



The Lowdown on Low Testosterone

Testosterone levels impact diabetes, high blood pressure and erectile dysfunction

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By the age of 35, men's testosterone levels begin to drop by one or two percent each year. By the age of 50, 30% of men are already below the normal testosterone range and that number increases as years advance.

At 60 years of age, 60 percent of men have low testosterone! In the United States alone, 13 million men each year are diagnosed with low testosterone. The real number of men afflicted is probably much greater, according to Parviz Kavoussi, M.D., male infertility/sexual health expert practicing at Austin Fertility & Reproductive Medicine.

Having a low testosterone level is a clinical diagnosis. Dr. Kavoussi explains, "When men come in with complaints of fatigue, weight gain, loss of sexual desire, depression and erectile dysfunction, low testosterone may be at least partially to blame."

According to a 2006 study involving 2,100 men, those with diabetes are 2.1 times more likely to have low testosterone. Obese men were 2.4 times more likely to have low testosterone and men with high blood pressure were 1.8 times more likely to have low testosterone. Fortunately, all three of these conditions can be partially addressed in the gym.

Low Testosterone Treatment Track

Hitting the Gym and Initiating a Low Fat, Low Cholesterol Diet

The first line treatment for these men is management of diet and a trainer-assisted exercise program. Dr. Kavoussi keeps in contact with the referred trainer to monitor patient compliance. If the patient is faithful to his exercise program and self-reports diet compliance, he should be getting some nice results in the 'buff' department.



Not Being Buff

If the patient isn't getting the expected returns, and Dr. Kavoussi, is convinced he is all he can be in the gym and kitchen, the doctor suspects low testosterone levels are in play. It is quite difficult for men not receiving the reward of weight loss and a more 'cut' physique to remain motivated during the exercise and diet regimen.

In these patients, testosterone therapy may be implemented. All patients are screened prior to testosterone therapy for prostate cancer. Those with prostate cancer or male breast cancer aren't good candidates for testosterone therapy.

Testosterone levels in men are measured by a blood test administered between 8:00 AM and 11:00 AM because levels are highest in the morning. If low levels are detected and the men are free from prostate cancer, testosterone therapy is initiated.

Now, Dr. Kavoussi separates his patients into two categories: The first group of men are interested in maintaining their fertility and fathering children while the second group of men do not want to have more children or are not interested in ever having children.

Treatments Available for Men Wanting Children

Men who still are interested in procreation are placed on one of three therapies:

- 25 mg of Clomid
- Human Chorionic Gonadotropin (HCG)
- Aromatase inhibitors therapy

These three therapies can make men increase their energy and sex drive. If they are working out like Dr. Kavoussi's trainer-directed patients, they can also increase muscle mass quickly.

Interestingly, the U.S. Food and Drug Administration (FDA) approved Clomid for infertility in women. Clomid acts to stimulate the ovaries to produce more follicles, which increases the likelihood of conception each month.

For men, Clomid use is "off label", but, according to Dr. Kavoussi, it is widely prescribed with great success. The amount is half that prescribed initially to women. Clomid stimulates the pituitary glands in men and promotes an environment friendly to testosterone production.

HCG is used in men whose sperm and luteinizing hormone (LH) counts are low. LH is naturally produced by the pituitary gland. When men don't have enough LH, HCG acts to stimulate the

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pituitary gland to produce LH. This enhances fertility because HCG can lead to greater sperm production. Dr. Kavoussi reports that after six months of HCG injections, follicle-stimulating hormone (FSH) is added to the therapy. At this point, 80 to 90 percent of the men, due to the hormone balance provided by the stimulus, will resume normal sperm production.

Aromatase inhibitors like Arimidex are also used to treat low testosterone in men wanting to have children. The inhibitor slows down the conversion of testosterone to estrogen by binding to the aromatase enzyme. This helps balance men's testosterone levels and can help improve their fertility. This action helps maintain a healthy sperm count, balance testosterone levels and produce healthy prostate tissues.

Nature's Friend

There is an ongoing debate in the world of vitamin lovers regarding the efficacy of vitamins and sperm quality. When considering studies related to men's fertility, Dr. Kavoussi finds most of these vitamin-related studies flawed. He does, however, prescribe vitamin E for his patients because it's an antioxidant. "Hey, it can't hurt and may possibly be helpful," explains the doctor.

Men Not Interested in Additional Fatherly Moments

Lifetime Lotion

Those no longer interested in fathering children are sometimes placed on direct testosterone therapy, a gel or lotion regimen using Axiron, Testim, Fortesta or AndroGel. Axiron and Testimo are absorbed in about two hours while AndroGel is absorbed in four.

This therapy normally works nicely in normalizing testosterone levels, but may almost have a contraceptive quality that is oftentimes irreversible, which is only appropriate for patients not wanting any more children.

This method requires daily application of the gel or lotion. These works so well, the body is 'tricked' into thinking normal testosterone levels are present, so the testicles can shrink and quit producing testosterone altogether. This is only prescribed in men who are quite sure their families are complete. This therapy requires a lifelong commitment. Because of this, initiation of this therapy is usually more appropriate for older men.

Also, these gels and lotions can be harmful to children and women. In 2006, the FDA issued a warning about the gels and its potentially harmful effects to women and children. Side effects in women and children include:

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- Inappropriate enlargement of the genitals
- Premature development of pubic hair
- Advanced bone age
- Increased libido
- Aggressive behavior

Once applied, Dr. Kavoussi recommends covering the application site with clothing until the lotion or gel is absorbed by the body. At this point, usually after two to four hours, men are encouraged to shower off any residue left from the application to minimize the risk of skin-to-skin transference to others. This is a daily therapy for life.

Two other options available for the future daddies are intramuscular testosterone injections and implantable pellets. Marketed under the brand names Delatestryl and Depo-Testosterone, these twice weekly shots are administered by the doctor. If patients keep current with their shots, it is an effective therapy.

A favored approach is implantable pellets, marketed under the brand name of Testopel. These slow-release pellets are inserted under the skin by a urologist three or four times yearly. Obviously, compliance is secured with this method.

All of the therapies besides Testopel have very short half-lives and can be stopped immediately if prostate cancer is detected. Testopel is a slow release testosterone. Because these pellets are difficult or almost impossible to remove, Dr. Kavoussi explains, "The potential of progression of prostate cancer in men with active disease will remain present until these implanted pellets dissolve and wear out."

Contributing Expert



Parviz Kavoussi, M.D. is an expert in erectile dysfunction, sexual medicine and male infertility. He is in practice with his infertility specialist father and brother where they pride themselves in being a family that helps others start their families.