



Fact Sheet

From ReproductiveFacts.org



The Patient Education Website of the American Society for Reproductive Medicine

Testosterone use and male infertility

What is testosterone?

Testosterone (also referred to as “T”) is a hormone produced in men by the testes (testicles). It is involved in muscle and bone development, hair growth, and development of sex organs such as the penis and prostate. It contributes to a man’s sense of overall well-being and sexual function. Testosterone is also required for sperm production.

What is low testosterone?

This medical condition is also called hypogonadism. A low T level is one that is below the normal range, which can vary widely. It is measured with a blood test. Some signs or symptoms of low testosterone are problems with erections or decreased sex drive. Testosterone levels should be checked early in the morning, and an abnormal test should be repeated. Testosterone levels vary throughout the day, and a man’s T level will vary from one test to the next.

Can low testosterone be treated?

Men with low T levels and symptoms of low T can consider treatment. Men with low T can be treated with medicine through shots, gels, patches, or implantable pellets. There are advantages and disadvantages to each type of treatment. Recently, the number of men receiving T treatment in the United States has increased significantly. Medications for low testosterone are now marketed directly to patients in the media.

Does low testosterone cause infertility?

Low testosterone does not cause infertility. Sperm production is actually stimulated by hormones other than testosterone. Testosterone is required for sperm production, but the level in the testes where sperm are produced is many times higher than in the blood. Even men with low or borderline T levels may have sufficient T levels for sperm production.

How does testosterone treatment cause infertility?

One side effect of testosterone treatment is infertility. Testosterone treatment decreases sperm production by decreasing levels of another hormone, follicle-stimulating hormone (FSH), which is important for stimulating sperm production. In most cases, the infertility caused by testosterone treatment is reversible. Men who have received testosterone for a shorter period of time probably recover more quickly. For a small percentage of men, the infertility is not reversible. It is generally believed that testosterone given by shots and pellets are more likely to cause infertility than gels, although any form of testosterone supplementation can disrupt the normal hormonal balance required for sperm production.

If a man is taking testosterone and wants to have children, what are his options?

He should consult with a male reproductive specialist. Men should avoid testosterone treatment until they are done trying to have their own biological children. If a man has a pituitary disorder that is causing the low testosterone, then he can be treated with a pituitary hormone (hCG) that will increase his T level without disrupting sperm production. When he is done having children, he can take testosterone to treat his low T level directly.

If a man is infertile and taking testosterone, what are his options?

A man should see a male reproductive specialist who will perform a complete history and physical examination for him. He will need to have hormone testing, at least two semen analyses, and possible additional testing performed. He will need to stop taking testosterone and have hormone tests and semen analyses checked periodically as it could be months before his sperm count returns to baseline.

How else can low testosterone be treated?

There are other medicines, such as clomiphene citrate, letrozole, and fertility injections of pituitary hormones that men can take to raise testosterone levels. This is considered off-label use of these medications. Hormone levels and semen analyses should be monitored as these medications can cause hormone abnormalities and occasionally decrease sperm counts. A man should see a reproductive specialist for additional evaluation and counseling about his condition.

My doctor suggested putting me on testosterone. I may want to have children in the future. What should I do?

Patients and providers should be aware that testosterone treatment causes lowered sperm counts and hormone alterations. Men of reproductive age should avoid testosterone treatment if they want to have biological children or consider freezing sperm for use later.

Are there other risks to taking testosterone?

The long-term safety and effectiveness of testosterone supplementation are not known. Men considering treatment should discuss these risks and possible benefits with their health-care provider.

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