

*Major Scientific Studies Reveal...*

**Testosterone Levels in Men Decline  
Over the Past Two Decades Causing Millions to Suffer**

**Depression, Lack of Energy,  
Erectile Dysfunction**

**AND...**

**Low Testosterone Linked To  
Increase Risk of Death**

*In this issue of Natural Health News Report you'll learn about...*

- **The alarming reason why so many men are suffering erectile dysfunction, osteoporosis, Alzheimer's, metabolic syndrome, diabetes, depression, deadly falls and coronary plaque that can cause heart attack and stroke**
- **Why healthy testosterone levels aren't a luxury, they're absolutely essential**
- **How doctors got it terribly wrong about testosterone and prostate health—the latest research**
- **How to start reversing the effects of low testosterone**

**By Dr. John M. Sortino**  
**Professor of Clinical Medicine, Nova University, Florida**

Dear Friend,

**Are you feeling like you're 100 years old and BLAMING IT ON MIDDLE AGE?**

The medical term for this is “Andropause,” or “Testosterone Deficiency Syndrome (TDS)” and an increasing number of scientific and medical studies suggest it may be connected to loss of erections, low libido, memory loss, heart disease, belly fat, osteoporosis, depression, diabetes and whole host of other chronic illnesses.<sup>1</sup> Leading scientists prefer to call it Testosterone Deficiency Syndrome because it most accurately describes the cause of the problem—low testosterone.<sup>2</sup>



Over Please...

<sup>1</sup> The Society for the Study of Androgen Deficiency. Recent research findings about the testosterone deficiency syndrome. Available from: [www.andropause.org.uk/reCentersearch.htm](http://www.andropause.org.uk/reCentersearch.htm)

<sup>2</sup> Morales I, et al. Testosterone deficiency syndrome (TDS) needs to be named appropriately; the importance of accurate terminology. *Eur Urol.* 2006 Sep; 50(3):407-09.

## **Testosterone is Lower Than Ever Before**

Low testosterone is becoming a bigger and bigger problem...

A recent study reported in the *Journal of Clinical Endocrinology and Metabolism* concludes that testosterone levels in American men have been declining steadily over the past two decades!<sup>3</sup>

The reasons for this decline are unclear; the study suggests that neither aging nor changes in certain health factors, such as obesity or smoking, can completely explain the phenomenon.

### **Testosterone is the golden liquid that looks like jet fuel, produced by every man's body!**

“Male serum testosterone levels appear to vary by generation, even after age is taken into account,” said Thomas G. Travison, Ph.D., of the New England Research Institutes (NERI) in Watertown, Mass., and lead author of the study. “In 1988, men who were 50 years old had higher serum testosterone concentrations than did comparable 50-year-old men in 1996. This suggests that some factor other than age may be contributing to the observed declines in testosterone over time.”<sup>4</sup>

### **Insufficient levels of testosterone have been linked to loss of potency, low libido, diabetes, heart disease and other serious medical conditions including an increase in long-term risk of death!**

Typically, testosterone levels in men peak around their late 20s, and then begin a gradual decline from age 30 onward.

This study found that the average normal levels of testosterone available for the body to use for men 65-69 years of age in 2003 were *much lower* than men measured in 1988. In this age group, levels of “average normal” bioavailable testosterone fell 1.3% a year from 503 ng/dL in 1988 to 387 ng/dL in 2003 or 116 points! That’s scraping the bottom levels of normal. Some experts believe that keeping levels over 400 ng/dL is a safe way to go.

What’s going on? The scientists don’t know for sure. They theorize that it could be environmental causes. Plastic food and water containers, phthalates in lotions and soaps, pesticides, weed killers and other environmental pollutants may be increasing a type of estrogen (estradiol) in the body that crowds out testosterone.<sup>5</sup>

### **German scientific study shows evidence linking testosterone deficiency with increased death from all causes over time – so-called “all-cause mortality.”**

A recent scientific study conducted at the Ernst-Moritz-Arndt University of Greifswald, Institute for Community Medicine should be considered a very serious warning for men suffering from low testosterone levels.

The study looked at death from any cause in nearly 2,000 men aged 20 to 79 years who were living in northeast Germany and who participated in the Study of Health in Pomerania (SHIP).

Follow-up averaged seven years. At the beginning of the study, five percent of these men had low blood testosterone levels, defined as the lower end of the normal range for young adult men. The men with low testosterone were older, more obese, and had a greater prevalence of diabetes and high blood pressure, compared with men who had higher testosterone levels.

<sup>3</sup> Travison TG, et al. A population-level decline in serum testosterone levels in American men. *J Clin Endocrinol Metab.* 2007 Jan;92(1):196-202.

<sup>4</sup> Senior Journal. Senior citizens have lower testosterone levels than peers of 15 years ago. October 24, 2006. Available from: [www.seniorjournal.com/NEWS/Aging](http://www.seniorjournal.com/NEWS/Aging)

<sup>5</sup> Solomon G, et al. Environment and health: 6. Endocrine disruption and potential human health implications. *CMAJ.* 163(11):1471-6.



## **Men with low testosterone levels had more than 2.5 times greater risk of dying during the next 10 years compared to men with higher testosterone, the study found.**

This difference was not explained by age, smoking, alcohol intake, level of physical activity, or increased waist circumference (a risk factor for diabetes and heart disease), according to the study.

In cause-specific death analyses, low testosterone predicted increased risk of death due to cardiovascular disease and cancer but not death of any other single cause.

Detailed results were presented at The Endocrine Society's 90th Annual Meeting in San Francisco.<sup>6</sup>

### **“Age related decline in testosterone ignored for decades,” say scientists**

“The problem of low testosterone has finally come to the forefront of medical literature, after being ignored for decades” say the authors of a study just published in September, 2008 by *Journal of Andrology*.

These leading scientists say that the problem of low testosterone is much greater than previously thought. The “dark side of testosterone deficiency” goes beyond low testosterone. It is related to metabolic syndrome, insulin resistance, heart disease and erectile dysfunction.

The researchers emphasize that testosterone plays a crucial role in metabolic balance. In fact, testosterone may be the key piece of the puzzle that maintains blood sugar control. Doctors can no longer afford to ignore testosterone.<sup>7</sup>

### **Diabetic men have low testosterone levels**

A recent study from the University of Melbourne, Australia, has found that men with type 1 *and* type 2 diabetes suffer from low testosterone. Previous research had revealed the connection between low levels of testosterone and type 2 diabetes. These findings suggest that there is a direct link between insulin resistance and reduced testosterone levels in men.<sup>8</sup>

“As testosterone deficiency may contribute to impaired performance, mood, and libido as well as have adverse impact on cardiovascular risk, these findings demonstrate the presence of significant and unrecognized problems among men with diabetes,” said Dr. Mathis Grossman, lead author of the study.<sup>9</sup>

And it's not only older diabetic men who are facing dropping testosterone. Younger diabetic men (ages 18 to 35 years) have low levels as well. Half of the young diabetic men tested had lower than normal testosterone levels. Plus, they have high levels of C-reactive protein, an inflammatory marker associated with increased risk of heart disease, cancer, arthritis and other chronic illnesses.<sup>10</sup>

#### **What Do Normal Levels of Testosterone Do For You?**

- Support your libido and erections
- Maintain muscle and reduces belly fat
- Support strong bones and reduces risk of osteoporosis
- Support healthy memory
- Keep your energy levels high
- Keep your heart and brain healthy
- Keep your mood more positive
- Keep insulin response normal
- Reduce your risk of dying

<sup>6</sup> Haring R, et al. ENDO 2008: The Endocrine Society 90th Annual Meeting: Abstract OR35-1. Presented June 17, 2008. Low testosterone levels increase mortality risk in men. Medscape Medical News.

<sup>7</sup> Traish AM, et al. The dark side of testosterone deficiency: type 2 diabetes and insulin resistance. Published-ahead-of-print on Sept 4, 2008 by Journal of Andrology.

<sup>8</sup> Grossman et al. Testosterone and insulin resistance in men with diabetes. *J Clin Endocrinol Metab*, 2008 May;93(5):1834-40.

<sup>9</sup> Endocrine Society (2008, March 27). Previously unrecognized testosterone deficiency common in men with type 1 diabetes. ScienceDaily. Available from: [www.sciencedaily.com/releases/2008/03/080326202018.htm](http://www.sciencedaily.com/releases/2008/03/080326202018.htm).

<sup>10</sup> Chandel A, et al. Testosterone concentrations in young patients with diabetes mellitus. *Diabetes Care*. 2008 Jul23. Epub ahead of print.





## Low testosterone erases libido and torpedoes erections

Testosterone is the key hormone that men must have for a lusty libido and potency. Dr. Aksam Yannin, MD, PhD, of Germany studied over 700 men for a period of two years. He found that nearly 20% of men with erectile dysfunction had testosterone deficiency.<sup>11</sup>

“Erectile dysfunction is a portal into men’s health,” said Dr. Yannin.<sup>12</sup>

Dr. Yannin’s research team found that testosterone deficiency is intertwined with obesity, high blood pressure, cholesterol problems, and metabolic syndrome, as well as erectile difficulties and other problems. The common denominator in all these problems is low testosterone.

## High levels of free testosterone protect against Alzheimer’s

The greatest health fear of older people is getting Alzheimer’s disease. Many older people have witnessed the ravages of Alzheimer’s disease on their friends and loved ones. People aged 55-64 fear Alzheimer’s more than any other disease—even cancer.<sup>13</sup>

Now, it looks like keeping levels of free testosterone high may help to prevent Alzheimer’s. A long-term study by researchers at Johns Hopkins followed 574 men, ages 32 to 87 who were free from Alzheimer’s disease, for an average of 19 years. Men who had high levels of free testosterone were at much lower risk of developing Alzheimer’s. For every 10-unit increase in a man’s free testosterone, the risk of Alzheimer’s dropped by 26%.<sup>14</sup>

Scientists believe that natural testosterone protects brain cells.<sup>15</sup>

## Deadly falls in older men linked to low testosterone levels

Falling can be one of the most deadly events that happens to an older person. According to a government study from the Centers for Disease Control, nearly 8,000 older Americans who fell and banged their heads died from the brain injury in 2005. Another 56,000 older people were treated in the hospital for brain injuries due to falls.<sup>16</sup>

Each year, one in three Americans over the age of 65 and older falls and 30% of these falls cause injuries requiring medical treatment. Falling also results in hip fractures, loss of mobility and having to go into a nursing home. Approximately 35-45% of generally healthy older people over the age of 65 fall each year. After age 75, that percentage goes up even higher. Falls are the second most common cause of death due to accidents, after automobile crashes.<sup>17</sup>

Low levels of testosterone may be associated with a higher risk of falling in older men, according to a report in the *Archives of Internal Medicine* in 2006. During the two-year study of 2,587 men (average age 73), 56% of the men fell at least once.

Men with the lower bioavailable testosterone levels were significantly more likely to fall—and fall more than once—than men with higher levels of testosterone. Even men who performed well on physical tests had a greater risk of falling if their testosterone was low, say the researchers.<sup>18</sup>

## Belly fat and “the blues” plague men with low testosterone

Where did that “beer belly” come from, when you don’t even drink beer? Low testosterone, say leading researchers.

<sup>11</sup> Yassin AA, et al. Testosterone and erectile dysfunction. *J Androl.* 2008 Jul 17. Epub ahead of print. <sup>12</sup> The Endocrine Society (2008, June 20). Low testosterone may cause health problems that lead to erectile dysfunction. *ScienceDaily*. Available from [www.sciencedaily.com/releases/2008/06/080616210025.htm](http://www.sciencedaily.com/releases/2008/06/080616210025.htm) <sup>13</sup> Senior Journal. Senior citizen’s greatest fear—Alzheimer’s—more likely if both parents have it. March 10, 2008. Available from: [www.seniorjournal.com/NEWS/Alzheimers/2008/8-03-10-SenCitGreatestFear.htm](http://www.seniorjournal.com/NEWS/Alzheimers/2008/8-03-10-SenCitGreatestFear.htm) <sup>14</sup> Moffat SD, et al. Free testosterone and risk for Alzheimer disease in older men. *Neurology.* 2004;62:188-93 <sup>15</sup> Chu LW, et al. Bioavailable testosterone is associated with a reduced risk of amnesic mild cognitive impairment in older men. *Clin Endocrinol (Oxf).* 2008 Apr;68(4):589-98. <sup>16</sup> Centers for Disease Control and Prevention. Traumatic brain injuries can result from senior falls. June 23, 2008. Available from: [www.cdc.gov](http://www.cdc.gov). <sup>17</sup> The American Geriatrics Society. Guideline for the prevention of falls in older persons JAGS. 2001 May; 49:664-72. <sup>18</sup> Orwoll E, et al. Endogenous testosterone levels, physical performance, and fall risk in older men. *Arch Intern Med.* 2006; 166:2124-2131.

The Director of the Andrology Center at the prestigious University Hospital Karolinska in Sweden, Professor Stefan Arver, presented the latest research on testosterone at the World Congress on the Aging Male in 2004.

In his presentation, he said, "...the wider the belly points out, the lower the testosterone levels are... So the T-levels, the testosterone, predict the risk for development of abdominal obesity." He said the men most at risk for low testosterone were slender men with a pot belly. Next in line were fat men with big bellies.

He told the crowd of male aging specialists, "What I would like you to take home today from this presentation, is the fact that testosterone can inhibit the accumulation of abdominal fat."<sup>19</sup>

The higher your testosterone, the lower your belly fat—and the less chance that you will have a major depression as you get older.

A study funded by the Australian government found that older men with lower free testosterone levels have a higher prevalence of depression. Men who had the lowest levels of free testosterone had three times the odds of having depression compared to men who had the highest levels of testosterone.<sup>20</sup>

### **How do you know if you have low levels of testosterone?**

A simple questionnaire can identify men with low levels of testosterone with about 80% accuracy. It's called the ADAM Test (Androgen Deficiency in Aging Males).<sup>21</sup>

- |  |        |       |
|--|--------|-------|
| 1. Do you have a decrease in libido (sex drive)?                         | Yes __ | No __ |
| 2. Do you have a lack of energy?   | Yes __ | No __ |
| 3. Do you have a decrease in strength and/or endurance?                  | Yes __ | No __ |
| 4. Have you lost height?   | Yes __ | No __ |
| 5. Have you noticed a decreased "enjoyment of life?"                     | Yes __ | No __ |
| 6. Are you sad and/or grumpy?  | Yes __ | No __ |
| 7. Are your erections less strong?                                       | Yes __ | No __ |
| 8. Have you noted a recent deterioration in your ability to play sports? | Yes __ | No __ |
| 9. Are you falling asleep after dinner?                                  | Yes __ | No __ |

How to Score: Yes on question 1 or question 7 indicates you may have low testosterone levels. Yes on three other questions indicates you may have low testosterone levels.

If you ask your doctor to measure your testosterone levels, make sure he or she measures your *free* or *bioavailable* testosterone. That is the most accurate indicator of testosterone that is available for your body to use. Measuring total testosterone does not give an accurate perspective.

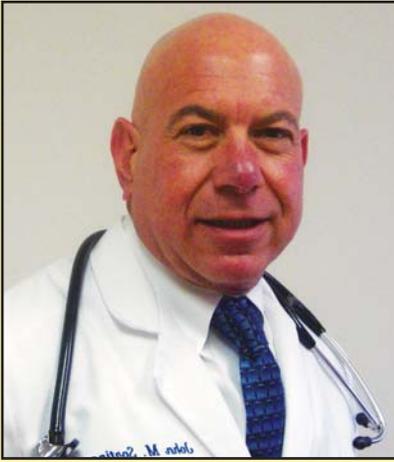
### **What can you do about low testosterone?**

It's obvious that you want to prevent your levels of testosterone from falling as you age. If you have low levels now, you want to raise them. What can you do?

### **Almost 90% of men with low testosterone are not being treated**

Men with low testosterone levels are suffering many health problems—and they are not receiving help from their doctors. A recent study by the New England Research Institute in Boston found that of 97 men who had low testosterone, only 11 had been prescribed testosterone treatment. A large majority of men—87.8% – with low testosterone were not receiving treatment even though they had access to medical care.<sup>22</sup>

<sup>19</sup> Arver, S. Testosterone and the metabolic syndrome. World Congress on the Aging Male, 2004, Prague, Czech. Available from: [www.agingmale2004.com/transcript-Arver\\_Int.htm](http://www.agingmale2004.com/transcript-Arver_Int.htm). <sup>20</sup> Almeida OP, et al. Low free testosterone concentration as a potentially treatable cause of depressive symptoms in older men. Arch Gen Psychiatry. 2008 March; 65(3): 283-89. <sup>21</sup> Morley JE, et al. Validation of a screening questionnaire for androgen deficiency in aging males. Metabolism. 2000;49:1239-42. <sup>22</sup> Hall S, et al. Treatment of symptomatic androgen deficiency: results from the Boston Area Community Health Survey. Arch Int Med. 2008;168(10).



John M. Sortino M.D. is among today's most distinguished specialists in Anti-Aging and Male Health. As a professor of Clinical Medicine at Nova University in Florida he has won widespread fame for his groundbreaking research into the health problems of men over 40. His anti-aging clinic has been called "Florida's Fountain of Youth" by patients who include world-class athletes and Fortune 500 executives. Professor Sortino received his Medical Degree from the world-renowned Rome University School of Medicine in Italy, a leading center in today's holistic medicine movement.

## **Why are doctors ignoring low testosterone? Uh-Oh. They made a big mistake...**

For years doctors have ignored low levels of testosterone, and even discouraged men from taking matters into their own hands and raising their levels with effective dietary supplements. They falsely believed that higher levels of testosterone increased men's risk for prostate cancer. They were wrong.

As early as 2004, the prestigious *The New England Journal of Medicine (NEJM)* reported that testosterone therapy did not increase the risk of prostate cancer or heart disease.<sup>23</sup>

A Harvard professor published a comprehensive review of 72 published studies in the *NEJM* and said, "We reviewed decades of research and found no compelling evidence that testosterone replacement therapy increases the incidence of prostate cancer or cardiovascular disease."<sup>24</sup>

Again in 2006, the highly respected *Journal of the American Medical Association* presented findings that raising levels of testosterone had little effect on the prostate, contrary to reports that testosterone was harmful to the prostate.<sup>25</sup>

And finally in 2008, another review of 18 prior studies published in the *Journal of the National Cancer Institute* examined the relationship between higher levels of testosterone and risk of prostate cancer.<sup>26</sup> Testosterone did not increase risk of prostate cancer. Can it be any clearer than this?

## **"The researchers found no association between prostate cancer risk and blood levels of different forms of testosterone."**

An editorial that accompanied the Cancer Institute article told doctors just to accept that they were wrong and move on. Higher levels of testosterone do not increase risk of prostate cancer. Period.

## **How you can support your levels of testosterone—naturally?**

Because every prescription drug runs the risk of having significant side effects, many men look to dietary supplements for a safe, natural way to support healthy levels of testosterone.

**Warning: medications that can lower your testosterone: Tagamet, Digitek, Lanoxicaps, Lanoxin, Aldactone, antidepressants.**

<sup>23</sup> Morgentaler A, et al. Risks of testosterone-replacement therapy and recommendations for monitoring. *N Engl J Med.* 2004 Jan 29;350(5):482-92. <sup>24</sup> Beth Israel Deaconess Medical Center (2004, January 30). Study finds no causal link between testosterone replacement, prostate cancer or cardiac disease. Science Daily. Available from: [www.sciencedaily.com](http://www.sciencedaily.com) <sup>25</sup> Marks LS, et al. Effect of testosterone replacement therapy on prostate tissue in men with late-onset hypogonadism. *JAMA.* 2005 Nov 15; 296(19):2351-2361. <sup>26</sup> Endogenous sex hormones and prostate cancer: a collaborative analysis of 18 prospective studies. Endogenous Hormones and Prostate Cancer Collaborative Group. *Journal of the National Cancer Institute.* January 29, 2008.

## **Tongkat Ali boosts testosterone**

*Eurycoma longifolia jack*, also known as Tongkat Ali, is a shrub that grows in Southeast Asia. It has been used for male potency in that region for centuries. Now, modern science has discovered that this plant is able to boost levels of male testosterone during exercise. Testosterone levels were 16.4% higher in the Tongkat Ali group compared to placebo.<sup>27</sup>

Another study found that Tongkat Ali increased levels of testosterone and DHEAS compared to placebo after two months in 20 men. At the end of the study, testosterone and DHEAS levels showed high normal levels when compared to baseline. There were no harmful side effects.<sup>28</sup>

## **DHEA is precursor to testosterone: Relieves many symptoms of low testosterone**

Almost all dehydroepiandrosterone (DHEA) is produced by the adrenal gland and is the most abundant steroid in the human body. DHEA levels peak at about age 25 and decline about 2% a year. By the mid-forties, people may begin to perceive negative effects of lower DHEA levels. Low levels of DHEA may be related to heart disease, type 2 diabetes, cancer, osteoporosis, depression, higher risk of death, damaged arteries and other chronic diseases of age.<sup>29</sup>

DHEA is the precursor for androstenedione and androstenediol which are the precursors for testosterone. DHEA is essential for the production of testosterone.

According to a leading male health expert, “Overall, DHEA supplementation increases androgen levels in peripheral tissues, increases serum androstenedione, and improves function in most organ systems of the body.

## **“The majority of chronic diseases associated with male aging can be significantly helped with DHEA supplementation.”**

He goes on to say that supplementing with DHEA is associated with higher levels of energy and well-being, enhanced libido and erectile function. The average dose is 50 mg/day.<sup>30</sup>

The Mayo Clinic says that several studies suggest that DHEA supplements may improve well-being, quality of life, exercise capacity, sex drive and hormone levels in people with low adrenal function. It may also help overcome depression and reduce fat, especially abdominal fat.<sup>31</sup> Low-dose supplementation with DHEA (50mg) noticeably reduced fat stores in the abdomen, a marker of low testosterone.<sup>32</sup>

Recent studies showed that supplemental DHEA increased insulin sensitivity, increased bone mass, suppressed inflammation, improved markers of heart disease, enhanced memory and increased bone formation.<sup>33</sup>

## **Testosterone significantly increased with DHEA supplements**

A 2004 Italian study found that supplementing with 25 mg/day of DHEA significantly increased levels of DHEA, DHEAS, total and free testosterone, and androstenedione plus other hormones. The men in the study indicated improvement in mood, fatigue and joint pain. The researchers concluded that 25/mg day of DHEA can counteract the age-related decline of endocrine and neuroendocrine functions.<sup>34</sup>

Another study in Japan also found that DHEA (25 mg/day) increased levels of DHEA, DHEAS, androstenedione, and lowered the inflammatory marker C-reactive protein.<sup>35</sup> A study at The New York Presbyterian Hospital noted that escalating doses of DHEA (100-400 mg/day) over a period of eight weeks significantly increased circulating levels of DHEA, DHEAS, free testosterone, and other hormones.<sup>36</sup>

<sup>27</sup> Talbott S, et al. Effect of LJ100 on anabolic balance during endurance exercise. *J Int Soc Sport Med.* 2006;3(1):S32. <sup>28</sup> Hamzah SH, et al. 2005 Human Clinical LJ100®. Available from: [www.hpingredients.com/lj100\\_human\\_clinical\\_research.htm](http://www.hpingredients.com/lj100_human_clinical_research.htm) <sup>29</sup> Goepf J. Why DHEA may be the best-validated anti-aging supplement. *Life Extension Foundation Magazine.* November, 2006. <sup>30</sup> Buhner S. *The natural testosterone plan.* Healing Arts Press. Rochester, VT. 2007. <sup>31</sup> MayoClinic.com. DHEA. Available from: [www.mayoclinic.com](http://www.mayoclinic.com) <sup>32</sup> Villareal DT, et al. Effect of DHEA on abdominal fat and insulin action in elderly women and men: a randomized controlled trial. *JAMA.* 2004 Nov 10;292(18):2243-8. <sup>33</sup> Goepf J. Why DHEA may be the best-validated anti-aging supplement. *Life Extension Foundation Magazine.* November, 2006. <sup>34</sup> Genazzani AR, et al. Long-term low-dose DHEA replacement therapy in aging males with partial androgen deficiency. *Aging Male.* 2004 Jun;7(2):133-43.

## **Tribulus terrestris elevates testosterone and sexual satisfaction**

Tribulus terrestris is a weed that is also known as puncture vine or “ooch ouch!” for those of you who discovered it while walking barefoot or riding on a bicycle. It has long been used for stimulating male libido, to increase sperm count, improve motor activity and muscle tone and help restore vitality and stamina.

According to male health expert Stephen Buhner, author of *The Natural Testosterone Plan*, tribulus has been used for at least three thousand years in traditional Ayurvedic practice in India for treatment of kidney stones, to increase urine and semen production, and as an aphrodisiac. It has been used for some four hundred years in Chinese medicine for a variety of ailments.<sup>37</sup>

Modern, scientific study has found that tribulus acts as a healthy sexual tonic and increases levels of testosterone in men. In a human study, tribulus extract was given to 16 healthy men and women for five days. Testosterone levels increased, on average, threefold in the men! Men who had normal levels of testosterone were not significantly affected.<sup>38</sup>

According to Buhner, tribulus increases serum levels of luteinizing hormone (LH) leading to higher levels of testosterone. Studies have also shown that it increases DHEAS and consistently increases sexual drive.

### **“Tribulus is a useful herb for increasing testosterone levels...”**

Several studies with tribulus have shown that it improves erection, sex drive, ejaculation and orgasm. Three studies on diabetic men who had erectile dysfunction showed that it increased erection and sexual intercourse in 60% of the men. Another study showed that treatment with tribulus improved erection and sexual satisfaction in 56 men.

Tribulus lowers blood pressure and increases the action of nitric oxide and acetylcholine in the penis. It also stimulates production of DHEA, a vital precursor to testosterone.<sup>39</sup>

### **Start your personal Testosterone Defense Plan**

Your testosterone is under attack. Scientific evidence is piling up that hundreds of synthetic chemicals are reducing your normal levels of testosterone. Some of these chemicals lock up your free testosterone and some directly deactivate testosterone. The results are sobering: lower and lower levels of testosterone and worse and worse health.<sup>40</sup>

Scientific organizations and environmental agencies in countries all over the world are concerned that men’s testosterone is being attacked. Unfortunately, the medical profession has discouraged men from supporting their testosterone levels. Their efforts were woefully misguided.

You *must* have adequate amounts of testosterone to stay healthy and avoid the chronic diseases of aging like heart disease, diabetes, metabolic syndrome, Alzheimer’s and many others. You *must* have enough testosterone to enjoy a robust sex life and keep your energy and vitality strong.

There are natural ways to protect your testosterone. Adding natural supplements like DHEA, tribulus and Tongkat Ali can help you defend your testosterone levels so that you enjoy a healthy and energetic older age.

To your health and long life,



John M. Sortino, M.D.



<sup>35</sup> Yamada Y, et al. *Endocr J*. 2007 Feb;54(1):153-62. <sup>36</sup> Poretsky L, et al. Endocrine effects of oral dehydroepiandrosterone in men with HIV infection: a prospective, randomized, double-blind placebo-controlled trial. *Metabolism*. 2006 Jul;55(7):858-70. <sup>37</sup> Buhner S. *The natural testosterone plan*. Healing Arts Press. Rochester, VT. 2007. <sup>38</sup> Milanov S, et al. Tribestan effect on the concentration of some hormones in the serum of healthy volunteers. *Med-Biol Inf*. 1985;4:27-9. <sup>39</sup> Buhner S. *The natural testosterone plan*. Healing Arts Press. Rochester, VT. 2007. Page 113. <sup>40</sup> Toppari J, et al. Male reproductive health and environmental xenoestrogens. *Environmental Health Perspectives* 104(4):741-803; Theo Colburn et al. *Our stolen future*. Plume, New York. 1995.