

THE TRUTH ABOUT TESTOSTERONE TREATMENTS

You've seen the ads. You've heard the hype. But testosterone supplements aren't the anti-aging cure-alls that they're marketed as. The use of doctor-prescribed testosterone replacement therapy, however, is safe and can be effective for men who are diagnosed with consistently abnormal low testosterone production and symptoms that are associated with this type of androgen deficiency.

TESTOSTERONE FACTS FOR MEN

-  **Age** Low testosterone comes with age—T levels naturally decrease by 1% each year after age 30, though don't severely deplete, even in advanced age
-  T production may be disrupted by disorders of the testicles, pituitary gland, or brain
-  T levels change from hour to hour—highest in the am; lowest at night
-  T levels can temporarily lower due to too much exercise, poor nutrition, severe illness, and with certain medications
-  Normal T levels should be between 300-1,000 ng/dL (nanograms per deciliter), depending on age and lab used
-  Testosterone must be measured more than once for accurate assessment

TESTOSTERONE THERAPY IS ONLY RECOMMENDED FOR HYPOGONADISM PATIENTS

Boosting testosterone is NOT approved by the US Food and Drug Administration (FDA) to help improve your strength, athletic performance, physical appearance, or to treat or prevent problems associated with aging. Using testosterone for these purposes may be harmful to your health.

MALE HYPOGONADISM = A COMBINATION OF LOW TESTOSTERONE LEVELS AND THE PRESENCE OF ANY OF THESE SYMPTOMS:

- Drop in sex drive (libido)
- Erectile dysfunction (ED—inability to get or keep an erection) and loss of spontaneous erections
- Lowered sperm count and infertility (inability to have children)
- Breast enlargement or tenderness
- Reduced energy
- Increased irritability, inability to concentrate, and depressed mood
- Hot flashes (when testosterone levels are very low)

YOU SHOULD NOT RECEIVE TESTOSTERONE THERAPY IF YOU HAVE:

- Blood clots
- Prostate or breast cancer (or suspected)
- Elevated prostate specific antigen (PSA) levels
- Enlarged prostate causing difficulty with urination
- Heart attack or stroke within the last six months
- High number of red blood cells
- Planning to have children
- Untreated sleep apnea (obstructed breathing during sleep)

Visit endocrine.org for more information.

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Developed for patients based on *Testosterone Therapy in Men with Hypogonadism*, an Endocrine Society Clinical Practice Guideline.

THERE ARE VARIOUS METHODS OF TESTOSTERONE THERAPY

Method of treatment depends on the cause of low testosterone, the patient's preferences, cost, tolerance, and concern about fertility.



INJECTIONS: self or doctor administered in a muscle every 1-2 weeks; administered at a clinic every 10 weeks for longer-acting. Side effects: uncomfortable, fluctuating symptoms.



GELS/SOLUTIONS: apply to upper arm, shoulder, inner thigh, armpit. Side effects: may transfer to others via skin contact—must wait to absorb completely into skin.



PATCHES: adhere on skin every day to back, abdomen, upper arm, thigh; rotate locations to lessen skin reaction. Side effects: skin redness and rashes.



BUCCAL TABLETS: sticky pill applied to gums 2x a day, absorbs quickly into bloodstream through gums. Side effects: gum irritation.



PELLETS: implanted under skin surgically every 3-6 months for consistent and long-term dosages. Side effects: pellet coming out through skin, site infection/bleeding (rare), dose decreasing over time and hypogonadism symptoms possibly returning towards the end of dose period.



NASAL GEL: applied by pump into each nostril 3x a day. Side effects: nasal irritation or congestion.

THERE ARE RISKS TO TESTOSTERONE THERAPY

- Elevated red blood cell count
- Acne
- Sleep apnea
- Possible prostate and/or breast enlargement

There is no firm scientific evidence that long-term testosterone replacement is associated with either prostate cancer or cardiovascular events.

The FDA requires that patients are made aware that the possibility of cardiovascular events may exist during treatment.

Prostate cells are stimulated by testosterone, so be extra vigilant about cancer screenings.

African American men over age 45—especially those with family history of cancer—are already at risk for prostate cancer.



YOUR DOCTOR SHOULD BE YOUR PARTNER IN CARE

Hypogonadism is a common condition in the male population, with a higher prevalence in older men, obese men, and men with type 2 diabetes. If you are concerned about your testosterone levels, it is important to talk to your doctor about ways to manage.

Visit “Find an Endocrinologist” at endocrine.org.



Patients have questions. We have answers.

Endocrine Society is your trusted source for endocrine patient education.

Our free, online resources are available at endocrine.org/patient-engagement

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