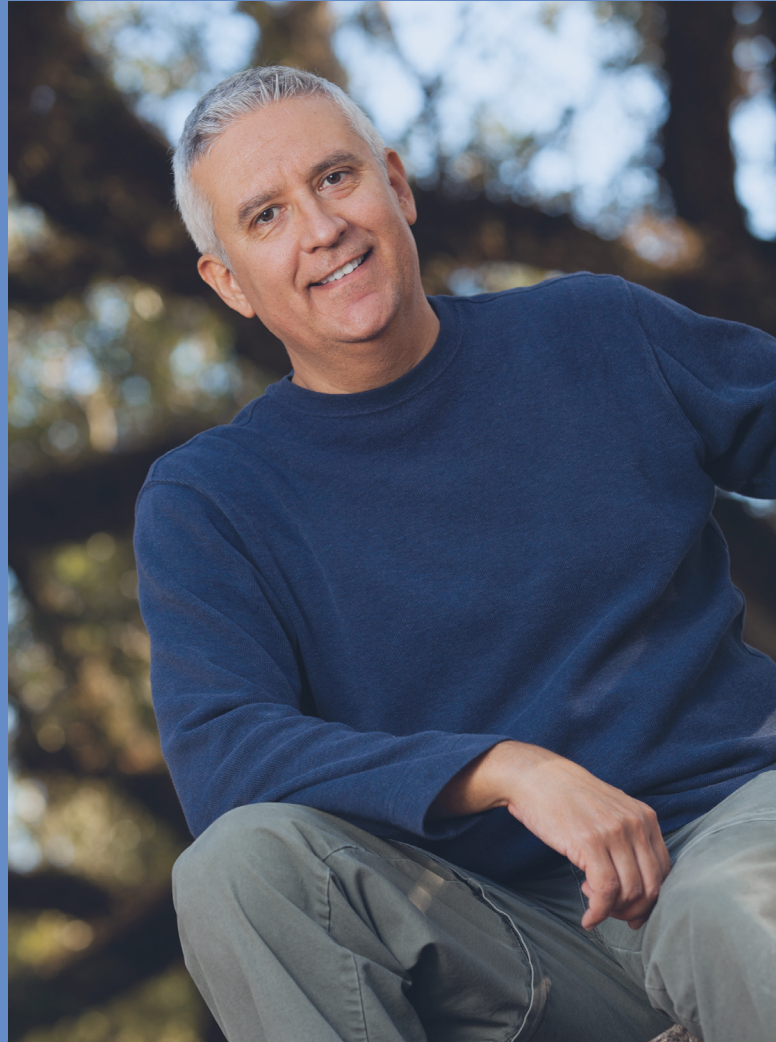


LOW TESTOSTERONE

A PATIENT'S GUIDE



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“I’m always feeling tired.”

“I’ve lost interest in sex.”

“I’ve been feeling depressed lately.”

“My erections aren’t the same, what’s happening to me?”

Many men experience symptoms of low testosterone, or hypogonadism, especially as they grow older. Many conditions can cause a decline in testosterone, the male sex hormone circulating in the blood. Low testosterone can cause a man to feel tired, lose interest in sex, experience erectile dysfunction, feel depressed or make it difficult to manage other health problems.

Our men’s health specialists are dedicated to helping you find relief from the symptoms of low testosterone. We understand that low testosterone can adversely affect your sexual health as well as your overall well-being.

WHAT IS TESTOSTERONE AND WHY IS IT SO IMPORTANT?

Testosterone is a sex hormone produced by the testicles in response to natural signals that come from the brain.

Testosterone surges during puberty to allow for normal growth and development then plays a critical role in supporting general and sexual health in adult men.

Testosterone decreases naturally with age, but if levels drop quickly or below a certain level, a man can develop bothersome symptoms that significantly impact quality of life. Low testosterone can also make it difficult to lose weight, maintain muscle mass, and manage depression and diabetes.

Signs and symptoms of low testosterone

- Decreased energy
- Decreased libido (sex drive)
- Erectile dysfunction
- Loss of muscle mass
- Increased waist circumference (growing belt size)
- Decreased exercise tolerance
- Change in mental acuity or cognitive function
- Irritability or mood change and/or depression
- Mild anemia (iron deficiency)
- Osteoporosis (brittle bones)

WHAT CAUSES LOW TESTOSTERONE?

While testosterone levels in the body can decline as a man ages, general health and medical conditions can also affect testosterone levels, including:

- Type 2 diabetes – Studies have shown that men with diabetes are more likely to develop low testosterone, and, on the flip side, some men with low testosterone are more prone to develop diabetes.
- Obesity
- Sleep apnea
- Hypertension
- Damage to the testes from trauma, radiation, or infections
- Chronic pain and chronic use of pain medications
- Alcohol or drug abuse (including chronic marijuana use)



DIAGNOSING LOW TESTOSTERONE

Low testosterone can be difficult to diagnose. Often times, men have symptoms that they do not share with their doctors. Other times, symptoms are attributed to other health problems. This can happen since some of the symptoms of low testosterone are non-specific and may be related to other underlying health conditions.

Your provider will begin by taking your medical history and performing a physical exam. You will also receive instructions to complete blood testing to check the amount of testosterone and other hormones in your bloodstream. The timing of this blood work is very important since hormone levels change throughout the day. Your test results and your physical exam will help your urologist identify medical conditions that may be contributing to your symptoms and develop a personalized treatment plan.

HOW IS LOW TESTOSTERONE TREATED?

If low testosterone has been diagnosed based on your symptoms and results of your blood test, your urologist will discuss **Testosterone Replacement Therapy (TRT)**.

Treatment with testosterone may:

- Increase energy
- Increase sex drive
- Improve erectile function
- Increase muscle mass and improve bone density
- Improve depression and fatigue

Testosterone replacement therapy (TRT) increases the amount of the hormone in your bloodstream and is administered in one of several ways:

- **Testosterone skin patch** – A patch containing the hormone is applied to the body to deliver testosterone for 24 hours. The patch is changed daily.

Side effects:

- The patch may cause skin irritation at the site of application.

- **Testosterone gel** – The gel is applied daily to either the shoulders, upper arms, thighs, underarm or intranasal area to deliver testosterone over a period of 24 hours.

Side effects:

- Transfer of the gel to other people through physical contact is possible and could pose a risk. Contact with children and women (especially pregnant women) should be avoided.

- **Intramuscular injection** – A short-acting dose of testosterone is injected every one to two weeks. A long acting dose of the hormone can be used every 10 weeks.

Side effects:

- Home intramuscular injections produce greater fluctuations in hormone concentrations, which may also cause a swing in symptoms. These injections are also more likely to cause an increase in red blood cell counts compared to some newer formulations.
- Long-acting injections are administered in-office to monitor and limit the risk of very rare breathing symptoms.



- **Subcutaneous injections** – An auto-injector testosterone therapy that can be self injected at home once a week. Men report less pain at the injection site, the therapy is easier to travel with, and there is no need to handle needles. This therapy may take longer to become effective.

Side effects:

- Minor injection site reactions or irritation can occur.
- **Oral medication** – A pill or pills taken once or twice daily which delivers consistent levels of testosterone safely, avoiding the liver issues caused by older and unregulated forms of oral testosterone.

OTHER TREATMENT OPTIONS

- **Insertion of sub-dermal testosterone pellets** – Small pellets containing testosterone are inserted beneath the skin, providing a slow-release of testosterone into the body over time. This is performed in a 10 minute office procedure under local anesthesia every three to six months.

Side effects:

- Localized pain and/or bleeding at insertion site
- Infection (although not common)

All forms of testosterone therapy can cause side effects, including:

- Increased red blood cells (polycythemia), which may predispose to clotting issues
- Decreased testicle size
- Decreased sperm production and infertility
- Fluid retention
- Nipple tenderness or puffiness (gynecomastia)
- Possible BPH/enlarged prostate
- Possible increased risk of heart attack and stroke

General health and medical disorders can affect testosterone levels including obesity, diabetes, sleep apnea, hypertension, chronic pain, and chronic use of pain medications. In fact, one study found low testosterone levels in 33 percent of male diabetics.

IS TESTOSTERONE REPLACEMENT THERAPY RIGHT FOR ME?

In general, hormone replacement therapy is safe under the supervision of an experienced physician. Before beginning TRT, your urologist may perform a prostate exam and order a PSA blood test to assess the health of your prostate.

Every man reacts differently to testosterone replacement therapy, and symptom management and improvement varies. Your provider will work with you to monitor the benefits and side effects of TRT to ensure your overall good health.

Low T affects an estimated two to four million men in the United States, and the prevalence increases with age. The majority of men with Low T present with one or more symptoms including a decrease in libido, erectile dysfunction, poor energy and concentration, decreased muscle mass and increased irritability or moodiness.

