Insulin-Like Growth Factor

Does this test have other names?

IGF, IGF-1, somatomedin C

What is this test?

This test measures the amount of insulin-like growth factor-1 (IGF-1) in your blood.

IGF-1 is a hormone found naturally in your blood. Its main job is to manage the effects of growth hormone (GH) in your body. Normal IGF-1 and GH functions include tissue and bone growth.

IGF-1 is formed in different tissues as a result of GH in the blood. Some disorders and diseases, such as pituitary tumors, can cause your body to make too much GH. Because IGF-1 measurements relate to GH measurements, this test is used to diagnose many problems linked to too much or too little GH.

Why do I need this test?

You may need this test if your healthcare provider believes that you have or are at risk for a GH-related disease, including:

- **Acromegaly, or GH over-production.** This causes too much growth of the hands, feet, and facial bones in adults.
- **Laron syndrome.** With this condition, the body is not sensitive to GH due to a change (mutation) to the growth hormone receptor gene. This results in short stature (dwarfism).

What other tests might I have along with this test?

You may also need these tests:

- X-rays to measure your bone age
- Thyroid function tests to rule out thyroid problems
- Other tests to check GH levels (insulin-like growth factor binding protein-3, or IGFBP-3)

Children may have tests in which they are given medicine such as clonidine, arginine, or glucagon. GH levels are measured afterward.

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.

IGF-1 measurements are adjusted for age because levels tend to decrease after puberty as you get older.

Results of IGF-1 are given in nanograms per milliliter (ng/mL). Normal ranges vary by age.

For diagnosing acromegaly:

- If your IGF-1 is normal but your GH is low, you likely don't have acromegaly.

- If your IGF-1 is high and your GH is high, you may have acromegaly.

Levels of IGF-1 that are higher or lower than normal may also be caused by:

- Hypothyroidism, or low thyroid hormone levels
- Liver disease
- Uncontrolled diabetes mellitus

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.

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?

Malnutrition or not eating (fasting) will affect your results. Age also affects your results, as both IGF-1 and GH decline after puberty.

How do I get ready for this test?

You don't need to get ready for this 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.