endocrine (glandular) system. This system causes sugar to be stored or used for energy, depending on the needs of your body.

You can get glucose directly from some foods, such as table sugar. Your body also produces glucose when other foods, such as bread and cereal, are digested.

Why is this test done?

The most common use of the blood glucose test is to check for diabetes mellitus. The test is also used to see how well your body is metabolizing glucose and the function of organs involved in that process: the pancreas, the liver, and the receptors that bring glucose into cells.

How do I prepare for this test?

The simplest way to check for diabetes is to check your blood sugar (glucose) before you've had anything to eat or drink in the morning. In most cases you will fast overnight, eating nothing and drinking nothing but water after your evening meal and in the morning before your blood is drawn.

If you do shift work, it's best to have your blood checked after your usual sleeping time (at least 6 hours) and before you start your active day. When you wake up, you should have nothing to eat and nothing to drink except water before your blood is drawn.

You may need to avoid taking certain medicines before the test because they might affect the test result. Make sure your health care provider knows about any medicines, herbs, or supplements that you are taking. Don't stop any of your regular medicines without first consulting with your health care provider.

Talk to your health care provider if you have any questions.

How is the test done?

Your health care provider may poke your finger with a lancet and fill a small tube with the blood. Or a small amount of blood may be taken from your arm with a needle. The blood is sent to a lab.

Having this test will take just a few minutes of your time. There is no risk of getting AIDS, hepatitis, or any other blood-borne disease from this test.

How will I get the test result?

Ask your health care provider when and how you will get the result of your test.

What does the test result mean?

The normal fasting blood glucose range for adults in most labs is 70 to 100 milligrams per deciliter (mg/dL). The normal range may vary slightly from lab to lab. Normal ranges are usually shown next to your results in the lab report.

A fasting blood sugar level of 100 to 125 mg/dL is called impaired fasting glucose or prediabetes. A level of 126 mg/dL or higher can mean you have diabetes.

Your blood glucose level may be **higher than normal** (called hyperglycemia) if:

- You have prediabetes, a condition that can become diabetes.
- You have diabetes mellitus and:
 - you have not been taking insulin or diabetes medicines, or your diabetes medicines are not adequately controlling your condition
 - you have not been following a diabetic diet.
- You have gestational diabetes, a condition that can occur during pregnancy and usually goes away after delivery.
- You have kidney or liver disease.
- Your pancreas is inflamed.
- Your body is severely stressed from a bad infection or injury.

Your blood glucose level may be **lower than normal** (called hypoglycemia) if:

- You are diabetic and:
 - the dose of insulin or other medicine used to control your diabetes is too high
 - you took your medicine for diabetes but then did not eat.
- Your thyroid, pituitary, or adrenal glands are not working normally.
- You have liver disease.
- You have problems absorbing food.
- You are not getting the nutrients you need from your diet.

What if my test result is not normal?

Test results are only one part of a larger picture that takes into account your medical history and current health. Sometimes a test needs to be repeated to check the first result. Talk to your health care provider about your result and ask questions.

If your test results are not normal, ask your health care provider:

- if you need additional tests
- what you can do to work toward a normal value
- when you need to be tested again.

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