

Free and Bound Triiodothyronine (Blood)



Does this test have other names?

Triiodothyronine test, T3 test, thyroid function test, FT3

What is this test?

This blood test measures the level of the hormone triiodothyronine (T3) in your blood. The hormone is made by your thyroid gland. The thyroid is a butterfly-shaped gland near the base of your throat above your collarbones.

The thyroid gland makes T3 in response to thyroid stimulating hormone (TSH). TSH is made by the pituitary gland in your brain.

T3 works with another thyroid hormone called T4 to help control how your body stores and uses energy to do its work (metabolism). The thyroid hormones help control many of your body's other processes, including:

- Breathing
- Heart function
- Nervous system function
- Body temperature
- Cholesterol level
- Metabolism that affects your weight
- Brain development
- Moisture in the skin
- Menstruation

The T3 test is used to help diagnose thyroid problems, such as hyperthyroidism. Hyperthyroidism means the thyroid gland makes too many thyroid hormones.

T3 has 2 forms: bound and free. Bound T3 is attached to a protein and free T3 is not attached to anything. The free T-3 test measures only the amount of free T3. The total T3 test measures both free and bound T3 in your blood.

Why do I need this test?

You may need this test if you have symptoms of hyperthyroidism. Symptoms include:

- Anxiety and mood swings
- Irritability
- Weakness in the arms and legs
- Sleeping problems
- Hand tremors
- Sweating

- Low tolerance for heat
- Irregular heartbeat
- Extreme tiredness
- Unexplained weight loss
- More frequent bowel movements than usual
- Eye irritation or bulging eyes (these are symptoms of Graves disease, a common cause of hyperthyroidism)
- Menstrual irregularity
- Enlarged breasts and erectile dysfunction in men
- Thinning of hair
- High blood sugar
- Shortness of breath
- More urination

You may also need this test if you are at risk for hyperthyroidism and you:

- Are older than 60 years of age
- Have a thyroid problem
- Have a family member with a thyroid problem
- Have type 1 diabetes
- Have pernicious anemia, a type of anemia caused when your body can't absorb vitamin B-12
- Have primary adrenal insufficiency, a hormone disorder
- Eat a lot of foods rich in iodine
- Take medicine that contains iodine
- Have recently been pregnant or had a baby

You may also need this test if you have symptoms of hypothyroidism. This is when the thyroid gland does not make enough thyroid hormones. Symptoms include:

- Extreme tiredness
- Low tolerance for cold
- Weight gain
- Hair loss
- Swelling around eyes
- Slower heart rate
- Shortness of breath
- Constipation

- Menstrual irregularity
- Loss of consciousness (rare)

What other tests might I have along with this test?

You may also need these tests:

- T4 test
- TSH test
- Thyroid scan
- Radioactive iodine uptake test
- Thyroid-stimulating immunoglobulin (TSI) test

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.

Results of this test are given in nanograms per deciliter (ng/dL) and picograms per deciliter (pg/dL). A normal level of total T3 (free and bound) in adults in the blood is 80 to 200 ng/dL. The normal level of free T3 in the blood is 260 to 480 pg/dL.

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?

Taking thyroid hormone medicines or certain other medicines, such as estrogen or methadone, can affect your test results. Eating a diet high in iodine-rich foods, such as seaweed, may also affect your test results.

How do I get ready for this test?

You don't need to prepare for this test. But be sure your healthcare provider knows about all the 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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