

These are the type of supplements that you can take if you plan to compete, if you have the budget to try them, and only if you are older than 25 when the hormonal production begins to decline (except when noted otherwise).

Teenagers should stay away from any supplement that has an effect on hormonal levels as there is no need to upset a teen's delicate hormonal balance. Teenagers produce the equivalent of a 300 mg shot of testosterone per week anyway, so there is no need to attempt to increase the production of testosterone in a system that is already producing at peak levels.

The usefulness of some of these supplements is still under debate by some of the experts in the field, but in my opinion as a competitive athlete I have seen an edge by using them. Also, I would like to mention that by increasing your hormonal levels you may experience some acne and slightly increased aggression. Finally, if you have a propensity for male pattern baldness and/or an increased prostate you should monitor these things if you still decide to use some of these products.

TESTOSTERONE

As most of you fellow lifters know, testosterone is the male hormone responsible for the development of the male sex and reproduction organs; in addition to also promoting male characteristics such as a deep voice, facial hair, increased levels of muscle mass, sex drive, aggressiveness and confidence. Men's testicles produce this hormone in large quantities while female's ovaries produce some of it in very small quantities.

Low levels of this hormone create metabolic issues that have immediate and long-term con-

sequences for the person suffering from a deficiency.

MALADIES OF LOW TESTOSTERONE LEVELS

Needless to say low levels of testosterone can cause a male to first and foremost lose his sex drive. Depending on how low your levels are impotence may become an issue down the road. Also energy levels will plummet as well as muscle mass and strength. Even if you are giving it all you got in the gym and following your diet, you may find that getting a good pump at the gym is hard, and also that gaining muscle is becoming a very hard task to accomplish. Worst of all, fat loss seems harder than ever as well.

If you suffer from low testosterone your mood may also take a dive and you may often feel depressed. In addition to the above, the following are also maladies of low testosterone levels:

- Increased insulin resistance (which makes it hard to lose body fat as insulin levels will increase in the body due to the fact that the cells are not accepting this hormone efficiently; this can of course lead to diabetes).
- Constant fatigue and reduced zest for life.
- Reduced mental capacity.

AGE FOR DECLINE

At what age does this decline start happening? The time at which this decline in levels begins is still much debated amongst experts but recent research seems to indicate that it can begin as early as 25-30 years old. My advice to you is that if your sex drive is low, then you should have your levels checked because this is the most common symptom of low testosterone.

Below are the normal values for testosterone levels:

- Normal range of total testosterone is between 300 - 1200 nanograms per deciliters (ng/dl)
- Normal ranges for free testosterone (the actual active testosterone that your body can use): are 8.7 - 25 picograms per milliliters (pg/ml).

Needless to say the closer to the upper level you are in both ranges the better.

TOP NATURAL SUPPLEMENTS THAT CAN HELP BOOST TESTOSTERONE LEVELS (NOT RECOMMENDED FOR TEENAGERS)

Once you find that your levels of testosterone are beginning to decline, there are several supplements that one can use in order to keep them optimized naturally. Please remember that for the most part only if you are older than 25 years old, when the hormonal production may begin to decline, should you start considering the use of these supplements.

ZMA

A scientifically designed anabolic mineral formula. This formula consists of Zinc Monomethionine Aspartate, Magnesium Aspartate and vitamin B-6. This all-natural product has been clinically proven to significantly increase anabolic hormone levels and muscle strength in trained athletes. Hard-training athletes typically deplete the body from these essential minerals.

Studies have shown that supplementing with 30mg of Zinc and 450mg of Magnesium per day can elevate testosterone levels up to

30%! I take 2 caps in the evening time from Prolab Nutrition's ZMA.

Note: Due to the fact that ZMA consists of two minerals and a vitamin B, teenagers can safely use this product.

VIRALOID

Viraloid is a natural blend of steroidal alkaloids derived from high sterol containing plants which ensure an increase in the body's own production of testosterone by increasing the Leutenizing Hormone levels in the body. This is a great product for anyone who is looking to boost their hormonal levels naturally.

Some of the properties that I like about this product are that the body does not get used to it; as a matter of fact, Viraloid works better over time. In addition, it decreases estrogen levels and increases testosterone sensitivity in the muscle optimizing as a result utilization of this hormone. Results are felt at the end of the first week in the form of an increased feeling of well-being and slightly fuller muscles. You'll start feeling a most definite difference by the second week of use in the form of increased strength levels and sex drive.

This product is produced by a company called Vyotech Nutritionals. Since I weigh 194 I have to take 2 caps twice a day. However those who weight less than 176lbs can get away with half of that.

Note: I feel that this product can be used safely by anyone 20 years old or older

17-HD

17-HD is the strongest androgen available without a prescription. It was created by extracting (using a Multi-Fraction Extraction Process) the anabolic parts of the herb smilax

and then re-arranging the hydrogen and oxygen atoms of its natural steroid ring (using a patented hydroxylation process) to create a highly androgenic and anabolic compound.

Steroids are classified as either mainly androgenic or anabolic. Androgenic steroids give you more size and strength while anabolic ones provide more hardness and conditioning. 17-HD's unique molecular configuration gives you the best of both worlds without the side effects as there is no estrogen conversion (which means no water retention, no female fat deposits or depression) and no DHT conversion (which means that neither the hair line nor the prostate will be adversely affected).

The way that the 17-HD molecule is bound accelerates absorption and uptake in such a way that you feel the effects in minutes (approximately within 30 minutes of ingestion on an empty stomach). Increased strength, better pump and stamina, more energy and increased sex drive are amongst the effects that you will feel when you start taking this product. The most impressive thing is that some of these effects you get as soon as you ingest it within 30 minutes (a claim that I was very skeptical off until I tried it).

17-HD is also produced by *Výotéutí* Nutritionals and what I like the most about it is that all you need is 1 capsule 30 minutes prior to the workout on an empty stomach and you feel the effects immediately.

6-OXO

6-OXO, which is short for 3, 6, 17-androsterone, is a very powerful androgen metabolite that increases testosterone levels naturally through a suppression of estrogen levels (the hormone that females produce in high amounts and that gives them their female characteristics). Believe it or not, males produce this hormone as well, mainly through the

work of the aromatase enzyme which aromatizes (converts) the testosterone we produce into estrogen.

6-OXO works by binding to the aromatase enzyme and rendering it ineffective, something that corresponds in an increase in testosterone levels. I take 3 capsules of 6-OXO with my Prolab ZMA at night with the last meal. The product I take is made by ErgoPharm.

EURYCOMA LONGFOLIA

Eurycoma Longfolia unbinds testosterone from a hormone called SHBG (sex hormone binding globulin), which prevents the absorption of testosterone into the receptors. Taking Eurycoma, helps the body free bound Testosterone into Active Usable Testosterone by lowering SHBG (sex hormone binding globulin) by an average of 30%. I get my Eurycoma Longfolia a product called Promen-X, which not only helps to boost testosterone levels but also increases Nitric Oxide levels as well with only 1 tablet a day in the morning.

FINAL THOUGHTS ON TESTOSTERONE BOOSTING SUPPLEMENTATION

If you are an over 25-year-old trainee whose testosterone levels have already begun to decline and who wishes to increase them naturally, then you may want to try some of these supplements. There is no need to take all of these at the same time. You could get great benefit from doing 6 weeks of one, 6 weeks of another and so on. But if you have the finances to use them all, I have found no adverse effects from doing so.