

Growth Hormone (Blood)



Does this test have other names?

No.

What is this test?

This test measures the amount of growth hormone (GH) in your blood.

GH is made in your pituitary gland. It affects height, bone, and muscle growth in children. It affects how adults feel and look, as well as their bone and muscle health.

GH is made in a pulsatile manner. Most GH is made while you sleep. When you're awake, little or possibly no GH is found in your blood. That makes it hard to test your GH level. Specialists have developed methods to figure out if you make too much or too little by testing your blood over time after you have been given a suppressing agent, such as glucose, or a stimulating agent, like insulin.

Why do I need this test?

You may need this test if your healthcare provider suspects you have a GH problem. Signs include:

- Decreased bone density
- Reduced muscle strength
- Increased lipid levels, or fats in your blood
- Acromegaly, or excessive GH disease. Acromegaly refers to an excessive enlargement of the limbs from the thickening of bones and soft tissue. This is caused by too much GH. In adults who have stopped growing, the areas most affected are the face, jaw, hands, and feet.

Your child might need this test if they have these symptoms:

- Slow growth
- Short stature with normal weight
- Delayed puberty
- Symptoms of gigantism. Gigantism is an abnormal overgrowth of the body caused from the production of too much GH before the growing ends of the bones have closed. A child with this condition becomes an unusually tall adult, but the body proportions are usually normal.

You may also have this test if you have been given GH treatment. This allows your healthcare provider to watch your dosage and change it if needed.

You may have this test if you are a young adult who has been taking GH for years but may no longer need it.

You may also need this test if you have acromegaly. This helps your healthcare provider keep an eye on your disease.

What other tests might I have along with this test?

Your healthcare provider may also order a blood test for insulin-like growth factor-1 (IGF-1). GH tells your liver to make IGF-1, so usually GH and IGF-1 are correlated. GH is secreted in pulses while you sleep, but IGF-1 is always found in your blood. That makes it much easier to find IGF-1 in your blood than GH.

Your healthcare provider may also order other tests to look for a possible growth hormone deficiency. These tests include:

- Insulin tolerance
- Growth-hormone-releasing hormone
- Insulin-like growth factor binding protein 3 (IGFBP-3)
- Tests that use other medicines like clonidine or glucagon

If your healthcare provider suspects that you have excess growth hormone, they may order an oral glucose tolerance test or tests of other hormones.

What do my test results mean?

Test results may vary depending on your age, gender, health history, and other things. Your test results may be different depending on the lab used. They may not mean you have a problem. Ask your healthcare provider what your test results mean for you.

If your levels are higher, it may mean you have:

- Acromegaly in adults
- Gigantism in children
- Noncancerous pituitary gland tumor in adults

If your levels are lower, it may mean you have:

- Growth hormone deficiency
- Hypopituitarism
- Noncancerous pituitary gland tumor in adults

Levels that are higher or lower may also be caused by chronic malnutrition, cirrhosis, and stress from surgery or a serious infection.

How is this test done?

The test is done with a blood sample. A needle is used to draw blood from a vein in your arm or hand. Several samples may be taken over a set period of time.

Does this test pose any risks?

Having a blood test with a needle carries some risks. These include bleeding, infection, bruising, and feeling lightheaded. When the needle pricks your arm or hand, you may feel a slight sting or pain. Afterward, the site may be sore.

What might affect my test results?

Certain foods and beverages, especially those high in protein, can affect your results. Certain medicines, including oral contraceptives containing estrogen, can also affect your results. Great physical or emotional stress and sleeping can affect your results.

How do I get ready for this test?

Your healthcare provider may ask you to stop taking oral estrogens for a time before this test. You also may be told to not eat or drink anything but water for a certain amount of time before the test.

Be sure your healthcare provider knows about all medicines, herbs, vitamins, and supplements you are taking. This includes medicines that don't need a prescription and any illegal drugs you may use.

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