

## What is testosterone?

Testosterone is the sex hormone that helps to maintain men's muscle strength and mass, facial and body hair, and a deeper voice. Testosterone levels can affect men's sex drive, erections, mood, muscle mass, and bone density. Testosterone is also needed for men to produce sperm.

## What is low testosterone?

Some men have low levels of testosterone. This is called hypogonadism or low T. Testosterone levels can decrease with age, certain risk factors, or health problems.

## Risk Factors

- Diabetes
- Obesity
- HIV
- High cholesterol
- High blood pressure
- Long term opioid use
- Undescended testis
- Trauma
- Pituitary disorders
- TB
- Aging
- Chemotherapy
- Mumps
- Sleep apnea
- Klinefelter's syndrome
- Hemochromatosis
- Kallman's syndrome

## What are the signs and symptoms of low testosterone in men?

### Sexual signs:

- Low sex drive
- Poor erections

### Non-sexual signs:

- Weight gain
- Lower energy/fatigue
- Reduced muscle mass
- Feeling depressed or irritable
- Anemia (Low iron)
- Difficulty focusing
- Hair loss or slow growth
- Poor sleep
- Loss of calcium from bone

## **How is low testosterone diagnosed?**

A blood test is done to check testosterone levels preferably in the morning before noon. A normal testosterone level is between 300-1000. If you are below 300 and symptomatic, treatment is needed. However, if levels <400 with symptoms, then testosterone replacement is considered.

A PSA is usually drawn to check for signs of prostate cancer prior to starting treatment. Your provider may also do a blood test to measure blood count in your body because blood count levels can increase if you take testosterone. Additional labs can be checked if testosterone levels are normal but you are still symptomatic for low testosterone. Also, if you are under 35 years old and have low testosterone, additional labs may be done to check pituitary function.

## **Testosterone replacement therapy**

Not everyone chooses treatment but if you do, treatment can be given using:

- Skin gel
- Shots
- Long acting pellets inserted under skin
- Testosterone patch
- Nasal spray

Clomid is also being used more frequently as an alternative to testosterone replacement. Clomid is a pill that is considered off label use for men but can be very effective at increasing testosterone levels.

Clomid blocks estrogen at the pituitary and increases testosterone production. It does not cause infertility and has less risk of increasing blood count.

## **Replacement risk factors**

- Infertility
- Hypertension (5% of patients will develop high blood pressure)
- Erythrocytosis (Increase in red blood cells). This symptom can occur in the first 6 months. Treatment usually requires scheduled blood donations.
- Acne
- Breast soreness
- Smaller testicles

Current research does not offer final answers about whether taking testosterone will increase your risk of prostate cancer or heart disease. Its best to discuss all health conditions with the physician prior to starting treatment to determine if you are good candidate for testosterone replacement.

# Low Testosterone

## **What to expect after treatment**

Testosterone replacement has been shown to:

- Improve energy
- Improve sex drive
- Increase muscle mass
- Lower body fat
- Helps sleep
- Improve erections
- Raise energy levels
- Improve mood

It may take 2-6 months before noticing any difference in symptoms. Testosterone therapy is a life-long therapy. Stopping treatment will result in low testosterone levels.

## **Follow-up Requirements**

After starting testosterone replacement, you will need to get labs drawn for PSA, CBC (blood count) and testosterone at 2 months, then 4 months later, and then every 6 months. A visit with physician or advanced provider will need to be scheduled after labs drawn to discuss results.

If you think you have low testosterone please schedule an appointment with physician or advanced practice provider for an evaluation and to see if Testosterone therapy is right for you.