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#### **All About Testosterone**

Testosterone supplementation, when used appropriately in the right candidates, can be a powerful weapon in the battle against aging. It can help you look, feel, and function better now – and may even help protect you against heart disease and Alzheimer's disease. This is particularly true for men, but there's growing evidence that just the right amount can benefit some women, too.

#### **Testosterone in Men**

The male body produces a group of hormones called androgens that support masculinity. Sometimes called the "King of Hormones," testosterone is primary among hormones in men because it plays a role in so much of what makes a man masculine. About 95 percent of it is produced in the testes, although a small amount is also produced by the adrenal glands.

While the amount the body produces daily is relatively small – about 6 milligrams per day in a normal young man – its effect on the body is powerful. In fact, a man's testosterone profile greatly influences who he is physically, emotionally, and sexually. It determines the strength of his drives in business and in bed.

### Testosterone:

- Determines in utero whether the baby will develop into a boy or girl
- Begins and maintains the development of male sexual characteristics, such as body shape, the degree of hairiness, and the deepening of the voice
- Governs sperm production and quality
- Influences sexual preference
- Helps teenage boys develop strong muscles and bones
- Gives a man the ability to perform adequately during sexual intercourse
- Influences a man's moods and sense of well-being
- Affects his cognitive processes (ability to think clearly)

#### **Testosterone Declines**

As men age, their bodies produce less testosterone. For some men, this isn't a problem. The level of free testosterone circulating in their bodies remains within the "normal" range. Other men, however, have below-normal levels.

Men need adequate amounts of testosterone to thrive. This is why it's important for men to maintain proper levels of testosterone as they age. In fact, maintaining appropriate levels is associated with lower rates of mortality. The University of California at San Diego Medical Center followed almost 800 men, between the of ages 50-91, for 20 years

and found that insufficient levels of testosterone in men was associated with an increased risk of death over that 20-year-period.

Approximately 30 percent of men age 60 or older are thought to have levels below normal. This can give rise to:

- Low bone and muscle mass
- Increased fat mass and a tendency toward obesity
- Low energy
- Low libido
- Impaired cognitive function
- Impaired sexual function

There is also evidence that men with low levels of testosterone are at risk for anemia, type 2 diabetes, depression, and Alzheimer's disease.

# The Argument for Supplementation

Fortunately, there are safe ways to boost testosterone levels. Doing so helps a man suffering from the effects of low testosterone to regain his edge. Men have reported improvements in the following areas after just a short time on testosterone-based therapy that has been carefully tailored for their needs:

- Sharper thinking and better memory
- Stronger bones and more lean muscle mass
- Less of a "belly"
- Higher libido

When you consider that testosterone injections help give men a higher quality of life now, while helping them stave off degenerative diseases like diabetes and Alzheimer's disease, *and* improve their overall longevity, there's very little reason not to give it to men who are appropriate candidates.

## Making It Safe

I use the phrase "appropriate candidates" because it is my practice to take a blood panel first and determine the existing levels of hormones in an individual. I look at where each of the critical hormones fall within a range of values and determine whether the levels are low or relatively normal. I also look at the health of the pituitary and hypothalamic glands.

Testosterone injections are not recommended for men with prostate cancer, however, because there is evidence that it can make the cancer more aggressive.

If your levels of testosterone are normal, testosterone injections usually aren't indicated. In fact, if testosterone levels are too high, the body will convert the excess into estrogen, which is not a desirable outcome.

But if your levels are in the low-normal range, I will talk with you about the benefits of injections, as well as any potential drawbacks, given your particular body chemistry and genetic profile. If the decision is to go with injections, we will set up a monitoring program so that I can regularly assess the levels of testosterone in your body and make sure they remain safe.

#### **Testosterone's Benefits in Women**

A study published in the New England Journal of Medicine in 2000 suggested that testosterone also influences the health and well-being of women, particularly their sexual functioning before, during, and after menopause.

If women don't produce enough of it naturally, testosterone supplementation can bring the following benefits:

- Increased sex drive and arousal
- Better mood
- Increased strength
- Better overall fitness
- Greater protection against heart disease and Alzheimer's disease

Clearly, testosterone supplementation is worth exploring if you are experiencing any of the declines mentioned above. I would be happy to help you assess whether natural testosterone therapy is right for you.