

DR.GEO

OPTIMIZING TESTOSTERONE NATURALLY

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OVERVIEW

Testosterone is known as the male hormone because men produce up to 20 times more hormone than women.

Testosterone is one of the most potent naturally secreted androgenic-anabolic hormones, and its biological effects include the promotion of secondary male-sex characteristics, such as beard and body hair growth, nitrogen retention, and muscle growth.

In muscle, testosterone stimulates protein synthesis (anabolic effect) and stops protein degradation (anti-catabolic effect).

In addition, testosterone improves sexual desire and helps with erectile function in men.

WHY OPTIMIZE YOUR TESTOSTERONE LEVELS?

Most men who have low T experience unexplained low energy, little sexual desire, and erectile dysfunction. Other symptoms may include muscle loss, weight gain, loss of memory.

Of course, having any or all of these symptoms can mean something else is going on, which emphasizes the importance of seeing a qualified health practitioner.

The range for "normal" testosterone is wide (300ng/ml - 1000ng/ml), so some men can be within range but still have low T symptoms.

WHAT ROLE DOES SHBG PLAY IN OPTIMAL TESTOSTERONE LEVELS?

As men age past 45, SHBG's (Sex Hormone Binding Globulin) binding capacity increases dramatically—by an average of 40%—and coincides with an age-associated loss of libido and other low T symptoms.

Some studies show that the decline in sexual interest with advancing age is not always due to the amount of testosterone produced, but instead to the increased binding of testosterone to SHBG.

A lower carb / higher protein diet may lower abnormal SHBG levels. The botanical nettle root may gently bind to SHBG in place of testosterone, thus also reducing SHBG's binding of free testosterone.

WHAT TO DO IF YOU THINK YOU HAVE LOW TESTOSTERONE

- See a qualified health practitioner like a male-focused physician or endocrinologist.
- Eat better
- Get more sleep (see below for tips)
- Exercise – the right way (see below for tips)
- Consider taking essential dietary supplements

FOOD AND DIET

While being vegan (no animal products) is not a poor diet to increase T levels, including quality meats to your diet helps best.

Meats to Eat: Grass-fed, organic, red meat, lamb, goat, wild game like elk, deer, wild boar and mutton.

Exclude processed meats – nothing to do with T levels but more to do with general health.

Processed meats are referred to as meats that are modified to improve the taste or the storage life, or both, through several processes such as salting, curing with nitrates and nitrites, fermentation, or smoking. Processed meats include hot dogs, bacon, and deli meats.

LIMIT CONSUMPTION OF SOY AND FLAXSEED FOODS

Soybeans are rich in protein and isoflavones, which are phytoestrogens -- the term used to describe estrogen-like compounds in plants. They can either strengthen or minimize the effects of estrogen in your body. Rich sources of soy include whole soybeans, soy milk, soy-based meat substitutes, and tofu, which is soybean curd.

Flaxseeds are tiny seeds of the flax plant, known dietetically for their rich content of fiber and essential omega-3 fats. Flaxseeds also contain lignans, substances with estrogenic properties. On the other hand, lignans may inhibit cancer cell growth in some people, depending on the cancer type, hormone levels, and how much flaxseed is consumed. Eat some flaxseeds for its nutritional benefits but not too much if interested in building T.

EXERCISE

Total testosterone and free testosterone are elevated directly following heavy resistance exercise in men like lifting weights.

MUSCLE GROUPS TO FOCUS ON: Thighs, hamstrings (back of thighs), legs and back.

Isolating muscles like biceps (as in curls) and triceps (tricep extensions) are a waste to build T, don't do them. Unless, of course, you're focused on esthetics.

EXERCISES TO DO: squats, deadlifts, bench press, shoulder presses, chin-ups, and pull-ups.

These are the core exercises to build T. If you add any other, it should complement the above recommendations, not replace them.

HOW MANY REPETITIONS (REPS) - Do only one to six reps at one time (NOT MORE), increase the weight you are lifting where you can get at least 5 to 6 reps in. If you feel like you can do ten more reps after your sixth, the weight is too light. You should feel like you still have only about two reps left but stop at six.

REST BETWEEN SETS: rest 2 minutes between sets.

HOW MANY SETS?: 6 sets

EXERCISE SUMMARY: 6 sets X 6 reps x 2-minute rest

OTHER EXERCISE THAT MAY HELP TO INCREASE TESTOSTERONE

Interval exercises or High-Intensity Interval Training (HIIT) helps with increasing T as well.

EXERCISES THAT MAY LOWER TESTOSTERONE

Running marathons, endurance, physical activity for more than 3 miles at a one-time does NOT help increase testosterone, and can **hurt** Testosterone production.

Resources:

[How to do a deadlift](#)

(<https://www.youtube.com/watch?v=4AObAU-EcYE>)

NUTRACEUTICAL SUPPORT

In general, dietary supplements complement a healthy lifestyle for optimal T support, and it does not replace it.

RECOMMENDED NUTRIENTS

Male Multi 45+

Instructions: Take three pills, with or away from food, in the morning and at night, or as directed by your healthcare practitioner.

Nettle Root

Instructions: Take 2 pills, with or away from food, in the morning and at night, or as directed by your healthcare practitioner.

Vitamin D3 - 5000 units

Instructions: Take 1 pill, with or away from food, in the morning and at night, or as directed by your healthcare practitioner.

XYVGGR

Instructions: Take one pill, away from food, in the morning and at night, or as directed by your healthcare practitioner.

SR-Stamina

Instructions: Take two pills, with or away from food, in the morning and at night, or as directed by your healthcare practitioner.

SUMMARY OF NUTRACEUTICAL INTAKE

	AM away from food	AM with or without food	Midday away from food	Midday with or without food	PM away from food	PM with or without food	Bedtime- 30 to 60 minutes before bedtime	Comment / Purpose
XYVGGR	1	X	X	X	1	X	X	Improve blood flow, increase energy, Sexual Vitality
Men's 40+ Multivitamin	X	3	X	X	X	3	X	Essential nutrients for men over 40
Nettle Root	X	3	X	X	X	0	X	SHBG inhibitor, Supports Free T
SR STAMINA	X	1	X	X	X	1	X	Adrenal support, increase energy
Vitamin D	X	1	X	X	0	X	X	Important for T production, overall health and longevity

AWAY FROM FOOD = 30 minutes before a meal or two hours after a meal.

Number of pills per day: 13

AM – 9

PM – 5

60-day supply

THE PRODUCTS DESCRIBED HERE ARE NOT INTENDED FOR USE BY CONSUMERS AS A MEANS TO CURE, TREAT, PREVENT, DIAGNOSE, OR MITIGATE ANY DISEASE OR MEDICAL CONDITION. THESE STATEMENTS HAS NO BEEN EVALUATED BY THE FOOD AND DRUG ADMINISTRATION.

ALSO, MEN WITH PROSTATE CANCER SHOULD CONSULT WITH THEIR DOCTOR BEFORE DOING ANY PROGRAM TO IMPROVE TESTOSTERONE LEVELS.

References:

The involvement of a small muscle mass, even when exercised vigorously, does not elevate testosterone above resting concentrations.

- Migiano MJ, Vingren JL, Volek JS, et al. Endocrine response patterns to acute unilateral and bilateral resistance exercise in men. *J Strength Cond Res* 2010 Jan; 24 (1): 128–34

These data confirm that high-intensity resistance exercise results in elevated postexercise T concentrations. A more impressive finding was that dietary nutrients may be capable of modulating resting concentrations of T.

- Volek JS¹, Kraemer WJ, Bush JA, Incledon T, Boetes M. Testosterone and cortisol in relationship to dietary nutrients and resistance exercise. *J Appl Physiol* (1985). 1997 Jan;82(1):49-54.

Serum level of testosterone were reduced during marathon running and treadmill running using the Bruce protocol decreased serum testosterone levels in physically active men

- T. Kuusi, E. Kostianen, E. Vartiainen, L. Pitkänen, C. Ehnholm, H.J. Korhonen, A. Nissinen, P. Puska. Acute effects of marathon running on levels of serum lipoproteins and androgenic hormones in healthy males *Metabolism*, 33 (1984), pp. 527–531

Repeat sprint exercise (consisting of 10 repetitions of 30-s sprinting at a target load of 150% of the work capacity) increased serum total testosterone, free testosterone and DHT levels in healthy active young men

- A.A. Smith, R. Toone, O. Peacock, S. Drawer, K.A. Stokes, C.J. Cook. Dihydrotestosterone is elevated following sprint exercise in healthy young Men; *J Appl Physiol*, 15 (2013), pp. 1435–1440

The results of the present study support rest period in RE sets as an important variable to increase the anabolic hormone concentrations, and it should be mentioned that short rest intervals elevated a greater increase in GH concentration compared with 120-second rest. However, TS response was greater in the RE protocol with a 120-second rest interval between sets.

- Rahimi R¹, Qaderi M, Faraji H, Boroujerdi SS. Effects of very short rest periods on hormonal responses to resistance exercise in men. *J Strength Cond Res*. 2010 Jul;24(7):1851-9.

This study demonstrated that, in middle-aged VD-deficient men, VD treatment improves sexual hormones, metabolic syndrome and ED.

- Canguven O1, Talib RA1, El Ansari W2, Yassin DJ3, Al Naimi A1. Vitamin D treatment improves levels of sexual hormones, metabolic parameters and erectile function in middle-aged vitamin D deficient men. *Aging Male*. 2017 Jan 11:1-8.

Lower levels of 25(OH)D were significantly associated with lower total and free T and higher E2 and LH concentrations after adjustment for age and centre. However, following additional adjustment for health and lifestyle factors, these associations became non-significant. While a significant seasonal variation was seen in 25(OH)D levels, no corresponding pattern was observed for the reproductive hormones, SHBG or PTH. The adjusted relative risk of secondary hypogonadism increased by 16% and compensated hypogonadism by 52% between the deficient and sufficient categories of serum 25(OH)D.

- Lee DM1, Tajar A, Pye SR, Boonen S, Vanderschueren D, Bouillon R, O'Neill TW, Bartfai G, Casanueva FF, Finn JD, Forti G, Giwercman A, Han TS, Huhtaniemi IT, Kula K, Lean ME, Pendleton N, Punab M, Wu FC; EMAS study group. Association of hypogonadism with vitamin D status: the European Male Ageing Study. *Eur J Endocrinol*. 2012 Jan;166(1):77-85.

Protein: While adequate protein consumption is vital to maintaining muscle mass, it is also important in maintaining testosterone levels. A study examined the relationship between diet and SHBG, and found that diets low in protein in men 40-70 years old may lead to elevated SHBG levels and consequently decreased testosterone bioactivity (Longcope et al 2000).

- Longcope C, Feldman HA, Mc Kinlay JB, Araujo AB. Diet and sex hormone-binding globulin. *J Clin Endocrinol Metab*. 2000 Jan; 85(1):293-6.

A prime example of the usefulness of zinc was illustrated in a study of 37 infertile men with decreased testosterone levels and associated low sperm counts.²⁸ The men were given 60 mg of zinc daily for 45-50 days. In 22 patients, testosterone levels significantly increased and mean sperm count rose from 8 million to 20 million.

- Netter A, Hartoma R, Nahoul K. Effect of zinc administration on plasma testosterone, dihydrotestosterone and sperm count. *Arch Androl*. 1981 Aug;7(1):69-73.

Zinc supplementation of marginally zinc-deficient normal elderly men for six months resulted in an increase in serum testosterone from 8.3 +/- 6.3 to 16.0 +/- 4.4 nmol/L (p = 0.02). We conclude that zinc may play an important role in modulating serum testosterone levels in normal men.

- Prasad AS1, Mantzoros CS, Beck FW, Hess JW, Brewer GJ. Zinc status and serum testosterone levels of healthy adults. *Nutrition*. 1996 May;12(5):344-8.

Nettle root may balance SHBG levels

- Hryb DJ, Khan MS, Romas NA, Rosner W. The effect of extracts of the roots of the stinging nettle (*Urtica dioica*) on the interaction of SHBG with its receptor on human prostatic membranes. *Planta Med*. 1995 Feb; 61(1):31-2.