

# Total Testosterone



## Does this test have other names?

Testosterone (total), serum testosterone, free testosterone

## What is this test?

This test measures the level of the hormone testosterone in your blood. Testosterone is a male sex hormone (androgen) that helps male features develop. Testosterone is made in the testes in males, the ovaries in females, and in the adrenal glands.

Testosterone causes the changes that occur in boys during puberty. It helps hair, muscles, penis, and testes to grow. Testosterone also causes a boy's voice to deepen. Males continue to make testosterone. In adult males, it boosts sex drive and helps the sperm mature.

In females, the ovaries make small amounts of testosterone. It helps many organs and body processes in females.

The pituitary gland in your brain controls the amount of testosterone your body makes. It does this by using other signaling hormones such as luteinizing hormone.

Most of the testosterone in the blood attaches to 2 proteins: albumin and sex hormone binding globulin (SHBG). Some testosterone is not attached to proteins. This testosterone is called free testosterone. Free testosterone and albumin-bound testosterone are also referred to as bioavailable testosterone. This is the testosterone that is easily used by your body.

If your healthcare provider thinks that you have low or high testosterone, they will first test total testosterone levels. This looks at all 3 types of testosterone. The free testosterone can help give more information when total testosterone is low.

Both males and females can have health problems because of low or high levels of testosterone. Females with high levels of testosterone may have polycystic ovary syndrome. This condition can cause:

- Infertility
- Lack of menstruation
- Acne
- Obesity
- Blood sugar problems that can lead to type 2 diabetes
- Extra hair growth, especially on the face

Testosterone levels in males drop as they age. This is not considered to be hypogonadism. The FDA currently advises against treating males with low testosterone caused only by aging.

## Why do I need this test?

You may need this test if you have symptoms of low testosterone.

Symptoms of low testosterone in males include:

- Large breasts
- Low sex drive or lack of interest in sex

- Trouble getting an erection
- Low sperm count and other fertility problems
- Changes in the testicles
- Weak bones
- Irritability
- Trouble concentrating
- Loss of muscle mass
- Hair loss
- Depression
- Fatigue
- Anemia

Symptoms of low testosterone in females include:

- Fertility problems
- Missed or irregular menstrual periods
- Osteoporosis
- Low sex drive
- Changes in breast tissue
- Vaginal dryness

## What other tests might I have along with this test?

You may also have other blood tests to check hormone levels. These include:

- Follicle-stimulating hormone (FSH) test
- Luteinizing hormone (LH) test
- Thyroid stimulating hormone (TSH) test
- Prolactin test

You may also need to have:

- Biopsy of the testicles
- Imaging test, such as an MRI of the pituitary
- Semen analysis
- Central hormones (tests of the pituitary gland)

## 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.

The results of this test are given in nanograms per deciliter (ng/dL). Normal test results show total testosterone levels of:

- 270 to 1,070 ng/dL for men (depending on age)
- 15 to 70 ng/dL for women

If your testosterone levels are higher or lower than normal, you may have a condition that affects your testosterone production. If your levels are higher than normal, you may have a tumor on the testes or ovaries.

## 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. This test is usually done in the morning. This is because testosterone levels tend to be highest at that time. But you may need to have this test more than once, and at different times of the day, to confirm low testosterone levels. This is because your testosterone level can change from morning to evening and from day to day.

## 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?

Some medicines may affect your test results. These include antifungal medicines such as ketoconazole and hormone medicines. Some foods that have phytoestrogen can also affect the testosterone levels. These include some fruits and vegetables, wine, and tea. Having the test done late in the day may show that your testosterone level is lower than it really is.

## 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 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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