

LET'S TALK

TESTOSTERONE

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H O T Z E

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INTRODUCTION

Dr. Hotze is founder of Hotze Health & Wellness Center and author of the book *Hormones, Health, and Happiness*. He has enabled thousands of women and men to achieve optimal health using his customized 8-Point Treatment Regimen. If you would like a free evaluation regarding your health, you can contact his office by calling 877-698-8698.

Notice: This book is intended as a reference guide, not as a medical manual. The information given here is designed to help you make informed decisions about your health. It is not intended as a substitute for any treatment that may have been prescribed to you by your doctor or therapist. If you suspect that you have a medical or emotional problem, we urge you to seek competent medical or psychiatric help.

The names of those whose cases are presented in this book have been changed to preserve their privacy.

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CONTENTS

Testosterone: For Men & Women Too	4 »
The Dwindling of Female Sexual Desire	5 »
Signs and Symptoms of Low Testosterone in Women:	6 »
Real Men Do Need Testosterone	8 »
Effects of Testosterone in Men	10 »
Andropause: The Male Menopause	11 »
Is Andropause a Modern Malady?	11 »
Who Can Benefit from Testosterone Replacement?	14 »
Signs and Symptoms of Low Testosterone in Men	15 »
Case Study: Richard's Story	17 »

TESTOSTERONE: FOR MEN & WOMEN TOO

Among conventional physicians, the phrase “hormone replacement therapy” refers to the use of estrogen, with or without progesterone, to alleviate symptoms of menopause or to prevent or treat conditions associated with estrogen deficiency, such as heart disease and osteoporosis. What it generally does not refer to is the use of testosterone to prevent and treat these very same conditions, despite the well-documented role of testosterone in cardiovascular health and bone density. Nor does it refer to the use of testosterone as a therapy for the fatigue, depression, mental decline, and other symptoms of testosterone deficiency that occur with increasing age.

The failure to acknowledge that levels of testosterone decline with age and to address this deficiency is a glaring oversight on the part of conventional physicians. Although the decline in testosterone that begins in midlife is more gradual than the dramatic drop in estrogen that occurs at menopause, it nevertheless has significant effects on health and well-being—and I’m not talking exclusively about male health and well-being.

It is true that women produce much smaller amounts of testosterone even in the prime of life, but this does not mean that they are spared the effects of a decline in levels of this hormone. Let’s begin by looking at the crucial role played by testosterone in the health and well-being of women.

THE DWINDLING OF FEMALE SEXUAL DESIRE

In February 1999, researchers published a report in the Journal of the American Medical Association entitled "Sexual Dysfunction in the United States." Using data from the National Health and Social Life Survey, a study of adult sexual behavior in the United States, they calculated the incidence of various sexual problems among adults aged 18-59. Among the women in this representative sample, the number one problem was low libido, which affected almost one-third of survey respondents.

Why are so many women uninterested in sex? There are many possible reasons, both physical and psychological. In my experience as a physician who has treated thousands of women over the years, one underappreciated explanation for a woman's loss of interest in sex is inattention by her husband or male companion—both in the bedroom and outside of it. A man who consistently performs intercourse to achieve his own pleasure, without giving attention to his wife's feelings, will usually find a passive, disinterested sexual partner.

Women are more responsive to men who understand that lovemaking is an ongoing experience of affection. A woman who is not listened to, appreciated, or gratified sexually by her husband or male companion is unlikely to be romantically inclined.

However, there is another reason why women may experience a decline in libido, especially as they pass into their thirties, forties, and beyond: a deficiency of testosterone.

If you're wondering what testosterone has to do with a woman's interest in sex, the answer is: everything. In women as well as men, testosterone is the hormone of desire. The millions of women in this country who experience estrogen dominance suffer not only from a relative deficiency of progesterone but also from a deficiency of testosterone.

In women who are of reproductive age, levels of testosterone peak at ovulation, the very time in a woman's menstrual cycle when she is fertile. This surge in testosterone midway through her cycle stimulates a woman's desire for sex. However, when a woman is estrogen dominant, she experiences numerous anovulatory cycles in which there is no elevation in testosterone at this midpoint. This problem is compounded by the fact that estrogen dominance increases the liver's production of sex hormone-binding globulins, proteins that attach to the small amount of testosterone in circulation and inhibit the hormone's entry into cells.

SIGNS AND SYMPTOMS OF LOW TESTOSTERONE IN WOMEN:

- Low libido
- Blunted motivation
- Fatigue
- Depression and/or anxiety
- Low blood levels of free testosterone

If estrogen dominance is bad news for a woman's libido, a hysterectomy can be devastating. About half of a woman's testosterone is produced by her ovaries, with the other half produced in the adrenal glands. Women who undergo a total hysterectomy, with the removal of their ovaries, immediately lose 50 percent of their circulating testosterone. The resulting symptoms of low libido, fatigue, and malaise often are attributed wrongly to the sharp drop in estrogen, when in fact it is the abrupt decline in testosterone levels that is the culprit. The primary sexual effect of estrogen deficiency is thinning and dryness of the vaginal tissues, not a decrease in desire. For women who undergo natural menopause, the decline in testosterone is more gradual, but it still can dampen libido and contribute to depression, anxiety, and other psychological symptoms.

The solution is obvious: supplementation with small, physiologic replacement doses of natural testosterone to restore levels to those of a healthy young woman. Sadly, this option is rarely offered to women by conventional physicians.

As with estrogen and progesterone, the form of testosterone that I recommend for women is time-released micronized capsules. Micronized hormones are 80-90 percent absorbed, and the time-release base allows for the slow, steady absorption of testosterone in the small intestines and the lymphatic system. The dose is adjusted as necessary according to a woman's symptoms and periodic measurements of free testosterone levels in the blood, if indicated.

Besides its beneficial effects on female sexual desire and pleasure, testosterone improves the tone of the vagina and bladder, decreases body fat, improves muscle strength and bone density, enhances the function of thyroid hormone, relieves anxiety and depression, and promotes clearer thinking.

REAL MEN DO NEED TESTOSTERONE

If testosterone can do all this for women, imagine what it can do for the millions of men who experience an age-related decline in testosterone levels. After all, testosterone is the quintessential male hormone. An abundance of testosterone is not only what sets men apart from women—it is also what separates the men from the boys. The physical effects of testosterone become glaringly apparent when boys enter puberty. The surge in testosterone at this time causes a boy's voice to change from soprano to bass, hair to sprout on his face, muscles to develop on his arms, and thoughts of the opposite sex to arise with increasing frequency.

Testosterone is also responsible for differences in the structure and function of the male brain. Prenatal exposure to testosterone enlarges a region of the hypothalamus involved in male-typical sex behavior and increases the size of clusters of spinal cord neurons that serve the external genitals. As a result of higher levels of testosterone, males

are more aggressive and self-confident. There are cognitive differences as well. Males consistently outperform females on tests of spatial ability and mathematics, although they do not perform as well as women on tests of verbal ability.

Much of what we know about the importance of testosterone to male sexual behavior, mood, cognition, and well-being comes from studies of men who suffer from hypogonadism, in which the testicles do not produce sufficient levels of testosterone. Due to their profound testosterone deficiency, hypogonadal men typically suffer from low libido and erectile dysfunction. The good news is that when testosterone replacement therapy is initiated, these men experience a significant improvement in their sexual desire and motivation, enjoyment of sex, and ability to achieve and maintain erections.

EFFECTS OF TESTOSTERONE IN MEN

- Causes the formation of the internal and external male sex organs
- 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
- 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

Mood is also 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. Again, 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.

ANDROPAUSE: THE MALE MENOPAUSE

Elderly men represent the low end of a range of testosterone values. At the other end are healthy young men in the prime of life, whose testosterone levels have reached their peak. Between these two extremes lies a continuum. The one thing we know about this continuum is that as men age, they move from a state of optimal testosterone status to one of relative deficiency. This downward slide begins in a man's thirties and continues inexorably until the day he dies.

Though not as dramatic an event as menopause, this steady, inevitable decline in testosterone is real nonetheless. And like menopause, this age-related decline in the preeminent male hormone can have a wide range of effects on the body and mind.

IS ANDROPAUSE A MODERN MALADY?

Cavemen who were fortunate to live to the "ripe old age" of forty or fifty must have suffered from a decline in testosterone levels. However, because they lived in an environment unpolluted by synthetic chemicals, it is unlikely that primitive men experienced anything like the epidemic of testosterone deficiency seen in our age.

As I mentioned in the previous chapter, petrochemicals pervade the environment and contaminate the water, air, soil, and animal and plant life. These petrochemicals are used in thousands of manufactured goods. They are found in the plastic bottles from which we drink, the chemicals used in dry cleaning, the lotions and sprays we use for personal hygiene, and the pesticides sprayed on the foods we eat, to name just a few examples.

Petrochemicals are referred to as xenoestrogens because they mimic the effects of estrogen hormones 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. Xenoestrogens are linked to the dramatic decline in the average sperm count in Western societies since the 1950s as well as to the rise in testicular cancer over the same time period. It will be years before we have the complete story on the effects of these unnatural, toxic chemicals on male fertility, health, and well-being.

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, seemingly 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. 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.

Though men are notoriously neglectful of their health, it is at this point that they often take action. They 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.

If they consult a physician, they are most likely to be prescribed an antidepressant, as if their problem were "all in their head." But taking an antidepressant is likely to compound the problem. As in women, these drugs can cause fatigue and weight gain and are notorious for their negative effects on sexual desire and potency. At any rate, 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 replacement doses of natural testosterone.

WHO CAN BENEFIT FROM TESTOSTERONE REPLACEMENT?

If you are a male in your forties or older and have experienced a decline in your mood, energy, motivation, mental sharpness, sexual desire or performance, it's possible that you've entered andropause. Your testicles may not be producing enough testosterone, or you may have too little free testosterone in circulation. Keep in mind that only free testosterone is biologically active. Testosterone attached to sex hormone-binding globulin is unable to latch onto cell receptors and initiate cellular activity.

The Age-Related Decline in Testosterone	
Age range	Free testosterone level (pg/ml)
20-29	19-41
30-39	18-39
40-49	16-33
50-59	13-31

How can you determine if you are testosterone deficient? One way, of course, is to undergo blood testing to measure levels of free testosterone. 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, as with female hormonal imbalance, thyroid dysfunction, and other hormonal problems, blood

tests are not the be-all and end-all of diagnosis. I consider clinical symptoms to be equally if not more important, both for identifying testosterone deficiency and for evaluating the effects of treatment. After all, the goal is optimal health and wellness, not specific levels on a lab test.

SIGNS AND SYMPTOMS OF LOW TESTOSTERONE IN MEN

Here is a list of common signs and symptoms of low testosterone that I use to determine if a man is likely to benefit from natural testosterone replacement:

- 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

Conventional physicians often warn men against the use of testosterone replacement based on a misconception that it may promote prostate cancer. Testosterone has been in use

for over fifty years, and there is no evidence of such a link. In fact, it is not young men with high testosterone levels who develop prostate cancer but elderly men with low testosterone levels. Keep in mind, I am not advocating abnormally high doses of testosterone to achieve superhuman strength or aggressiveness; instead, I am recommending low-dose therapy to achieve a blood level of testosterone that is associated with optimal health and wellness.

I do recommend that men have their prostate-specific antigen (PSA) measured before beginning therapy and periodically thereafter. PSA normally rises when testosterone therapy is initiated, but it usually levels off after a few weeks. I also recommend that men take saw palmetto (160 mg twice a day). This Native American herb strengthens the prostate gland and inhibits the conversion of testosterone into its more problematic metabolite, dihydrotestosterone (DHT).

Can testosterone replacement really make a difference in a man's health and well-being? It can do that and much more. Read on to learn about a man who experienced not only improved physical and mental health but also a dramatic increase in his business when he began using natural testosterone.

CASE STUDY: RICHARD'S STORY

Richard is married, in his late fifties, and the father of two teenagers. He owns and operates a construction company that is responsible for setting up many of the major sports events and concerts in Houston, San Antonio, and other big cities in Texas.

While the job is both physically strenuous and mentally taxing, Richard has always thrived on the challenges of this demanding business.

However, when Richard entered his fifties, he went into a tailspin physically and psychologically. He noticed that he had no energy and his motivation was gone. He couldn't seem to focus on anything and made some poor and costly business decisions. Normally a "take charge" kind of person, Richard now dreaded getting out of bed in the morning and avoided phone calls at the office. He began to consider selling his company and getting out of the business.

Richard consulted several physicians for help with his fatigue, lack of drive, and other problems. They weren't very helpful and didn't seem to have a clue as to what was really wrong with him. After listening to my radio program for several months, Richard decided to make an appointment to see me.

On his first visit, I sat down with Richard and asked him how he was feeling. He described his symptoms—depression, low energy, lack of motivation, trouble focusing. When I asked what the previous physicians had done to help him, he told me that the first physician he consulted had simply ordered some blood work and informed him his cholesterol was high.

“That’s fine, but what does this have to do with my lack of energy and drive?” he wondered to himself as he left the office with a prescription for a cholesterol-lowering drug.

The second doctor was no better. “He just gave me a prescription antidepressant and told me to get some exercise,” he said. “But that just didn’t make sense. I was already getting five hours of exercise a day on the job hauling heavy equipment, working alongside my crew setting up events. I didn’t see how I could get more exercise than I already was getting.”

After listening to Richard’s story and giving him a thorough examination, it was obvious to me that Richard was operating by sheer willpower—and there was not much willpower left. He had the classical symptoms of hypothyroidism and low testosterone. These two conditions often go hand in hand, since testosterone assists in the conversion of the inactive thyroid hormone, T4, to the active T3 form.

I explained to Richard that virtually all of his symptoms were likely related to the decline in his body's production of both testosterone and thyroid hormone. Restoring their levels to what they had been in his midtwenties would yield measurable improvements in his energy, mood, and overall well-being. Richard left the office feeling more hopeful than he had in a long time. The results of his blood tests confirmed my diagnosis and his need for thyroid and testosterone supplementation.

A month later, during a follow-up visit, Richard was positively bursting with enthusiasm. "I have improved so much mentally and physically," he said. "My energy is great, and my mental sharpness has improved 100 percent. I had no idea that I was having such trouble concentrating. The difference is remarkable!"

Richard was especially glad to have regained his passion for his business. "I was ready to sell my company," he said. "In my line of work, I have to negotiate with unions, and they are tough. I just wasn't up to it before. But now I am able to stand my ground and act decisively."

A year later, Richard continued to boast about the improvement in his health and well-being. However, he was even more elated by the benefits he had noticed in seemingly unrelated areas of his life. "In the past year, my

business has tripled," he said. "I now have over four hundred employees and my income has gone up dramatically. I had no idea what an impact my health could have on my career success."

The improvement in Richard's health was what I had seen in numerous other men. It was also no surprise to me to learn of his business success. I am convinced that all wealth is founded upon good health. Richard is living proof of this.