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Low Testosterone in Men

Facts about low testosterone in men

- It's called low T, testosterone deficiency, androgen deficiency, and hypogonadism.
- Low T is more common in men 45 years and older.
- Testosterone levels slowly decrease as men get older. But this doesn't mean all older men will get low T.
- Although not as common, young men can also have low T.
- Low T affects more than just a man's sex drive.
- Symptoms are not specific. They can be caused by other conditions too.
- Low T is not the same thing as erectile dysfunction (ED). They are 2 different conditions. But ED can be a symptom of low T. And low T can be a cause of ED.
- Sleep apnea may be linked to low T, but testosterone therapy can make sleep apnea worse.
- In many instances, low T may not be "curable." Men who are being treated for it have to be treated for life. It may take several months of therapy before symptoms improve.
- Treatment can cause side effects.

What is low testosterone?

Experts define it in different ways. Some say it's simply a low amount of testosterone. Most say it is a combination of a low amount of testosterone and a few symptoms.

Who should be tested for low T?

The Endocrine Society says testing should be done only on men who have symptoms or a condition that puts them at high risk.¹ They don't think all men should be tested. Age alone is not a criterion for testing.



Low testosterone is a common disorder.

The number of men with low T increases with age. But it's hard to know the overall prevalence. Different results have been obtained in different studies. The prevalence is higher in studies that defined low T based only on testosterone levels. It's lower when prevalence was based on low testosterone levels plus symptoms. If older patients are studied, prevalence will be higher than if younger patients are studied.

Here are results from a couple studies.^{2,3}

	Low T	Low T Plus Symptoms
Mulligan et al ^a	39%	—
Araujo et al ^b	24%	6%

^a Men over 45 year of age (mean 62 ± 11 years).

^b Men 30 to 79 years of age (mean 47 ± 12).

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What are the symptoms of low T?

Symptoms include:

- Decreased or no sex drive
- Weaker and fewer erections (erectile dysfunction [ED])
- Loss of male sex characteristics
 - Loss of body hair
 - Small or shrinking testes
 - Decreased muscle mass and strength
- Low sperm count/infertility
- Increased body fat (BMI)
- Decreased energy and interest in doing things
- Depression: feeling sad or blue
- Irritability
- Hot flashes
- Poor concentration and memory
- Sleep disturbances
- Breast discomfort and/or increased size
- Osteoporosis (low bone density)
- Decreased hemoglobin, mild anemia

Who is at risk for low T?

After age 30, the amount of testosterone slowly decreases. Older men (usually those over 40) are at risk. But they don't need to be tested unless they have symptoms.¹ Men who have certain conditions are also at risk. They should be tested.¹ These conditions include:

- Chronic obstructive lung disease
- Diabetes, metabolic syndrome
- Heart disease
- End-stage kidney disease
- HIV-related weight loss
- Infertility
- Osteoporosis
- Pituitary tumor, radiation, or disease
- Treatment with medicines that affect testosterone (eg, glucocorticoids, opioids)

Are all testosterone tests the same?

No. Commonly used immunoassay tests may not be accurate.⁴ They may give falsely high results.⁴ This is because they skip 2 important steps: extraction and chromatography (separation). Experts at the Endocrine Society recommend testing that uses these 2 steps.⁴ They think a test using extraction, chromatography, and mass spectrometry (MS) is most likely the best test. The LC/MS/MS test uses extraction, chromatography and 2 mass spectrometry steps.

In the news—testosterone therapy and risk for heart problems

A study released just this year suggested that testosterone therapy may cause an increased risk of heart attack.⁵ This appeared to be true for older men with pre-existing heart disease. In the last few years, a couple other studies had similar results.^{6,7}

To help doctors learn what these studies mean, the Endocrine Society has released a statement. It says more studies are needed to know for sure if the therapy can cause heart problems. In the meantime, they advise doctors to talk with their patients about the potential risk. This is especially important if the patient has pre-existing heart disease. They also advise doctors to follow the current Endocrine Society Clinical Practice Guideline (reference 1).

To read the full statement, go to https://www.endocrine.org/~media/endosociety/Files/Advocacy_and_Outreach/Position_Statements/Other_Statements/The_Risk_of_Cardiovascular_Events_in_Men_Receiving_Testosterone_Therapy.pdf

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What else is important when testing?

Doctors should always confirm testosterone results before diagnosing low T.¹ This is because 1) the body secretes testosterone in a pulsatile fashion and 2) levels show a circadian variation. To minimize variation, doctors collect specimens as close to 7 to 8 AM as possible. Also, testing should be done when the patient is not ill.

If testosterone levels are low, doctors may need to do more tests to find out why.¹ It could make a difference in how they treat the patient.

How is low T treated?

Doctors prescribe testosterone for men with low T. There are testosterone creams, gels, patches, and injections. Testosterone therapy is not for everyone though. Patients with low T should talk with their doctor about the risks.

What testing is needed during treatment?

Men being treated might need the following tests¹:

- Total testosterone 3 to 6 months after starting therapy
- Hematocrit 3 to 6 months after starting therapy and annually thereafter (to detect possible increases in the number of red blood cells)
- Bone density after 1 to 2 years of therapy; this test is just for men with osteoporosis or low-trauma fracture
- DRE and PSA 3 to 6 months after starting therapy and then per screening guidelines; doctors should do these tests before starting treatment too

References

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