

# H O T Z E

## HEALTH & WELLNESS CENTER

### TESTOSTERONE

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#### **Why are healthy testosterone levels and testosterone replacement so important?**

Testosterone is one of the androgen hormones produced by the testes. It is the principle male hormone and is responsible for the development of the male sex characteristics. Testosterone is also the hormone of desire. Men produce testosterone primarily from the testes and also from the adrenal glands, while women produce smaller amounts of testosterone in their ovaries and adrenal glands.

Testosterone is important in maintaining good health in men. Testosterone has a well-documented role in cardiovascular health and bone density. Research shows that testosterone has been associated with lowering the risk of a heart attack and high blood pressure. Optimal testosterone levels positively affect muscle tone, blood pressure, cholesterol levels, the immune system, weight, moods, bone health, skin, libido, sperm production, sleep, as well as heart, liver and brain health.

#### **What are the male symptoms of low testosterone in men that could indicate a need for testosterone replacement therapy?**

Low libido  
Lack of initiative, assertiveness and drive  
Fatigue  
Decline in sense of well-being and self-confidence  
Depressed, irritable moods  
Indecisiveness  
Decreased mental sharpness  
Lessened stamina and endurance  
Loss of muscle mass, strength, and tone  
Increased body fat around the waist  
Decline in sexual ability  
Sleep apnea  
Gynecomastia (enlarged breasts)

#### **What are common causes of low testosterone in men?**

##### **Hypogonadism**

Hypogonadism (low hormone production by the reproductive gland) occurs when the testicles do not produce sufficient levels of testosterone.

##### **Age-Related Decline**

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As men age, they move from a state of optimal testosterone status to one of relative deficiency as their testosterone levels naturally decline. This stage of their life can be referred to as andropause, or male menopause. This downward slide begins in a man's thirties and continues inexorably until the day he dies, although it is beginning to occur more commonly in younger men.

As with any biological change that occurs gradually rather than abruptly, the age-related decline in testosterone often goes unnoticed until a critical point is reached. Suddenly out of the blue, a man in his forties or fifties may begin feeling depressed, irritable, or uninterested in the things that used to give him pleasure. He may notice that he has more aches and pains and fatigues more easily. He may develop a "spare tire" around his abdomen and find that his muscles have lost their strength or tone. Men may begin exercising, but find that even when they work out they show little improvement in muscle strength and stamina. They may go on a diet but have trouble losing weight. The lack of progress in their fitness regimen often leaves them feeling even more discouraged. He may lose interest in sex, have difficulty making decisions, or experience any number of other problems related to the decline in levels of testosterone.

#### **Xenoestrogens**

Exposure to xenohormones is a risk factor for low testosterone. Xenoestrogens mimic the effects of estrogen in our bodies and interfere with normal hormone function. This is a disaster for men, for not only do xenoestrogens disrupt the production of testosterone, they also antagonize the effects of testosterone in the body. For instance, xenoestrogens are linked to the dramatic decline in the average sperm count in Western societies since the 1950's as well as to the rise in testicular cancer over the same time period. Xenoestrogens are found in petrochemical products such as plastics (plastic wrappings and plastic drinking bottles), herbicides, pesticides, soaps, detergents, pollution, clothing, industrial by-products, countless manufactured goods and meats from animals raised on hormones.

#### **Other Causes**

Some other causes of low testosterone levels are: injury or infection to the testicles, chemotherapy or radiation treatment for cancer, genetic abnormalities such as Klinefelter's Syndrome (extra x chromosome); hemochromatosis (too much iron in the body); dysfunction of the pituitary gland, medications, chronic illness, cirrhosis of the liver, chronic renal (kidney) failure, AIDS, inflammatory disease such as sarcoidosis (a condition that causes inflammation of the lungs and other organs), stress, alcoholism, and congenital conditions.

#### **How do you test for low testosterone and whether or not someone would benefit from testosterone replacement?**

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The need for testosterone replacement can be measured by a number of ways. Low testosterone levels can be detected by a blood test that measures free testosterone levels. Only free testosterone is biologically active in the body, or available to the cells. If your level is below that considered normal for a twenty-to-twenty-nine-year-old, you likely would benefit from natural testosterone replacement.

However, blood tests are not the only factor to be considered in establishing a need for testosterone replacement. Clinical symptoms are equally, if not more important, both for identifying testosterone deficiency and for evaluating the effects of testosterone replacement. After all, the goal is optimal health and wellness, not specific levels on a lab test. These lab tests are evaluated with men in your own age range, therefore your testosterone levels may test normal for your age range, but they may not be optimal for your health. When all of the pieces are considered, both lab tests and clinical symptoms, the necessity for testosterone replacement therapy can be accurately measured.

#### **What are the positive effects of testosterone replacement in men?**

Initiates the production of sperm by the testicles

Enhances libido and sexual potency

Promotes the development of muscle mass, strength, and tone

Decreases body fat

Promotes increased bone mass

Stimulates the production of red blood cells by the bone marrow; these red blood cells carry oxygen to the body's cells

Increases metabolism by enhancing the conversion of the inactive thyroid hormone, T4, to the active thyroid hormone, T3, within the cells

Promotes male traits such as aggressiveness, spatial and mathematical ability, enhanced well-being, and self-confidence

Causes the formation of the internal and external male sex organs

Can reverse gynecomastia (enlarged breasts)

#### **Can testosterone replacement/healthy levels of testosterone affect the brain?**

Mood is affected by testosterone deficiency. Studies show that testosterone-deficient men have higher levels of depression, anxiety, and irritability, and lower levels of energy and overall well-being than men with healthy testosterone levels. Bioidentical testosterone replacement usually reverses these changes, alleviating depression and irritability, restoring energy, and enhancing overall well-being. Research demonstrates that mental ability improves with testosterone replacement in men who are testosterone deficient.

#### **How do you restore testosterone levels with testosterone replacement?**

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The solution to restoring optimal testosterone levels is to supplement with bioidentical testosterone replacement in physiologic doses. Bioidentical testosterone replacement is available through intramuscular injections, testosterone patches, and testosterone gels or creams.

Conventional doctors tend to prescribe drugs such as antidepressants and sleep aids for the symptoms of low testosterone rather than testosterone replacement therapy. It makes no sense to prescribe a drug to treat a symptom of an underlying hormone deficiency when the deficiency itself is so easily remedied by physiologic testosterone replacement.