

# NxLabs: 24 Hour Test System

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## NxLabs 24 Hour TEST System

Testosterone is the king of muscle building! Think having subpar-testosterone levels is not that big a deal? You're wrong! Look at the current research and determine if you think having sub-par testosterone is going to take you to the next level for strength and size!

### How important is Testosterone for Strength?

Just how important is testosterone for increasing muscle strength? In a recent issue of the American Journal of Physiology Endocrinology and Metabolism, a research study documented that without testosterone, you can expect zero strength gains from a heavy resistance training protocol. Testosterone is just like Samson's magic hair... you need it to be strong, but just like Samson cutting his hair, a loss of testosterone will impede strength gains. In the study, 22 young men with minor experience with strength training participated in this double-blinded intervention study. It was important to use relatively untrained subjects because when untrained subjects start a strict weightlifting program they make huge gains in strength. Some subjects were randomized to treatment with a medication called Goserelin, which is a gonadotropin-releasing hormone agonist. Goserelin acts on the pituitary gland in the brain and affects luteinizing hormone (LH) release, which stimulates testosterone release. Chronic administration of Goserelin desensitizes the pituitary gland. This means that the pituitary gland produces less LH, which in turn stops the production of testosterone. Other subjects received a placebo subcutaneously every four weeks for a period of 12 weeks. The strength-training period of eight weeks included exercises for all major muscles (three to four sets per exercise x six to 10 repetitions) and one-minute rest periods between sets. The protocol was designed to cause acute increases in testosterone, which has been validated by previous investigations. The subjects who received Goserelin had a decrease in testosterone that was 10 percent lower than that of normal males, whereas testosterone remained constant in the placebo group. So here is where the importance of testosterone becomes clear for muscle strength and even weight loss. Keep reading.

### ZERO GAINS!

The Goserelin group showed no changes in isometric knee extension strength after training, whereas the placebo group had increased strength gains. Body fat mass increased by 3 pounds in the Goserelin group while it decreased by 1.3 pounds in placebo group. Interestingly, even though the Goserelin group had below-normal testosterone, they still were able to gain small increases in lean mass, but not as much as the placebo group. The study demonstrates that testosterone is one of many growth factors controlling muscle growth (i.e., GH, IGF-1, and intramuscular growth factors). The researchers concluded that endogenous testosterone is of paramount importance to the adaptation to strength training<sup>1</sup>.

So now you see that having sub-par testosterone levels is going to impede gains in strength and size. This has led many to seek out ways to increase their testosterone levels &ndash; some legal (i.e. herbal supplements) and some not so much (i.e. steroids and pro-hormones). Interestingly, when pro-hormones first hit the market, bodybuilders thought it was a miracle to have an over the counter product that increased testosterone, however, little did bodybuilders realize that pro-hormones in addition to stimulating testosterone also stimulate unwanted side effects. For example, androstenedione administered to men at 300 mg per day had an average 34 percent increase in testosterone, however there was a 128 percent increase in estradiol levels<sup>2</sup>!

NxLabs took a different approach to boosting testosterone than other supplement companies, providing a test kit that works around the clock to increase natural testosterone levels. With the new 24 HOUR TEST SYSTEM™; you receive a full 21-day supply of NxLabs's two testosterone boosters, Methyl TEST™; and NITRO T3®, with a bonus 9-day supply of the latter. Interestingly, these two formulas are very different from one another, with both supplements working together via different pathways to increase natural testosterone levels around the clock. Let's first take a deeper look at the Methyl TEST formula.

## Methyl TEST

Methyl TEST is a daytime testosterone stimulant, which not only works to increase natural testosterone production, but also growth hormone (GH) release. These two hormones have profound influences on human skeletal muscle and are important regulators of protein synthesis<sup>3</sup>.

As discussed by Sheffiled-More & Urban (2004), androgens, including testosterone, are biologically diverse, targeting both reproductive and non-reproductive tissues, such as skeletal muscle. Much of the focus and research on androgens and testosterone has been aimed at hypogonadal men, or men suffering from wasting diseases or trauma resulting in muscle loss. In these cases, several testosterone replacement studies have shown decreases in muscle protein breakdown and increases in protein synthesis, lean body mass and muscular strength. With regard to growth hormone, the most convincing evidence for its ability to improve muscle strength and function can be found in studies assessing the effects of recombinant growth hormone in growth hormone deficient adults. In these cases, recombinant growth hormone has been found to increase isometric and isokinetic knee flexor and extensor strength, as well as hand grip strength. Relative to the effects of testosterone, however, the length of time taken for the effects of growth hormone to become evident is longer (i.e. years), as compared to the more dramatic effects of androgens (i.e. weeks or months)<sup>3</sup>.

Several recently conducted studies demonstrate the positive effects of testosterone and growth hormone on muscle metabolism. For example, Huang et al. (2005) studied the effects of 6 months of administration of GH alone, sex hormone alone (hormone replacement therapy in women, testosterone enanthate in men), or GH plus sex hormone on protein turnover in healthy men and women, aged 65 to 88 years. Their results suggested that low-dose GH administration increases protein synthesis in healthy aged women and men, and that the co-administration of testosterone plus GH enhances this effect in elderly men<sup>4</sup>. Additionally, Giannoulis et al. (2007) assessed the effects of near-physiological GH with or without testosterone administration on lean body mass, total body fat, mid-thigh muscle cross-section area, muscle strength, aerobic capacity, condition-specific quality of life, and generic health status of older men. They found that lean body mass increased with GH and testosterone and with GH compared with placebo. It was also found that total body fat decreased with GH in combination with testosterone only. Mid-thigh muscle and aerobic capacity also increased only after GH and testosterone in combination. Hence, it was concluded that co-administration of low dose GH with testosterone resulted in beneficial changes being observed more often than with either GH or testosterone alone<sup>5</sup>.

Although METHYL TEST does not contain any exogenous growth hormone or testosterone, the formulation stimulates and enhances the body's natural production of these hormones. Clinical studies show that the key ingredients in the Methyl TEST formula increase free (active) testosterone by as much as 298% and increase plasma GH levels by 254% after only 60 minutes. In addition to this, Methyl TEST also contains ingredients to help block estrogen from binding to the estrogen receptor site as well as to inhibit aromatase enzymes from converting testosterone to estrogen to help maintain higher levels of testosterone in the body.



## Nitro T3: Night-Time Testosterone Formula





Testosterone needs to be constant and maintained throughout the day and night. NITRO T3 charges into action by increasing testosterone at night. Several of the ingredients in NITRO T3 have been shown to significantly raise free testosterone levels<sup>6, 7, 8</sup>. Additionally, NITRO T3 contains ingredients that have been shown to increase insulin-like growth hormone-1 (IGF-1), prevent estrogen synthesis, reduce the conversion of testosterone to dihydrotestosterone (DHT) via inhibition of 5-alpha-reductase and stimulate nitric oxide production<sup>6, 9, 10, 11, 12, 13</sup>.

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Acute Increases in Testosterone Leads to Increases in Androgen Receptor

Keep testosterone elevated is important for muscle growth and strength. A new study elucidates the importance of acute increase in testosterone and its effect on the androgen receptor. Researchers examined the acute effects of testosterone secretion of androgen receptor concentrations in the leg. They had young men go thru an intense bout of exercise and measured testosterone levels and also took muscle biopsies to measure androgen receptor concentration. Interesting an acute increase in testosterone was associated with increased androgen receptor concentration in the muscle<sup>14</sup>. So if acute increases in testosterone increase androgen receptor concentrations, you can see why the night time testosterone booster NITRO T3 can facilitate increases in muscle mass and strength.

In sum, to the NxLabs 24 HOUR TEST SYSTEM enhances your natural testosterone levels both day and night. For more information, go to NxLabs products, go to: [www.nxlabs.com/](http://www.nxlabs.com/)

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