When we first recommended that aging men restore their testosterone to youthful levels, a firestorm of criticism erupted.

The medical establishment proclaimed that by interfering with the natural decline in testosterone secretion, that men risked all kinds of terrible fates. When Life Extension® members asked their doctors for testosterone prescriptions, they ran into objections such as, "I don't prescribe steroids," "testosterone causes heart attacks," and "testosterone causes prostate cancer."

We countered these criticisms with hundreds of scientific citations showing that testosterone deficiency is an underlying cause of age-related disease. We also demonstrated that none of the paranoid fears about natural testosterone had ever been substantiated.

To this day, a huge number of doctors view testosterone as if it were a narcotic. Other physicians admit they don’t know how to prescribe testosterone to their patients. All of that is about to change.

Harvard Medical School

A new book authored by the "experts at Harvard Medical School" should bury once and for all the biased and ignorant misconceptions about natural testosterone restoration therapy.

Testosterone for Life (McGraw-Hill; 2008) is an exceptionally well-written book that validates what we long ago published about the safety, testing, method of delivery, and multiple benefits of testosterone.

While this information has been widely circulated in the anti-aging community, the fact that it has been so eloquently compiled by the "experts at Harvard Medical School" should forever dispel the myths that have misled mainstream doctors for decades.
Testosterone for Life reminds the reader of what the medical community erroneously thought, and then presents the scientific truths in such a way that it is difficult to imagine anyone regurgitating these fallacies again. The author freely admits his own mistaken beliefs about testosterone that were based on the medical establishment's flawed dogma, and then describes how he uncovered the real facts.

Low Testosterone Increases Prostate Cancer Risk

Fear of prostate cancer is the leading reason why aging men have shied away from restoring their free testosterone to youthful ranges. To dispel this concern, Life Extension long ago analyzed every published study and found there is no basis for asserting that testosterone causes prostate cancer.1,6

Our observations from the thousands of blood tests we perform each year for members confirmed this. What we found is that men with low testosterone appear to be more likely to contract prostate cancer.

In Testosterone for Life, the misleading notion about testosterone causing prostate cancer is exposed in better detail than I have ever seen. You don’t have to buy the book to read this information. The publisher allowed us to excerpt the entire chapter titled “Destroying the Myth About Testosterone Replacement and Prostate Cancer” that you can read by logging on to: www.lef.org/testostprostate.

What will come as a bombshell to the medical establishment is the compilation of scientific facts presented in this chapter showing that men with low testosterone levels have an increased percentage of prostate cancer-positive biopsies.4,7,8 This means that physicians who refused to prescribe testosterone to their aging male patients may have unwittingly contributed to today’s prostate cancer epidemic.

Testosterone May Safely Be Used in Those Who Have Had Prostate Cancer

Another revealing chapter in Testosterone for Life exposes the erroneous belief that men who have ever had prostate cancer, or are at high risk for prostate cancer, can never use testosterone.9

The prevailing dogma is that raising the concentration of testosterone is to prostate cancer like pouring gasoline onto a fire. While there are certain stages of prostate cancer where this can happen, it turns out that prostate cancer cells can thrive on relatively low concentrations of testosterone.4,7 That is why when testosterone deprivation is properly prescribed as a treatment for existing prostate cancer, the objective is to reduce testosterone to very low levels (less than 20 ng/dL of blood). That often means shutting down testosterone production from both the testes and the adrenal glands.

Life Extension still cautions that most men with prostate cancer should avoid testosterone therapy until the disease is completely eradicated. Any man (whether or not he has ever had prostate cancer) who initiates testosterone therapy and then experiences an increase in PSA should discontinue testosterone and undergo diagnostic tests to assess if prostate cancer is present. Testosterone is a stress test for latent prostate cancer and if the PSA rises in response to testosterone replacement therapy, then prostate cancer has been identified and testosterone should be stopped.

Testosterone for Life cites published studies and case reports of men with existing prostate cancer who restored their testosterone levels and experienced a reduction in clinical markers and symptoms of their disease. While we at Life Extension believe that most men with active prostate cancers should not increase their testosterone levels until their disease is brought under control, the information presented in this new book calls into question some of our previous concerns.

The major emphasis in the chapter “Treating Men Who Have a History of Prostate Cancer” is that once prostate cancer is believed to be cured, there is no reason for an aging man to suffer from a testosterone deficiency. This chapter, perhaps more than any other in this book, will turn conventional assumptions about testosterone and prostate cancer upside down.

I suggest that anyone who has had prostate cancer and now...
Symptoms of Low Testosterone

Testosterone for Life heavily emphasizes the quality-of-life improvements that occur in most men who restore their testosterone to youthful ranges. Common symptoms described in men with low testosterone are:

- Sexual problems such as decreased desire, erectile dysfunction, difficulty achieving orgasm, and reduced intensity of orgasm
- Low energy and increased fatigue
- Loss of motivation
- Depressed mood
- Loss of sense of well-being and vigor.

In case after case, when low testosterone is corrected, men report improvements in some or all of the above symptoms. It is interesting to note that these symptoms of low testosterone are analogous to what one would expect with normal aging.

A Generation Who Lost Their Quality of Life

Testosterone for Life discusses the many published studies showing that men with higher testosterone levels live longer and have lower rates of diabetes and heart attacks. The emphasis of the book, however, is on the enormous quality-of-life improvements observed in men prescribed testosterone. These improvements include increased sexual desire, performance, and fulfillment, along with marked enhancements in energy and sense of well-being. These remarkable case histories, presented in meticulous detail, should ignite a stampede of aging men seeking to have their doctors prescribe them testosterone creams.

While Testosterone for Life relates many histories of men suffering common age-related afflictions who then regain their youthful vigor, the author dutifully discusses why some men do not respond to testosterone, such as being prescribed drugs that destroy libido and erection capability.

When reading Testosterone for Life, one cannot help but sympathize about an entire generation of aging men robbed of their youth because the medical establishment, federal government, and the media ignored scientific reality. We should also remember the anti-aging doctors who were persecuted and sometimes imprisoned for prescribing testosterone to their patients. The only crime these doctors committed was being ahead of their time.

Where Life Extension Disagrees With the "Harvard Experts"

Most of the recommendations in Testosterone for Life closely follow what Life Extension long ago published.

There are some exceptions, however, that paint an interesting picture of how differently mainstream medicine thinks when analyzing the exact same scientific data.

Life Extension® has dedicated many articles to the disease-prevention potential of testosterone replacement therapy. One study, for example, showed mortality levels 88% higher in men with low testosterone, compared with men who had normal testosterone. Testosterone for Life acknowledges all these studies, but does not believe these studies provide enough substantiation to warrant men replacing their testosterone for the purposes of living longer. They specifically state that if a man with low testosterone has no signs or symptoms of deficiency, then he should not restore his testosterone.

We at Life Extension vehemently disagree with this line of thinking. Our position is that low testosterone contributes to the degenerative diseases of aging such as chronic inflammation, neurologic decline, diabetes, and atherosclerosis. Most of us take our nutrient supplements not because we suffer "signs or symptoms" of deficiency, but because we want to prevent the onset of age-related disease.

Signs of Low Testosterone

"Symptoms" are something a person experiences, whereas "signs" are something that can be measured, like weight or blood pressure. Testosterone for Life describes common signs of low testosterone such as:

- Loss of muscle mass and strength
- Accumulation of belly fat
- Low bone density
- Anemia
- Increased incidence of type 2 diabetes.

These signs of low testosterone are common characteristics of normal aging. Testosterone for Life confirms how most men demonstrate improvements in these pathologic signs when testosterone levels are restored.
It is fascinating that the “experts of Harvard Medical School” have such a different philosophy about this critically important issue of disease prevention, though they admit they are leaning towards recommending testosterone for longevity purposes if more confirmatory studies are published.

*Testosterone for Life* defines low testosterone as free testosterone blood levels below 15 pg/mL. We at Life Extension suggest that aging men maintain their free testosterone at a level of 20-25 pg/mL to more closely resemble that of a healthy 21-year-old.

There are a number of delivery methods available for aging men to restore their testosterone levels. Both Life Extension and the “experts at Harvard” suggest topically applied testosterone creams or gels as the most efficient way of delivering testosterone into the body. While the Harvard experts acknowledge that patients using compounded testosterone creams achieve desired blood levels, they heavily recommend FDA-approved testosterone cream drugs because they believe these to be more reliable.

*Life Extension* has found that testosterone made by compounding pharmacies consistently elevates free testosterone, and that the recommended follow-up blood tests can verify that an individual using testosterone from a compounding pharmacy is achieving youthful levels.

What the Harvard people neglect to discuss is cost. The FDA-approved testosterone cream drugs can cost over $220 a month (or $2,640 a year). Compounded testosterone, on the other hand, can be obtained for around $20 a month (or $240 a year). For whatever reason, *Testosterone for Life* chooses not to discuss the cost differential issue.

FDA-approved testosterone drugs are unaffordable to many aging men. We at Life Extension do not hesitate to enlighten our readers that they can obtain the same benefits by spending $20 a month, as opposed to $220 a month for FDA sanctioned testosterone drugs.

Interesting Tidbits

*Testosterone for Life* makes compelling arguments for aging men with low testosterone to take corrective action. In rebutting critics who claim nature should not be interfered with, author Abraham Morgentaler, MD, FACS, asks whether aging people should be deprived of their eyeglasses, since visual decline is also a normal manifestation of aging. He questions why doctors who prescribe thyroid hormone drugs criticize testosterone replacement. Why, he asks, is it OK to treat low thyroid but not low testosterone?

"Clearly, many men feel more energetic, vigorous and alive with testosterone therapy, not to mention having more interest in sex and improved sexual performance. These men feel better, enjoy their lives—and their partners—more, and tend to have a better outlook on life."

—Abraham Morgentaler, MD, FACS, Associate clinical professor, Harvard Medical School

"As you know, my sex drive came back quickly. What I hadn't expected though, was how much better I would feel... within a couple months of treatment, I felt better than I'd felt in years. I've started two new businesses and I'm helping a colleague with the creation of a nonprofit educational company. I'm now excited to wake up every single day."

—Testimonial of a 52-year-old male patient who had his testosterone restored to a youthful level.

Building muscle mass and bone density while reducing abdominal fat are well-established improvements in body composition observed in response to testosterone therapy. Testosterone for Life relates recent data showing that testosterone not only helps increase the strength and size of each muscle cell, but also influences nearby cells into becoming muscle cells.

Perhaps the most detailed descriptions in *Testosterone for Life* are the sexual-enhancing effects that occur when this hormone is restored. Dr. Morgentaler relates numerous case reports of patients who had lost interest in sex, were unable to perform satisfactorily, and/or who no longer experienced youthful fulfillment. In most cases, these patients reported that within weeks of testosterone levels being restored, they experienced more youthful sexual urge, performance, and pleasure.
Saving Our Healthcare System

Be it the public or private sector, the United States of America does not have the economic resources to pay the health care costs of its rapidly increasing aging population.

For the past three decades, we at Life Extension® have advocated free market approaches that would slash medical financial outlays by maintaining aging people in youthful states of health.

Based on an enormous amount of published scientific data, testosterone deficiency is a major risk factor in the development of expensive-to-treat degenerative diseases in the male population.

If most men restored their testosterone, the savings to Medicare alone in hospital and other medical service expenditures would be incalculable.

Will Testosterone for Life Become a Best-Seller?

Testosterone for Life is not the first book to reveal the profound age-reversal benefits observed when testosterone levels are properly restored.

A decade ago, Jonathan Wright, MD, authored a similar book called Maximize Your Vitality and Potency (Smart Publications; 1999). This book was based on the impressive clinical results Dr. Wright obtained in the 1980s when youthful testosterone levels were restored in his male patients.

As some of you will remember, the FDA spent a tremendous amount of taxpayer dollars trying to destroy Dr. Wright’s medical practice.

As we move forward through 2009, it is unlikely the FDA will repeat its ludicrous abuse of scientific reality again.

How to Safely Restore Youthful Testosterone Balance

Since most doctors still don’t know how to properly prescribe testosterone, I will make the following recipe as simple as possible:

1. Have your blood tested for free testosterone, estradiol, and prostate-specific antigen (PSA), along with complete blood counts and blood chemistries. These blood tests are all included in the comprehensive Male Panel Blood Test that most members have performed annually.

2. If your blood test results reveal free testosterone below 20-25 pg/mL, find a doctor with experience in prescribing natural testosterone cream. Life Extension maintains lists of doctors who have knowledge about male hormone restoration. To locate a doctor in your area, log on to www.LifeExtension.com/doctors

3. To obtain natural testosterone cream at the lowest price, ask your doctor to write a prescription for compounded natural testosterone cream. An example of how a doctor can write a prescription for a two-month supply of natural testosterone cream appears below. The exact dose you need is based on your blood test results, body mass, and later may be based on your rate of absorption and internal metabolism. Your doctor will determine what dose of testosterone cream is most appropriate for you.

<table>
<thead>
<tr>
<th>Your Doctor’s Name</th>
<th>DEA#</th>
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<tbody>
<tr>
<td>Your Doctor’s Address</td>
<td></td>
</tr>
<tr>
<td>Your Doctor’s Phone Number</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patient’s Name</th>
<th>Address</th>
<th>Age</th>
<th>Date</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>TESTOSTERONE 100 mg/mL pump</th>
<th>FILL # 2-month supply (60 mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apply 1 mL (100 mg) daily or as directed</td>
<td></td>
</tr>
<tr>
<td>Refill 3 times</td>
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</tr>
</tbody>
</table>

4. If your estradiol level is over 30 pg/mL, your doctor may also prescribe a very low-dose aromatase-inhibiting drug such as 0.5 mg of Arimidex® twice per week. This will usually bring estradiol into the optimal range of 20-30 pg/mL.

5. Within 45 days, have your blood re-tested to verify proper testosterone dosing and rule out prostate cancer. These blood tests also enable you to guard against excess red blood cell production and excess conversion of testosterone to estradiol, as well as to ensure that liver enzymes are in normal ranges.

Life Extension members have the advantage of requesting their blood to be drawn ahead of time so their doctor can properly prescribe them testosterone during their first visit. To order the Male Panel that includes all these blood tests and a lot more at a new lower price, call 1-800-208-3444.

Compounded testosterone cream can be obtained for as little as $40 for a 60-day supply. There are also non-prescription methods that restore free testosterone to youthful ranges in some men. To inquire about these, call a Life Extension Health Advisor at 1-800-226-2370.
With the endorsement of doctors from Harvard Medical School, perhaps the aging male population will awaken to the fact that they have an opportunity to restore youthful mental and physical functions, while adding decades of healthy life span, just by restoring their free testosterone blood levels.

It is my sincere hope that Testosterone for Life becomes a bestseller. It may be the greatest vindication of anti-aging medicine that the establishment has ever admitted to.

Any Life Extension® member who has a question about natural testosterone restoration therapy is free to call our Health Advisors at 1-800-226-2370.

References


Additional references located on page 102.

Additional Biological Inputs to Assess the Presence of Prostate Cancer

There are additional diagnostic tools beyond a one-time PSA blood test reading to more optimally assess whether or not prostate cancer is present. These include:

- Serial increases over time of the PSA, despite levels in the so-called normal range of 0.0-4.0 ng/mL. Prostate cancer may be present if such increases point to a PSA velocity of 0.3 ng/mL/year or higher, or to a PSA doubling time of less than 10 years, or to a rising PSA slope or abnormal natural logarithm of the PSA slope.
- A free PSA percentage of 15% or less.
- An abnormal PCA3 urine test after attentive digital rectal exam.
- A PSA density (PSAD) of 0.15ng/mL/cm³ or higher.

In other words, before subjecting a man to transrectal ultrasound-guided biopsies to rule out prostate cancer prior to testosterone supplementation, look at the biological declarations that declare a problem with prostate cancer is likely. The tests mentioned in this section, in all, are far more scientifically sound approaches to direct a man to an invasive procedure or to lead him away from one. Men with low testosterone may not feel compelled to do prostate biopsies prior to the use of testosterone supplementation because a biopsy (1) is a sampling of only a portion of the prostate, (2) is very much dependent on the skill of the ultrasonographer, and (3) depends on the nature and quality of the ultrasound equipment.

Once testosterone therapy has been initiated, tests as frequently as once a month are optimal until a trend indicating a flat PSA response is clearly discerned. Afterwards, reducing the frequency of PSA testing to every three to four months is reasonable, and pending those findings a further reduction in the testing interval is justifiable.

Testosterone replacement therapy provides broad-spectrum anti-aging benefits that include boosting energy, improving mood, building muscle mass, reducing abdominal fat, and restoring sexual function and desire. Testosterone is also essential for maintaining bone density and protecting endothelial function.

Prostate cancer patients, on the other hand, are often prescribed drugs known as luteinizing hormone-releasing hormone agonists (such as Lupron® or Zoladex®) that block testicular production of testosterone. A side effect from these drugs is a severe testosterone deficiency that creates a constellation of serious problems characterized as the "androgen deprivation syndrome."

Prostate cancer patients prescribed these drugs should review the Prostate Cancer chapter in the Disease Prevention and Treatment textbook (also available online at www.lef.org) that provides therapeutic suggestions to counteract androgen deprivation syndrome. More comprehensive information about protecting against side effects relating to androgen deprivation syndrome can be found in a book titled, A Primer for Prostate Cancer

(Stephen Strum, MD and Donna Pogliano) available by calling 1-800-544-4440.

When luteinizing hormone-releasing hormone agonists are first prescribed, there is a temporary flare of testosterone production that may last for 30 days before testicular testosterone production shuts down. Drugs like Casodex® or Flutamide®, when prescribed five to seven days before the luteinizing hormone-releasing hormone agonists are administered, can help block this temporary testosterone flare from affecting prostate cancer cells.

The book Testosterone for Life cites some studies that seem to indicate the temporary testosterone flare in response to luteinizing hormone-releasing hormone agonists prescribed alone does not pose a problem for prostate cancer patients. Life Extension’s experience and those of its advisors indicates otherwise, and we urge prostate cancer patients undergoing luteinizing hormone-releasing hormone agonist drug therapy to:
1) block the testosterone flare using a drug like Casodex® five to seven days prior to this therapy being administered and 2) follow all steps to protect against "androgen deprivation syndrome" as long as testosterone levels are being suppressed.
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