

Boosting Male Testosterone Levels

For many, the phrase "hormone balancing" brings thoughts of estrogen replacement in menopausal women. It is important to recognize however, that as men age they too go through hormonal changes including a drastic decline in testosterone levels. Maintaining optimal testosterone levels is essential for many men in maintaining their vitality and zest for life in addition to feeling their best physically and preventing many common diseases including diabetes and cardiovascular disease.

Salivary hormone testing often reveals inadequate testosterone levels. In many cases testosterone replacement may be called for, yet direct hormone supplementation is not the only option. There are many reasons why supporting and boosting the body's endogenous production of testosterone may be a preferred route of treatment rather than hormone replacement including:

- The treating provider does not carry a DEA number (testosterone is considered a controlled substance and thus requires a DEA number for prescribing).
- The patient declines hormone replacement, or prefers a more gentle approach.
- Since exogenous testosterone can suppress spermatogenesis, the patient's age and fertility plans need to be taken into account.
- Finances may limit treatment options, etc...

Knowing a boost in testosterone levels may be essential to your health and quality of life, what can be done to effectively achieve this without direct testosterone replacement?

1. DHEA supplementation. DHEA, an androgen made in the adrenal cortex, is a precursor to testosterone. DHEA levels peak around the age of 25-27 and endogenous production steadily declines as we age. On testing, we often see that people have suboptimal DHEA levels or levels lower than expected for their age. For men with low DHEA levels, supplementation with DHEA may be warranted. A portion of the supplemented DHEA will be converted to testosterone, thereby boosting testosterone levels; however a portion of the supplemented DHEA may also be aromatized to estradiol. Because of this, it is important to know your estradiol and progesterone levels prior to initiating DHEA supplementation. Estrogen dominance in men increases the risk of estrogen-dependent cancers, such as prostate cancer, and DHEA supplementation may perpetuate an already existing estrogen dominance picture.
2. Herbal supplementation. There are several herbs that may be utilized to stimulate testosterone production and optimize free testosterone levels. Research suggests the following herbs may have direct effects in boosting testosterone levels including tribulus terrestris, eurycoma longifolia and epimedium.
3. Aromatase inhibitors. One function of the enzyme aromatase is to convert testosterone into estradiol. By inhibiting this enzyme, less testosterone is converted to estradiol and thus, testosterone levels may be preserved. Natural aromatase inhibitors include luteolin, myricetin, resveratrol, chrysin and zinc.

4. 5-alpha reductase inhibitors. It was mentioned above that testosterone may be converted to estradiol by aromatase. Besides being converted to estradiol, testosterone may also be converted to dihydrotestosterone (DHT). The conversion of testosterone to DHT is done by the enzyme 5-alpha reductase. Inhibiting this enzyme's actions may also work to preserve, and thus boost, testosterone levels. This may be done by supplementing the herb saw palmetto or with progesterone.

5. Optimize free testosterone levels. Recall that only a small percentage of steroid hormones are available for use by tissues at any given time. This portion of available hormones is that which is unbound to carrier proteins and is termed "free" hormones. The main carrier protein of testosterone is sex hormone binding globulin (SHBG). Stinging nettles can help to bind to SHBG, and thus, supplementation with this herb may free up more testosterone to be available for tissue use, essentially increasing free testosterone, but not necessarily having an effect on total testosterone.