



## Natural Ways to Boost Testosterone

Testosterone plays a very important role in men's health. It helps in maintaining muscle mass, bone density, energy, sex drive and overall health.

Signs of low testosterone can be low semen volume, memory loss, hair loss, smaller testicular size, fatigue, loss of muscle mass, low sex drive, difficulty with erections, increased body fat, decreased bone mass, mood changes and more.

Replacing testosterone when blood levels and symptoms show a deficiency can improve a man's quality of health and life. However, if levels are not considered "deficient" enough or the possibility of fathering children is present, then "natural" ways of boosting testosterone may help some to improve their levels. If someone replaces testosterone (with testosterone itself) that can shut off one's natural production of testosterone by the testes and therefore affect spermiogenesis, and therefore fertility. It can sometimes be recovered by 1 - 2 years, but possibly never.

### Testosterone Boosters

#### Lifestyle

Sleep	Many studies have proven the effect of reduced sleep leading to decreased testosterone production. How much sleep your body needs is variable but for most 7 - 9 hours per night.
Exercise	All forms but especially resistance training - how much again varies but 30 minutes everyday is a place to start.
Weight	Overweight (pre-diabetic) men are more likely to have low testosterone than normal weight men.
Nutrition	Low sugar (studies show glucose can decrease testosterone levels) Adequate protein Good fats Limit carbs to good carbs Tuna, egg yolks, oysters, shellfish, beef
Alcohol or Drug Use	No surprise that studies show excess alcohol and many drugs (recreational or medical) can decrease testosterone levels.
Sunlight Happiness Laughter	Increases testosterone levels

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## Testosterone Boosters Supplements

Most supplements have mixed studies on benefits and there are many more that propose to help without real proof and potentially risks, besides costing a lot. These are just a few with possibly the best overall benefits for boosting testosterone and or other health benefits. However, there are many more.

1. **D-Aspartic acid** is a natural amino acid. Research suggests it increases LH (luteinizing hormone) which makes the Leydig cells in the testes produce more testosterone. This can aid in sperm quality and production as well. Studies show improvement in most testosterone deficient men but not men with normal levels. Dose of 2-3 grams per day seem to be most effective in testosterone deficient men.
2. **Vitamin D** is a fat-soluble vitamin produced in the skin when exposed to sunlight. These days most do not get enough exposure to sunlight leading to inadequate D levels. Increasing Vitamin D may boost testosterone production in the body by providing needed steroid precursors for production. It may help with other health issues as well, including bone mass and immune system. Some foods have Vitamin D but generally the best way to increase Vitamin D is sun exposure and supplements. Most require units of Vit D3 daily with K2 for absorption.
3. **Zinc** is an essential mineral that functions in more than 100 chemical processes in the body. Studies have shown in men with low T and low zinc increasing their zinc may help improve testosterone levels. Zinc may be effective to recover from high intensity exercise. Zinc also can help with health issues including improving the immune system. Dosages vary with Zinc supplements. Zinc Picolinate made by Thorne Research is thought to be high quality. Take (1) 30mg tablet daily.
4. **Ashwagandha** is an herb used in ancient Indian medicine. It is used as an "adaptogen" which means it helps your body deal with stress/anxiety. Some studies have shown improvement in sperm quality in infertile men, improved exercise performance, strengthening, fat loss, while boosting testosterone levels. It's mechanism of action is possibly by reducing the stress hormone cortisol.
5. **Ginger** is a common spice has been used in alternative medicine for centuries. Strong research shows reduction in inflammation, anti-emetic and improving testosterone levels and sperm count are just a few benefits of ginger. You can increase your ginger by diet only, but they do have supplements as well. 1-3 grams / day is suggested.
6. **DHEA** is naturally occurring compound in the body. It plays a role in boosting testosterone and decreasing estrogen levels. Of all the supplements, this is probably the most studied and most often used for low T. Dosages of 50-100mg daily show best results in those patients with low DHEA or low T.

You may get benefits from these and other supplements, but more research is needed and is ongoing. As with all supplements and vitamins individuals may get no benefits at all and could have side effects. So always research the ones you choose to try and make sure with your pharmacist that it doesn't interfere with any of your prescribed medications or diseases you may have.

I recommend starting one at a time for a few weeks to see if benefit and evaluate side effects. Add others individually and note their benefits/side effects.