



**TESTOSTERONE  
IS  
YOUR FRIEND**

**A Book for Men and Women**

# Roger Mason

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**by**

**Roger Mason**

**Testosterone Is Your Friend**  
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Roger Mason  
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## ***About This Book***

*This is the most comprehensive, researched, factual, and effective book in the world about testosterone for men and women.* The worldwide medical profession walks in darkness here. Doctors just cannot help you when it comes to natural hormone balance. That includes naturopaths, gynecologists, life extension specialists, holistic practitioners, and even endocrinologists.

Testosterone is not a Magic Hormone, to be used by itself, to cure what ails you. All our hormones work together in concert, and all of them must be balanced together in harmony as a team. The last chapter “Your Other Hormones” is the most important one to read. Our hormones are basic and vital to our health and well being. Every illness is due in part to hormone imbalance.

Men should read my *The Natural Prostate Cure*, and women should read my *Natural Health for Women*. Everyone should read my *Zen Macrobiotics for Americans* to learn more about diet, supplements, and hormones in general. *The best doctor you can have is yourself.* Take responsibility for your health, and cure the very cause of your condition.

Testosterone is one of the most important hormones for both men and women, yet proper testosterone supplementation is almost unknown to the medical profession, *especially for women.* Testosterone related problems include sexual dysfunction, infertility, irritability, depression, poor concentration, decreased sense of well being, prostate disease, various cancers, diabetes, gynecological conditions in women, impaired cognition, loss of stamina, obesity, decreased muscle mass, male gynecomastia, impaired vasomotor function, osteoporosis, coronary heart problems, and various diseases and conditions we still haven’t researched. All in all, we’re talking about not merely longer lifespan, but a better all around *quality of life* by maintaining youthful testosterone levels. Literally 90% of men, by the age of 50, have low levels, and need supplementation. Most women over 40 have lost half their testosterone already. Testosterone really is your friend.

## *Chapter 1: What Is Testosterone?*

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Men and women have exactly the same hormones, only in different amounts. There are three basic androgens, which include testosterone, androstenedione, and DHEA. *Men produce about 6 to 8 milligrams per day* in their youth (*Journal of Endocrinol Investigation* v 26, 2003) of testosterone, while women produce about one twentieth of that- approximately 300 micrograms. Women do have about one tenth the blood level men have, as they retain it more efficiently. Men produce testosterone in their testicles and adrenal glands, and cannot naturally overproduce this hormone. There is no such condition as “hypergonadism” in men. The only way men can have an excessive level, is by taking some type of testosterone supplement. Even then, the male body will only allow so much blood testosterone, and then turns any excess into estradiol and estrone. This is done by “aromatization” using the enzyme aromatase. Androstenedione (and androstenediol) levels generally parallel those of testosterone. DHEA generally falls in both men and women as they age. Hyper levels are not common, but do exist.

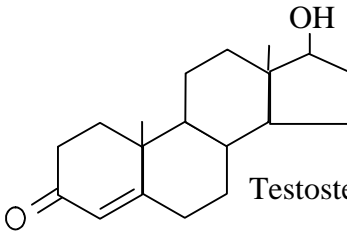
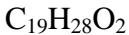
Women produce testosterone basically with their ovaries and adrenal glands. Prior to menopause they can, and do, sometimes overproduce this, and suffer from “androgenicity”. After menopause, levels generally fall, but hypertestosterone levels are still possible- even after a hysterectomy. Improper female testosterone levels can cause serious problems in women, such as various cancers, obesity, polycystic ovaries, osteoporosis, diabetes, and cardiovascular disease. Androstenedione levels generally parallel those of testosterone. Excessive DHEA levels in women can contribute to androgenicity as well. One third of American women are unnecessarily castrated by the medical profession, and have their uterus removed. *The ovaries always atrophy and die after a hysterectomy*, despite the constant denials by the doctors. Let’s repeat that- the ovaries *always* die after a hysterectomy. This means one third of women, over the age of 40, have their hormone levels seriously disrupted, and their entire endocrine (hormone)



system completely unbalanced. Ladies, please read my book *Natural Health for Women*.

Most of the research on testosterone is done on males, since this is erroneously considered “the male hormone”. Just because men have ten times the blood levels, does not make it any less important in women. The medical profession knows almost nothing about testosterone, or any other hormone. This includes urologists, gynecologists, naturopaths, life extension specialists, and even endocrinologists! This kind of ignorance is simply inexcusable. Endocrinology is in the Dark Ages. The published international, clinical literature overwhelmingly proves how vital youthful testosterone levels are to both men and women for countless reasons. Doctors almost never test testosterone, or any other hormone levels. They have almost no idea how to properly test them, or what ideal levels are. Further, they have no idea how to raise testosterone levels safely, effectively, and naturally. You simply *cannot* look to the medical profession for help here.

You are better off testing your own hormone levels with a saliva testing kit, or Internet blood testing. Then order any needed prescription hormones (such as testosterone, GH, estriol, T3, and T4) legally from foreign pharmacies on the Internet. It will be repeated over and over that all *your hormones work together harmoniously as a team*. Your basic hormones must be in balance for them to be as effective as possible. Please read chapter 17 “Your Other Hormones” carefully.



Testosterone, CAS 58-22-0

17 beta-hydroxy-4-androsten-3-one    mol. wt. 288.41

## *Chapter 2: Testosterone Precursors*

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There are a variety of over the counter testosterone precursors available, including muira puama, homeopathic testosterone, Lepidium root, Tribulus terrestris, zinc formulations, tongkat ali (Longifolium), chrysin, apigenin, various herbal combinations, and other such concoctions. *Science has shown all of them to be useless.* Studies prove *none* of these have any value whatsoever for raising testosterone. The only supplements that have any real potential value are the androstenedione (4-androstene-3,17-dione) family, HCG (human chorionic gonadatropin), aspartic acid, some aromatase inhibitors, and a very few steroids like nandrolone (nor-testosterone). If you add a hydrogen atom to androstenedione, or remove a hydrogen atom from androstenediol, you get testosterone. Both are direct precursors.

We have powerful “anti-aromatase” hormones such as ATD(1,4,6-androstatriene-3,17 dione), boldione (1,4androstadiene-3,17 dione), “6-oxo” (3,6,17-androstenetrione), and Formestane (OH-androstenedione). These are safe, effective, and raise your own testosterone by inhibiting the conversion to estrogen. These are not precursors. The prescription anti-estrogen drugs and anti-aromatase drugs like Clomid, Evista, Arimidex, tamoxifen, etc. are too toxic to even consider.

The conversion of androstenedione (and androstenediol) is very poor, at about 10%. Men can take 50 mg tablets daily, but women would only need about 5 mg. *There is just no reason to use “andro” when you have real testosterone.* Always remember that men only make about 6-8 mg of testosterone a day in their youth, and women only about one twentieth of that, or about 300 mcg. Please note those figures.

An unknown number of men are naturally androgen resistant or become androgen resistant. They cannot use testosterone, DHEA, any form of androstenedione, aspartic acid, HCG, o

steroids (like nandrolone), pregnenolone, or even the anti-aromatase drugs. Pregnenolone is the “grandmother hormone”. This metabolizes into 17-hydroxy pregnenolone, and then to DHEA. DHEA then turns into both androstenedione and androstenediol, which then make testosterone.

Some men become this way after using any of these for a period of time. This situation does not seem to occur in women. Using any of these hormones (even aspartic acid) simply turns into estradiol and estrone. It does not matter how the hormone is administered, as this is a biological metabolic problem. How can you tell? Take your androgen for 30 days, and then saliva test for testosterone and estradiol. If your testosterone did not go up, but your estradiol did, then you are androgen resistant. There is zero international research on androgen resistance. With all the testosterone and other hormone studies, there is simply no information at all about men who cannot take androgens. What are such men to do? There is no answer, and will not be one for a long time. Cycling androgens does not help. HCG and pregnenolone are not even androgens. Aspartic acid isn't even a hormone. Strangely enough, *there is no discussion of androgen resistance in the international literature.* Using human chorionic gonadatropin (HCG) is just not advised anyway, as the side effects of HCG are not well well understood.

Only about 10% of pregnenolone or DHEA is actually absorbed into your blood when taken orally. 7-keto DHEA is an overpriced promotion. Overdoses of DHEA (50 mg) will spill over into testosterone in men who are not androgen resistant. Overdoses of pregnenolone (100 mg) will also spill over into testosterone in such men. In androgen resistant men these just spill over into estradiol and/or estrone.

This situation shows the importance of testing your blood or saliva levels when you are using supplemental hormones. If a man notices water retention, gynecomastia, abdominal adiposity, or any other classic symptoms of estrogen dominance, he should immediately do an inexpensive saliva test of his testosterone and

estradiol. A second test can be done for DHEA and estrone if desired.

Again, men only produce about 6-8 mg a day of testosterone in their youth. A proper ballpark dose is 3 mg of natural unsalted testosterone, or 4 mg of enanthate or other salt, in their blood. People with youthful levels should not take any at all. Women only produce about 300 mcg, and only need about 150 mcg in their blood (150 mcg natural unsalted testosterone or 200 mg enanthate or other salt). 80% of transdermal testosterone is wasted, since only about 20% is absorbed. This is obviously not the ideal. Surgical implants are insanity. 99% of sublingual testosterone is absorbed. Transbuccal (in the mouth) troches and transdermal patches are very expensive. Nasal sprays and DMSO solutions are not allowed by law.

Medical doctors of all types are generally clueless when it comes to testing or prescribing testosterone- or any other hormone. They do not understand that only free, bioavailable levels matter. They almost never use sublingual testosterone salts, and uncommonly use transdermal creams. The problem here is the doctor will want 1) an office visit, 2) an expensive blood test, 3) a second office visit, and 4) an expensive custom testosterone product from the compounding pharmacist. Often, the doctor won't even make the prescription refillable. Later he'll want more office visits and blood tests to continue your therapy. This is obviously the road to the poor house. There are foreign Internet pharmacies sites selling liquid, injectable, natural testosterone in water, or salts in vegetable oil. In the U.S. it is perfectly legal for you under U.S. Code 21, Section 331 to order (use registered mail), or personally import drugs from foreign countries for your own personal use up to 50 dosage units.

The best way to raise testosterone is to use real prescription unsalted testosterone transdermally, or a salt such as enanthate sublingually. You can make your own DMSO solutions very easily.

## *Chapter 3: What Is Your Level?*

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Ideally, you want to know the levels of your fourteen (14) basic hormones. You will never enjoy the best of health until all your basic hormones are at youthful levels. There are three ways to test your free biological testosterone level. One, you can get your blood tested by a physician. This is expensive, requires office visits, expensive tests, and is completely unnecessary. Medical doctors basically know almost nothing about testosterone (or any other hormone), what it does, how to measure it, what the lab results mean, or the best delivery methods for men, much less women. Two, you now see real blood tests offered inexpensively, on the Internet, without a doctor. Three, you can simply test your own level, by using a saliva testing. These saliva kits are readily available on the Internet, and should be in the chain drug stores and pharmacies one day. You can pay as little as \$25 per hormone to test your testosterone, DHEA, melatonin, estradiol, estrone, or estriol. In 2012 you still have to use blood analysis for T3, T4, progesterone, pregnenolone, and growth hormone (GH). Women can also check their prolactin, LH and FSH with blood. For saliva testing, you simply send in a saliva sample to be analyzed by RIA (radioimmunoassay). You don't need a doctor, but California, Maryland, and New York, ban people from doing this! The medical profession does not want you to have any freedom whatsoever for self-diagnosis or self-medication. If you live in these states, simply have your results sent to a friend or relative in another state to get around such unconstitutional, irrational, and ridiculous laws.

Measuring free, bioavailable, unbound hormones, using saliva, has been known to scientists for over two decades now. In the last few years, it has finally been brought to the consumer. This is one of the greatest technological breakthroughs in medicine, but is still relatively unknown. Doctors at Georgia State University proved the validity, and reliability, of saliva hormone testing (*Clinical Chemistry* v 41, 1995). They compared results from nine

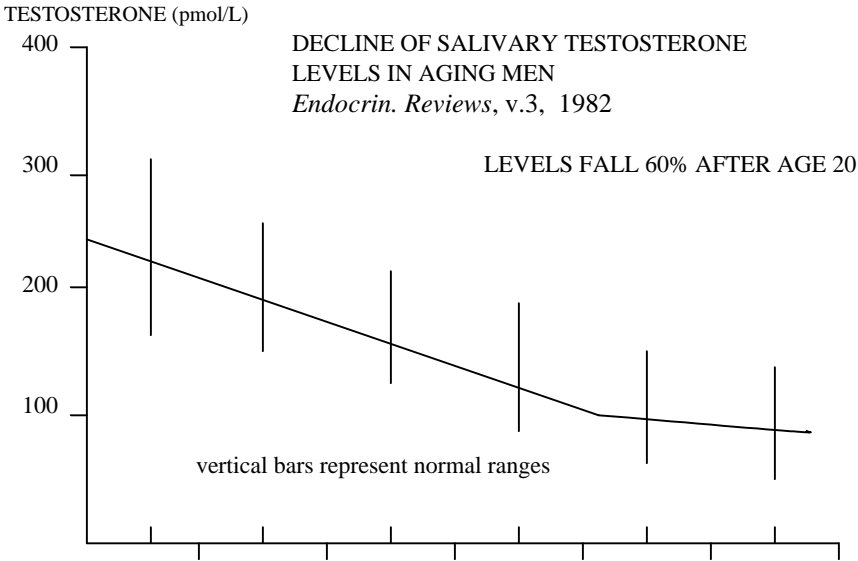
laboratories, in four countries, using 100 men and 100 women. Overall, the results were very consistent and reliable. There were some unacceptable variations from a few of the labs, which means you have to use a reliable, well established testing facility with a good reputation.

You will hear some popular, well known, and very unenlightened advocates recommending urine testing to determine your hormone levels. This is *prima facie* asinine. Urine is a waste product, and tells us what the body is excreting and doesn't want. The only possible rare use for urine diagnosis is to compare the excretion of various hormones with the blood or saliva levels. (The same holds true with toxic elements like mercury or cadmium, which require actual blood diagnosis). A study from the Chinese University, in Hong Kong, (*Clinica Chimica Acta*, v 236, 1995) proves this. Healthy, normal men were tested for their testosterone and estradiol levels, both by blood and urine. They did not find a good correlation at all between these. They stated, "Serum estradiol showed no significant correlation". As men age, their blood and saliva estradiol and estrone (but not their estriol) levels go up dramatically, but not their excretion of these estrogens. If anyone recommends urine testing for your hormones, you know they have no idea what they are talking about.

When doctors measure your serum or plasma blood levels they usually test your total testosterone, your bound testosterone, and sometimes your free testosterone. Then they calculate a total-to-free ratio, as if that has some important, esoteric meaning. This is inexcusable ignorance on their part. It is also a fine way to make money, by giving patients tests they don't need, and that do not help them. If you have your sex hormones tested, you only want your *free*, unbound, biologically available levels tested. About 98% of testosterone is bound to SHBG (sex hormone binding globulin) and albumin, and is biologically unavailable. Testing your bound and total testosterone levels tells you almost nothing, and is a waste of time and money. Just test your *free*, unbound levels of sex hormones.

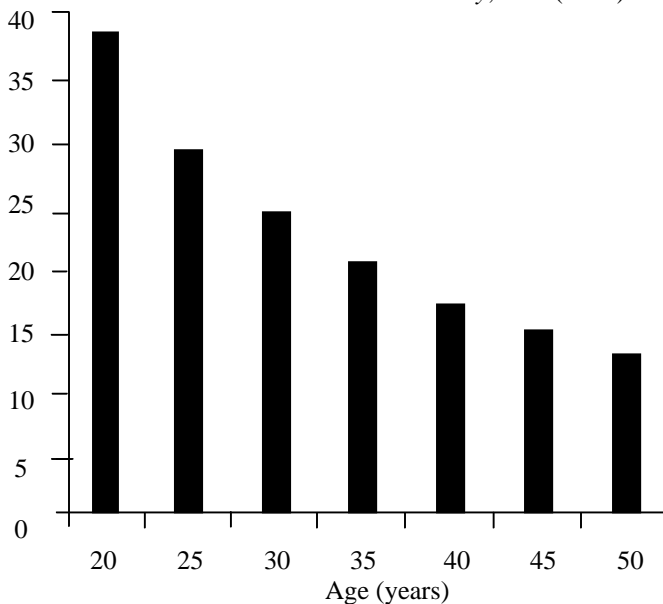
Surprisingly, you usually cannot compare levels from one lab to another, except by general terms such as “low normal” or “below range”. Whether you test your blood or saliva, you cannot take those numbers and compare them to another lab, unless they have the exact same range. There is simply no way to convert saliva results to blood results, or vice versa. Add high and low range and divide by two for a midrange value. There are no universal ranges as there are with cholesterol and blood glucose. You are always looking for the youthful level you had at age 30.

Testosterone is a very powerful hormone, and you absolutely cannot use it unless you first prove you have low normal levels, or below normal levels. Medical doctors generally tell you that you’re fine if your hormone levels are “in range” for your age. *This is not true at all.* The ideal is *youthful levels you had at about age 30. Youthful levels are the key to good health and life extension.* If you are 70, you certainly don’t want the same levels as all the other 70 year olds, do you? It is important to realize that men and women, who are vegetarians (or who only eat seafood), and do not eat red meat and dairy foods, have lower levels of sex hormones than carnivores. You can see by the charts that both men and women generally have lower testosterone levels as they age.



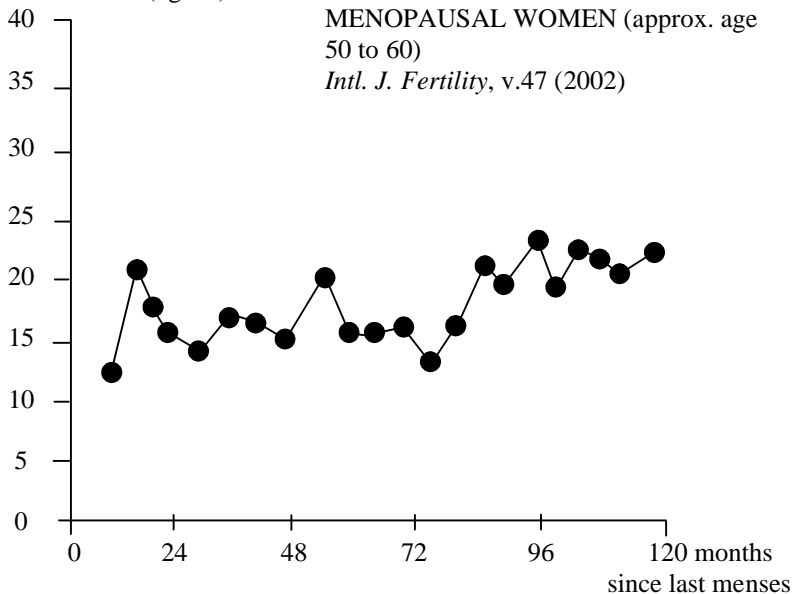
Age 20 30 40 50 60 70 80  
24hr. Avg. Testosterone  
(ng/dL)

AVERAGE TESTOSTERONE IN PRE-  
MENOPAUSAL WOMEN AGED 20 to 50  
*Intl. J. Fertility*, v.47 (2002)



Total Testosterone (ng/dL)

TESTOSTERONE LEVELS IN POST-  
MENOPAUSAL WOMEN (approx. age  
50 to 60)  
*Intl. J. Fertility*, v.47 (2002)





## Chapter 4: How Do I Use It?

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Basically, the only safe, inexpensive, and effective ways to use testosterone are sublingual (under the tongue) tablets or drops, or transdermal creams or gels. DMSO transdermal solutions are not approved by the FDA, but you can easily make your own. DMSO is a solvent that transfers drugs through the skin. “Natural” means free testosterone, that is not in a salted ester form (such as propionate, enanthate, or undecanoate). Some demented, Dark Age physicians still use toxic methyl testosterone. Methyl testosterone is still prescribed for women today! This is proof the medical profession walks in darkness. The very few medical doctors who do administer testosterone, generally use high dose oral (not sublingual) or i.m. (intramuscular) injected ester salts. *You never use oral or injected testosterone.* You can use salts sublingually, since natural (unsalted) tastes terrible. In the next chapter, you’ll see that patches and buccal forms are very overpriced and unnecessary. Surgically implanted pellets are natural testosterone, but are expensive, very impractical, and totally unnecessary. Oral testosterone salts are barely absorbed at all by the digestive system, and produce over 97% unwanted and harmful metabolites. A testosterone nasal spray is not allowed by the FDA, and cannot be purchased, or even legally custom made by a compounding pharmacist (you could make your own, but this would be very difficult for the layman). Sublingual testosterone salts can be formulated in a vegetable oil solution (corn, safflower, sunflower, almond, etc.) by a compounding pharmacist to deliver about 4 mg per drop to men, and about 200-400 mcg (150 to 300 mcg actual testosterone) per drop to women. Or you can make your own drops. Twenty milligram sublingual tablets are available as well, and can be quartered to make them five milligram (these are too strong for women). These quarters would be used only five days a week (i.e. 25 mg per week for men. Adding DMSO (dimethyl sulfoxide) to testosterone is also not approved by the FDA, and cannot legally be sold or custom compounded. Buccal troches are

expensive. These are held between the gum and mouth, and the testosterone is absorbed into the mucous membranes.

You can, however, make up your own DMSO solution very easily. Get a 10 X 250 (2,500 mg) oil suspension of testosterone enanthate. This is 75% testosterone and 25% enanthate. Simply add 325 drops of 99% DMSO (625 drops at 4 mg per drop) and mix. This is a two year supply, and would give men 3 mg per day of actual tes-tosterone in their blood with about a 99% penetration. Women would 400 ml of DMSO (12,500 drops) to this, to get 150 mcg per day (200 mcg enanthate) of actual testosterone in their blood. Yes, that is a 34 year supply. Always keep these solutions refrigerated or frozen. There are about 300 drops of testosterone enanthate in vegetable oil per 10 X 250 bottle, by the way. Use on thin skin, like your neck, abdomen, or inner wrist.

To make your own sublingual drops buy the same bottle of 10 X 250 testosterone enanthate (2,500 mg). Just do exactly the same as with DMSO using any common vegetable oil (corn, safflower, sunflower, almond, etc). Men would use 325 drops and women 400 ml. Just use one drop under your tongue every morning with a mirror.

Weak, overpriced 1% and 1.62% (where did they get that number?) natural testosterone gels have appeared in the chain pharmacies. You do not want to use them, as they are 1) too weak for men, 2) too strong for women, and 3) too expensive for anyone. You can find a compounding pharmacist in your state, and can get your cream or gel by mail if there are none near where you live. You can find compounding pharmacists in your area on the Internet, or in the phone book Never forget you will pay them \$50 to \$100 for \$1 worth of testosterone. Buy your own on the Internet legally.

Men can get a prescription for 100 grams of a 3% cream or gel for under \$100. Women can get a prescription for 100 grams of a 0.3% cream or gel, and should pay less than \$50, even though

this is only one tenth of what a man would need, and should cost about \$10 in an ideal world. Again, use on thin skin.

Foreign pharmacies legally offer hormones over the Internet. Under federal law U.S. Code 21, Section 331, you can import prescription drugs for your own personal use (50 dosage units) without a prescription. Natural free base testosterone, and various salts like enanthate are offered. Avoid the various steroids that you may also see listed. Enanthate is the best choice. You should pay about \$60 for a 10 ml X 250 mg (2,500 mg) bottle.+

How much transdermal creams or gels should you use? If a man uses a half gram a day, their 100 gram tube (3%) will last about six months. This will put 15 mg on the skin, and about 3 mg (20%) in the blood. A woman can use a quarter gram of a 0.3% cream. This will last over a year. This puts 750 mcg on her skin and about 150 mcg in her blood (20%). These are good benchmarks to start with. Since you probably don't have a chemist's scale in your house, how do you know what a quarter or half gram is? A level quarter teaspoon of most creams or gels (or plain water or oil) weighs about one gram. A half of a quarter teaspoon ( $1/8^{\text{th}}$ ) is a half gram. A fourth of a quarter teaspoon ( $1/16^{\text{th}}$ ) is a quarter gram. Be clear that a half gram is about one eighth of a teaspoon, or eight daily doses per teaspoon. A quarter gram is about one sixteenth of a teaspoon, or sixteen daily doses per teaspoon.

It will be repeated over and over in this book, that natural hormones are a vital cornerstone of our health, but are very powerful, and cannot be used casually. Before using any hormone, you must test your levels to see if you are deficient and need supplementation. If you have an excessive level, only diet and lifestyle will normalize this. *Only a total program of diet and lifestyle will lower hyper levels of hormones.* Do not take toxic prescription drugs to lower your hormones, as the side effects will outweigh the benefits. If you find you are supplementing a low hormone, you must test after, say, 90 days. Go 24 hours without taking it, and then test yourself about 9:00 AM each time. Only monitoring your free blood or saliva level will tell you if the dose you are taking is

the correct one for your individual and unique biological makeup. Further, after taking any hormone and finding the correct dose, you must monitor this at least once a year, since your body will be changing as you age. You cannot assume that the dose you are taking will have the same exact effect year after year.

If you are over the age of 50, you might just assume you are low in testosterone, DHEA, pregnenolone, melatonin, GH, and other such hormones. This is not necessarily true. Even if it was true, you wouldn't know just how low you were in each of these. The scientific way to use natural hormones is to 1) test your natural level to see if you need supplementation, 2) take a reasonable dose for 30 to 60 days, and then test your level again, and 3) monitor your level at least once a year. If you cause excessive levels by over-supplementing, you will have a metabolic imbalance just as serious as with deficient levels. Always remember you are looking for the *youthful* level you enjoyed at about the age of 30. Hyper levels are pathological levels, and cause serious harm in various ways.

We should again mention “androgen resistance” in men. This was discussed in detail in Chapter 2: Testosterone Precursors. Some men are naturally androgen resistant, and turn the androgens testosterone, DHEA, steroids (like nandrolone and boldenone), and androstenedione into estradiol and estrone. They can also turn HCG and pregnenolone into estrogens as well. Some men are born with this, while others develop the problem over time. This does not seem to exist in women. Such men just cannot use any of the above mentioned on an ongoing basis. Science does not even recognize androgen resistance. There may be no answer to this for decades.

It is only in the last few years that scientists have started to use natural sublingual and transdermal testosterone, rather than ineffective and dangerous oral and injected forms. In the next chapter we'll look at various published studies showing both the right and wrong ways to use it.

## *Chapter 5: The Current Evidence*

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This is going to be a very well cited scientific chapter. It should be shown objectively that medical doctors, even in the most respected clinics, hospitals and universities, generally know almost nothing about supplemental testosterone (or any other hormones). Doctors are clueless as to what they're doing. Yes, this also includes the pricey holistic and life extension clinics. Pricey life extension clinics are currently a big scam. This is especially true with treating women. We're going to see what they are doing wrong. We'll see why oral and injected forms are the wrong means. We'll see that low doses administered transdermally, sublingually, or in DMSO, are the most practical, safest, most effective, and least expensive ways to use it. (DMSO delivery and nasal sprays are not allowed by law, so they can't be studied in clinics). Let's look at some studies on the various delivery systems to see what works, what doesn't work, and why.

Transdermal patches and transbuccal troches (lozenges) technically do work, but are very overpriced promotions of the pharmaceutical corporations. Selling \$100 worth of patches, or troches, with \$1 worth of actual hormone is outright pharmaceutical extortion. Subcutaneously implanted time release pellets are natural testosterone, but are very expensive and have to be implanted surgically. This is totally unnecessary. Even the new prescription gels, sold in the chain pharmacies, are weak and very overpriced. Also, the doctors recommend far too much of these gels be applied. The compounding pharmacists will vastly overcharge you for a transdermal cream or sublingual drops. These only contain a mere dollars worth (about 10 cents worth in the case of women) of actual testosterone. Finding a doctor, who will even write a prescription for transdermal or sublingual testosterone, can be very difficult. The foreign Internet pharmacies don't even sell the creams or drops, only testosterone solutions or powders. You can easily make your own, as we discussed earlier. If you take natural testosterone orally, it will basically be broken

down as it passes through the liver. If you take large amounts (i.e. 120 mg for men) orally of an ester salt like cypionate or undecanoate, only a very small per cent of it will be absorbed. Lots of unwanted toxic metabolites will be produced, with serious side effects resulting. Injections are medical insanity.

At the University of Munster in 2002 (*European Journal of Endocrinology* v 146) hypogonadal men were given 120 mg a day of oral undecanoate. This shows how poorly oral testosterone salts are absorbed to give them literally 3,000% (thirty times) what they need. **Men only make 6 to 8 mg a day in their youth, and need only about 3 mg as a daily supplement.** Of course their estrogen levels went off the scale. Even though these men were given the wrong type of testosterone in the wrong way, they still got impressive benefits- albeit with negative side effects. If they had used transdermal or sublingual forms, they would have gotten better benefits, and no side effects from estrogen excess.

Medical doctors just don't know what they're doing. At the famous UCLA in Torrance. In 1996 (*Journal of Clinical Endocrinology & Metabolism* v 81) hypogonadal men, aged 19 to 60, were given sublingual testosterone. The poor men were given 15 mg doses (four times what they needed). This made their testosterone go up about 500%, *and their estradiol almost 400%*. The sublingual route is very effective, but the wrong dose was used. This is at UCLA folks. Even with this overdosing, the men got dramatic short term benefits, such as increased lean muscle mass (but not less body fat), more strength, better bone metabolism, and better blood parameters. If they had given these men proper 4 mg doses, the results would have been better, and there would have been no side effects. The real value of this study, is that the sublingual route is the most effective natural legal means we have as regards actual absorption. The reason salts, such as enanthate, are used is because they are tasteless, while natural unsalted testosterone tastes terrible.

Injections of ester salts like propionate or enanthate are absolutely the worst possible means of delivery. Anyone who advises

this is demonstrating their complete lack of knowledge. You will find very expensive so-called life extension doctors giving such injections, because they are totally incompetent. The problem here is that you get a huge rise in testosterone, a rise way over the normal range. This quickly falls, until you are back to your sub-normal levels by the next injection. Even worse, your estrone and estradiol levels rise to dangerous and toxic levels. Injections are a chemical roller coaster with extreme highs and lows.

Some very good work was done by SmithKline Beecham pharmaceuticals in 1996 (*Journal of Clinical Pharmacology* v 36). They used expensive patches, which they referred to as “delivery systems”. Patches only deliver about 20%. Remember that a year’s worth of patches only contain about \$12 worth of testosterone, but they charge over \$1,200 a year! The obscene profit margin is quite obvious. They used 2.5 mg, 5.0 mg, and 7.5 mg of testosterone in hypogonadal men aged 35 to 56. Only about 20% of the Androderm® patches actually go into the blood. The 2.5 mg (contains 12.5 mg) delivered dose barely raised their levels to low normal. The 5 mg (contains 25 mg) dose brought up the levels by about 50% into normal desired range. The 7.5 mg (contains 37.5 mg) put the men unnecessarily into the high normal range. This was a very thorough, and well done, study where they clearly distinguished between bound and bioavailable levels, and compared the two. They also pointed out that testosterone applied directly to the scrotum results in 5-alpha reductase activity. This converts into high levels of undesirable DHT. The point here is that 3-4 mg should actually enter the bloodstream in men. Women would only need 750 to 1,500 mcg (microgram) patches to deliver about 150 to 300 mcg. Women utilize this more efficiently than men.

SmithKline Beechum did another study in 1998 (*Journal of Clinical Pharmacology* v 38). Here they just used the 5 mg dose patch, since it was the most practical and effective. Again, they used the patches on thin skin such as the back. The 5 mg delivered patch contains about 25 mg of testosterone, so only about 20% goes into the blood while it is applied. This wastes 80% of the hormone, like creams and gels do. DHT, estradiol, and estrone, did

not go up with such normal doses. The only drawback here is the high cost of the patches, whereas creams and gels are less expensive. The profit margin here is simply obscene.

Again at UCLA in Torrance (*Journal of Clinical Endocrinology and Metabolism* v 85, 2000) the researchers used a 1% natural gel on hypogonadal men aged 26 to 59 years old. The problem here is that they applied 10 grams (!) a day! This is 100 mg of testosterone! This would put about 20 mg into the blood, rather than the 3-4 mg they need. A 700% overdose! The men only needed one and a half grams, not ten. The blood levels went up a dangerous 500%, and the DHT and estradiol levels also rose dangerously (they should have tested estrone as well). What is wrong with these people? One of the most famous clinics in the world? They only claimed a 10% delivery, but this just isn't correct at all. Applying 20 mg (two grams of gel), and delivering 4 mg (20%) into the blood, would have given good basic results. They noted that the average male youthful production is only 6-8 mg a day. If they had done the equivalent with women, they would have used one gram of gel with 10 mg of testosterone (2 mg absorbed rather than about 0.2 mg). This would have caused severe androgenicity. Women would only need about 0.15 grams of this gel. These very same researchers published another study in the same journal, where they even compared the 5 mg delivered patch. They still couldn't figure out that applying 100 mg of testosterone was completely irrational and irresponsible.

Incredibly, these same people did a third study, in the same journal. In this one they cut the dose down to 5 grams of gel (50 mg of testosterone). This is still 10 mg in the blood and a 350% overdose. They found that men increased lean muscle mass and strength, had better blood parameters, decreased fat mass, improved their mood, enhanced their sexual activity and generally benefited dramatically from the treatment. *They overlooked the severe rise in estrogens.* They claim their hydroalcoholic gel only delivers less than 12% of the contained testosterone. This isn't true, as absorption is 20% for creams and gels. The correct dose would have been about 1.5 grams of gel (15 mg of testosterone).



More studies on the Androderm® patches were done at the famous Karolinska Institute in Sweden in 1997 (*Clinical Endocrinology* v 47). The men, aged 21 to 65, were given the 5 mg delivered patches. These raised their testosterone immediately to desired youthful levels, without raising estradiol or DHT. The men were first subjected to harmful 200 mg testosterone enanthate injections every three weeks. These produced the usual erratic high and low testosterone, and high estrogen levels. Intramuscular (i.m.) injections gave extreme peaks of 42 nmol and extreme lows of only 7 nmol (normal is about 24 nmol). The patches, on the other hand, produced excellent- and consistent- results (with the exception of some occasional minor skin irritation). The usual physical and psychological benefits were achieved, including curing gynecomastia (male breast growth), weight loss, increased libido, less depression, and improved mood. Karolinska is one of the most prestigious clinics in the world, and they are still clueless.

At the well known Johns Hopkins Center, in Baltimore, in 2001 (*Journal of Clinical Endocrinology & Metabolism*, v 86) a similar study was done with 70 references. Here, transdermal patches were used with excellent results. Hypogonadal men, aged 21 to 65, were first given i.m. injections. This, as usual, resulted in extreme blood testosterone fluctuations way over and way under range. The estradiol and estrone levels rose to dangerous levels as always. However, the men using the patches dramatically improved their vital testosterone to estrogen ratios. They found that that low testosterone was correlated with higher BMI (body mass index), and higher testosterone with lower BMI. *Low testosterone is very correlated with obesity in men.* There were many of the usual benefits associated with youthful levels. The doctors should have never used the injections.

Men over 40 were studied (*Archives of Internal Medicine* v. 166, 2006) for overall mortality compared to their testosterone level for a period of eight years. Their criteria said only 19% were low. Actually over 80% of them were low in the real world. *Men with low levels had a stunning 88% greater risk of all cause*

*mortality during this time.* This is just for one hormone. Imagine the benefits of balancing all your basic hormones.

At the University of Sapienza (*Clinical Endocrinology* v 63, 2005) an extensive meta-review was done of other studies. Such meta-reviews are very comprehensive. They found no doubt that testosterone replacement has many powerful benefits, including increased lean muscle mass, lower cholesterol, stronger bones, lower body fat, higher HDL, levels and other such healthful measurements. We need more such powerful reviews.

A revealing study was done at Koln University in Germany in 1999 (*Metabolism Clinics and Experiments* v 48). Here, hypogonadal men were given four different delivery systems: 1) 100 mg oral mesterolone, 2) 160 mg oral undecanoate ester, 3) 250 mg i.m injected enanthate ester every second day, and 4) a 1,200 mg crystalline (s.c.) subcutaneous implant. In 1999 at a major European university this is how incompetent top physicians are. Mesterolone is a dangerous, toxic anabolic steroid, and 25 mg is the normal dose, not 100 mg. Huge oral doses of esters are toxic, and raise estrogen levels. Such dangerous injections of esters every two days have severe side effects. A crystalline implant of 1,200 mg delivers far too much testosterone too quickly. After poisoning these poor men four different ways, they said their total cholesterol, LDL, and triglycerides rose while HDL fell. Words fail here! This is inarguable proof of how incompetent doctors are.

The studies here show the worldwide medical profession is hopelessly ignorant about testosterone, or any other hormone therapy. The medical profession cannot help you balance your endocrine system, and that includes endocrinologists. Doctors are clueless. The extortionate office fees, blood tests, and prescription prices will bankrupt the common person. *No hormone should be on prescription status.* All hormones should be freely available over the counter at very low prices. If this was done, testosterone would be available for a few dollars a month.

## Chapter 6: General Benefits

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The great majority of studies regarding the benefits of testosterone supplementation have concerned men. A very few concerned both men and women to some degree. The little research on women and androgens has been concerned mostly with excessive hormones, not supplementing low levels. *We need far more research on women!* “Modern day” science is so backward, that the idea of giving testosterone to women is just not comprehensible yet. “(The) last few years in the androgen field can only be described in the words of Charles Dickens, as ‘the age of wisdom, (and)...the age of foolishness’”. (Courtesy of Dr. Bhasin at Drew University.) Women should just realize that maintaining normal, youthful testosterone levels will give them the same basic benefits that men get. Women, like men, can test their own levels with saliva kits, or Internet clinic testing without using a doctor. If their level is too high, they can lower it with better diet and lifestyle. If their level is too low they can raise it with very low doses of sublingual, DMSO, or transdermal preparations.

This chapter is arduous to write for several reasons. There are countless studies showing the many benefits of maintaining youthful testosterone levels. The amount of published information is simply overwhelming. There is also a lot of overlap with the other chapters as to specific benefits. There is just no way to clearly separate, or compartmentalize, these various advantages. The media and medical profession continue to tell us that testosterone replacement therapy is “unproven”, and may even have “serious side effects”. *Any side effects are always due to using the wrong doses in the wrong ways.* This is a review of the general benefits, so there will be some repetition from other chapters. It is inexcusable that the vast majority of doctors refuse to admit the obvious and common sense benefits to raising testosterone levels in aging men and women who are deficient in this very basic hormone. The scientific literature is full of studies showing many dramatic advantages of giving testosterone to men (and women)

who are deficient. Even when the wrong doses and delivery systems are used- which is most all of the time- the short term benefits are still dramatic and impressive. The needless side effects from hyperestrogen levels are the problem. Medical doctors seem to have a common mentality of overcaution and understatement. Yet, international studies, especially in the last twenty years, demonstrate how advantageous testosterone supplementation is in people who need it.

Doctors from forty-three U.S. clinics (*Journal of Clinical Endocrinology & Metabolism* v 88, 2003) treated men with both transdermal gel and patches. They got very good results, especially regarding body composition, body fat, sexual function, spontaneous erections, and overall psychology and mood. The improvements in sexual performance were especially noteworthy. The men generally doubled their blood testosterone levels. Of course, there were no side effects, since they were using natural means of delivery, and proper dosing. The patches did cause some minor skin irritation in some men, and both are very overpriced.

It just can't be repeated too often, that people of any age, who are proven to be deficient, receive countless benefits when proper doses are given. There are no side effects whatsoever. There are *never* any side effects to supplementing low hormone levels naturally. *The ideal is the youthful level you enjoyed at about the age of 30 years old.* Even when the wrong doses are given, in the wrong ways, there are still dramatic benefits. Since at least 95% of the research is done using the wrong doses in the wrong ways, the best means to deal with this chapter is to concentrate on the few studies that used natural testosterone transdermally and sublingually (again, scientists cannot use DMSO delivery or nasal sprays in their studies due to the laws prohibiting them).

A rather amazing study was done over a half century ago (*Journal of the American Medical Association* v 126, 1944) regarding the "male climacteric". Middle aged men were given injections of testosterone salts (it was all they had at the time), and very dramatic benefits were found in only two weeks! "Definite

improvement in the symptomatology was noted by the the end of the second week in all of the cases treated. Sexual potency was restored to normal with these doses (25 mg i.m. five days a week) in all but 2, out of the 29, cases”. This was groundbreaking stuff six decades ago, and these researchers are to be congratulated.

At the University of the Andes (*Archives Andrology* v 41, 1998), Venezuelan men were given transdermal testosterone. They got very good results, as always, especially regarding bone health and osteoporosis. “The benefits conferred by testosterone replacement therapy are substantial, both in the short term for the eradication of symptoms of androgen deficiency, and in the long term for the prevents of osteoporosis”. They pointed out that replacement produces, “an overall improvement in mood and sense of well being, energy, friendliness, and a decline in anxiety, anger, sadness, nervousness, and irritability”. They talk about the importance of testosterone for heart and artery health. Remember that back in 1998 transdermal delivery was really cutting edge technology. Very good work here.

At the University Studiorum, in Italy, (*Journal of Endocrinological Investigation* v 23, 2000), a review was published covering the entire spectrum of benefits, and various delivery systems. They clearly concluded that the natural means of transdermal and buccal (lozenges inside the mouth) systems were most effective. The effects of testosterone for liver, blood lipids, blood disorders, reproductive organs, skin and hair, muscle, immunity, bones, and sexuality were all discussed. The doctors showed the value of testosterone replacement in such various conditions as obesity, diabetes, and aging in general.

At the New England Research Institute (*Journal of Clinical Endocrinology & Metabolism* v 72, 1991), aging in general was discussed, with emphasis on testosterone. They brought up a very important point, in that *illness in general is clearly associated with lower testosterone levels*. This is also true as to how fast and how well we age. *Low testosterone equals all cause mortality*. Keeping youthful testosterone levels just keeps us healthier, and adds to our

years. “The lower levels of testosterone in the less healthy men, which were maintained between ages 39- 70 years, might be causes, effects, or mere correlates of disease”. They used the famous Massachusetts Male Aging Study as their basis, which involved 1709 men. The results would equally apply to women, and this was over 20 years ago. They also found the androgen DHEA to be very important for health and longevity.

Dr. Alex Vermeulen, at the University Hospital in Belgium, has probably done more research than anyone else on testosterone. However, he still doesn't understand that testosterone is *good* for prostate health, and that low testosterone is a basic *cause* of prostate disease. He claims estrogen falls in men as they age (*JCEM* v 86, 2001), and supplemental estrogen is somehow good for men! He actually promotes estrogen therapy, and androgen ablation for prostate disease! That's how totally clueless he is. He finally recently admitted that testosterone replacement is important, and men lose 60% of their free testosterone by the age of 70. He also admits that supplementation is called for, even with prostate enlargement. This is really something for a traditionalist like him. The fact is, that literally *90% of men at the age of 50 would benefit from supplementation*. Probably half the women over 50 would benefit as well. Doctors need to realize that *youthful* levels are the ideal, and not average ranges in old age. Nevertheless, he does document the general benefits of raising testosterone in men and women as they age, and is now aware of transdermal delivery.

The many published studies on testosterone, and other hormones, are very positive overall. The overconcern with “risks” is always due to using the wrong doses in the wrong ways. The international literature demonstrates that testosterone is vital to bone health, sexual performance, muscle mass, strength, CHD health, cognition and memory, blood sugar metabolism, body mass index and body fat, energy levels, and feelings of well being and depression, among many others.

Lisa Tenover, at Emory University, is probably the second leading researcher on hormone replacement, and has published

many articles on the subject. She's as clueless as Vermeulen. Why doesn't she include women in her various studies? In her many reviews she constantly warns about the non-existent "dangers" of androgen replacement. She actually states supplemental testosterone is harmful for the heart and prostate! This is inexcusable stupidity. She doesn't see that any "risks" are due to using the wrong doses in the wrong ways. She also can't seem to figure out that transdermal and sublingual delivery is the natural way to supplement hormones like testosterone, progesterone and estriol. Nevertheless, she admits there are many benefits to raising testosterone in men and women who are deficient. She feels "4% of men in the 40-70 year age range would be hypogonadal". The facts are that at least 90% of men at the age of 50 are hypogonadal, and would benefit greatly by raising the levels of free testosterone. As men age, this becomes 100%. She can't even see that free, not bound, levels are the only meaningful ones. By ignoring the facts, researchers like her are holding back science by actually damning testosterone with very faint praise.

The many published studies have consistently shown great improvements in health generally with testosterone, no matter which doses were used in what ways. For example, hypogonadal men were given patches to place on their scrotums. The scrotum has high alpha reductase activity, and is not a suitable place to apply androgens. Patches, as we have discussed, are very expensive, and unnecessary. These men were unusual in that the average age was only 36. They were treated for at least seven years, so the long term effects were documented. Bone density increased, so their bones got stronger. This proves testosterone is vital to bone and joint health. *All facets of their prostate health were good, including sonogram analysis for actual prostate volume.* This proves 99.9% of the medical doctors in the world are wrong about their antiquated ideas on testosterone and prostate health. Their testosterone to estradiol ratio improved greatly, by a factor of more than 100%. There were no side effects at all. Finally, the researchers saw that unnatural injections don't work, never did, and never will for many reasons.

If the endocrine researchers of the world would just wake up to the facts, they could be guiding lights in the medical world. If they would just use bioidentical testosterone, and all other basic hormones, in proper ways, they would find even more dramatic benefits. There would be no side effects at all. Everyone over the age of 40 would then be routinely tested for *all* their basic hormone levels, and given supplements as needed. These doctors are fully aware that testosterone supplementation results in countless benefits, such as higher muscle mass and strength, CHD health, better mood, clearer mentality and cognition, increased libido and sexual satisfaction, better quality of life in general, and all the other benefits we've discussed in this book. There is no doubt at all here.

Some good and heavily documented research came from such well known institutions as Johns Hopkins University and UCLA (*American Journal of Medicine* v 110, 2001, *Journal of Clinical Endocrinology and Metabolism* v 82, 1997, and *Drugs and Aging* v 15, 1999). While they are just concerned with men, women will get parallel benefits in every basic way. They show oral and injected ester salts, as well as implanted pellets, don't work well, but transdermal patch systems are effective. Monitoring serum levels is emphasized, to insure safety and effectiveness. They realize that testosterone does not cause, nor worsen, prostate cancer to their credit. Body composition, lean muscle mass, physical strength, and body fat are all improved by testosterone therapy. Sexual functioning and genital dysfunction (such as low sperm count and small penis) are improved, but this is no panacea for impotence. They found that many diseases are correlated with low levels of testosterone, such as HIV, diabetes, osteoporosis, and coronary artery conditions. "*There is a substantial prevalence of low testosterone levels in men with cancer*". Overall psychology is improved, especially cognition, mood, depression, sense of well being, and memory. "Many autoimmune diseases are associated with low testosterone levels". Bones are stronger with youthful testosterone levels. Reversal of hypogonadism is associated with improvement in bone mass, and maintenance of skeletal integrity". Blood parameters such as anemia, hemocrit, and hemoglobin val-



ues are improved with supplementary testosterone as well. All in all, they see that as men get older, their testosterone levels fall, *and are clearly correlated with every problem of aging*. They do point out that women only produce about 150 mcg of testosterone from their ovaries after menopause. *Women with hysterectomies (one third of American women) are generally testosterone deficient*. Studies show they only have about half the levels of normal women. Women may get many other benefits from testosterone supplementation after menopause, but more research is needed. Why aren't these researchers doing this much needed research on women? Why are women ignored? They are clearly in favor of routine androgen therapy in men as they age. Soon, such clinicians are going to be making the same recommendations for women.

At Christie Hospital, in England, men were given 5 mg of testosterone a day via patches (*Hormone Research* v 56, 2000). The subjects had improved body composition, more lean muscle mass, and less body fat. Their psychology improved overall. Sexual function was much better. Bone density was higher. Cardiovascular health was better. They were still unnecessarily concerned with prostate cancer. They don't yet understand that youthful levels of testosterone are necessary for good prostate health. There were 60 references, to other studies, showing the validity of testosterone supplementation in aging men.

At Harbor University, in Los Angeles, (*Journal of Clinical Endocrinology and Metabolism* v 85, 2000) transdermal gel was used delivering 10 mg a day to men. This sounds low, but it is still too much considering men only produce 6-8 mg a day, and 3-4 mg in their blood the needed dose. "We conclude that testosterone gel replacement improved sexual function and mood, increased lean muscle mass and strength, and decreased fat mass in hypogonadal men". There with no skin irritation compared with the same dose permeation-enhanced patch". This was a long 15 page study, with a full 45 references.

At Erasme Hospital (*World Journal of Urology* v 20, 2002) a good review of male aging was done, with emphasis on andro-

pause. By 2025 a full 15% of the world population will be elderly, and over the age of 65. We can very much improve the lives of people with natural hormone replacement, instead of having a huge group of sickly, dependent citizens. The cost for such illnesses as cardiovascular disease, diabetes, various cancers, and other conditions is just not necessary. Doctors just need to change their ways of practice, and people will live healthier lives. Aging does not have to mean depression, sleep disorders, dependence, weakness, memory loss, lack of cognition, incontinence, impotence, osteoporosis, heart attacks, hypertension, and the endless litany of elderly conditions we suffer from now. Doctors should recommend overall natural hormone therapy as standard practice.

We can go on all day with the many published international studies. At the University of Munster (*Journal of Endocrinological Investigation* v 26, 2003) they reviewed the many benefits of testosterone replacement. The doctors noted there are no side effects when this is done properly. At Gent Hospital, in Belgium, (*European Urology* v 38, 2000), andropause was discussed, and they suggested androgen therapy to be made a routine practice. With all these reviews, why aren't doctors, especially in America, more progressive, and using these proven means of hormone therapy? This chapter on general benefits could easily take up the entire book. We have only chosen a very few of the countless studies. There is no doubt about the need for supplementary testosterone in men and women who are low, regardless of their age. In the last five years, there have finally been more studies on testosterone therapy for women, and this will continue to increase.

We need more studies on transdermal and sublingual preparations, and no more on injected forms or surgical implants. Patches and troches are fine, but the pharmaceutical industry has to stop the extortion and sell a one month supply for \$10 rather than \$100. We have to change the courses in medical and pharmacy schools, as well as the seminars doctors and pharmacists attend. Meanwhile, you don't have to wait for the medical profession to catch up to the 20<sup>th</sup> century. You can test your own hormone levels, buy your own hormones, and monitor yourself every year.

## *Chapter 7: Cardiovascular Health*

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The biggest killer of people worldwide, by far, is cardiovascular disease (CHD). Therefore, an entire chapter will be devoted to CHD conditions. The vast majority of the medical profession still lives in the Dark Ages, and feel that men suffer from more CHD, because they have much higher testosterone levels than women! There is overwhelming evidence to show that *men with higher testosterone levels have much healthier hearts and circulatory systems*, with longer and better quality of life. There is little research on women. We do know that both hyper- and hypotestosterone levels negatively affect CHD health in women. We need more research on women, but current research, common sense, and logic, tell us that women with normal, youthful testosterone levels have the same protective benefits. We will concentrate on supplemental studies using transdermal (or sublingual) delivery, instead of the ones using injected overdoses.

*Hypertension is the most common medical condition on earth.* Please read my book *Lower Blood Pressure Without Drugs*. High blood pressure is even a problem in third world countries. Low testosterone is a major cause of this, as well as other cardiovascular conditions. Fortunately, there are some studies on women for this epidemic. At the University of North Norway (*European Journal of Endocrinology* v 150, 2004) 1,548 men of all ages were studied. “In age adjusted correlations testosterone was inversely correlated with systolic and diastolic blood pressure.” The higher their testosterone, the lower their blood pressure. They went on to say “The results of this study are consistent with the hypothesis that lower levels of testosterone in men are associated with higher blood pressure.” At Anhui University in China (*International Journal of Epidemiology* v 19, 1990) testosterone was found to be the biggest female hormonal risk factor for hypertension, while progesterone was found to be the most protective. Women who have excessive testosterone and DHEA levels have a condition called androgenocity. We find this in wo-

women with other conditions like diabetes and polycystic ovary syndrome (PCOS). Women want youthful testosterone and DHEA levels, neither too high nor too low. The medical literature also shows a major factor in high blood pressure in both sexes is excessive estrogens, especially estradiol. Estrogen dominance is a major factor in many other illnesses such as various cancers.

The most impressive review found was fourteen pages from the Danish Center for Clinical Research in 1996 (*Atherosclerosis* v 125), with a comprehensive analysis of 85 studies. This is called a “meta-analysis” and is great! Such a lengthy and extensive review leaves no doubt about testosterone being a heart healthy hormone. “In conclusion, one intervention, eight cohort and several cross-sectional (there were thirty) studies suggest either a neutral or a favorable effect of testosterone and DHEA(S) on CHD in males”. The same applies to women, only women can suffer from hyper androgen levels where men cannot.

The University of Sheffield, in England, did more studies in this area than any other institution. In 2000 (*European Heart Journal* v 21) ninety men were studied. They concluded, “Men with coronary artery heart disease have significantly lower levels of androgens than normal controls, challenging the preconception that physiologically high levels of androgens in men account for their increased relative risk for coronary heart artery disease”. They further said, “High androgen levels are presumed by many to explain the male predisposition to coronary artery disease. However, natural androgens inhibit male atherosclerosis”. There is also increasing evidence in the literature to show that low levels of androgens are associated with adverse cardiovascular risk factors, including an atherogenic lipid profile, systolic and diastolic hypertension, obesity, insulin resistance, and raised fibrinogen in humans”. Free testosterone levels were emphatically emphasized, “*This study shows that there is a positive association between low serum androgen levels and the presence of coronary artery disease. Administration of testosterone increases cardiac output acutely*”. This is exemplary science!!! *More clinical proof testosterone is heart healthy.*

In the same year at this university (*Circulation* v 102) some more very smart doctors gave transdermal 5 mg (delivered) testosterone patches to elderly men for three months in a double blind study. Again, they wisely measured their free testosterone. These men suffered from chronic angina (heart inflammation). The free testosterone levels rose from 46 to 73 (59%) on the average, and their LH and FSH fell dramatically (which is good for men). Their estrogen levels did not rise. “Low dose supplemental testosterone treatment, in men with chronic stable angina, reduces exercise-induced myocardial ischemia (blocked arterial flow)”. This means the men on testosterone could now exercise more freely. Aside from the cardiac benefits, these men improved greatly in general physical functioning, social functioning, mental health, overall vitality, freedom from pain, and general perception of their health. Rather amazing benefits from a single hormone. We would find the same results if women had been studied.

Another study at Sheffield (*Quarterly Journal of Medicine* v 90, 1997) was a review of the literature. They showed that, “Low mean levels of testosterone have been found in populations of hypertensive men. In males, high levels of estrogen and estrone are associated with increased risks of myocardial infarction, angina, and CAD. Estrogens given to male survivors of myocardial infarction lead to an increased reinfarction rate. Giving estrogens to men with prostatic carcinoma is associated with increased mortality from CAD (coronary artery disease)”. It is obvious that testosterone, androstenedione, and DHEA are heart protective, while excess estradiol and estrone cause heart disease. A another study at Sheffield (*Heart* v 89, 2003) found, “...administration of low physiologic replacement doses of testosterone, over three months, in men with chronic stable angina significantly improves exercise tolerance and angina threshold”.

Seven American clinics and universities collaborated to study the effects of testosterone for women’s heart health and diabetes (*Journal of Clinical Endocrinology and Metabolism* v 94, 2009). This was a 9 page study with 44 references. The bottom line

is they found both deficient and excessive testosterone levels contribute to heart and artery disease. In their words, “Higher levels of testosterone are associated with insulin resistance, metabolic syndrome, and CHD in elderly women.” This study also showed how sickly elderly (average age 74) women are generally. They were overweight, had a BMI (body mass index) of 27, cholesterol levels of 217, triglyceride levels of 137, blood sugar 107, and very high rates of all blood sugar disorders.

At the University of Utrecht (*Metabolism Clinical Experiments* v 53, 2004) an excellent study with 37 references was done on the effect of testosterone on the cardiovascular health of women. Triglycerides (TG) were emphasized, since cholesterol (TC) and triglycerides are the two most important CHD diagnostic markers. Generally TG and TC levels rise in women after menopause, while testosterone levels fall. It is not easy to find such studies. Basically, they found that insulin, androstenedione, and free testosterone were not only the most important variables in cardiovascular health, but accounted for a full 87% of the variations. Both premenopausal and postmenopausal women were included here. They said, “Our results show that the association of androgens with TG varied depending on androgen concentrations. The relative androgenic potential, and most importantly on hormonal milieu. Thus, 87% of the variability in TG concentration in postmenopausal women was predicted by insulin, androstenedione, and free testosterone.” They concluded, “In our study testosterone showed potential beneficial effects on TG.”

At the Free University of Brussels (*European Journal of Endocrinology* v 156, 2007) postmenopausal women with internal carotid artery (ICA) atherosclerosis were studied. A very professional one with 41 references. Overall, they had low testosterone. These women were diagnosed for cholesterol, triglycerides, HDL, LDL, glucose, insulin, DHEA, estrone, estradiol, androstenedione, SHBG, IGF-1 and other sophisticated parameters. “The study provides evidence of a positive association between low serum androgen levels and severe ICA atherosclerosis in postmenopausal women. It suggests that higher, but physiological, levels of androgens

in postmenopausal women have a protective role in the development of ICA atherosclerosis.” Even after the researchers had controlled for other risk factors associated with heart disease (such as diet, high blood pressure, smoking, and diabetes), the relationship between low testosterone levels and atherosclerosis remained strong.” Low androstenedione, another important androgen, was also strongly associated with ICA.

One of the few studies that included women was from University Hospital, in Belgium (*Sex Steroids Cardiovascular Systems I<sup>st</sup>*, 1996). Women can naturally suffer from excessive testosterone levels, while men cannot. Women who have such hyper levels do suffer from more heart and artery conditions, but *youthful levels in women were correlated with less CHD problems*. They went on to also discuss the beneficial effects of normal testosterone levels on insulin function in both men and women. We need a lot more work like this regarding women.

Cholesterol is the best CHD indicator of all, and triglycerides second to that. Homocysteine, C-reactive protein, and uric acid are the other three central diagnostic tools. When it comes to cholesterol and blood lipids, the literature on supplemental testosterone seems to be less clear. Some studies on testosterone therapy show better total cholesterol, HDL, LDL, and triglyceride levels, while others show no benefits. The main reason is that when the wrong doses are given, in the wrong ways, blood lipids are usually not improved. When transdermal or sublingual testosterone is used, there are always improvements in blood fats.

Similar results were found at the University of Texas in San Antonio in 1993 (*Journal of Clinical Endocrinology and Metabolism* v 77). The researchers said, “In conclusion the authors observed a less atherogenic lipid and lipoprotein profile with increased testosterone concentrations”. This included DHEA as well. At the same university (*Journal of Clinical Endocrinology and Metabolism* v 81, 1996) some of the same researchers found that low testosterone levels in men equated clearly with high LDL (bad) levels. “In conclusion, we have shown that men with de-

creased concentrations of total testosterone and SHBG have an unfavorable composition of LDL”. They refer to other studies that found low testosterone is also associated with lower HDL levels and higher triglyceride levels.

Heart disease in women was studied over a five year period in Chile (*Maturitas* v 45, 2003). Women 40 to 59 were evaluated, and then re-evaluated five years later. The risk factors were found to be sedentarism (laying on their dead rear ends), high cholesterol and triglycerides, hypertension, obesity, smoking, and diabetes. The same factors would also apply to men. Diet and lifestyle are the keys to good heart and artery health. Hormone levels were not measured in this otherwise excellent study, however.

Testosterone deficiency and female cardiovascular disease was covered in a very rare report published in the *Journal of Women's Health* (v 7, 1998). “Restoring a physiologic level of testosterone to women, after hysterectomy, not only can improve quality of life, in terms of sexual libido, sexual pleasure, and sense of well-being, but also can build bones- and may be a key to protecting cardiovascular health. Women developing testosterone deficiency, as a consequence of natural aging/ menopause, may similarly benefit from physiologic testosterone supplementation”. Remember that one third of American women will get a hysterectomy at an average age of only forty. A very well done review.

There is no doubt that youthful testosterone levels are heart healthy. As we do more studies on women, we'll demonstrate this situation even more clearly.. Women must be careful to maintain normal range levels, as excessive androgens are just as harmful as deficient ones. Youthful levels of androgens (including androstenedione and DHEA), for both men and women, are vital to good cardiovascular health and long life.



## *Chapter 8: Various Diseases and Testosterone*

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The proper way to cure any disease, illness, or condition is with *natural diet*, proven supplements, natural hormone balance, fasting, exercise, no prescription drugs, and dropping bad habits (coffee, alcohol, tobacco, etc.). Total natural lifestyle in other words. Please read my book *Zen Macrobiotics for Americans* to learn more about this. Many conditions have been studied for their relation to testosterone levels. The published literature is as diverse as it is overwhelming. It is simply impossible to cover such a wide field. What we can say is that testosterone imbalance is found in all illnesses. Low testosterone in men and low or high testosterone in women has been clearly correlated with all cause morbidity (general illness of all kinds). It has also been clearly correlated with all cause mortality (overall death rate). The bottom line is that hormone imbalance, especially testosterone imbalance, is a major cause of every kind of illness known. This voluminous research is still almost unknown to the medical profession, much less to the general public. It remains hidden in medical journals. We very much need more research on how testosterone levels affect every common illness, especially in women. As always, *all our hormones work together in harmoniously as a team in symphony*. This endocrine “concert” is vital to every aspect of our health and well-being. No matter what medical condition you have, you must maintain youthful hormone levels, especially with testosterone. Supplemental testosterone is very limited in effect if your other basic hormones are out of balance. We need more studies on how testosterone affects various diseases (many have not been studied well at all, such as septicemia and flu). The ones we have clearly demonstrate just how important our levels are for overall good health. Keep in mind that men can only suffer from low testosterone, while women can suffer from both hypo- and hyper-levels.

What are the most prominent diseases in Western societies?  
*Cardiovascular illness (CHD) of all kinds is the most common of*

*all medical conditions and the biggest killer by far.* Hypertension is the most common illness on earth. Stroke, heart failure, ischemic heart disease, and arrhythmia are the other most common CHD conditions. Cancer is the second biggest killer. The most common cancers are breast, prostate, lung, liver, ovarian, uterine, bladder, colon, pancreas, thyroid, kidney, leukemia, non-Hodgkin's lymphoma, and endometrial. Cancer rates increase every year, despite the phony "war on cancer". Obesity is an epidemic, and one third of American adults are grossly overweight. One in three children will grow up with type 2 diabetes now, the fastest growing epidemic in the world. Flu is more prevalent than ever, and more new strains appear every year. Lung diseases of all types, including chronic obstructive pulmonary (COPD), pneumonia, emphysema, and asthma are more common than before. Kidney disease rates rise every year, mostly due to our intake of twice the protein we need. Liver disease rates also rise every year, especially cirrhosis, hepatitis, jaundice, and fatty liver. Blood poisoning (septicemia) gets little press, but is a top ten disease. Epilepsy is a major top ten disease as well. 95% of Americans over the age of 65 have arthritis and rheumatism. The same is true with osteoporosis, especially in women. Parkinsons disease has now gained status as a top illness. Alzheimers is an epidemic that never existed before. Gynecological problems in women are too varied and common to cover. These are discussed in *Natural Health for Women*. Digestive diseases are an outright pandemic, especially ulcers, IBS (irritable bowel syndrome), and gastritis.

***All of the above illnesses have shown testosterone and other hormone imbalance as a cause.*** We need not only more research, but real world application of what we already know. The lack of research on women are just inexcusable.

The best study of all was "Androgen Therapy in Non-endocrine Illnesses" (*Androgens and Androgen Receptors*, pub. 2002) from Vermont University, with 23 pages and 132 references. Note, this is concerned with what is considered non-hormonally based disease. This excellent work concentrated on critical illness in general, AIDS, burns, critical illness, rheumatism, renal failure,

and pulmonary disease. Due to the overall anabolic effects of testosterone, it is suggested that any illness, where the person is proven to be testosterone deficient, may benefit from supplementation. This is excellent, progressive, and well documented work covering a wide range of conditions that were never considered to be affected by hormone (endocrine) levels.

Fortunately, there has been some good work done concerning AIDS in both men and women. This very devastating and incurable disease can be dramatically benefited by testosterone therapy alone. Thus, these results show great promise in other illnesses. AIDS is not curable by natural means, because it is a product of the biowarfare research laboratories. It is a genetically engineered virus unknown to nature. The medical prognosis is continuing deterioration, ending in early death. Restoring youthful testosterone levels has yielded rather impressive benefits for people suffering from AIDS. This is the toughest to deal with.

Let's start with women. At Massachusetts General Hospital (*Archives of Internal Medicine* v 164, 2004) women with AIDS were given testosterone patches with striking results. "We found that giving natural testosterone at levels that are normal for women produces significant improvement for patients with few other treatment options". Wasting syndrome was greatly improved among other benefits. Again, at this hospital (*Journal of Clinical Endocrinology & Metabolism* v 83, 1998) more AIDS infected women, with proven testosterone deficiency, were given transdermal patches. Very dramatic improvement in both their mental and physical health was noted, with no other treatment.

At the famous Johns Hopkins University (*Journal of Acquired Immune Deficiency* v 16, 1997), men with AIDS were given supplemental testosterone. "Hypogonadal men who are given testosterone replacement have improved sexual thoughts and functioning, more energy and improved mood". It is clear that overall quality of life improves with such therapy. Similar studies were done at the New York Psychiatric Institute, Boston University, Drew University, and Harvard Medical School.

Diabetes is a growing epidemic in America, especially among children, Latins, Amerindians, and Africans. *One in three children in the U.S. will grow up diabetic*. Other blood sugar disorders are just as common, especially metabolic syndrome (pre-diabetes). Studies repeatedly show that male diabetics tend to have low testosterone, and females high testosterone. Read my *The Natural Diabetes Cure* to learn more about diabetes and natural hormone balance. The famous Rancho Bernardo study (*Diabetes Care* v 25, 2002) studied both men and women with diabetes. They found hypo-testosterone in men and hyper-testosterone in women generally. The same was found at the University of Michigan (*Diabetes* v 26, 1977) where they also found hyper-DHEA levels in diabetic women a full 35 years ago. Why isn't hormone replacement therapy being used to help diabetics, instead of insulin and toxic, ineffective drugs?

Women were included in studies at Erasmus Medical Center in the Netherlands (*Journal of Clinical Endocrinology and Metabolism* v 87, 2002). The famous Rotterdam Study of 1,032 men and women was most comprehensive in many ways. "In conclusion, we found an independent inverse association between levels of testosterone and aortic atherosclerosis in men. In women, positive associations between levels of testosterone and aortic atherosclerosis were largely due to adverse cardiovascular disease risk factors". Here, hyper-testosterone levels in women were correlated with CHD conditions. In other words, *youthful testosterone levels are good for women* (and men). Please read my books *Lower Cholesterol Without Drugs* and *Lower Blood Pressure Without Drugs* to learn more about CHD health and hormone balance.

Here are some brief, specific examples of various diseases: At the University of Padova, in Italy, women with liver cirrhosis had low testosterone as compared to healthy controls. Both men and women with lupus (LE) were found to be testosterone deficient at the University of Mississippi. Men with liver cancer had lower testosterone levels, compared to controls, at Harvard Medical

School. Young men with Klinefelters Syndrome were treated with testosterone at Arhus Hospital, in Denmark, with remarkable progress for three years. At the famous Karolinska Institute, in Sweden, men with rheumatoid arthritis tested much lower in testosterone than healthy men of the same age. At Beth Israel Center, in Boston, epileptic men had impaired testosterone production and elevated estradiol levels. Epileptic women also have seriously impaired androgen function. Men and women with stomach and colorectal cancer generally had low testosterone levels, when studied at Provincial Hospital, in China. At Pochon University, in Korea, a group of healthy men had much higher testosterone than a similar group of men suffering from various pathological conditions. Men with gout had low testosterone levels at Donetsk University, in Russia. Liver cancer patients had low testosterone at Jiaotong University, in China. People with Parkinson's Disease got dramatic improvements from testosterone supplementation at Emory University. Women suffer from lupus at a 9 to 1 ratio over men. At the University of Mississippi, women with lupus were found to have both low testosterone and DHEA. At Atotuerk University, in Turkey, men and women with autoimmune disease were found to be low in testosterone. At Central Hospital, in China, men and women with peptic ulcers had low testosterone. At Jiantong University, in China, men and women with liver disease had low testosterone and high estradiol. Women with Sjorgren's Syndrome at NIH had hyper-testosterone levels. Men and women with chronic renal failure were low in testosterone at Affiliated Hospital, in China. Men and women with liver cirrhosis at University of Padova had low testosterone levels. Women are more susceptible to asthma. At Kartal Hospital, in Turkey, testosterone imbalance was found in both male and female asthmatics. Men with Parkinson's disease at Emory University were clearly low in testosterone. The famous Tromso Study from University Hospital, in Norway, found low testosterone in men with chronic disease rates in general. Men with lung cancer were hypogonadal at Gujaret Society, in India. Female epileptics at the University of Oulu, in Finland, were hyperandrogenic. We could go on all day with this.

Alzheimer's is an epidemic, and we have almost no understanding as to curing or alleviating it. Diet and lifestyle can prevent, but not cure this. It is almost impossible to find studies on women and hormones for this epidemic. At the University of Texas (*Aging Male* v 6, 2003) men with Alzheimer's were given testosterone in a double blind study. "...testosterone could indeed improve cognition, including visual-spatial skills in mild to moderate Alzheimer's disease". You didn't hear that on the six o' clock new. The same results were found At the University of Western Australia (*Medical Hypotheses* v 60, 2003) both men and women were studied. Supplementation resulted in rather dramatic benefits and the patients generally were low in testosterone. At the University of Cagliari in Italy (*Neurology* v 62, 2004) men and women were found to be low in free testosterone. They were also found to be high in estradiol. Countless other studies correlate low testosterone with Alzheimer's, memory loss, and senility.

Regardless of what condition or illness you may or may not have, you want to keep all your basic hormones at youthful levels to maintain a long, healthy life. This is covered in detail in Chapter 17 "Your Other Hormones".

## *Chapter 9: Osteoporosis and Bone Health*

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Osteoporosis is all too common, and affects far more women than men. In Western societies, about half of women over the age of 65 have serious bone loss. About one in six men, of the same age, also have serious bone loss. **There are no effective medical treatments for this**, despite the constant onslaught of advertising to the contrary. HRT for women, for example, did not improve bone health at all. None of the heavily promoted drugs improve bone density, despite the alluring claims. Ironically, poor Third World countries have far less problems with their bone and joint health. All bone and joint conditions have the same basic causes, and the same basic treatments. Whether we are talking about bone loss, arthritis or tooth decay, it is basically the same metabolism at work. The same cures apply...diet, supplements, hormones, fasting, and exercise. *The only real cures are natural ones.* Please read *Zen Macrobiotics for Americans* and *Natural Health for Women* for more information. Finally, we have a wealth of studies on women, and most of the studies in this chapter will therefore be on women. Even though bone loss affects mostly women, the majority of published studies still concerned men only! This kind of bias has to stop.

Testosterone, DHEA, and androstenedione (as are progesterone and estriol) are all vital for bone growth. As we age, it is important to maintain youthful levels of all five of these hormones to prevent bone loss in both sexes. There are many published studies showing that androgens in general are vital for bone growth, maintenance, and the prevention of joint inflammation and deterioration. *Ninety five per cent of Americans of 65 suffer from some form of arthritis.* This is completely unnecessary.

Pre-, peri- and postmenopausal women were studied at Keio University in Japan (*Environmental Health and Preventive Medicine* v 3, 1998). “Testosterone was positively correlated with BMD (bone mineral density)”, was their clear conclusion. They al-

so went on to say, “These finding suggest that endogenous androgens may exert positive influences on BMD”.

Hypogonadal men with osteoporosis, aged 34 to 73, were given supplemental testosterone at Freeman Hospital in the U.K (*Bone* v 18, 1996). Injections of salts, every two weeks, raised their levels over 50%, and the men got excellent results. “All bone markers decreased indicating that treatment suppressed bone turnover”. They said further, “Thus, testosterone is a promising treatment for men with idiopathic osteoporosis, acting to suppress bone resorption”. The fact that men in their 30’s were already suffering from serious bone loss is rather unsettling. The same is true of women. Even using the wrong dose of testosterone, in the wrong way, gave dramatic results in only six months

Young men were tested at the University of Lodz, in Poland, (*Neuroendocrine Letters* v 21, 2000) for their bone mineral density, as compared to their testosterone level. The conclusion was, “There was a positive correlation between testosterone concentrations and BMD, as well as T-score, both in healthy subjects and in infertile patients. Results of the present study indicate that attention should be paid to testosterone deficiency in the young age in terms of the potential risk of decreased bone mineral density in the advanced age”.

At Hunan University, in China, (*Journal of Environmental Pathology* v 19, 2000) both pre- and postmenopausal healthy women were studied. They concluded, “The bone mineral density of the lumbar spine, hip, and forearm were significantly correlated with estriol and total testosterone respectively. Therefore different hormones should be considered in hormone replacement therapy”. They postulated that a major reason men have stronger bones is due to higher testosterone levels. Note the importance of estriol.

At Indiana State University (*Journal of Clinical Investigation* v 97, 1996) 231 healthy women, varying in age from 32 to 77, were studied for bone loss. “Bone loss was significantly associated with lower androgen (testosterone, androstenedione, and DHEA)



concentrations in premenopausal women, and with lower androgens in peri- and postmenopausal women”. Sex steroids are important for the maintenance of skeletal integrity before menopause, and well as afterwards. “Testosterone, androstenedione, and DHEA all fell dramatically as the women aged”. They also found that progesterone fell a full 59% on the average. Progesterone is a major factor in bone metabolism and repair.

A multi-center study headed by Emory University, in Atlanta, (*Journal of Clinical Endocrinology and Metabolism* v 69, 1989) did a long five year study for both pre- and peri-menopausal women. Free testosterone correlated positively with bone density, even after controlling for weight. “These data suggest that women, who are still menstruating, may have relative deficiencies in testosterone, with reduced bone densities as a consequence. We found that free testosterone correlated positively and significantly with bone density. In summary, these data highlight the importance of testosterone in women’s skeletal integrity and stress the critical influence of hormonal factors on bone loss”.

At the VA Hospital, in St. Louis, (*Journal of Clinical Endocrinology and Metabolism* v 81, 1996) both white and black women, aged 20 to 90, were studied for their bone health. Bone density declined in all women over the age of 40, although black women had slightly stronger bones. This was mostly due to their having higher testosterone levels. Most were overweight (obesity has one advantage, in that obese people tend to have stronger bones in order to support their excess weight). It was found that testosterone, DHEA, and vitamin D levels were all very important determinants of bone strength in both races, and all three fell as the women aged. This study covered women of two races and all ages.

A double blind study at Washington University, in St. Louis, (*Clinical Endocrinology* v 53, 2000) included elderly men and women, with an average age of 73 years. They gave them all 50 mg of DHEA for 6 months. This is a very high dose for men, and a completely irresponsible dose for women. Because of the overdose, the men raised their testosterone 46% on the average,

and women 214%! Their lean muscle increased, their body fat decreased, and their bones got stronger. It should be emphasized that testosterone levels *cannot* be raised by giving normal doses of DHEA. This happened only because these poor old people were given far too much. Doing this for a longer term would have resulted in serious side effects from hyper-DHEA levels. The doctors were completely irresponsible and negligent here.

At the Tokyo Geriatric center, in Japan, (*Endocrinology Japan* v 38, 1991) elderly postmenopausal women had many of their hormones measured, along with their BMI (body mass index). The women with the highest levels of calcitonin, DHEA, androstenedione, and testosterone had the strongest bones and the least fractures. Again, testosterone is bone healthy.

Androstenedione was shown to be highly correlated with bone density at Cuore University in Rome (*Experimental and Clinical Endocrinological Diabetes* v 104, 1996). “Plasma androstenedione was the only other variable (besides PTH or parathyroid) that contributed to spine BMI”. Testosterone and DHEA were not measured here, but would have made the results a lot more complete. Androstenedione levels generally parallel testosterone.

At the Long Island Medical Center, in New York, (*International Journal of Gynecology and Obstetrics* v 25, 1987) postmenopausal women were studied for DHEA and androstenedione (testosterone was not studied here). “Our data clearly indicate a positive correlation of at least two androgens with bone density”. They found no such correlation for estrone or estradiol. Again, we see androgens are the bone building hormones. If testosterone had been tested, they would have gotten positive results.

The above studies clearly prove the point. Androgens, especially testosterone, are the bone building hormones. Both men and women should keep their testosterone levels youthful as one part of a program of total bone health.

## *Chapter 10: Testosterone and Your Prostate*

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An entire book could be written on the benefits of testosterone therapy to help prevent and cure all prostate problems. There are well over 100 published international studies proving that testosterone is prostate healthy. The medical profession has an unquestioned “Huggins” dogma, that testosterone is somehow bad for male prostate health! When prostate cancer patients are castrated, they very temporarily (emphasis on the temporary part) improve, but their cancer then grows with a vengeance. This is Sacred Dogma, and anyone who questions it is condemned as a heretic, or worse. Common sense tells you *nothing* gets better when you cut a man’s testicles off - whether you use a scalpel or prescription drugs like Zytiga®, Lupron® or Casodex®. Doctors still literally castrate men both physically and chemically, believe it or not. *They die six months later overall after this insanity.* Talk about the Dark Ages! This is proof the medical profession is hopelessly clueless.

You can see clearly from the Male Estrogen and Testosterone Chart (p. 58) that, as men age, their estrogens rise, while their testosterone falls. Young men, with naturally high testosterone (and low estrogen) levels, are almost completely immune to prostate disease of all kinds. The fall in testosterone and rise in estrogen- the reversal of the testosterone to estrogen ratio- almost exactly parallels the rise in prostate disease of all kinds. *As testosterone falls, BPH, prostatitis, and prostate cancer all rise accordingly.* The more youthful the testosterone level, the healthier men will be in all ways, not just prostate health.

The worldwide published clinical studies on testosterone levels and prostate health prove unequivocally, beyond any doubt whatsoever, that ***testosterone is necessary for good prostate health*** and metabolism. The higher the testosterone levels, the lower the rates of prostate disease. The lower the testosterone levels, the higher the rates of prostate disease. When men are low in testo-

sterone, the prostate receptors must accept DHT (dihydrotestosterone, instead of the real thing. Studies show that prostate disease is largely due to the gland having an inordinate amount of DHT bound to it, rather than real testosterone. Youthful levels of all the androgens, including DHEA and androstenedione, are important to good prostate health. We are going to list nineteen published studies in this chapter to make the point. Science knows testosterone is prostate healthy, but doctors are completely out of touch with reality. Read my book *The Natural Prostate Cure* to see more on this subject. Every year even more studies are published proving testosterone is prostate healthy, and should be raised in men over 50 to help stop the epidemic of prostate disease.

All the way back in 1936 at Oxford University, in England, (*Proceedings of the Royal Society of Medicine*) doctors realized that the “male hormone” was necessary for good prostate health, and the “female hormone” was bad for prostate health. Testosterone had only first been synthesized in 1935- a year earlier. The doctors said that all the theories on BPH agreed, “in essentials, these theories in common suggest the administration of the male hormone as the correct treatment for the disease.” Doctors had already been using androstenediol to treat BPH, and realized it was estrogen that caused prostate disease. Almost seventy years ago, in 1938, doctors at Louisiana State University (*Journal of Urology*) also knew that testosterone is good for prostate health. They realized how vital this hormone was, and that male health suffered as their levels fell during normal aging. They saw great promise in supplemental testosterone, now that it was synthesized, and could be given to aging men. How did things go so wrong after that? Almost 60 years ago at Boston University (*Journal of Clinical Endocrinology and Metabolism* v 15, 1954) 100 men on long term testosterone (50 mg per week injected) treatment were compared to 100 controls. The treated men had much less prostate enlargement and palpable irregularities. The doctors saw how prostate healthy testosterone treatment was. How have doctors gone so wrong since then? How did the facts get turned around 180 degrees?

At the University of Washington (*Cancer Research* v 59, 1999) a progressive, innovative, and free thinking doctor named Richmond Prehn published a review with 44 references, “On the Prevention and Therapy of Prostate Cancer by Androgen Administration”. He actually said that *we should be giving androgen supplements* to reduce the growth of prostate cancer! “Contrary to prevalent opinion, declining rather than high levels of androgens contribute to human prostate carcinogenesis, and that androgen supplementation would lower the incidence of the disease.” Dr. Prehn pointed out that men with prostate cancer have been shown to have lower levels of testosterone than healthy men. As men age, and their testosterone levels fall, they get a parallel rise in prostate cancer rates. You don’t know how much courage it took to say that, or for the journal *Cancer Research* to print it. “Declining androgen levels play a causative role in prostate carcinogenesis.” He further said, “Androgen supplementation beginning early in the middle years, among other benefits, could largely prevent prostate cancer. He showed that 44 earlier studies proved low testosterone levels led to a far worse prognosis than in men with higher testosterone levels. Doctors like this are leading us into the Age of Enlightenment.

At the University of Witwaterstrand, in South Africa, (*American Journal of Clinical Oncology* v 20, 1997), 122 men with prostate cancer were studied for their testosterone levels. “Low Serum Testosterone Predicts a Poor Outcome in Metastatic Prostate Cancer”. The men with the highest levels of testosterone had the least aggressive tumors, and lived the longest. The men with the lowest levels had the most aggressive tumors, and died quickly. In fact, they found, “Only initial serum testosterone (over 10 nmol/l) had a positive impact on response.” They concluded, “Low testosterone seems to result in a more aggressive disease, and a poorer prognosis in advanced prostate cancer. A low serum testosterone, indicating androgen independence, seems to result in a more aggressive cancer, and therefore a poorer outcome.” What isn’t clear about that? Testosterone supplementation should be standard therapy to both prevent and help cure prostate cancer.

At the world famous Harvard Medical School (*Journal of Urology* v 163, 2000) “Is Low Serum Testosterone a Marker for High Grade Prostate Cancer?” was published. Men with low testosterone levels had faster growing tumors, higher Gleason scores, and died earlier. The conclusion was, “In our study patients with prostate cancer, *and a low free testosterone*, had more extensive disease. In addition, all men with a biopsy Gleason score of 8 or greater had low serum free testosterone. This finding suggests that low serum free testosterone may be a marker for more aggressive disease”. Right from world famous Harvard University folks. At Harvard again (*Journal of the American Medical Association* v 276, 1996) prostate cancer patients fared better, and lived longer, the higher their testosterone level was. “A high prevalence of biopsy-detectable prostate cancer was identified in men with low total and free testosterone”. This is right from Harvard Medical School again folks. When will doctors start *treating* prostate disease with supplemental testosterone?

A great study from the Seoul National University (*Asian Journal of Urology* v 10, 2008) demonstrated that prostate cancer patients had much lower testosterone levels than matched controls. 592 men (aged 51 to 70) with prostate cancer had their free testosterone measured. These were compared to 433 healthy controls. The healthy men had average levels of 15.0 ng/ml. The prostate cancer patients only 11.8 ng/ml. The median free testosterone was even more convincing with 7.9 for patients and 13.7 for controls. These men had their PSA, Gleason Score, prostate ultrasound, and biopsies done. The doctors quoted other studies that found prostate cancer patients with low testosterone died much earlier than patients with higher levels. "Most previous reports indicate that low serum testosterone is associated with poor prognosis for prostate cancer." You simply cannot argue with real world evidence such as this. Men with low testosterone levels get far more prostate cancer and die earlier. Routine diagnosis and supplementation would help put an end to this worldwide epidemic.

Dr. Morgantaler at Harvard University has been promoting testosterone supplementation to both help prevent and cure prostate

cancer. This goes against the Sacred Huggins Dogma. It takes a lot of courage to go against the prevailing opinion of the medical community. He has published several articles proving his point. In *Cancer* (v 117, 2011) he wrote "Turning Conventional Wisdom Upside-Down". He called the ridiculous Huggins Dogma an unsupported myth. He says the traditional concept, "high testosterone is bad, low testosterone is good" never made any sense to start with, and simply defied logic and rational thought. He lists 20 very high quality published references showing that high testosterone levels are prostate healthy, while low levels are proven to cause disease. He did his own study (*Journal of Urology* v 185, 2011) where men with prostate cancer were actually given testosterone supplements. This took real character on his part to put his reputation on the line like this. They raised their testosterone level from 238 to 664. The men got better of course. Dr. Morgantaler understated the situation by saying, "Testosterone therapy in men with untreated prostate cancer was not associated with progression in the short to medium term." Another study (*European Urology* v 50, 2006) was titled, "Testosterone and Prostate Cancer: An Historical Perspective on a Modern Myth." He stated very clearly, "There is not now, and never has been, a scientific basis for the belief that testosterone causes PC to grow." He says this myth is pervasive despite all evidence to the contrary. Morgantaler wants to treat prostate cancer patients with testosterone supplementation instead of destroying it. Every year we will see more and more enlightened doctors like him.

At the Cross Cancer Institute in Canada (*Journal of Urology* v 146, 1991) a study was titled "Analysis of Prognostic Factors in Men with Metastatic Prostate Cancer". Real men with advanced, metastasized malignancy were thoroughly diagnosed for Gleason Score, PSA, acid phosphatase, testosterone, bone scans, and other factors. It was concluded, "Log rank (comparison) analysis revealed that only serum testosterone significantly affected over-all survival." *The higher the testosterone the longer they lived; the lower the testosterone the sooner they died.* Testosterone was more accurate in predicting survival than PSA, Gleason Score, or age. They pointed out the average man dies within six months after

chemical or physical castration ("androgen ablation"). The low testosterone group had a mere 30% two year survival rate, while the high testosterone group had a full 64% two year rate. Again, we see the accepted medical protocol of lowering testosterone to castrate levels is the exact opposite of what should be done. Testosterone supplementation would be the correct treatment.

At the University of Vienna (*Prostate v 44, 2000*) men with prostate cancer were compared to healthy controls. The men with cancer had decidedly lower testosterone levels than their healthy counterparts. Again, we see *the lower the testosterone, the worse the diseases rates*. They also found that youthful levels of the androgen DHEA were also necessary for good prostate health. A second study at the University of Vienna (*Journal of Urology v 169, 2003*) also studied men with prostate cancer. "Low serum testosterone in men with newly diagnosed prostate cancer is associated with higher tumor microvessels and androgen density (both of these factors promote cancer growth), as well as higher Gleason scores, suggesting enhanced malignant potential". As always, testosterone is proven to be prostate healthy. A third study at the same university (*Prostate v 47, 2001*) found the same results with more patients. This was titled, "High Grade Prostate Cancer is Associated with Low Serum Testosterone Levels". The title says it all. The men with low levels, averaging only 2.8 ng/ml, had the fastest growing malignancies, and died faster. The men with high levels, averaging 4.1 ng/ml, had the slowest growing malignancies, and lived the longest. Why aren't doctors using testosterone supplements for prostate cancer?

A review done collectively by six international clinics (*Cancer, Epidemiology, Biomarkers Preview v 6, 1997*) used the Norwegian Cancer Registry to study the frozen blood serum and medical records of over 28,000 men. They found the higher the testosterone level, the less prostate cancer and the longer their life. They concluded that the popular idea that testosterone promotes prostate cancer, in any way, is completely unsupported by the research. *This is the second largest prostate cancer study in history, and the results are simply inarguable based on 28,000*



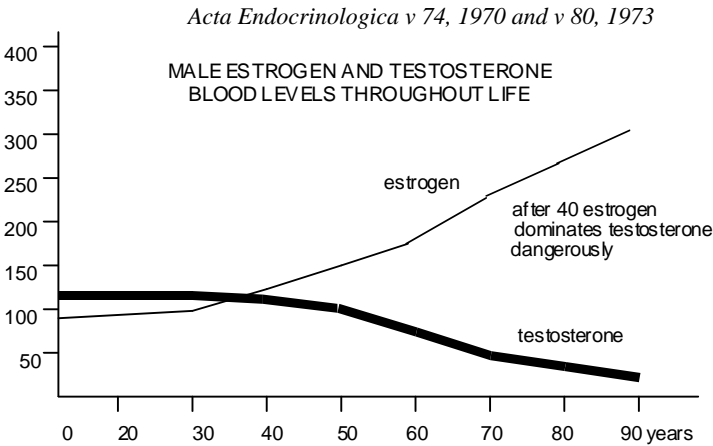
men. This is overwhelming proof. This is the Gold Standard. You simply cannot argue with a study based on this many patients.

At the famous Johns Hopkins Center, in Baltimore, (*Prostate v 27, 1995*), healthy men were compared to those with BHP and prostate cancer. The healthy men had testosterone levels of 636 ng/ml, the men with BPH had 527, and the cancer patients only 473. *The healthy men had a full one third higher testosterone levels than cancer patients-* a very dramatic difference. Yet the doctors tried to deny their own data, since it didn't fit into their bias! "These data suggest there are no measurable differences in serum testosterone levels among men who are destined to develop prostate cancer, and those without the disease"!!! How can there be, "no measurable differences" between levels of 636 ng in healthy men, and only 473 ng in cancer patients? This is the kind of blindness that keeps the medical profession perpetually in the dark. At the University of Utah (*Journal of Clinical Endocrinology and Metabolism v 82, 1997*), a very unusual study was done with 214 pairs of identical twins. Such rare studies are exceedingly accurate due to biological equality of the twins. They found the higher the testosterone the smaller the prostate glands, and the lower the testosterone the larger the prostate glands. "*Prostate volume correlated inversely with age adjusted serum testosterone level*". This is inarguable proof youthful and higher testosterone levels promote good prostate health, and help prevent disease. *Testosterone is prostate healthy.*

At the Tenovus Institute, in Wales, (*European Journal of Cancer v 20, 1984*), 222 men with prostate cancer were studied. 17 references were listed to support their findings. Their testosterone, LH, FSH, prolactin, and growth hormone were measured. As usual, they found the men with the lowest testosterone levels had the poorest prognosis, and the earliest deaths. "*Low concentrations of testosterone in plasma at the time of diagnosis related to a poor prognosis. Patients who died within one year of diagnosis had the lowest mean plasma levels of this steroid. The highest levels of plasma testosterone were found in those patients who subsequently survived the longest.*" The doctors were clear that low testosterone

levels were associated with early death, and measuring these levels would predict subsequent lifespan. Testosterone levels were even more predictive than the age of the men. This study was done almost 30 years ago, yet doctors continue to castrate men both chemically and surgically.

Three fourths of all American men over 75 have outright prostate cancer, even though most of them won't actually die from it. Even giving them the wrong dose of testosterone in the wrong way did not cause any ill effects on prostate size, symptoms, or prostate specific antigen (PSA) level. "No significant side effects in prostate tests or symptoms were seen in this study". They should have diagnosed them for the many other benefits of testosterone therapy.



This chart shows very clearly that testosterone falls as men age, especially after the age of 50. Estrogen rises dangerously after the age of 40. The reverses the testosterone to estrogen ratio. Prostate cancer rates closely parallel this pattern.

## Chapter 11: Female Sexuality

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The great majority of women around the world have sexual problems with arousal, desire, and fulfillment. We speak of male sexual “performance” and female sexual “satisfaction”. Always remember that sex is **90% psychology, and only 10% biology**. This is especially true with women. Psychology, emotions, feelings, and relationship are everything to women when it comes to physical intimacy. This is central. **Good relationships equal good sex**. Good health equals good sex. Unhealthy people with poor relationships are never going to enjoy good intimacy. Female sexual dysfunction is far worse than male dysfunction for these very reasons. For women, *good relationship is everything*. “Love to a man ‘tis a thing apart; ‘tis a woman’s whole existence”. Men can have casual sex with no guilt or recriminations. Women can’t. Your poor old author is no Dr. Phil, and cannot counsel you on relationship. We are not going to deal with the psychology of intimate relations. We can only deal with the biological factors. Women are much more hormonally influenced than men are. **Hormones affect women much more than men**. Hormones affect women's sexual satisfaction far more than men. Women have more hormones to balance than men, including estradiol, estrone, estriol, and even LH, FSH, and prolactin. Let’s look at the many various and complex factors that affect women sexually.

**AGE**. This is the biggest factor. As people age they lose sexual desire and sexual enjoyment. This is a natural part of aging. This can be extended, but not changed. This is as it should be.

**HORMONE BALANCE**. This includes testosterone, DHEA, pregnenolone, progesterone, T3, T4, estradiol, estrone, and estriol. It would be a good idea to do prolactin as well. Always remember hormones work in concert as a team harmoniously together. High prolactin, estradiol, and estrone cause problems, as do low estriol, progesterone, T3, T4, melatonin, and pregnenolone.

**DIET.** Americans have about the worst diets in the world. We eat twice the calories we need, twice the protein we need, eight times the fat we need, only 1% whole grains, plus 160 pounds of various sugars every year. Overfed and undernourished.

**MENOPAUSE** and hysterectomy (surgical menopause). One third of American women will choose to be castrated at an average age of 40. This is insanity, unbalances their endocrine system, and destroys their entire health. Almost none of this is necessary.

**PCOS.** Polycystic ovary syndrome is an epidemic in Western women probably affecting about 15% of adults. Much goes undiagnosed. Here the ovaries have numerous small cysts. This is a precursor to malignancy. Get a safe, cheap, effective sonogram.

**OBESITY.** One third of Americans are outright obese. There is no excuse for this. Fat women have poor self image, bad relationships, high divorce rates, and unsatisfying sexual relations. Obesity and overweight equals poor sex. If you want sexual satisfaction then lose weight. Just make better food choices, and you can eat all the healthy natural food you want and never be hungry.

**BLOOD SUGAR PROBLEMS.** These are epidemic, including high blood sugar, high insulin, metabolic syndrome, insulin resistance, and outright diabetes. High blood sugar and insulin levels cause bad sex. This comes basically from our annual consumption of 160 pounds of various sugars and sugar substitutes. High blood sugar causes shorter lifespan and poor quality of health. Diabetics are known to have serious sexuality issues.

**LOW ESTRIOL.** Doctors do not have the word “estriol” in their vocabulary, and know nothing about it. Low estriol is an epidemic in civilized countries. Most all overweight women are low in this. Use a saliva test. If low, buy a good cream with 150 mg per 2 oz jar (0.25%) from the Internet for \$20.

**HIGH ESTRADIOL (E2) AND ESTRONE (E1).** Western women have very high levels of E1 and E2 generally. *The idea of*

*“estrogen deficiency” is ridiculous.* Only a total program of diet and lifestyle lower E1 and E2.

**LOW PROGESTERONE.** Half of American women over 35 are anovulatory (no eggs produced), infertile, and no longer produce progesterone. Many women under 35 are low in progesterone. Just use this according to your monthly cycle or menstrual status. Saliva testing doesn't work well here. Blood testing is optional.

**PRESCRIPTION DRUGS.** Especially the psychiatric and anti-depressive ones. The number of American women on psychotropic drugs is staggering and growing. You cannot poison your way to health. America is the most medicated nation on earth by far. Get off all prescription drugs, and cure your problems naturally.

**HIGH PROLACTIN.** This can only be lowered by diet and lifestyle. You can get a real blood test on the Internet without a doctor at websites like [www.walkinclinic.com](http://www.walkinclinic.com). There are no saliva kits for this in 2012.

**HIGH CHOLESTEROL.** High cholesterol and triglycerides are epidemic in America. These are clearly correlated with heart disease, early death, poor quality of life, and sexual dysfunction. You should have levels of about 150 total cholesterol, and triglycerides under 100. Read my book *Lower Cholesterol Without Drugs*.

**LOW THYROID.** Low thyroid function is an epidemic in developed countries. Get your free T3 and T3 done. You must be *mid-range*, and not merely, “in range”. You can get this done on the Internet without a doctor at [www.healthcheckusa.com](http://www.healthcheckusa.com) with a real blood draw for \$85. Hyperthyroid is very rare.

**THE PILL.** All birth control pills contain toxic ethinyl estradiol, and a progestin of some kind. These unbalance the overall hormonal milieu. Tubal ligation is a much better alternative, and is reversible. The Pill is poison and should be avoided.

**HYPERTENSION.** Yet another Western epidemic. Read my book *Lower Blood Pressure Without Drugs*. Diet and lifestyle lower blood pressure. Think “insulin resistance” as the main cause of high blood pressure. Our inordinate intake of various sugars is the main cause.

**MENSTRUAL PROBLEMS and PMS.** The monthly cycle should be problem free. Yes, women should not experience any discomfort or problems with this. Menstrual discomfort and PMS is very rare in rural Asian women overall, due to their diet and lifestyle. Read my book *Natural Health for Women*.

*Good health and good relationship equals good sex.* There is no way to get around this. Hormone balance is central here. Diet and lifestyle are the biological cure for sexual dysfunction. Yes, testosterone and DHEA are very important here. However, these androgens have been very overemphasized for women. There is an overabundance of published studies here. These are not Magic Hormones, or a Magic Cures. Testosterone (and DHEA) must be midrange, and not too high or too low. Use a saliva test kit for your free (unbound) levels.

The doctors at the UCLA School of Medicine (*Growth Hormone & IGF Research* v 16 Supp, 2006) put it very well. “Low sexual desire that causes personal distress (or hypoactive sexual desire disorder [HSDD] is the most common form of female sexual dysfunction, and androgen insufficiency is one cause of this problem. In addition to a low libido, the clinical construct of the female androgen insufficiency syndrome includes the presence of persistent unexplained, fatigue and decreased sense of well-being”.

A placebo-controlled study at McGill University in Canada (*Psychosomatic Medicine* v 47, 1985) looked at women, who suffered from surgical menopause, after having a hysterectomy (again, *the ovaries always atrophy and die, even if they are not removed*). Most all of these women were now testosterone deficient, and responded very dramatically to supplementation. One third of American women get a hysterectomy about age 40, and lose half

their testosterone. “It was clear that exogenous testosterone enhanced the intensity of sexual desire and arousal and frequency of sexual fantasies in hysterectomized and oophorectomized (no ovaries) women”. The doctors further said, “The major finding that emerged in this study is that on all three measures of sexual motivation, scores increased concomitant with circulating levels of testosterone”. Coital frequency and orgasmic frequency were not affected however.

Another study at McGill University (*Psychoneuroendocrinology* v 18, 1993) studied the sexual behavior of younger women versus their estradiol, progesterone, and free testosterone levels. They found that, “free testosterone was strongly (notice the word ‘strongly’) and positively associated with sexual desire, sexual thought, and anticipation of sexual activity”. They also found testosterone was positively related to attention to sexual stimulation. They concluded, “These results are consistent with the hypothesis that testosterone may enhance cognitive aspects of women’s sexual behavior”. This is a good and well done study. We need many more like this to understand the effects of hormones in general on the sexual behavior of women.

A very surprising study was done over 30 years ago at three hospitals in the United Kingdom (*British Journal of Psychiatry* v 132, 1978). Sexually unresponsive women were studied, along with their husbands. They were given personal counseling, since sexuality is far more psychological than physiological. These women were given the proper sublingual form of testosterone over three decades ago. However, they were overdosed for ninety days. The results were nothing less than dramatic, including frequency of orgasm, arousal, erotic feelings, and satisfaction. “Those receiving testosterone did significantly better on a number of behavioral and attitudinal measures”. Not only was their sexual happiness greatly improved, but their overall psychology as well.

A fine study (*New England Journal of Medicine* v 343, 2000) looked at women, aged 31 to 56, after removal of their ovaries. All had impaired sexual function. There is very little tes-

tosterone produced by the adrenal glands after a hysterectomy or oophorectomy. *One third of all American women will suffer unnecessary hysterectomy, at an average age of only forty years.* The women were given the proper 150 to 300 mcg of transdermal testosterone daily, since their rate of production is only about 300 mcg a day. “In women who had undergone oophorectomy, transdermal testosterone improves sexual function and psychological well being”. The doctors went on to say, “...as reflected by scores on the Brief Index of Sexual Functioning for Women, the dimensions of thoughts- desire, arousal, frequency of sexual activity, pleasure and orgasm - were most affected”. Their general psychology was equally affected. “In regard to psychological status, testosterone replacement had a beneficial effect on well-being and depressed mood”.

NIMH (*National Institutes of Mental Health*) sponsored a study over three decades ago (*Archives of Sexual Behavior* v 7, 1978) showing the relationship of testosterone levels in women to sexual satisfaction. Young, healthy married couples were extensively studied with in-depth psychological tests, as well as hormone measurements. “The wives’ self-rated gratification scores correlated significantly with their own plasma testosterone levels...that high baseline testosterone level was significantly related to high self-rated gratification score and the ability to form good interpersonal relationships”. Not only was sexual satisfaction related to testosterone levels, but the very ability to have a better relationship with other people. It was also pointed out that low testosterone was related to anxiety, and high testosterone to freedom from anxiety.

There’s not much more the worldwide published literature over the last three decades has to offer us on the influence of testosterone for female sexuality. This is changing, and most of these studies were done in the last five years. Ladies, you don’t need any more studies. Just test your free testosterone, and supplement it if you are low. If you are too high just change your diet and lifestyle to lower your level. Please read my *Natural Health for Women* and *Zen Macrobiotics for Americans*.



## *Chapter 12: Male Sexuality*

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### **Good sex depends on good health and good relationship.**

Men in happy marriages and relationships have more sex and better sex. Healthy men have more sex and better sex. Sex is 90% psychology and only 10% biology. About one third of American men over the age of 18 have some kind of sexual dysfunction issue. Some estimates are that over half of men over 75 are simply sexually inactive, over 40% of men over 60 have erectile failure, and over a quarter of those over 40 (*Journal of the American Geriatric Society* v 36, 1988) have some performance issue. *One half of men over 40 have some type of performance issue.* These are high numbers! Men don't even tell their doctors. Sexual dysfunction in men is very complex, and includes both psychological and biological factors. Why do you think so many OTC worthless sexual enhancers are sold every year? Why do you think so much Viagra®, Levitra(R), and Cialis® are sold each year? After men take these harmful drugs for a period of time, they become hopelessly impotent. Then there is no possible way to regain their maleness. Do not take these! Male sexual dysfunction is a complex condition with multiple factors. Only diet and lifestyle will cure the biological causes, and nothing less.

Some men respond to certain types of pornography. Some men respond to adultery. Some men respond to perversion. Some “impotent” men are capable of masturbation. Some men with ED have nighttime erections when they dream. There is a wide spectrum of male sexual disorders. If a man gets night erections during dreaming, he can very well cure himself. We can only deal with the biological aspects. There is quite a bit of research into the biological factors here. There are no simple answers here. Please read the article *Seven Steps to Natural Health*, and do all seven steps with no excuses.

**AGE is the biggest factor.** As men age they lose their ability to perform sexually. This is as it should be. Nature intends men to be

this way. It is only right and natural that men find less interest and ability in sexual activity as they get older and don't reproduce. Every day we get older. We cannot stop aging, but *we can slow it down* with diet and lifestyle.

**HYPERTENSION** is the second most important factor for erectile dysfunction (ED). Some studies say (e.g. *Hypertension* v 28, 1996) this is the most important of all biological factors. *High blood pressure is the most common medical condition on earth.* What is the major cause of high blood pressure? Insulin resistance- where the body cells no longer react well to normal levels of insulin. Read my book *Lower Blood Pressure Without Drugs*. What is the main cause of insulin resistance? Eating sugars or sugar substitutes of any kind. Please read the *Sugar is Sugar* article on our website. Americans swill down an astounding 160 pounds of various sugars each year. Erections are vascular in nature, so blood pressure is central to getting and maintaining one.

**LOW ANDROGENS** are an important, but very overrated, factor. Testosterone and DHEA are the two most important androgens. Over 90% of men over 50 have low testosterone levels. Read the two hormone chapters in *Zen Macrobiotics for Americans*. Buy a saliva test kit, and test both your free (not bound or total) testosterone and your DHEA for about \$60 without a doctor. Don't stop there. Balance all your other basic male hormones, as they all work together in harmony in concert as a team.

**BLOOD SUGAR DISORDERS** in general are central here. Your fasting blood glucose should be 85 or less. *85 or less.* Several studies have shown high blood glucose levels per se to be a factor (*Journal of Urology* v 176, 2006). Again, we come back to sugar consumption. Americans swill down over 160 pounds of various sugars each year. People with Metabolic Syndrome (MetS) and diabetes have high rates of erectile dysfunction. MetS is an epidemic pre-diabetic condition characterized by 1) obesity, 2) insulin resistance, 3) dyslipidemia, 4), hypertension, and 5) high insulin. Caffeine, even one cup of coffee or one energy drink a day, will also raise your blood sugar level. Get a HbA1c test at your local

drugstore and send it in. Your level should be under 4.7% (which equates to a blood sugar level of 85), and not the usual 6.0% the doctors tell you. Get a one hour fasting glucose tolerance test (GTT) from your doctor. You drink a 50 g cup of glucose and see how well you recover after an hour. You want to be at least 10 to 20 mg below the standard the doctor will tell you. This is the Gold Standard test for insulin resistance.

**HIGH BLOOD FATS.** High cholesterol and triglycerides are a big factor here. Cholesterol is the precursor to out other sex hormones. Your total cholesterol should only be about 150. Yes, this is a realistic goal, and a normal level for rural Asians in general. Triglycerides should be under 100. Triglycerides are also a factor (*Asian Journal of Andrology* v 9, 2007). Men with triglyceride levels over 150 had far more sexual performance problems. Read my book *Lower Cholesterol Without Drugs*. It is meat, poultry, eggs, and dairy products that raise cholesterol. It is sugars of all kinds that raise triglycerides.

**BAD HABITS** like smoking, alcohol, coffee, and recreational drugs will add to all this. Limit or end any bad habits. Smoking is definitely a cause of poor sexual performance. Again, caffeine will raise your blood sugar level. Alcohol ruins your health in general. Recreational drugs must be kept to a minimum. Never depend on recreational drugs like cocaine or ecstasy to perform well. *Depend on yourself*. Drug dependence quickly leads to permanent and irreversible impotence.

**PROSTATE** problems can cause sexual performance. *The prostate is, in fact, a sexual organ* with the same nerves as our reproductive organs. The prostate secretes the seminal fluid in semen. Read my book *The Natural Prostate Cure*. **Three fourths of men over the age of 50 already have an enlarged prostate (BPH).** Prostate problems of any kind can and will cause sexual dysfunction of various types.

**OBESITY** is a major factor, and one third of American adults are overweight. Overweight men have more diseases of all types in-

cluding sexual dysfunction and ED. You can lose weight and eat all you want if you just make better food choices. Please read my book *Zen Macrobiotics for Americans*. Overweight people have less sex, less satisfying sex, poorer relationships, and higher divorce rates. Just make better food choices to lose weight.

**Rx DRUGS** cause sexual dysfunction, and Americans hog down incredible quantities of prescription drugs they don't need at all. No one takes more prescription drugs than we do. These pharmaceutical poisons cause many serious and varied side effects, including impotence and ED. Never, never, never resort to Viagra®, Levitra®, or Cialis®, or you'll end up permanently and hopeless impotent. You cannot poison your way to health.

**HORMONE IMBALANCE** in general is central here, aside from testosterone and DHEA. High estradiol and estrone cause serious problems in men as they age. *The average American man over fifty has higher estrogen levels than his postmenopausal wife!* High prolactin is another problem. Only diet and lifestyle will lower estrogens and prolactin. If you are over 40, take 50 mg of pregnenolone and 3 mg of melatonin. Test your free T3 and T4 thyroid levels. Balance all 12 basic male hormones. Remember all your hormones work together in concert, in harmony, as a team. You can do all this without a doctor or pharmacist.

**CARDIOVASCULAR weakness (CHD)** is also a cause. Read my books *Lower Cholesterol Without Drugs* and *Lower Blood Pressure Without Drugs*. Make sure you have low cholesterol and triglycerides. Get your CRP, homocysteine, and uric acid tested. [www.walkinclinic.com](http://www.walkinclinic.com) and [www.healthcheckusa.com](http://www.healthcheckusa.com) and other such websites will do this cheaply without a doctor. These three tests, along with cholesterol and triglycerides, are the cornerstone diagnostic tests for CHD health. Uric acid has been clearly correlated with poor sexual performance. You want LOW normal levels and not normal normal levels of all five factors. These are the most important five CHD diagnostic factors of all. Only diet and lifestyle will keep them low. Cardiovascular disease is the biggest killer of all by far.

A very good study came from the famous Karolinska Institute (*Journal of Urology* v 155, 1996). Hypogonadal men, aged 21 to 65, were given transdermal patches that delivered 5 mg a day of natural testosterone (only about 20% penetration rate from 25 mg, and very expensive). These patches raised their free testosterone levels to youthful levels without raising estrogens or DHT. They concluded, "...nocturnal erections occurred more frequently with longer duration and greater rigidity, and patient assessments of sexual desire and weekly number of erections were higher." They said further, "These findings suggest that androgen replacement therapy has an impact on all aspects of male sexual function, unconscious and conscious." Research like this will eventually result in routine testosterone testing, and supplementation in normal medical practice.

At the University of Modena in Italy (*International Journal of Andrology* v 19, 1996, and *Journal of Andrology* v 18, 1997), two studies were done. In the first, healthy men were divided into four groups according to their testosterone level. Only the lowest group showed problems, as reflected by nocturnal electronic monitoring of their erections. "Group 1 showed significantly impaired night erections when compared with any of the other 3 groups, but no differences were detected among groups 2, 3 and 4". In the second, healthy subjects were divided into eight groups according to their testosterone level. Their erections during sleep were also monitored electronically. "The groups of subjects with higher testosterone serum levels (400 ng and above) showed almost constantly higher value for the erectile parameters studied, than the subjects with serum testosterone less than 99 ng/dL". It must be pointed out that *only the men with the lowest testosterone levels had serious problems* with nocturnal erections. The majority of men simply will not be helped by such therapy.

At the well known Kinsey Institute of Research (*Psychoneuroendocrinology* v 20, 1995), a double blind study with normal and hypogonadal men was done. They were given erotic stimuli, and their erections monitored electronically. "The number

of satisfactory nocturnal penile tumescence (nighttime erections) responses, in terms of both circumference increase and rigidity, were less in the hypogonadal men than the controls. They were significantly increased by androgen replacement, confirming the results of earlier studies”. There was good improvement here, but only in the hypogonadal men. Testosterone is only one factor, albeit an important factor in male sexual performance and ability.

Some important, extensive, and comprehensive work was done at Boston University in 1994 (*Journal of Urology* v 151). This was the famous Massachusetts Male Aging Study (MMAS) on 1,290 average men aged 40 to 70. Fully 10% of these men were impotent, and 52% suffered from transient or partial impotence. *One in ten men over the age of 40 in America cannot function at all sexually!* Over half of them have serious problems with sexual performance. The older the men were, the more prominent their sexual dysfunction. They found the causative factors to be *age*, heart disease, hypertension, diabetes, prescription medication, anger, depression, high cholesterol, cigarette smoking, and low DHEA levels. Seventeen hormones were measured in these men, but only low DHEA was related to impotence. Testosterone, including free testosterone, was not found to be a factor at all surprisingly. There are no simple or easy cures for male sexual dysfunction.

Sexual performance in men depends on good relationship more than anything else. Other central factors include obesity, hypertension, low androgens, blood sugar dysfunction, high blood fats, prostate issues, prescription drugs, and bad habits like smoking and drinking. **Good health equals good sex!** Good health and good relationship are the road to male sexual ability.

## ***Chapter 13: Women Need Testosterone, Too***

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It is well known that women are more influenced by their hormones than men are. This is certainly true when it comes to testosterone. Although women only have about one tenth the amount of blood testosterone men do, it is no less important to them. Testosterone is produced by both the ovaries and the adrenal glands. DHEA is produced by the adrenals only. Like men, about 98% of testosterone is bound by SHBG and biologically unavailable. It is estimated that *women produce about 300 mcg a day*, but retain more of it in their blood than men do. Just because they have a lower level of blood testosterone does not mean it has any less effect on them. *The correct ballpark dose for women who are proven to be low is about 150 mcg in their blood.* This must be emphasized. Doctors have no idea how important testosterone is for women, and almost never test them for their levels, much less prescribe supplements for them. The traditional wisdom is that testosterone is, “the male hormone”, and estrogen the female hormone. Even if doctors did measure female androgens, they would have no idea of the difference between their bound, total, and free levels. They would have even less idea of how to properly administer it to those who are deficient. In the entire scientific world there are few published studies- most very recently- on testosterone therapy for women. Only some of these use proper doses transdermally or sublingually.

Ladies, if you have some idea your local physician will help you with this, you are very, very mistaken. You would have to search for a holistically oriented physician who is willing to write you a testosterone prescription. Normal pharmacies can't help you. One way to do this is to ask the local compounding pharmacist which doctors are writing prescriptions for transdermal or sublingual testosterone for men and women. First, test your saliva level to see if you are low and require supplementation. The doctor will still insist on a blood test, so demand that he only test your free, bioavailable level; do not pay for unnecessary total and bound

testing. We like to think we are technologically advanced, especially in America. However, when it comes to health, we are often in the Dark Ages. *Never* take toxic, unnatural methyl testosterone due to the severe side effects. There are patches available for women that deliver 150 mcg of natural testosterone daily but, these are inordinately expensive. You can use a 0.3% cream, or sublingual drops with 200 mcg of enanthate per drop. Buy your own testosterone on the Internet from foreign online pharmacies. A \$60 bottle of 10 X 250 (2,500 mg) will last thirty-five years! Let's look at some of the very few good studies to show how this can help you if you are deficient.

Women will spend a full HALF of their adult life after menopause. Half of their adult life will be post-menopausal. Women need to do everything possible before this transition to assure a happy and healthy time after the age of 50. Much work has been done here, since women will only have about half the testosterone they had at the age of 20. A good example is from the St. Louis Medical Center (*Journal of Gerontology* v 58A, 2003) with an amazing 126 references. The doctors lament the severe lack of research on women. They stress the measure of free, bioavailable testosterone. They emphasize that women lose half of their testosterone by the age of 40. They explain that women with hysterectomies are most at risk here. Loss of sexual desire is the most common sexual problem. *After menopause, the rate of sexual dysfunction rises from 40% to an astounding 88%! The women were given the Psychological General Well Being Index. Supplementation had strong benefits here. Body fat fell, muscle mass increased, bone density rose, muscle loss (sarcopenia) was reversed, frailty was reduced, arthritis and rheumatism were improved, and cardiovascular disease in general was dramatically lowered. Remember that CHD is the biggest killer of all by far in all countries. Psychological profiles in general were improved, especially concerning depression and well being. Their bottom line is much more research has to be done on women with regard to both testosterone and DHEA. What fine work from these doctors.*



At Massachusetts General Hospital, collaborating with other clinics (*New England Journal of Medicine* v 343, 2000), researchers gave transdermal testosterone to women who had their ovaries removed (oophorectomy). The ovaries supply about half the testosterone in women, while the adrenal glands supply the other half. Some of the women got 150 mcg, and others got 300 mcg of natural testosterone from expensive transdermal patches. Applying one quarter gram (750 mcg testosterone is 20% absorbed or 150 mcg) of a 0.3% cream or gel is just as effective at a fraction of the price. Using 200 mcg of enanthate sublingually is even better. The loss of uterine and ovarian function has severe physical and mental side effects, that are played down by the medical profession. Most doctors actually consider the uterus a useless organ, with no function after childbirth or menopause! The women were given extensive psychological and physical testing. The women's psychological well being, depression, and sexual function improved dramatically with either dose. Frequency of sexual activity, coital dysfunction, pleasure and enjoyment, as well as orgasm were much improved. "In women who had undergone oophorectomy and hysterectomy transdermal testosterone improves sexual function and psychological well-being". The 150 mcg dose was more beneficial than the excessive 300 mcg (two patch) dose. We should always remember that excessive androgens in women are deleterious. Doctors like this deserve a lot of credit for their ground breaking work, and this is good work.

The Jean Hailes Foundation in Australia was formed to study womens health. You often see published studies in the international literature from them. "Testosterone Influences Libido and Well Being in Women" (*Trends in Endocrinology and Metabolism* v. 12, 2001) used nandrolone (nortestosterone) instead of regular testosterone. A fine study with 52 references. Transdermal creams and patches (expensive) are the most effective means of delivery along with sublingual. The most affected group are women with hysterectomies. Women in general only have half the testosterone at 40 they had at 20. The physical and psychological benefits of supplementation are well documented. The psychological benefits are dramatic, especially for mood, well

being, and depression. Another 12 page review with 47 references “Androgen and Abnormality in Women” from them (*Androgens and Androgen Receptors* 2002) promoted testosterone and DHEA testing and supplementation as “routine and standard therapy” for women’s health. The benefits for sexual fulfillment, osteoporosis, obesity, CHD health, psychology and other parameters is clear from the published literature. A third study (*Journal of Reproductive Medicine* v 46, 2001) was titled “Testosterone Deficiency in Women”. They said, “Testosterone deficiency is an under-diagnosed syndrome in women.” They stressed that women with hysterectomies (one third of all American women will undergo this) are the most at-risk group. The most common symptoms of deficiency are low libido, low motivation, fatigue, anxiety, depression, high body fat, and lack of a sense of well being. A well done review, with a full 27 references, “Androgens in Women” (*Journal of Steroid Biochemistry* v 85, 2003). They discuss Female Androgen Insufficiency Syndrome (FAIS) in depth and point out 40%- four out of ten- of women in American have sexual dysfunction of some kind. The serious psychological problems of depression, lack of motivation, poor cognition and memory, caused by low testosterone are the most problematic. A fifth study “The Therapeutic Use of Androgens in Women” (*Journal of Steroid Biochemistry* v 69, 1999) had 66 references. They stress PMS, which is epidemic in women under 50. Loss of sexual desire is the most common sexual dysfunction problem. The doctors were rather clueless about proper administration and dosage, but this was back in 1999. They actually suggested toxic oral methyl testosterone! Overall, the benefits of supplementation are very well established and diagnosis should be standard medical treatment for all women over 18.

*One third of American women will needlessly suffer from a hysterectomy at an average age of only 40 years.* This senseless butchery is somehow accepted as normal. If doctors tried to castrate one third of the men in this country, they would all be hung the next day. Why do women so passively agree to be castrated for no valid reason? Ladies, please read such books as *No More Hysterectomies*, *The Hysterectomy Hoax*, and *The Castrated Wo-*

man. At UCLA in San Diego (*American Journal of Obstetrics and Gynecology* v 118, 1974) over thirty years ago, women with endometrial cancer had their ovaries removed. Their testosterone and androstenedione levels fell to less than half immediately after the operation. Their DHEA also fell, but was not measured. No attempt was made to supplement their deficient levels, nor was the concept even addressed! To add insult to injury, they were then injected with synthetic toxic medroxyprogesterone (Provera®), instead of being given natural transdermal progesterone. Why aren't women with deficient hormone levels, after hysterectomy, routinely given supplemental natural hormones?

Most all Western women suffer from PMS, and some rather severely. At NIH in Maryland in 1998 (*Biological Psychiatry* v 43), women with PMS and low testosterone levels were compared to healthy controls. PMS is the most common female complaint, and the symptoms can last for up to 15 years after the menses cease. "PMS subjects had significantly lower total and free plasma testosterone levels, with a blunting of the normal periovulatory peak, a finding that may be epiphenomenal (related) to age". This is not to suggest that supplemental testosterone is a "magic cure" for PMS, nor even that all women with PMS are testosterone deficient. Rather it is an important factor that needs to be addressed. PMS is epidemic in Western cultures, but not in Asian or African cultures. Women suffering from PMS can cure this by changing their diets, and balancing their progesterone, estriol, T3, T4, DHEA, and pregnenolone in addition to their testosterone.

Another study from Hope Hospital in England in 1998 (*Clinical Endocrinology* v 49) came to the same conclusions. Women with severe PMS (average age of 40) were given under-the-skin (s.c.) silastic implants of natural testosterone. These implants slowly release 100 mg of the hormone every six months for over two years. This is expensive and very unnecessary, but does, in fact, use natural testosterone delivered in reasonable amounts. Plasma levels rose from an average of 237%, which is definitely excessive. They found this regimen to be safe, and without side effects with good improvement in the short term. Imagine the

improvement if they had addressed all their basic hormones. The silastic implants are not practical means to do this, since they need surgical implantation, are unnecessary, and very expensive. The doctors were concerned about the long term safety of low-dose androgen supplementation for women, but found, “Overall, this study provides largely reassuring data about the safety of low-dose androgen treatment in women. No patient experienced adverse symptoms while on testosterone treatment”.

More and more doctors are realizing that androgens, such as DHEA, testosterone and androstenedione, are vital to the health and well being of women, and are not merely “male hormones”. Australian researchers (*Clinical Endocrinology & Metabolism* v 17, 2003) did a review, with many references on testosterone therapy for women. “Clinical symptoms of androgen insufficiency (in women) include loss of libido, diminished well-being, fatigue and blunted motivation and have been reported to respond well to testosterone replacement, generally without significant side effects”. It is doctors like this that will help women maintain their natural hormone balance throughout life, instead of poisoning them with horse estrogen and synthetic progestins.

Finally in 2004 the medical profession provided some much needed light on the subject of androgens for female health. The entire supplement of *Mayo Clinic Proceedings* (v 79) was devoted to this subject. We will cover all five studies:

At Columbia University “Formulations and Use of Androgens in Women” was submitted. They reported that the most common symptoms of female testosterone deficiency are decreased libido and sexual pleasure, low energy and fatigue, anxiety, lack of motivation, diminished sense of well being, decreased bone density, diminished muscle mass, increase in body fat, less cognitive ability and memory loss. They recognized the need for routine measurement of free testosterone in women and supplementation when necessary. Unfortunately they feel methyl testosterone is a valid means of administration, as well as the overpriced

patches, oral salts, and injected salts. They do see promise in sublingual, vaginal, and transdermal gels to their credit.

At Adult Women's Health and Medicine, in Florida, an article on hot flashes was submitted. Hot flashes are all too common for premenopausal and menopausal women, especially in European countries. (This is not true in Asian and African countries generally.) Testosterone therapy is suggested for this very popular problem. Again, methyl testosterone is recommended as a valid means of administration, which shows good intentions are not always matched by intelligence, competence, or capability.

At the famous Mayo Clinic, bone health was studied in relation to female testosterone levels. This has already been covered in the "Osteoporosis and Bone Health" chapter. Osteoporosis is epidemic in European women, but not so much in Asian, African, or Latin women in their indigenous countries. Instead of treating bone mineral density deficiency with toxic, ineffective, expensive, and symptomatic prescription drugs, we should be doing this with natural hormones, like testosterone, estriol, DHEA, and progesterone, and supplements like glucosamine, minerals, flax oil, and vitamin D. Resistance exercise is also vital here.

The fourth study, from Harvard Medical School, was "The Role of Androgens in Female Sexual Dysfunction". This has already been covered in the Female Sexuality chapter. "The role of low androgen concentration in female sexual dysfunction is gaining increasing attention...and early clinical trial results suggest that they may be both effective and safe in the treatment of FSD, specifically low libido". They point out that a survey of thousands of American women, aged 18 to 59, (*Journal of the American Medical Association* v 281, 1999) that *a full 43% reported serious sexual dysfunction*. Almost half! This is a very depressing statistic that almost half of these women have serious sexual satisfaction issues. Most women keep this to themselves.

The last study was on safety and side effects from Johns Hopkins University. Unfortunately, it was oriented around "risks"

and “side effects”, instead of benefits. They pointed out that using methyl testosterone (which is still prescribed for women), and injectable salts have serious side effects. Real testosterone should be used, rather than nandrolone. It was admitted that transdermal gel, natural implant pellets, and patches do not have these problems. If doctors would just realize that natural testosterone, used in natural ways, in women proven to be deficient, literally has *no side effects whatsoever*, and is completely safe. They would finally understand the situation. When transdermal or sublingual testosterone is used in the proper amounts, there are never any side effects. Women suffering from hyperandrogenism were also discussed. Excessive testosterone levels in women can only be lowered by diet, exercise, supplements and lifestyle, not toxic drugs.

Because one in three American women suffer from a hysterectomy, and their entire hormone balance upset, we need to review the few studies done on them. At McGill University in Canada (*American Journal of Obstetrics and Gynecology* v 151, 1985) women were given supplemental testosterone after hysterectomy. They were evaluated with an index of 26 common symptoms. “The superior efficacy of the androgen-containing preparations on somatic, psychological and total scores of the menopausal index may also be relation to the anabolic and energizing properties of this sex steroid (testosterone)”.

Women reading this book should also read my *Natural Health for Women*. Surgery and drugs are obviously not the answer for female health problems. *Natural health is about diet and lifestyle*. The more women take responsibility for their own health, and stay away from doctors, the better off they will be. As more women look at the very causes of their health problems, and not try to cover up the outward symptoms, they will be able to prevent and cure their illnesses. Any woman can basically test and balance her own hormone levels with inexpensive saliva kits without a doctor. There are almost no medical doctors or gynecologists in the world who have any ability at all to help with natural hormone testing and supplementation. Take responsibility for your own health and well being, ladies.

## ***Chapter 14: Psychology and Behavior***

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Hormones have a very powerful effect on our psychology, cognition, decisions, emotions, memory, and feelings. This is especially true for women. There is a wealth of studies on this. Doctors are just not taking advantage of this wealth. This is a complex issue with no easy answers. However, the bottom line is that each person can be diagnosed and treated for their hormonal profile with dramatic results. Unfortunately, most of these studies use the wrong doses of testosterone in the wrong ways, especially injections. More attention has to be paid to women in the literature. *A vital part of psychological and psychiatric treatment should be natural hormone balance.* People in Western cultures suffer from an inordinate amount of psychological and psychiatric problems. *The rate of diagnosed psychiatric disorders has more than tripled in the last 40 years!* This is especially true in America, the most medicated nation on earth by far. The anti-depression drugs are best sellers. Now, we even drug up our children with mind numbing chemicals. *Women are twice as prone to depression and other such issues.* People resort to mind altering drugs, instead of changing their diet and lifestyle, and balancing their hormones.

Psychoses of various types have been shown to be significantly caused by hormone imbalance. Alzheimer's disease is now an epidemic, and closely related to low testosterone levels. Post-partum depression is actually a pandemic now. Alcoholics have been shown to have hormone imbalance, as do drug addicts. Addictions, whether they be drug, alcohol, gambling or sexual, are clearly related to hormone levels. Prison inmates clearly have unbalance hormonal profiles. Why aren't treatment centers using natural hormone balance as part of their criminal and addiction programs? These are just a few of the examples of how testosterone therapy can help alleviate mental and emotional problems. *Drugging people up with dangerous chemicals just makes their condition worse.* When you read the side effects for any of these mind altering drugs, you would never choose to take them.

A fine study was done at the University of Connecticut in 2002 (*Journals of Gerontology* v 57A). Here real, natural transdermal testosterone was given to elderly (average age 74) hypogonadal depressed men. "There is evidence of cognitive improvement associated with higher testosterone levels in the literature", in both younger and older men, was their starting point. Only 5 mg of testosterone per day was delivered via patches (sublingual, cream, or gel would have been less expensive). Their free testosterone levels went from a mere 93 to 162 on the average, while estrone and estradiol were basically unchanged. That is a rise of 74%! This placebo controlled study went on for a full year. That is how thorough they were. The men were given three different sophisticated cognitive tests, as well as a comprehensive health test. They also cited 35 references that demonstrated how male psychology can be impaired by low testosterone levels. They said, "Testosterone levels in older men may positively influence health perception associated with perceived physical function". This is science as it should be. They used the right doses, delivered transdermally, tested their free testosterone, tested their estrogens, and gave them both cognitive and health tests. Excellent! The same basic results have been shown with women as well.

Women suffer from far more depression (about 1 in 8) than men do, and take far more pharmaceutical drugs for this condition. At University Hospital in Essen, Germany (*Maturitas* v 41, 2002), women with low testosterone were often found to be depressed, obese, have weak bones, low libido, lack a sense of well being, and suffer from genital atrophy. Women with hyper testosterone had more polycystic ovaries, acne, hirsutism, aggression, substance abuse, diabetes, breast cancer, and heart disease. These problems multiply after menopause, and women spend a full one third of their lives after this change. They pointed out most women lose about half their testosterone as they age. This was a fine and massive twenty-two page review with a full 137 references. Androgen levels can fall by 70% in women with hysterectomies. One third of American women will have this done at an average age of 40. The Pill, HRT, and menopause also lower androgen levels. The doctors also found women with excessive testosterone suffered from in-



ordinate depression rates. Low testosterone affected men, while any testosterone dysfunction affected women. They found the testosterone to estrogen (estradiol and estrone) ratio to be all important, and not just testosterone levels per se. At least one in four American women suffer from low libido, and these figures rise as they age. That may sound shocking, but too many surveys have verified this. This is an overwhelming and professional study.

*Psychoneuroendocrinology* published two studies (v 25, 2000 and v 32, 2007) on depression and testosterone. The first, at the German Central Institute of Mental Health, found hyper levels of testosterone, and androstenedione in depressed women (aged 28 to 77) as compared to healthy controls. They also found high estradiol in the depressed women. They noted, "To date, there is only sparse information about the regulation of androgen concentrations in women with depression." The second one studied 2,855 otherwise healthy elderly (age 70 to 79) men and women. The doctors found low testosterone and DHEA in the depressed ones. The ones in the lowest quarter had the worst rates of depressive symptoms.

At the Worcester State Hospital in Massachusetts (*Progress in Neuropsychology* v 2, 1978) doctors studied seriously depressed men and women. Such people are very difficult to treat successfully, and drugs only make them worse. Tranquilizers, MAO inhibitors, tricyclics, and lithium just exacerbated their depression. Basically, the men were found to be low in testosterone, but high in estradiol. The women were found to be too high in testosterone. HRT (horse estrogen) was popular then. The women treated with HRT just got worse, since low estradiol in Western women is very, very rare. The men were given methyl DHT instead of real testosterone. This study shows hormonal psychiatric treatment is very new to the medical profession. The doctors were sincerely trying to help these people, but were using the wrong hormones to do so. The important point here is they proved mental illness is largely hormonally based and should be treated as such. These doctors were sincere pioneers.

At Comenius University in Bratislava (*Scripta Medica* v 75, 2002) men and women were studied for cognitive performance related to their free, salivary testosterone levels. This was a first rate study with 27 references. Men and women have the same general intelligence, but differ in specific abilities. Men, overall, do better in math and spatial ability, while women do better in verbal ability. These subjects were tested specifically for mental rotation and spatial visualization. They found the men with the lowest levels of testosterone were better in these two areas. The women with the highest levels were better. So, the least masculine men, and less feminine women, got the highest scores. “In other words, the best spatial performance was achieved in hormonally androgenous subjects.” This is a good example to demonstrate that things are not always what you would expect. These same results were verified at York University in Toronto (*Psychoneurology* v 24, 1999). “Mental rotation scores showed a significant positive relationship with mean testosterone levels.”

A study from the University of Western Ontario in 1996 (*Aggressive Behavior* v 22) showed different results, however. Both young male and female students had their free, salivary testosterone measured. “Within each sex, testosterone was positively correlated with aggression, and negatively correlated with pro-social personality”. We all know men and women have different cognitive abilities. Men are generally better with math, for example, and women are better with verbal skills. Musical ability was negatively correlated with testosterone in men, but positively correlated in women. Studies on social status and testosterone, in both men and women, have shown significant relevance. Yes, there are racial differences, contrary to liberal political correctness. Real science recognizes racial differences. Asians generally have the highest testosterone levels, Africans moderate levels, and Europeans the lowest levels. Other aspects of this well done review will be discussed in other chapters.

There is a large volume of literature regarding aggression in both men and women. This includes a review in 1995 complete with 43 references (*Hormones and Behavior* v 29, and two studies

in *Aggressive Behavior* (v 29, 2003 and v 22, 1996). They covered status, self-regard, competitiveness, aggression, assertiveness, and dominance in young women in relation to testosterone levels. Estradiol and DHEA were not found to have any relationships to behavior surprisingly. They did, however, find a definite correlation between the above factors as they related to testosterone levels. Women with higher testosterone levels, who ranked themselves well in status, were not considered to have higher status by their peers though. Other studies have also shown confident, uninhibited and action-oriented behavior to be correlated with higher testosterone levels in young women. Still another study found just the opposite, however, while others have shown no relationship at all. *There are no easy answers here.* Occupational status and testosterone in women have shown the same inconsistencies. This is complicated by the fact that some occupations require assertiveness, while some require other traits. A woman lawyer or saleswoman might benefit from such behavior, while a nurse or teacher would not. Societal norms would also be important here. An Asian or Muslim woman might fare poorly with aggressive and assertive behavior, while an American or European woman could fare very well in many areas. Testosterone was positively associated with self-regard (ranking themselves in their peer group), and dominant behavior, as well as their number of sexual partners. It was inversely associated with smiling, so there is an obvious price to pay for such self-assuredness.

A first rate study from the University of Georgia (*Annals of the NYAS* v 694, 1993) came with a full twenty-eight references. Salivary free testosterone levels were compared to various behavior patterns in men and women. This included violence, occupational achievement, competition, sexual activity, and other such behaviors. There are no always easy or pat answers here either. College students showed no relation for high testosterone and aggressive or violent behavior. Ministers had low testosterone, while professional sports players had very high levels. Unemployed people were extremely high. Blue collar workers scored higher than white collar. Female lawyers had high testosterone. Politicians the same situation. Testosterone goes up when people lose in sports, games,

or gambling, and falls when they win. Physically abused women, who murdered their spouses, were low in testosterone. Women who just murdered just for the sake of it were higher. Definitely, suicide and suicide attempts show low testosterone and depression. Ironically, violent lesbian women were low in testosterone. This was a very comprehensive study obviously.

One might think that sensation seekers of both sexes would have higher testosterone levels, but this doesn't always seem to be true. A study at Florida State University in 2001 (*Hormones and Behavior* v 40) tested young college men and women for their testosterone levels. No relationship at all was found for testosterone and sensation seeking behavior such as sky diving, bungee jumping, water skiing, roller coaster riding, and the like.

A study in London (*Proceedings of the NASC* v 105, 2008) of financial traders showed morning testosterone levels affected their success in the markets that day. The higher their testosterone the more money they made! Another one in Japan (*Neuroendocrinology Letters* v 27, 2006) found clear relations in male testosterone levels and gambling, credit card debt, substance abuse, and other similar pathologies. They referred to the concept of “delay discounting”, or impulsivity when confronted with making important choices. Competition in both men and women are influenced by testosterone levels. In a rigged intelligence test (*Hormones and Behavior* v 50, 2006) men were guaranteed to lose, despite their ability to win. The losers with the higher levels were willing to jump right back in for a second round of competition. The ones with the lower levels chose to simply leave. We should be treating prison inmates with hormonal therapy since clear relationships have been shown between criminal and antisocial behavior and various hormones. In Spain, sensation seeking male inmates were studied (*Neuropsychobiology* 51, 2005) who constantly sought out inappropriate and excessive behaviors. This was especially true with regard to drug abuse, alcoholism, and hyper-sexuality. Boys at high risk for substance abuse (*Drug and Alcohol Dependence* v 55, 1999) were found to be generally low in testosterone, compared to those at low risk. Swedish alcoholics were studied (*Psychiat-*

ry Research v 77, 1998) for their testosterone levels. Alcoholism in all the Scandanavian countries is so severe and epidemic it actually impacts their gross national product. Not only was alcoholism highly correlated with free testosterone (FT) levels, but, "In a multiple regression, FT was also clearly associated with the psychopathy related scales of the Karolinska Scales of Personality".

Our obesity epidemic could be reduced dramatically with natural hormone balance. Overeating is a psychological issue more than anything else. Obesity per se is very hormonally influenced, as well as eating disorders like anorexia nervosa and bulimia. Testosterone is a big factor here. A Harvard study (*Journal of Clinical Psychiatry* v 68, 2007) looked at depressed women with anorexia. This is all too common among women now (men very rarely have it), and is very hormonally based. Studies agree about one in twenty-five women suffer from this, especially younger women. It was found low androgens were a major cause of depression, anxiety, and eating disorders. "Mean free testosterone blood levels were lower in women with clinically significant depression and anxiety compared to those without." This was verified in many other studies. At the Katendra Klinik in Poland (*Wiad Lek* v 54, 2001) they said, "The total testosterone concentration in patients was statistically significantly lower." The doctors at Harvard agreed (*Journal of Clinical Endocrinology and Metabolism* v 92, 2007). "Androgen levels are low, appear to be even further reduced by oral contraceptive use, and are predictors in women with anorexic nervosa." More Harvard doctors (*Neuroimaging* v 132, 2004) found the same low testosterone levels in such women. While eating disorders are psychological in nature, they do not respond well at all to psychotherapy. Natural hormone balance, natural supplements, exercise, and proper diet are far more effective in treating these.

The famous Rancho Bernardo Study in 1999 (*Journal of Clinical Endocrinology & Metabolism* v 84) was some of the most important research ever done. This was complete with 61 strong references. Over eight hundred hypogonadal men, over the age of 50, had their bioavailable testosterone and estradiol measured. They were then administered various standard tests, such as the

Beck Depression Inventory. There was no doubt about the strong relationship between their testosterone levels and states of depression. "These results suggest that testosterone treatment might improve depressed mood in older men who have low levels of bioavailable testosterone". They further noted, "in these older men, low estradiol and high testosterone levels predicted better performance on several tests of cognitive function." They clearly found higher estradiol levels were related to much poorer performance on the tests. Remember that men over 50 on average have higher estrogen levels than their postmenopausal wives. These very same doctors should now study older women for the same phenomenon, and also include other hormones such as progesterone, estrone, estradiol, estriol, pregnenolone, T3, T4, FSH, LH, and prolactin. The summary was, "this longitudinal, population-based study supports an association between endogenous sex hormones levels and cognition in older men."

At the University of Lubeck in Germany (*Neuropsychopharmacology* v 28, 2003) women, aged 47 to 65, were given supplemental testosterone to show the effects on their "divergent and convergent" thought processes. They found that testosterone strongly affects the thought process in women, especially pre-menopausal women, who have higher levels during ovulation. Here, we demonstrate empirically how women are very hormonally influenced physically, mentally, and emotionally. This is why we need more knowledge about endocrine effects on their thoughts and feelings.

There are many, many other studies that we can't possibly even begin to cover. The point is made that psychology in general is strongly influenced by our endocrine systems, especially testosterone. We have enough research here. *We need to apply it to real people in the everyday world.* We need to use natural hormone balance to treat mental and emotional issues rather than toxic drugs which just make people worse in the end.

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## *Chapter 15: Obesity and BMI*

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*America is the most overweight country in the world. We not only eat more calories (twice what we need) than anyone else, but more empty, nutritionless calories. We eat 160 pounds of various sugars annually, twice the protein we need, and 42% of our caloric intake is fat- mostly saturated animal fats. We eat a mere 1% whole grains. Our food is full of various chemicals, preservatives, pesticides, and colorings. Overfed and undernourished. We also get less exercise than anyone else on earth. We don't need to wonder why we're so overweight. There are no Magic Supplements, prescription or non-prescription, for weight loss. There are no shortcuts or Magic Answers to weight loss either. Will power is an illusion, as you can't deny the hunger instinct. You cannot force yourself to eat less food. You can, however, eat less calories by simply making better food choices. Eat whole, natural, low-fat foods. Diet and lifestyle is the key to staying slim all your life. You can literally eat all you want if you eat whole, healthy natural foods. Just make better food choices to stay, slim while eating all you want and never being hungry. Please read my book, *Zen Macrobiotics for Americans*.*

Yes, hormones do play an important part in this, in addition to diet and exercise. Androgen dysfunction is very influential in obesity. The literature is overwhelming concerning hormones and obesity, especially testosterone and DHEA. Low thyroid (free T3 and free T4) has dramatic effects on our body weight. You must have midrange values for T3 and T4, and not merely be "in range". High estrogens (estradiol and estrone) are a cause of obesity in both sexes. Low estriol is a major cause of obesity in women. Men do not need to test estriol. Insulin has very dramatic effects on obesity, and most all older Americans have hyper-insulin levels. Get a GTT test for insulin resistance, instead of an insulin test. As you would expect, there was quite a lot of research done on obesity regarding men, but much less on women. As always, women should have a normal, youthful range of androgens, avoiding both

hyper- and hypo- levels. Youthful testosterone levels are vital to maintaining slimness, and a low body mass index (BMI), but this is only one part of a total program of diet, exercise and lifestyle. Expect some changes in your BMI and body fat per cent from maintaining a youthful testosterone (and DHEA) level, but not any dramatic ones. Your best results will come from realizing all your hormones work together in harmony as a team. *You must balance your other basic hormones to get the most effect.* DHEA is your other major androgen, and also important in maintaining slimness. Keep a youthful level of DHEA. Be sure to balance your progesterone (men, too), pregnenolone, and melatonin as well. Growth hormone is very overrated, simply too expensive at \$1,800 a year minimum for daily injections of Chinese prescription rhGH, and the benefits modest. Cortisol has minimal effects here.

A very informative study was done at the University of Munster in 2002 (*European Journal of Endocrinology* v 146). This was previously discussed in Chapter 4. Here, they used oral, injected, and transdermal (patches) forms on hypogonadal men. There was very insightful information here about BMI and testosterone levels as men age. They concluded, "...testosterone appears to be an important factor contributing to these changes. Thus aging men should benefit from testosterone substitution as far as body composition is concerned". *The fall in testosterone, as men age, was paralleled by a rise in BMI and body fat mass.* This was reduced significantly by raising testosterone levels, even when using the wrong types in the wrong ways. Leptin was also found to increase with age and BMI, but this could be due to leptin resistance. With all the research on leptin, there still has not been any practical means found to raise or lower it to change the composition of the body. Normal men gained BMI, body fat, and leptin as they aged, but lost testosterone. Men given supplemental testosterone did not gain BMI, body fat, or leptin, and kept youthful testosterone levels. The authors, unfortunately, somehow felt only "20-30%" of aging men had subnormal testosterone levels, when the well proven facts show *over 90% of them do.* All this should equally apply to women basically.



At the National School of Public Health in Athens (*Annals of Nutrition and Metabolism* v 43, 1999) healthy, elderly men were studied for their body mass and their hormone levels. Not surprisingly, they found that low testosterone was equated with obesity, and high testosterone equated with slimness. They also found higher estradiol levels equated with obesity, and low estradiol with slimness. They also studied leptin. High leptin was associated with obesity, and low leptin with slimness. Of course they found the higher the leptin levels the lower the testosterone levels. They also found the more dietary saturated fat the men ate the higher their leptin levels- and the lower their testosterone.

At the University of Pennsylvania School of Medicine (*Journal of Clinical Endocrinology & Metabolism* v 84, 1999), elderly men were given real transdermal testosterone. Of course, all of these men were low in testosterone, since they were all over the age of 65. This was a true double-blind study, where half the men were given placebo patches. This lasted a full three years. The men lost an average of almost seven pounds of ugly fat, while making no changes at all in their diet or lifestyle. They gained almost five pounds of real muscle. When you lose fat and gain muscle, your total body mass is exponentially improved. This was all done by simply raising their testosterone naturally to youthful levels, and not asking them to do anything else at all. Imagine what they could have done with more hormone balance, a better diet, and some reasonable exercise!

At the University of Vermont (*Journal of Clinical Endocrinology and Metabolism* v 81, 1996) hypogonadal men, aged 33 to 57, were given injections of 300 mg of testosterone cypionate every two weeks. Even though they were given the wrong dose of testosterone in the wrong way, they still got dramatic effects. Just think of how much better they would have fared if given natural testosterone in a natural way. Their free testosterone level went up strongly, but only temporarily, and fell back down to deficient levels before the next injection. The good doctors refused to measure estradiol and estrone levels, which went up just as strongly after the injections. Their actual gain of real muscle was

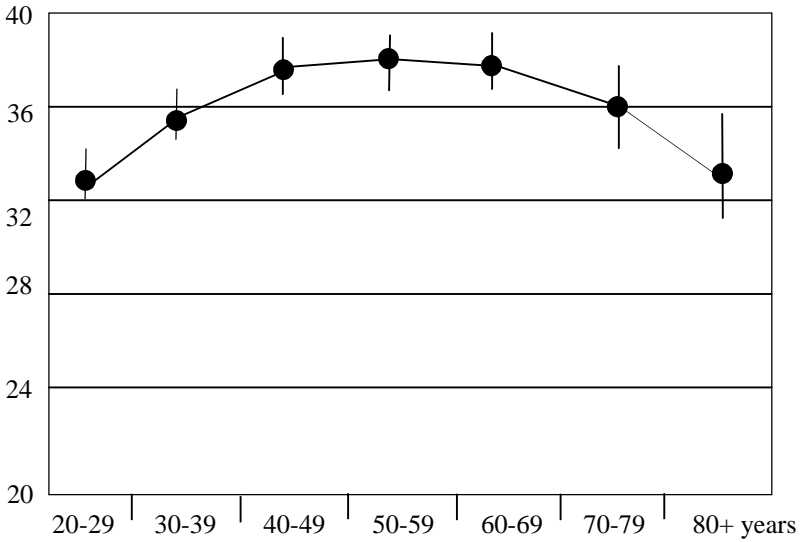
an amazing 15%. The loss of ugly fat was a stunning 11%. When you add the muscle gain to the fat loss this is really impressive, especially since they made no dietary or exercise changes. The men actually gained a small amount of muscle weight in that they were now more muscular. “We conclude that testosterone replacement in hypogonadal men enhanced the skeletal muscle mass by stimulating the muscle protein synthesis rate”.

At the University of New Mexico (*Journal of Gerontology* v 58A, 2003) men and women were studied for lean body mass (LBM) and sex hormone levels, including testosterone, estrone (women), and IGF-1. A nice study with 27 references. Some women were on HRT and some were not. They found body fat rises until around the age of 60 and then falls (due to impaired metabolic function). Lean body mass also falls after the age of 30. A very important discovery was that HRT actually cuts a woman's testosterone level in half! Men have more LBM than women since they have lower body fat. *Age was the biggest factor in loss of LBM and rise in body fat.* Here they found low testosterone in men, and high testosterone in women, to be correlated with obesity and loss of LBM. Estrone (men were not tested) was positively correlated with obesity and high body fat. IGF-1 levels do fall as we age, but are not correlated with growth hormone levels.

At the University of Umea, in Sweden, (*International Journal of Obesity*, v 25, 2001), both men and women were studied together. Both pre- and postmenopausal women were included for even more reliable results. They used the Northern Sweden MONICA study as their basis. Testosterone, DHEA, insulin, androstenedione, leptin, SHBG, and IGF-1 were all measured. They found low testosterone in men and high testosterone in women was associated with obesity higher. “The authors conclude that low leptin levels are associated with androgenicity in non-obese men and women and that the direction of this association is dependent on gender and body fat distribution”. In this same journal (v 24S, 2000) doctors also found women with hyper-testosterone levels to have the highest BMI and body fat. This is very good research.

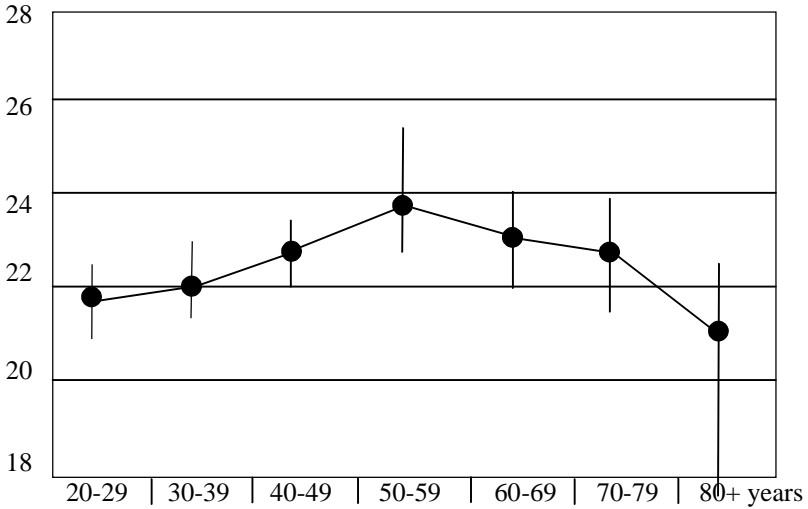
## FEMALE BODY FAT PER CENT WITH AGE

% BF - Women



[*American Journal of Clinical Nutrition* v 78 (2003)]  
MALE BODY FAT PER CENT WITH AGE

% BF - Men



Six clinics collaborated (*Journal of Clinical Endocrinology and Metabolism* v 85, 2000) to study the effects of testosterone, DHEA, insulin, DHT, SHBG, and cortisol on obesity in men aged 17 to 64 using the famous HERITAGE study. This was professional work with 49 very strong references. The main point is that body composition is very negatively influenced by age and altered hormone levels. DHEA (18 to 8 nMol/L) and testosterone were found to fall about half by the age of fifty. Both of these hormones were strongly paralleled with the rise in weight, BMI, body fat, waist girth, and hip girth. Insulin rose dramatically after the age of 50 from 62 to 91, and this rise correlated strongly with all of the mentioned obesity factors. Cortisol, DHT, and SHBG had little effect. Body fat varied from 14% in young men to 28% in older men. BMI only varied from 23 to 28 though. The conclusion was testosterone, DHEA, and insulin are the most important hormonal factors in obesity. All of these results will apply equally to women, but high testosterone, rather than low, would be the issue with them. Other studies tend to verify this.

Obviously, we need more research with regard to women. The same advice on diet and lifestyle applies for maintaining slimness, as in every other chapter in this book. Men need to keep the youthful levels they enjoyed at about the age of 30. Women need to keep the youthful levels, while avoiding excessive ones. You must balance your other basic hormone levels (see Chapter 17 for more about this) for optimum benefits. After the age of 60 body fat falls, due to failing health and metabolism. Muscle loss is called “sarcopenia”, and is pandemic after fifty. You can minimize this with a total program of holistic health.

Ironically we have lower body fat after the age of 60, but it isn't due to good diet and exercise! It is due to the deterioration of our metabolism. Adult women average about 34% body fat, while men average about 23%. Women therefore maintain about 50% more adipose tissue. You'll find that people in Third World countries will have about one third less fat on their bodies due to less food available, less animal foods available, and harder physical work to survive.

## *Chapter 16: Exercise and Strength*

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As one would expect, there is a large body of research regarding the effect of exercise on male testosterone levels, but very little on females. Also, the studies are often contradictory and come with up varying results. *The bottom line is that exercise helps normalize hormone levels*, and that certainly includes testosterone. *Exercise helps normalize your hormones*. This is especially true with women, since they can have excessive, as well as deficient levels. Having balanced hormone levels makes us stronger, and gives us more endurance as well. One major reason that Americans have such out-of-sync hormone levels is our extreme inactivity. Regular exercise will help lower excessive hormone levels, and raise deficient ones. Overtraining, however, such as with Olympic athletes or marathon runners, is deleterious and hurts our health in the long run. Extremes never work.

At the Baltimore branch of the National Institutes of Health (*American Journal of Physiology* v 283, 2002) the doctors were smart enough to study the free testosterone level of men. “Free Testosterone Index with Fat Free Mass and Strength in Aging Men”. They found that higher free testosterone levels were very good predictors of muscle strength in men, ranging in age from 24 to 90. “Muscle mass and strength losses during aging may be associated with declining levels of serum testosterone in men”. They also found that the men with higher testosterone had more muscle mass and less body fat. They refer to many other studies that found the same results. They also refer to other research where supplemental testosterone, in hypogonadal men, resulted in more strength and more lean muscle mass. This was a most sophisticated study in great detail with 50 references.

An earlier study also published in the *American Journal of Physiology* (v 282, 2002) at the University of Texas gave men with low testosterone injections of salts. Despite using the wrong dose in the wrong way, they still elicited powerful results in six months.

“Older men receiving testosterone increased total leg lean body mass, muscle volume, and leg and arm muscle strength”. Imagine the results they would have gotten from using natural sublingual or transdermal testosterone.

The doctors at UCLA in Torrance (*Journal of Clinical Endocrinology & Metabolism* v 85, 2000) were sophisticated enough to use transdermal gel in men. “Transdermal Testosterone Gel Improves Muscle Strength and Body Composition Parameters in Hypogonadal Men”. They found the usual increases in fat free mass, decreases in body fat, and impressive increases in strength and muscle size by also having the men exercise. “Mean muscle strength in the leg press exercise increases by 11 to 13 kg in all treatment groups by 90 days. Moderate increases were also observed in arm/chest muscle strength”. The many other benefits these men got are discussed in other chapters. This is good science by good researchers.

More modern doctors at the University of Connecticut (*Journals of Gerontology* v 56A, 2001) used transdermal testosterone patches (5 mg delivered daily) on elderly men (average age 76) for one year. Estrogen (estradiol and estrone) levels, PSA levels, and prostate volume basically remained the same. Their free, unbound levels of testosterone rose 75%, from 3.2 nM to 5.6nM. “Strength increased 38% in the testosterone group”. Body fat decreased significantly, while lean body mass (muscle) increased, as did their bone mineral density. Many other biological parameters were measured and this was a very professional long term study. More good science.

It is true that exercise will improve hormone levels dramatically for a few hours. We must remember this is a temporary phenomena, but it is very indicative of the power of exercise to balance our hormone levels. If you exercise regularly *you will make permanent changes*, as long as you continue your program. At the University of Kanazawa, in Japan, (*Horumon to Rinsho* v 40, 1992), young men (average age of 24) exercised vigorously on stationary bicycles. *Their growth hormone went up an amazing*

1,850%! Their parathyroid hormone went up 182%. Their testosterone went up a full 110%, or more than double. Vitamin D3, free T3, and free T4 all doubled. Insulin and C-reactive peptide both fell. This was an exceptionally intricate and unique study where dozens of such parameters were studied. Fine science here.

Studies at the University of Texas (*Journal of Laboratory and Clinical Medicine* v 34, 1999) found strength benefits from both supplemental testosterone and growth hormone (rhGH). “In summary, testosterone administration to human patients will increase muscle strength and muscle protein synthesis and may stimulate intramuscular IGF-1 system. rhGH administration to human patients will improve muscle strength in GH-deficient adults and improve body composition in older individuals and GH-deficient adults”.

At the University of Jyväskylä, in Finland, (*Acta Physiologica Scandinavica* v 148, 1993) women were included in such studies. Testosterone tends to fall in women as they age, especially prior to menopause. “In the females significant positive correlations were observed between the individual values in serum testosterone concentration and the values both in the muscle cross sectional area (CSA) and in maximal force (physical strength). The present results imply that the decreasing basic level of blood testosterone over the years in aging people, especially in females, may lead to decreasing anabolic effects on muscles thus having an association with age-related declines in the maximal voluntary neuromuscular performance capacity in aging people”. They said further, “In the female subjects the individual values in serum testosterone correlated significantly with the individual values of maximal force, and with the individual values of maximal rate of force production, as well as with the individual values of the CSA of older females”. The next year (*Acta Physiologica Scandinavica* v 150) a similar study was done. Serum testosterone went up, and cortisol fell, in both sexes during the 12 week training. “The present findings demonstrate that considerable gains may take place in strength during progressive strength training both in middle-aged and elderly people”. The findings also point out the

importance of the anabolic hormonal level for the trainability of muscle strength of an individual during prolonged strength training especially in elderly males and females”.

The scientists at Pennsylvania State University also realized testosterone is important for women (*European Journal of Applied Physiology* v 78, 1998). Untrained women were given a three stage program of resistance exercise (weight lifting). Testosterone and growth hormone went up in the women, while cortisol fell. “These data illustrate that untrained individuals may exhibit early-phase endocrine adaptations during a resistance training program. These hormonal adaptations may influence and help to mediate other adaptations in the nervous system and muscle fibers”. Research such as this shows women as well as men normalize and improve their entire endocrine balance with regular exercise in a very short time.

Female adolescent athletes were studied at Southeastern Louisiana University (*European Journal of Applied Physiology* v 86, 2001). “It appears therefore, that DHEA, DHEA-S, testosterone, and leptin concentrations increase in response to running in adolescent female runners. Data also suggest that training and/or maturation increases resting testosterone concentrations and testosterone responses to running in adolescent female runners during a training session”. Again, exercise improves the hormonal profile in women of all ages. including teenagers.

We have seen how limited the research is for women is, and there is no reason to go on with the hundreds of studies for men. Regular exercise is important to maintaining hormonal balance. Exercise will help lower levels that are too high, and raise those that are too low. If you are low in any hormones, it is not enough to simply take a supplement. Life extension means living a healthy life style, not just taking hormone supplements. You must eat well, exercise regularly and avoid bad habits (such as alcohol) that will unbalance your endocrine system. Maintaining youthful levels of all your basic hormones will make you more physically fit, and give you more endurance and strength throughout your life.



## ***Chapter 17: Your Other Hormones***

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People need to balance their basic fourteen hormones as much as possible in order to prevent and cure illness, enjoy full health, and have long life. If there is one basic thing to repeat over and over, it is that all *our hormones work in symphony together harmoniously as a team in concert*. They all must be at youthful levels as much as possible. Do not just be concerned with testosterone, or any other hormone by itself, without including all the others that work together with it. This is easy and inexpensive.

The basic other thirteen hormones include DHEA, pregnenolone, melatonin, androstenedione, progesterone, estriol, estrone, cortisol, estradiol, T3, T4, insulin, and growth hormone. (Cholesterol is the precursor to all our sex hormones.)

**DHEA** is a very important, basic, and powerful androgen. The benefits of having a youthful DHEA level are far too numerous to mention. There are hundreds of impressive published clinical studies in men and women of all ages. Many of these studies, however, didn't first measure blood levels, and overdosed the patients. *Women need half the DHEA men do*, since they have half the blood level. Never, never take DHEA without first testing your blood (either free DHEA or DHEA-S) or saliva levels to see if you are deficient. Our levels usually start to fall about the age of 40, and keep falling until we die. Some older people, especially women, can have high-normal or even hyper DHEA levels as they age. Thus, you cannot assume you are deficient just because you are over forty. Excessive levels have serious side effects. Only diet and lifestyle will lower them. Men can take 25 mg daily if they are low, and check their level after six months to see if this is the correct dose. Women can take 12.5 mg (half tablets), and check their level the same way. Keep *the youthful level* you had about the age of 30. The published international studies on DHEA are overwhelming.

**Pregnenolone** is the “grandmother hormone”, but is the forgotten or “orphan” hormone, because we know so little about it. This is *the* basic brain, memory, learning and cognition hormone, yet there has been almost no research done on it. What knowledge we do have is overwhelmingly positive, and shows great promise for supplementation in people who need it. Doctors do not know, nor care, about pregnenolone- this includes endocrinologists and neurologists amazingly enough. Our levels generally fall at about the age of 35 or 40 for both men and women, and then stabilize, and remain low. Men over the age of forty can take 50 mg a day, and check their levels after, say, three months. Women over forty can take 25 mg a day, and do the same check. There are no saliva tests in 2012. Use Internet labs like [www.walkinclinic.com](http://www.walkinclinic.com) for a blood test. Taking 100 mg of PS (phosphatidyl serine), and 500 mg of acetyl-L-carnitine along with your pregnenolone is an effective way of avoiding senility, memory loss, impaired cognition, and Alzheimer’s. Pregnenolone is dramatic in effects.

**Melatonin** is truly a miraculous anti-oxidant hormone, that regulates our biological aging clock. Melatonin is being studied for cancer prevention and treatment among many other benefits. Our levels fall from the time we leave our teenage years, and keep falling until we die. A good dose is 1.5 mg (half tabs) for women and 3 mg for men, if you are over forty. *Women only need HALF the male dose.* You can test your levels (at 3:00 AM with saliva) after, say, six months to see if this is the correct dose. Some people have naturally high levels, and cannot take melatonin until they reach their fifties or sixties. Just test your level with a saliva kit. Some life extension advocates advise taking large doses of 5 and 10 mg, which is ignorant and very irresponsible. As always, we are looking for youthful levels and not high, out-of-range results.

**Androstenedione** (and androstenediol) is the direct precursor to testosterone in both men and women. Your androstenedione level generally and basically tracks your testosterone level. It is not necessary to measure your androstenedione level, unless you are a female with a suspected hyper-androgen condition. Men cannot normally have excessive androstenedione levels, just as they can-

not naturally have excessive testosterone levels. Women can suffer from “androgenicity”, which means they have excessive DHEA, testosterone, and androstenedione levels. Such a condition causes serious problems. There seems to be no reason to try and raise low levels of androstenedione per se, since they will generally go up by themselves if testosterone supplements are used.

***Estriol*** (E3) is the “forgotten”, good, or beneficial estrogen. There is very, very little published information on estriol amazingly enough. This is *the* most abundant estrogen in both men and women, comprising 80 to 90% of human estrogen. Yet, we know little about it, and almost nothing regarding men. Fortunately, very few men have been found to have low estriol levels. What we do know is most impressive regarding benefits for women. Doctors generally do not know, nor care, about this most abundant and basic estrogen. No U.S. pharmaceutical corporation makes an estriol product, and no chain or independent pharmacies carry estriol in any form. The very few doctors who do know about it are so ignorant, they generally recommend toxic, unnatural oral estriol ester salts. A compounding pharmacy will charge you \$50 for fifty cents worth of estriol. Buy a 0.25% (150 mg per 2 oz. jar) transdermal cream on the Internet for \$20. Use a quarter teaspoon daily. This will apply 3 mg on the skin, and 0.6 mg (20%) should be absorbed. Sublingual estriol vegetable oil solution (500 mcg per drop) would be another natural and effective means of delivery. A compounding pharmacist can make this up for you. A DMSO solution could also be made (500 mcg per drop), but is not legally available. Just add one gram of estriol to 4 tablespoons and one teaspoon (68 ml) of 99% DMSO. Use one drop a day. There is not one single published study in the scientific literature that has measured women of different ages for their estriol level, and made a chart showing normal levels! This is beyond understanding for the most basic of all human estrogens. Healthy Asian and vegetarian women have higher levels on the average. Your doctor will not know anything about estriol, but can send in a blood sample to a major lab. and get your *free* (not bound) estriol (you must emphasize this) level checked. It is much easier and cheaper to just saliva test your

level. You can find real estriol 0.25% (150 mg per 2 oz jar) creams on the Internet for \$20.

**Estrone** (E1) is a powerful, and potentially dangerous, estrogen. Men over 50 literally have higher estrone (and estradiol) levels than their post-menopausal wives! This is frightening! Estrone deficiency in men seems almost non-existent. Western women are generally excessive in estrone (and estradiol), and rarely deficient. Even women with hysterectomies (one third of American women) rarely have a problem. You can test your free (you must emphasize this), not bound, estrone level with a blood draw, or use a saliva test. Men and women want *low normal levels*, and not midrange levels. Low normal is the ideal. Deficient women can use bioidentical sublingual drops, an overpriced estrone patch, or a cream, but *never equine (horse) estrogen or oral tablets*. You can get 100 mcg drops from a compounding pharmacist to use sublingually. You can also get a 0.1% cream with 60 mg of estrone per 2 ounce jar. This will put 500 mcg on your skin and about 100 mcg in your blood (20% absorption). It is uncommon to find women anywhere on earth low in estrone, even in Western countries, and almost never in rural Asian or African ones.

**Estradiol** (E2) is the most powerful and most dangerous estrogen, and the least abundant in our blood. Estradiol deficiency in men seems almost non-existent. Women are very rarely deficient in estradiol. Western women are generally excessive, as just mentioned. Even after a hysterectomy, women are rarely low. You can measure your free (you must emphasize this), not bound, estradiol level with a blood draw, or use a saliva test. Like estrone, men and women want *low normal levels*, and not midrange. Low normal is the ideal. Deficient women can use a naturally synthesized, bioidentical form, just as with estrone. *Never use equine (horse) estrogen or oral tablets*. Estradiol patches are very overpriced. Normal pharmacies can't help. You can use 50 mcg of estradiol in vegetable oil sublingually from a compounding pharmacist. You can also use a 0.05% cream with 30 mg of estradiol per 2 ounce jar. This would put 250 mcg on your skin, and about 50 mcg in your blood (20% absorption).

**Progesterone** is needed by *both men and women*. The international published literature has countless studies for women, but not for men. This is not a “feminizing” hormone for men. On the contrary, it opposes and balances the estrogens in both sexes. Just find a good, reliable brand of transdermal progesterone cream, that contains 1,000 mg per two ounce jar (500 mg per ounce). You can buy this for ten dollars and a jar lasts two months for women, and six months for men. For women this is covered in my book *Natural Health for Women*. They can use this according to their menopausal status. Men can simply use one eighth (1/8<sup>th</sup>) teaspoon five days a week directly on their scrotum. This is covered in my book *The Natural Prostate Cure*.

**Thyroid** problems are epidemic in America, and usually the problem hypothyroidism, rather than hyperthyroidism. **T4** (L-thyroxine or Synthroid®) is usually low, rather than **T3** (triiodothyronine or Cytomel®). Contrary to the usual wisdom, both Synthroid and Cytomel are synthesized, but bio-identical hormones, chemically identical to the ones in your body. Often naïve and uneducated naturopathic doctors will recommend Armour(R) Thyroid, which is derived from bovine (cow) or porcine (pig) thyroid glands. The problem here is that this contains the usual 4 to 1 mixture of L-thyroxine and triiodothyronine. Therefore, the only people who can use this are the rare (5%) ones who are equally low in both. You obviously cannot use Armour(R) Thyroid. Saliva kits are not available in 2012, but should in the future. Use labs such as [www.healthcheckusa.com](http://www.healthcheckusa.com) for a real blood test without a doctor. You can see a doctor and get a blood draw for free T3 and free T4, but do not waste your time and money testing your TSH, T3 uptake, or other unnecessary tests. Just get your free T3 and free T4 measured. *Do not accept low normal ranges*, even though your doctor may tell you this is “fine” as long as you are in range. You want a healthy *youthful* midrange level. If you are low in T4, try 50 mcg of generic Levoxyll. If you are low in T3 try 12.5 mcg of generic Cynomel. If this isn’t enough, then use more, but be careful. You can buy these legally and inexpensively from the Mexican online pharmacies without a prescription. If you are low,

you will probably get the most dramatic and obvious effects with thyroid hormones than any others.

**Cortisol** is the stress hormone. The ideal to do a four sample 12 hour saliva profile at 9/1/5/9. One test doesn't tell you much here. If you are low normal, be thankful, as this is the stress hormone. Low levels basically are good levels. If you are too low then only better diet, exercise, ceasing bad habits, and a general change in lifestyle is going to help you. You can take 5 mg oral Cortef® tablets at the exact time you test low. If you are too high, again you must change your diet and lifestyle and deal with whatever stress is causing this. Balancing your other thirteen hormones will go a long way towards normalizing your cortisol levels. Again, regular exercise is vital here. *This is completely optional*, and you don't need to bother with cortisol at all. Just balance your other hormones and maintain a good diet and lifestyle to normalize your cortisol levels.

**Growth hormone** (somatotropin) falls as we age, and is very low in the elderly. There are no saliva tests for GH, and you *cannot* use IGF-1 levels, contrary to the popular wisdom. IGF-1 does not parallel GH, no matter what you read somewhere else. GH levels vary during the day, so the only accurate way to measure it is 4 blood draws 3 hours apart in a clinic. If you are over 50, you most probably are low and could use a supplement. *No OTC growth hormone supplements work.* Period. Please be clear about this. All the growth hormone products you see sold in health food stores, in catalogs, and on the Internet, have no value whatsoever, regardless of how well the advertising is written. The homeopathic GH is the worst fraud. Only real prescription, injectable rhGH (recombinant human) works. The problem is it has to be injected subcutaneously (under the skin, and not in your veins). Actually, you can use this sublingually in DMSO, but that is not legal. That it will cost you a minimum of \$1,800 a year for Chinese GH. You need 1 UI daily, which is 30 IU (10 mg) of rhGH every month. American brands will cost you about \$3,600 a year minimum. All the inexpensive and exotic peptides like hexarelin, GHRH-6, and sermorelin, have failed for one reason or

another. We are years away from inexpensive rhGH. The benefits are modest. It is totally overrated merely due to it's expense; it is difficult to synthesize the 191 amino acid chain.

*Insulin* is best tested as insulin *response* with a GTT (glucose tolerance test). The GTT is the Gold Standard. For this test you simply drink a cup of glucose, and your blood sugar is measured two hours later. You want a result 10 to 20 point below the medically accepted level. If your fasting blood sugar is 85 or less you probably don't need to bother. Americans have an epidemic of blood sugar problems, especially insulin resistance, metabolic syndrome, diabetes, and hypoglycemia. "Insulin resistance" means our body no longer responds well to insulin, so we produce higher amounts in order to compensate. Testing your insulin per se may not tell you much. If you are insulin resistant, or have any blood sugar dysmetabolism, you have to change your diet and lifestyle. As long as your pancreas is intact, this can be very easy to do- with very fast results. You must cut down on meat and fats, take dairy out of your life, not eat refined grains, and eat no fruit, sugars or sweeteners whatsoever. This includes honey, molasses, stevia, agave, raw sugar, fruit juice, etc. There are a variety of supplements that will help you including lipoic acid, CoQ10, beta glucan, and a complete mineral supplement. Please read my book *The Natural Diabetes Cure*.

Again, all your basic hormones should be balanced as they all work together in concert in harmony as a team. Just raising your testosterone. when some of your other hormones are deficient, is just not going to give you the effects you want or can get. It may seem arduous to try and test all your basic hormones and balance them, but it really is easy and inexpensive. You don't need a doctor. All are available legally under U.S. Code Section 21, Section 331 for personal use (up to fifty dosage units) imported by mail or coming back into the country in person. You can find all of these on the Internet from offshore online pharmacies.

# **Your Basic 14 Hormones**

- **Testosterone**
- **Androstenedione**
- **Pregnenolone**
- **DHEA**
- **Melatonin**
- **Progesterone**
- **Estradiol**
- **Estrone**
- **Estriol**
- **T3**
- **T4**
- **Growth Hormone**
- **Insulin**
- **Cortisol**



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- No prescription drugs, except *temporary* antibiotics or pain medication during an emergency. The only exception is insulin for type 1 diabetics who have no operant pancreas.
- The last step is to limit or end any bad habits such as alcohol, coffee, recreational drugs, or desserts. You don’t have to be a saint, but you do have to be sincere.

The only step to add would be affirmative prayer or meditation. Faith will move mountains.

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AUTHOR: Roger Mason

PHOTO

Roger Mason is an internationally known research chemist who studies natural health and longevity and writes unique and cutting edge books on these findings. In 2011 he sold Beta Prostate®, walked away from radio and TV, and opened a charitable trust. He has written 9 other books. You can get his weekly Internet newsletter for free at [www.youngagain.org](http://www.youngagain.org). He lives with his wife and dog in Wilmington, NC.

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