Title: Large Scale Study of the Voltammetric SCIO Stimulation of Blood Testosterone

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This study was performed in the field by practicing Biofeedback technicians. Data was collected and the study supervised by the Ethics International Institutional Review Board of Romania. The Data analysis and study presentation is done By the The Centro Ricerche, University of Venice + Padova, Italy

Abstract:

A global and momentous research project was developed for the last two years. The SCIO device is a Universal Electro-Physiological device used for stress reduction and patient treatment. Over 2,200 qualified biofeedback therapists joined our Ethics Committee study to evaluate how stress reduction using the SCIO device could help a wide variety of diseases.

The device and thus the study have insignificant risk. There was a staff of medical doctors who designed and supervised the study.

Over 98,000 patients gave informed consent and participated in the study. The study would conclusively prove safety and efficacy of the SCIO Device. With over 60% of these patients having multiple visits. There were over 275,000 patient visits. With a total record of the SCIO patient information, therapy parameters and reactivity data. No names of patients were recorded for confidentiality.

Two of the 2,200 plus therapists were given blank devices that were completely visually the same but were none functional. These two blind therapists were then given 35 patients each. This was to evaluate the double blind component of the placebo effect as compared to the device. Thus the studied groups were a placebo group, a subspace group, and an attached harness group.

This is just the first study in a long task of analysis in truly break down the data totally. This study verifies the safety and efficacy of the SCIO device. There were small effects seen in the placebo group, larger effects in the subspace, and astounding effects in the real harness group.

In this study 25 young male athletes and 32 older working men were evaluated for their daily testosterone cycle. The results have shown that the SCIO testosterone streaming therapy of 30 a day for 5 days raises there testosterone.

Introduction:

This research is to study millions of people with a wide variety of diseases to see who gets or feels better while using the SCIO for stress reduction and patient monitoring. The SCIO is an evoked potential Universal Electro-Physiological Medical apparatus that gauges how an individual reacts to miscellaneous homeopathic substances. The device is registered in Europe, America, Canada, S Africa, S. America, Mexico and elsewhere. The traditional software is fully registered. Some additional functions where determined by the manufacturer to be worthy of evaluation. Thus a study was necessary to determine safety and efficacy.

An ethics committee was formed and governmental permission attained to do the insignificant risk study. Qualified registered and or licensed Biofeedback therapists where enlisted to perform the study. Therapists were enrolled from all over the world including N. America, Europe, Africa, Asia, and S.
America. They were trained in the aspects of the study and how to attain informed consent and transmit the results to the ethics committee or IRB (Institutional Review Board).

2,256 therapists enlisted in the study. There were 95,832 patients. 69% had more than one visit. 43% had over two visits. There were over 250,000 patient visits recorded. The therapists were trained and supervised by medical staff. They were to perform the SCIO therapy and analysis. They were to report any medical suspected or confirmed diagnosis. Un-licensed personnel are not to diagnose. Then the therapist is to inquire on any reported changes during the meeting and on follow-ups any measured variations. This report on Testosterone comes from one of our registered Therapists.

Part 1. The emphasis was on substantiating safety followed by efficacy of the SCIO.

Part 2. Proving the efficacy of the SCIO on diseases (emphasis on Testosterone increase) 

Methods and Materials:

SCIO Device:

The SCIO is a Universal Electro-Physiological Medical biofeedback device that measures how a person reacts to items. It is designed to measure reactions for allergy, homeopathy, nutrition, sarcodes, nosodes, vitamins, minerals, enzymes and many more items. These items contain testosterone among the list. A trivector 3D voltammetry electronic signature of the field of testosterone can be delivered to a patient to stimulate the development of the testosterone in the patient. This will be tested in this study.

In this study 25 young male athletes and 32 older working men were evaluated for their daily testosterone cycle. This group of informed consent volunteers came from Dr Polen’s Therapeutic Practice in Springfield, Ohio. They got a full SCIO workup and then a 30 min testosterone voltammetric stream therapy once a day for five days. Our local laboratory ran testosterone daily cycle profiles to measure changes. Changes seemed to manifest in increases after mid-morning.
We take the 3D Trivector Electronic Energy Band Signature of Testosterone from the patented CE marked QQC and send it into the Body thru the SCIO and the body will maximize Testosterone Production
Diet for increasing Testosterone:

The common oat (*Avena sativa*) is a species of cereal grain grown for its seed, which is known by the same name (usually in the plural, unlike other grains). While oats are suitable for human consumption as oatmeal and rolled oats. Chemical similarities of avena to testosterone make it a perfect precursor to testosterone. Thus it is a mainstay of the testosterone diet. Eat some oatmeal.

Natural forms of testosterone occur in celery, sarsaparilla, pine pollen and rocky mountain oysters. Ocean oysters have lots of zinc and other factors to help testosterone building, but rocky mountain oysters are the testes of a bull and thus have lots of real testosterone. It will be broken down in the intestinal tract but it will be easier to reassemble in the body later with the help of the SCIO.

Eggs contain a good form of cholesterol and cholesterol is the main precursor to testosterone. 6 or more hardboiled eggs a day supply a good base. There is a chemical in raw eggs that destroys biotin in the body a vitamin needed for stamina so don’t do the “Rocky” raw egg drink like in the movie. Boiled eggs have no bad oils, but use cayenne tabasco for seasoning not salt. Boiled eggs and celery sticks are the body builders secret used for years. Boiled Eggs help to give good cholesterol while lowering bad.

Foods that boost testosterone include cauliflower, broccoli and cabbage, for the same reason -- that is, because they contain something called Indole-3-carbinol. Indole-3-carbinol, in simple terms, helps to reduce estrogen. Estrogen is the hormone that females produce more of (just like men produce more testosterone). However, men also naturally produce some estrogen.

If you have too much estrogen, it can result in more fat and less muscle, which is all bad for testosterone production. Garlic is a wonderful herb that contains a potent active ingredient called allicin that helps to increase testosterone. Use unheated sunflower oil with garlic on bread, on salads. Some herbs called *Tribulus terrestris*, *Horny Goat Weed*, *Fenugreek*, *Tongkat Ali (Eurycoma Longifolia Jack)* and *Macca* are something that elite athletes and bodybuilders use to boost their testosterone levels. Saw palmetto and pumpkin seed oil also help testosterone production.

Zinc: The best source of dietary zinc is meat. The best meat choice is the white meat of chicken. The best fish choice is salmon. For vegetarians, choose peanuts, brazil nuts or beans. No fruits that increase
testosterone in this category, because plant sources of zinc are harder for the body to use and are not good testosterone food sources.

Vitamin A+E: essential for the normal function of the reproductive organs. Lots of fruits that increase testosterone in this category: apples, blueberries, cantaloupe, pineapple and citrus fruits, just to name a few. Other food sources of Vitamin A include fish (salmon, again), leafy greens (spinach) and brightly colored vegetables like tomatoes, red peppers and yellow squash. Vitamin E is richest in unheated sunflower oil.

Use salmon, because other than being an excellent source of Vitamin A and zinc, as well as protein, fish oil is said to keep SHBG (sex hormone binding globulin) levels lower. When testosterone runs into SHBG in the blood stream, it becomes attached to it, and then can't interact with any of the body's cells. The net effect of testosterone that is attached to SHBG is the same as a lack of testosterone since it is prevented from having any impact on the body. Salmon might be your number one testosterone food source followed closely by oysters which are naturally rich in zinc.

Avoid Bad Oils and Bad Sugars:
The following foods are not testosterone friendly food and drink sources: fried foods or any foods exposed to boiled oil, sugar, salt and caffeine over stimulate the adrenals, which produce some testosterone. Over stimulating the adrenals leads to "adrenal exhaustion", means they are not going to produce testosterone or anything else. So a breakfast of hash browns, toast with jelly and coffee with cream and sugar would have pretty much everything in it that you want to AVOID if you are looking for testosterone food sources. Avoid excess stress and overtraining.
RESULTS:

Massive Natural increase in testosterone with no steroids.
SOC Index:

The SCIO interview opens with a behavioral medicine interview. This is called the SOC Index. Named after the work of Samuel Hahneman the father of homeopathy, he said that the body heals itself with its innate knowledge. But the patient can suppress or obstruct the healing process with some behavior. Hahneman said that the worst way to interfere with the healing natural process was allopathy or synthetic drugs. These upset the natural healing process by unnatural intervention and regulation disturbance. Other ways to Suppress or Obstruct the Cure are smoking, mercury amalgams, stress, lack of water, exercise and many others. This behavioral survey then gives an index of SOC.

The scores relate to the risk of Suppression and Obstruction to the natural Cure. The higher the scores the more the Suppression and or Obstruction. The scores of 100 or lower are ideal. A copy of the SOC index questions appear in the appendix.

Discussion:

There are several quite apparent results from our study. First the safety of the device is firmly established as a minimal risk. There is an insignificant report of negative results and no reports of any significant problems.

The voltammetric stimulation of the trivector signal of testosterone had positive effects on raising blood levels of testosterone in young and older men. This adds evidence to a growing bit of Drugless therapies and electro-physiological therapeutic interventions.

----APPENDIX----

Informed Consent:

The SCIO Biofeedback Medical device is registered in the Europe, S Africa, Mexico, Australia etc. It is a Biofeedback device that measures how a person reacts to items. It is designed to measure reactions for allergy, homeopathy, nutrition, sarcodes, nosodes, vitamins, minerals, enzymes and many more items. Biofeedback is used for pre-diagnostic or therapy. These functions are registered in all of the above regions. Maitreya manufactures the hardware.

At QX Ltd., we have written software that uses the SCIO data. This software offers no risk and is completely safe. We recognize that this new type of system needs to be tested experimentally. The USA allows us to develop an Institutional Review Board and operate an Investigational Device Exemption for this software as long as all proper FDA policies are adhered to. To use this software in
the USA we need to get informed consent from the patients or persons who are tested.
Non-Significant Risk Informed consent must be signed, implied, or understood.

The registered SCIO software and hardware uses a micro current medically safe pulse applied to the wrists, ankles and forehead. We safely measure some of the electrical aspects of the body. A variant micro current is then adapted to the patient to feedback the signal. The SCIO software will use the same medically safe standards to develop a wider range of variant wave forms to the body. The patient will choose and direct the therapy by their unconscious electrical reactions. The SCIO will also use a subspace system or Prayer wheel if there is no biological signals present. The system will show the patient reactions to homeopathic or nutritional items. This will help the therapist and the patient choose items that might be helpful. These choices are voluntary suggestions. The patient can greatly benefit from help with these choices. No items of significant risk are possible. These items are not part of the study and purchase of them is the patient’s responsibility.

There is insignificant risk and the only discomfort is sitting still for the 30 or 40 min evaluation. The patient name will be held confidential in the study. Participation is always purely voluntary. There is no penalty for withdraws. The other facts of the case are e-mailed to QX ltd IRB. But confidentiality is always guaranteed.

The results of the studies are to be published on the International Journal of the Medical Science of Homeopathy. These results are available in 2008 on the internet or through your therapist. Over 35 studies on the device have already been published.

Since there are over 20,000 SCIO machines around the world and all have access to the SCIO software, assuming 10 patient visits a week there might be over 400,000 data streams per month. We fully expect over a million bits of data in the first year alone. We will analyze all types of diseases - all types of clients - in one of the world’s largest studies of its kind. We welcome your participation.

The clinical therapist is responsible for ensuring that informed consent is obtained from each research subject before that subject participates in the research study. FDA does not require the therapist to personally conduct the consent interview. The therapist remains ultimately responsible, even when delegating the task of obtaining informed consent to another individual knowledgeable about the research.

The Centro Ricerche of Prof. William Nelson University of Venice + Padova, Italy Is the headquarters for the study IRB. There are researchers in over 25 different countries. If you have questions or comments please ask your therapist or send them in writing to www.irbSCIO.net.

I am informed of the experiment on the SCIO software. I willingly give my consent to participate in the study. I give my consent for any children under my supervision or custody. I am to be guaranteed confidentiality of the data. I will be allowed to see the results of the publication in
roughly one year. I recognize that there is no firm diagnosis resulting from the software. We are diagnosing and treating only Stress via Biofeedback.
I give my full and informed consent to partake in this research.

SIGNATURE________________________________________
DATE______________________________________________
THERAPIST OR WITNESS_____________________________

In short
1. This research is to study millions of people with a wide variety of diseases to see who gets or feels better while using the SCIO for stress reduction and patient monitoring.
2. The SCIO software will allow the unconscious of the patient to guide to repair electrical and vibrational aberrations in your body.
3. The device and the study is always voluntary, confidential and safe.
4. There are a wide amount of benefits already displayed by the thousands of users and millions of patients. A millions of people have already been helped.
5. Results of the study and answers to your questions are available.

Appendix SCIO/EPFX device description

To Whom It May Concern:
Re: Proprietary Rights of Medical Device known as- SCIO
Ownership of all software rights to inventor William Nelson, all rights assigned to QX ltd

Basic SCIO System Description
The SCIO system is a Universal Electro-Physiological Patient Interface. It can measure changes of electrical nature such as electro-potential, micro-amperage, voltage, galvanic skin resistance. This allows inference of oscillations, frequency, capacitance, electrostatic potential, inductance, electromagnetic potential, susceptance, reactance, micro-wattage, resonant frequency, oxidation potential, hydration potential, and proton versus electron pressure.

A subspace component of the software allows for a distance patient link using an intent driven quantic subspace interface.

The basic science was generated by Prof. William Nelson. His book the PROMORPHEUS was registered in its first form by the Library of Congress USA in 1982. Thus book introduces the concepts of the SCIO.
The basic technology was developed in 1985 and was registered as the EPFX in America in 1989. The EPFX stands for the acronym Electro-Physiological Feedback Xrroid. A Xrroid is the rapid testing of homeopathic medicines by an electrical reactivity device. The reactions are of an ionic nature as they reflect electro-potential changes. The speed of ionic exchange in the human body is approximately one hundredth of a second. So a computer device was needed for such testing.

Analysis of the trivector field of a homeopathic is developed in this work and patented in Ireland in 1995. All substances have a particular volt-ametric or polography field. By description of the right hand rule all electrical activity takes place in three dimensions, Conductivity, Static, and Magnetic. An advanced three dimensional field analysis device known as the QQC was made and patented by William Nelson.

Since the measure of galvanic skin resistance requires a applied current, the applied current could be of the trivector analysis variety. The applied current could also be used for electro-therapy. Aberrant electrical patterns of the patient could be corrected by application of electrodynamic theory. When electricity flows thru healthy tissue it has a known result. When it flows thru injured or diseased tissue it has a different result. Application of electrodynamic theory produces the ability of the SCIO device to treat and correct injured or diseased tissue. This process is known as rectification.

These trivector signatures could be computerized and duplicated by the computer. A quantic coherency test kit was coupled to the system to improve data. The SCIO was then able to measure before and after electro potential changes to determine reactivity and susceptance. Providing a reactivity profile. When this is done at biological speeds of about one hundredth of a second it is called the Xrroid.

Thus the SCIO system could measure the basic elements of the body electric. Aberrant reactivity patterns could also be corrected using the principles of bioresonance in a process also known as rectification of electrical patterns.

The Electro-Physiological-Feedback-Xrroid / SCIO is also a biofeedback system. The definition of biofeedback is measuring a physiological response and feeding it back to the patient. Most of the devices feedback the information primarily to the conscious and thus then to the unconscious of the patient. The EPFX-SCIO system differs in that it feeds back the information or signal to the unconscious primarily and conscious secondarily. The unconscious should be directing these autonomic processes. So our device focuses on repairing the unconscious link directly.

Feedback of electro physiological processes are given as relaxation signals to the patient. The EPFX system measures a combination of the following physiological functions, voltage potential, current potential, skin resistance, Electro Physiological Reactance, Electro Physiological Susceptance, skin temperature and Frequency. These are the raw readings made at the extremities and the head harness. (see Diagram). The EPFX system applies a variant set of signals and then measures changes in the readings. The changes determine resonance, reactivity and coherency.

The QQC is a trademarked and proprietary process that does an analysis of the Polographic or voltametric three dimensional electrical pattern of a substance. This produces a substance electronic signature
field. The Fields of these substances are sent into the patient via the harness. These variant patterns are of 0 Hz to mega Hz and of variant wave forms.

The total current is never over 5 milliamps. This represents a safe system rated as insignificant risk. All medical safety tests and quality control processes are applied.

The patient is evaluated before and after stimulation to measure any evoked potential changes that show patient reactivity. The type intensity and style of reactivity evoked potential offers insight into the patient health. Types of item reacting can be a link to therapy or deeper diagnosis.

The variant wave forms are trivector (voltammetric signatures of the Acupuncture points, nosodes, sarcodes, allersodes, etc.) This allows Electro-Physiological-Reactivity measurements (EPR).

The evoked potential differences (EPR) are used to show a provocative allergy component. Provocative allergy tests show how a patient reacts electro physiologically to an item. Changes in histamine and other allergic reactions are preceded by electrical reactivity.

The EPFX measures the Electrophysiologic Reactivity intensity of the patient to thousands of QQC trivector patterns. These are patterns of reactions to SarcodeS, Nosodes, Allersodes, Isodes, Nutritional, Acupuncture points, Herbal, Imponderable and Classic Homeopathics. The reaction patterns or profiles can relate disturbances of the patient. Therapies can then be arranged to develop harmonic reactions, desensitizations, biological resonance or rectification processes. Biofeedback is the operation that allows for the cybernetic loop of systemic feedback. The loop of measured reaction and bio-varied resonance response allow for a true feedback for self-corrective Electrophysiological therapy. Hence it is called the Electro Physiological Feedback Xrroid or as known in Europe SCIO.

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ARTICLES AND STUDIES

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ACTION OF TESTOSTERONE & HORMONAL REGULATION OF TESTES FUNCTIONS

**ACTIONS OF TESTOSTERONE**: The male sex hormone is testosterone, a steroid compound formed in the interstitial cells of Leydig from cholesterol, a precursor substance for all steroid hormones. The hydroxyl (OH) and ketone (C=O) functional groups in testosterone are extremely important, because their chemical modification can alter the potency of this hormone or transform it to another steroid hormone. Testosterone has two classes of actions: those aimed at the reproductive organs and secondary sexual characteristics and those involving the general anabolic actions of testosterone, which are manifested in many tissues.

Early in puberty, the gonadotropic cells of the anterior pituitary begin to secrete increasing amounts of FSH and LH. FSH stimulates the Sertoli cells (especially the formation of androgen-binding protein) and possibly also stimulates the germinal cells, promoting spermatogenesis. LH stimulates the Leydig cells to secrete testosterone, the blood level of which increases throughout adolescence, reaching a peak by the early twenties. Testosterone promotes growth and development of primary sex organs (testes, penis, etc.) and accessory sex glands (prostate, seminal vesicles, etc.), promotes the development of secondary sex characteristics (voice, face and body hair, enhanced muscular and skeletal growth), and may activate the brain centers involved in regulating sexual activity and behavior. These actions transform adolescent boys into young men, enabling them to engage in sexual activity, produce fertile sperm, and father children. In adults, the steady secretion of testosterone (1) maintains spermatogenesis and the secretory functions of the epididymis, prostate, and seminal vesicles; (2) promotes anabolic activity and vigor in muscles and bones; (3) enhances red cell production in bone marrow; and (4) promotes libido and normal aggressive attitudes.

**HORMONAL REGULATION OF TESTICULAR FUNCTIONS**: In mature men, testosterone is secreted continually at a steady rate of 10 mg/day. This is accomplished by a negative feedback effect of testosterone on the hypothalamus and anterior pituitary. Thus, an increase in testosterone levels beyond set limits inhibits hypothalamic secretion of a gonadotropin of easing hormone (GnRH), which in turn reduces the output of LH from the anterior pituitary. This reduces testosterone production, and plasma levels return to normal. Excessive reductions will activate a reverse response. Illness and stress tend to diminish testosterone production, presumably through action on the hypothalamus. The spermatogenic function of the testes is in part under the control of FSH from the anterior pituitary; however, LH is also important, through its control of testosterone secretion. FSH stimulates the Sertoli cells to secrete androgen-binding protein (ABP).

ABP binds with testosterone and provides an abundant local supply of this hormone, which is needed for the activity of the Sertoli cells and for the maturation of the spermatogenic cells inside the seminiferous tubules and of the sperm inside the epididymis. The Sertoli cells in turn secrete a hormone, inhibin, which acts on the pituitary to regulate FSH release by negative feedback. In fact, inhibin may be used in the future as a male contraceptive, because it causes reduced sperm production.
ABNORMALITIES OF TESTICULAR SECRETION. Testicular function diminishes gradually with advancing age, but sexually active and fertile men in their eighties are not rare. Hypogonadism refers to the undersecretion of the testes and is frequently due to reduced pituitary function. In eunuchoidism, the testes are absent, or there is Leydig cell deficiency from childhood, resulting in low androgen output. Absence of testosterone prevents the development of male secondary sexual characteristics; thus, eunuchs have a femalike appearance, including skeletal and muscular development. However, they tend to be tall and have long limbs, because postadolescent closure of the epiphyseal plates in the long bones (one of the actions of androgens in high amounts) is delayed.

In rare cases, usually due to tumors in the hypothalamus and pituitary, sexual development occurs early, during childhood (precocious puberty). The unusually high levels of testosterone lead to the early appearance of male secondary sexual characteristics, including premature but excessive growth of muscles. The stature is stunted, however, due to premature closure of the epiphyseal plates of the bones (hence the term "boy Hercules"). In some men, excessive secretion of testosterone may be associated with overexcitability and abnormal aggressiveness. In fact, in certain habitual offenders, removal of testes (castration) or treatment with anti-androgen drugs is known to induce calmness and reduce the incidence of offenses.

(NaturalNews) Prostate cancer is the most common cancer in men. By the age of 50, most men have some cancerous prostate cells, although many will never know it unless they are screened, and most will not die from it.

Luckily, it's a slow growing cancer. Although prostate cancer cases increase with age, still, only about 3% of men actually die from it.

The American Cancer Society states that in 2013, approximately 238,590 new cases of prostate cancer will be diagnosed and estimates that about 29,720 men will die from it.

Interestingly, they also state, "Prostate cancer can be a serious disease, but most men found to have prostate cancer do not die from it. In fact, more than 2.5 million men in the United States who have had prostate cancer at some point are still alive today."

PSA screening disaster
The standard PSA (prostate specific antigen) test was approved by the FDA in 1994, and each year millions of men are screened via a blood test for the PSA antigen, which is manufactured exclusively by the prostate gland.

For many men, this is when the serious life threatening trouble begins. Early, aggressive allopathic prostate cancer treatment can and does cause permanent damage, including impotence, heart attacks, incontinence and even death from a disease that is, ironically, statistically unlikely to kill them.

No-Holds-Barred indictment of PSA testing

"As I've been trying to make clear for many years now, PSA testing can't detect prostate cancer and, more important, it can't distinguish between the two types of prostate cancer - the one that will kill you and the one that won't."

Ablin explains that a PSA test merely measures how much PSA or prostate specific antigen is in your blood. Although elevated levels of PSA can be detected, that alone does not necessarily indicate prostate cancer.
Why? Because common over-the-counter medications like Ibuprofen, benign prostate enlargement (an inevitable part of aging) and infections also elevate PSA levels. Men with high PSA readings can be cancer free, while those with low readings can actually have cancer!

Ablin exclaims, "I never dreamed that my discovery four decades ago would lead to such a profit-driven public health disaster. The medical community must confront reality and stop the inappropriate use of PSA screening. Doing so would save billions of dollars and rescue millions of men from unnecessary, debilitating treatments." (Emphasis added)

The respected British medical journal, Lancet, reported on 13 February 1993 early screening often leads to unnecessary treatment and "33% of autopsies show prostate cancer but only 1% die from it."

Dr. Tim O'Shea, a maverick Doctor of Chiropractic, holistic health lecturer, author and founder of the doctorwithin.com website states: "This means that the immune system can hold many problems in check, as long as it is not compromised by powerful [and/or toxic] procedures."


Ginger root: Prostate cancer prevention and potential miracle cure
If you're concerned about prostate cancer, start consuming fresh ginger now. Ginger root kills prostate cancer cells. This study confirms it: (http://www.ncbi.nlm.nih.gov).

Title:

IMPOTENCE

Part of the Following:
Large Scale Study of the Safety and Efficacy of the SCIO Device

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Abstract:

This study demonstrates the safety and effective qualities of the SCIO device used in a large scale study. A large scale study of over 97,000 patients with over 275,000 patient visits reported their diseases. Many of them reported this disease. And the results of their therapy is reported in this study.

Introduction:

This Large scale research was designed to produce a extensive study of people with a wide variety of diseases to see who gets or feels better while using the SCIO for stress reduction and patient monitoring. The SCIO is a evoked potential Universal ElectroPhysiological Medical apparatus that gauges how a individual reacts to miscellaneous homeopathic substances. The device is registered in Europe, America, Canada, S Africa, Australia, S. America, Mexico and elsewhere. The traditional software is fully registered. Some additional
functions where determined by the manufacturer to be worthy of evaluation. Thus a study was necessary to determine safety and efficacy. (As a result of these studies these additional functions are now registered within the EC)

An European ethics committee was officially registered and governmental permission attained to do the insignificant risk study. Qualified registered and or licensed Biofeedback therapists where enlisted to perform the study. Therapists were enrolled from all over the world including N. America, Europe, Africa, Australia, Asia, and S. America. They were trained in the aspects of the study and how to attain informed consent and transmit the results to the ethics committee or IRB (Institutional Review Board).

2,569 therapists enlisted in the study. There were 98,760 patients. 69% had more than one visit. 43% had over two visits. There were over 275,000 patient visits recorded. The therapists were trained and supervised by medical staff. They were to perform the SCIO therapy and analysis. They were to report any medical suspected or confirmed diagnosis. Therapists personnel are not to diagnose outside of the realm of their scope of practice. Then the therapist is to inquire on any reported changes during the meeting and on follow-ups any measured variations. It must be pointed out that the Therapists were free to do any additional therapies they wish such as homeopathy, nutrition, exercise, etc. Therapists were told to not recommend synthetic drugs. Thus the evaluation was not reduced to just the device but to the total effect of seeing a SCIO therapist.

Part 1. The emphasis was on substantiating safety followed by efficacy of the SCIO.
Part 2. Proving the efficacy of the SCIO on diseases (emphasis on degenerative disease)
Part 3. Proving the efficacy of the SCIO on the avant garde therapies of Complementary Med
Part 4. QQC standardization

Methods and Materials:
SCIO Device:
The SCIO is an evoked potential Universal Electro-Physiological Medical device that measures how a person reacts to items. It is designed to measure reactions for allergy, homeopathy, nutrition, sarcodes, nosodes, vitamins, minerals, enzymes and many more items. Biofeedback is used for pre-diagnostic work and or therapy.

The QXCI software will allow the unconscious of the patient to guide to
repair electrical and vibrational aberrations in your body. For complete functional
details and pictures, see appendix.

**Subspace Software** :
The QXCI software is designed for electro-physiological connection to the patient
to allow reactivity testing and rectification of subtle abnormalities of the body electric. If a
patient is not available a subspace or distance healing link has been designed for
subspace therapeutics. Many reports of the success of the subspace have been reported
and thus the effectiveness and the safety of the subspace link is part of this test. Many
companies have tried to copy the subspace of Prof. Nelson and their counterfeit attempts
have ended in failure.

**SOC Index** :
The SCIO interview opens with a behavioral medicine interview. This is called the
SOC Index. Named after the work of Samuel Hahneman the father of homeopathy, he
said that the body heals itself with it’s innate knowledge. But the patient can suppress or
obstruct the healing process with some behavior. Hahneman said that the worst way to
interfere with the healing natural process was allopahy or synthetic drugs. Theses upset
the natural healing process by unnatural intervention and regulation disturbance. Other
ways to Suppress or Obstruct the Cure are smoking, mercury amalgams, stress, lack of
water, exercise and many others. This behavioral survey then gives an index of SOC.
The scores relate to the risk of Suppression and Obstruction to the natural Cure.
The higher the scores the more the Suppression and or Obstruction. The scores of 100 or
lower are ideal. A copy of the SOC index questions appear in the appendix.

**Study Technicians** :
The study technicians were educated and supervised by medical officers.
The study technicians were to execute the SCIO therapy and analysis. All were
trained to the standards of the International Medical University of Natural
Education. Therapists from all over the world including N. America, Europe, Africa,
Australia, Asia, S. America and elsewhere were enlisted to perform the study
according to the Helsinki study ethics regulations.

They were to chronicle any medical suspected or confirmed diagnosis.
Therapists personnel are not to diagnose outside of the realm of their scope of
practice. Then the study technician is to inquire on any disclosed observations
during the test and on follow-ups report any measured changes.

To test the device as subspace against the placebo effect, two of the 2,500+
therapists were given placebo SCIO devices that were totally outwardly the same
but were not functional. These two blind therapists were then assigned 35 patients
each (only 63 showed). This was to assess the double blind factor of the placebo
effect as compared to the device. Thus the studied groups were
A. placebo group, B. subspace group, and C. attached harness group.

Cross placebo group manipulation was used to further evaluate the effect.

**Important Questions** : these are the key questions of the study
1. Define Diseases or Patient Concerns
2. Percentage of Improvement in Symptoms
3. Percentage of Improvement in Feeling Better
4. Percentage of Improvement Measured
5. Percentage of Improvement in Stress Reduction
6. Percentage of Improvement in SOC Behavior
7. What Measured+How (relevant measures to the patient’s health situation)
8. If Patient worsened please describe in detail involving SOC

After the patient visit is was complete the data was e-mailed to the Ethics Committee or IRB for storage and then analysis. This maneuver minimized the risk of data loss or tampering. Case studies were reported separately in the disease analysis.

MEDICAL DETAILS

Weakness, especially inability of the male to copulate.

Etiology: Primary erectile dysfunction is almost always due to intrapsychic factors. In rare cases, biogenic factors, usually associated with low testosterone levels and reflecting disorders of the hypothalamic_pituitary_gonadal axis, provide the major etiology. Occasionally, vascular abnormalities are found. Intrapsychic factors include an abnormal fear of the vagina, sexual guilt, fear of intimacy, or depression. Of the secondary cases, about 70pc are caused by psychic factors. A transient episode of erectile dysfunction for any reason may be followed by secondary psychologic factors labeled "immediate" causes. Erectile dysfunction may be situational, involving place, time, a particular partner, some perceived competitive defeat, or damage to self_esteem. Physical factors include systemic diseases (eg, diabetes mellitus [the most common], syphilis, alcoholism, drug dependency, hypopituitarism, and hypothyroidism); local disorders (eg, congenital abnormalities and inflammatory diseases of the genitalia); vascular disturbances such as aortic aneurysm and Leriche's syndrome; neurogenic disorders (eg, multiple sclerosis, spinal cord lesions, pituitary microadenoma with hyperprolactinemia, and cardiovascular accident); drugs such as hypertensives, sedatives, tranquilizers, and amphetamines; and surgical procedures such as sympathectomy. Prostatectomy and castration produce varying effects. Impotence is usually not produced after transurethral prostatectomy, whereas it almost always occurs after perineal prostatectomy. However, retrograde ejaculation is produced in the vast majority of men, irrespective of the type of prostatectomy. Aging is not an inevitable cause of impotence, even into the 70's or 80's. While the amount and force of the ejaculate and thus the sexual tension and the need to ejaculate are decreased, the capacity for erection is often retained.

Results:

Before we review the direct disease improvement profiles, we need to review the overall results. The first most basic of question in the results is the basic feedback of the generic patient conditions.
1. Percentage of Improvement in Symptoms
2. Percentage of Improvement in Feeling Better
3. Percentage of Improvement Measured
4. Percentage of Improvement in Stress Reduction
5. Percentage of Improvement in SOC Behavior

The SOC index gives us great insight to this study. Each disease has a different cut off where the ability of the SCIO to help was compromised. As a general index scores of 200 + where much less successful.

IMPOTENCE

This groups significant SOC cut off was 100.

The Large scale study had over 98,000 patients and 275,000 patient visits we have direct evidence of the safety and efficacy. A placebo group was used for the large scale test to help validate the results.

This disease group total number of patients was 211

Subspace Treatment 34 patients, 177 SCIO Harness Patients

OVERALL ASSESSMENT

A. Subspace Treatment 55 patient visits
   There were 0 cases of patients who reported a negative Improvement.
   None of these cases reported any major difficulty.
   There were
   0 cases reporting no improvement of Symptoms, .0% of Subgroup
   0 cases reporting no improvement in feeling better, .0% of Subgroup
   0 cases reporting no improvement in stress reduction .0% of Subgroup
   22%--- Percentage of Improvement in Symptoms
   22%--- Percentage of Improvement in Feeling Better
   23%--- Percentage of Improvement Measured
   32%-- Percentage of Improvement in Stress Reduction
   1%----Percentage of Improvement in SOC Behavior

B. SCIO Harness Treatment ---- patient visits
   There were 0 cases of patients who reported a negative Improvement.
   None of these cases reported any major difficulty.
   There were
   0 cases reporting no improvement of Symptoms, 0 % of Subgroup
   0 cases reporting no improvement in feeling better, 0% of Subgroup
   0 cases reporting no improvement in stress reduction 0% of Subgroup
   34%--- Percentage of Improvement in Symptoms
35%--- Percentage of Improvement in Feeling Better
45%---Percentage of Improvement Measured
76%-- Percentage of Improvement in Stress Reduction
2 %----Percentage of Improvement in SOC Behavior

CASE STUDY REPORT CONDENSATION:

“Man 40. Did a few nice things and balanced his hormones. Next day both he and his wife thanked me. He woke her up in the middle of the night for the " Most amazing sexual encounter they have had in years"

City Unknown”

“I have a client who was 35 at the time, she and her husband had been married for 15 years and had not been able to conceive and had done everything to get pregnant. She was told that due to her endometriosis and Circulation issues that they were never conceive. I have work with her for three sessions over a 2 week period. She cried the first session for 1.5 hours and never talked about a thing. I just work with the stress and did short therapy for fertility. Three months later she was pregnant and now has a son who is three years old.

City Unknown”

USUAL or CUSTOMARY TREATMENT PLAN:
Avoid stress, conflict, nicotine, caffeine, cholesterol, and lettuce juice.
Herbs Western
Damiana Sarsaparilla and gotukola: Tonics. l0 drops of tincture l:l x 3 daily.

Passiflora: Add if due to nervousness as infusion three times daily.

Chinese
Bupleurum and Dragon Bone: For impotence, heart problems, vertigo.
Rehmanna Eight Formula: For weak, tired people.
Rehmannia Six: For milder cases.
Lycium Formula (Huan_shao_tan): Increases vigor and sexual desire.
Ginseng Panax
Kidney/Prostate/Adrenal; Orchic; Libido Liquescence; Sex Stimulant:
Simple _ AGNUS CASTUS. Due to sexual excess _ PHSOPHORICUM ACIDUM.
Chronic _ LYCOPODIUM CLAVATUM, SELENIUM, BUFO RANA.

SCIO TREATMENT SUGGESTED
Color - set patient's favorite if desired, or choose color by chackra that is deficient
Cosmic: set 1 for physical body, 2 for astral, 3 for etheric, 4 for mental, 5 for cosmic, 6 for other
Magnetic Method - 1+10 is universal, 7 for detox, 8 for regrowth of new tissue, 3 for injury, 2 for metabolic correction, 5 for inflammation, 6 for infection, 9 for psych stress, 2 for energy stimulation
Frequency ___ 654hz ___ 987hz, 4557 ___ 6750hz
Scalar for 30 min once a month in early stages once a week in later stage

Discussion:

The results show significant improvement in symptoms and feeling better. The Collective results show a dramatic benefit to the SCIO therapist visit.

Mechanisms of Testosterone Immunoredistribution
Top Foods That Boost Testosterones

- Baked Beans
- Spinach
- Broccoli
- Avocado
- Soybeans
- Celery

Cellery

- Tribulus terrestris (root)
- Withania somnifera (Aswaganda root)
- Eleutheroococcus Senticosus Root
- Damiana Leaf
- Maca Root
- Horsey Goat Weed

Sarsprilla

Testosterone Rich Foods

- Broccoli
- Bananas
- Eggs

23
Diet

Our diet plays a huge role in our testosterone production. Our glands need certain minerals — like zinc and magnesium — to get testosterone production started and our Leydig cells need cholesterol to make testosterone. Some foods — like broccoli, cauliflower, and cabbage — can help boost T levels by removing estrogens in our body that lower our T.

The biggest change I made to my diet was increasing my fat and cholesterol intake. There’s a reason why old school strong men would drink raw eggs — studies have suggested that higher fat and cholesterol consumption results in increased levels of total T; men eating low-fat diets typically have decreased testosterone levels. The emphasis on increasing fat and cholesterol consumption meant I got to eat like Ron Swanson for three months — bacon and eggs and steak was pretty much the staple of my diet.

But you might be asking, “Isn’t cholesterol bad for you? Doesn’t it cause heart disease?”

Answer: It’s complicated.

I don’t have enough time or space to cover the ins and outs of cholesterol in this post, but overall, research is showing that popular beliefs about cholesterol aren’t completely correct and the public shouldn’t be as afraid of this molecule as it is.

If you’re interested in learning more about the myths and benefits of cholesterol, I highly recommend reading these in-depth, well-written, and well-researched articles at Mark’s Daily Apple:

- The Definitive Guide to Cholesterol
- The Straight Dope on Cholesterol Part 1
- The Straight Dope on Cholesterol Part 2

For those interested, at the end of this section, I share my cholesterol and triglyceride levels after more than four months of eating copious amounts of bacon, eggs, meat, and nuts.

Now here’s a breakdown of what I ate at each meal:

**Breakfast** – “Give Me All the Bacon and Eggs You Have”
During the weekdays, I ate what I called the “Ron Swanson Special” — three slices of bacon and three whole eggs. Aside from being delicious, it also provided the fats and cholesterol my body needed to make testosterone. Nitrates freak me out, so I used nitrate-free bacon.

On Saturday mornings, Gus and I went to Braum’s — pancakes for Gus; breakfast burrito for me. That’s one of our father/son traditions.

Sundays I typically skipped breakfast – I usually just wasn’t hungry.

Lunch – The Man Salad
I know Swanson wouldn’t approve, but for lunch each weekday (and sometimes on Saturday) I ate a salad. But it wasn’t just any salad, it was a Man Salad damnit! I packed as many T-boosting foods as I could into this thing.

- **Spinach/Spring Salad Mix.** This was the base of my salad. I used Organic Girl Greens from Whole Foods. Yeah, I know. The base of my Man Salad came from a company called Organic Girl. Spinach and other leafy green vegetables contain minerals like magnesium and zinc, which have been shown to aid in testosterone production ([study on magnesium](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4682388/), and [another](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4682388/); study on zinc).

- **Meat.** Meat, particularly beef, provides our bodies with the protein it needs to create muscle (more muscle = more T) and the fats and cholesterol to make testosterone. My meat topping of choice was sliced up chuck steak. I grilled two of them on Monday and it lasted me until the next Monday. Every now and then I’d slow-cook some ribs or brisket to use as my meat topping. My philosophy was the fattier, the better.

- **Nuts.** Usually a handful of Brazil nuts or walnuts. Nuts are little fat bombs that provide the cholesterol that Leydig cells need for T production. One study suggest that the selenium in Brazil nuts boosts testosterone. Just don’t go crazy with them. Too much selenium is no bueno.

- **Avocado/Olives.** Avocados and olives are a great source of the good fats we need for healthy testosterone production.

- **Broccoli.** Every now and then I’d throw some broccoli into the salad. Broccoli contains high levels of indoles, a food compound that has been shown to reduce the bad estrogen in our bodies that sap testosterone levels.

- **Olive Oil.** I topped my Man Salad off with lots of olive oil. Research suggests that olive oil helps your Leydig cells (which produce testosterone) absorb cholesterol better. And as I’ve mentioned a few times, our Leydig cells need cholesterol to make T. More cholesterol absorption = more testosterone.

- **Balsamic Vinegar.** Mostly for taste. It’s also supposed to help keep your insulin in check.

I bought most of the ingredients for my Testosterone Salad at Whole Foods. For those curious, I added up all the ingredients and divided by six (I typically ate six of these salads in a week). The cost per salad was roughly $5. That’s about the price many folks pay
every day for a crappy fast food meal. If you're on a budget, I’m sure you could get the ingredients at Walmart and bring the cost per salad down even more.

This is what I ate for breakfast and lunch almost every single weekday during my 90-day experiment, and it’s what I continue to eat every weekday more than four months after my experiment began. And I don’t mind at all. I guess I am a pretty boring dude.

**Snacks**

During the day I tried to snack on testosterone-healthy foods like nuts, pumpkin seeds, and broccoli. I’d throw in some dark chocolate every now and then too.

An added testosterone benefit of my high fat and balanced protein and carb diet was that it probably helped me lose some body fat (I went from 18% to 12% body fat). Studies show that high fat diets actually contribute to increased body fat loss. And as we discussed earlier, as you lose body fat, your T production ramps up. Virtuous cycle for the win!

**Dinner – Whatever (in moderation)**

I just ate what the family was having: chili, chicken and rice, enchiladas. Whatever. I wasn’t worried too much about carbs. I just watched my portions and tried to stop eating as soon I was full.

With the exception of increasing my fat and cholesterol intake, my diet wasn’t that unconventional. I didn’t follow a strictly low-carb or Paleo diet because recent research has suggested that a diet high in protein and low in carbs actually causes T levels to decrease. With that said, I was judicious with the carbs. I tried to get most of my carbs from veggies and fruit, but I didn’t freak out if my wife made us spaghetti for dinner. I tried to be really strict with my diet during the week and relaxed it on the weekends. Life’s short. I want to be able enjoy a Triple Stack Sandwich or taquito from QuikTrip every now and then. I’m a lifelong teetotaler, so alcohol wasn’t on the menu. Some studies have shown that beer can lower your T levels in a few ways, but I imagine it would be fine as a weekend indulgence.

Obviously, you don’t have to follow my exact meal plan. The goal is simply to eat more high-fat foods. **Egads! What did all that eggs and steak do to your cholesterol levels?**
I was curious what my cholesterol levels would be after following a diet high in cholesterol and saturated fat, so I got a full lipid screening a little more than four months after I began my experiment. Here are the results:

- **Total Cholesterol**: 202 mg/dL (Just barely out of the desirable range of < 200 mg/dL.)
- **HDL Cholesterol ("Good" Cholesterol)**: 77 mg/dL (Optimal range is > 60 mg/dL — my HDL levels were great!)
- **LDL Cholesterol ("Bad" Cholesterol)**: 112 mg/dL (This put me in the near or above optimal range of 100-129 mg/dL.)
- **Triglycerides**: 65 mg/dL (< 150 mg/dL is considered normal; < 100 mg/dL is optimal — mine were downright stellar.)

Looking at the raw numbers, overall my lipid screening was pretty dang awesome.

Total cholesterol was a bit high, but most doctors agree that total cholesterol isn’t a good indicator of heart disease risk.

Things get more interesting when you look at the ratios that doctors use to determine a patient’s risk for heart disease.

- **Total cholesterol/HDL Ratio**: 2.6:1 (Normal is < 5:1; optimal is < 3.5:1. Mine was optimal.)
- **LDL/HDL Ratio**: .68:1 (Normal is > .3:1; optimal > .4:1. Mine was optimal.)
- **Triglycerides/HDL Ratio**: .84:1 (Optimal is < 2:1. Mine was optimal.)

So despite pounding back bacon, eggs, whole milk, and steak for four months, I still had healthy cholesterol levels.

### Supplements

Sadly, many guys think they can just pop a few “natural enhancers” and their T levels will magically increase. If you’re eating garbage, not exercising, and not getting enough sleep, no amount of supplements is going to help your testosterone levels reach optimal levels.

With that said, I did include some nutritional supplementation in my experiment. Here’s what I used:

- **Vitamin D3**: Vitamin D3 actually isn’t a vitamin, it’s a hormone — a really important hormone that provides [a whole host of health benefits](#). Our bodies can naturally make vitamin D from the sun, but recent studies have shown that many Westerners are vitamin D3 deprived because we’re spending less and less time outdoors. When we do decide to venture outside, we slather our bodies with sunscreen, which prevents the sun reaching our skin to kick-off vitamin D3 production. If you’re not getting enough sun, you may have a vitamin D3 deficiency, which may contribute to low T levels. If you think you need more vitamin D3, supplement it with a pill. Studies have shown that men who take this
supplement see a boost in their testosterone levels. Because I have a darker complexion — which makes me prone to Vitamin D3 deficiency — I took 4,000 IU of vitamin D3 in the morning.

- **Omega-3 Fish Oil.** *Fish oil has been shown to lower SHBG and increase production of Luteinizing Hormone* (the hormone responsible for triggering the testes to produce T). Because of the increased amounts of saturated fats and cholesterol I was consuming, I wanted to make sure I had enough of the “good” fats to clear the gunk out of my blood.

- **Whey Protein + Creatine shake.** Before my weightlifting workouts I’d mix a scoop of whey protein (I use Jay Robb because it’s all-natural) and a scoop of creatine into unsweetened coconut milk. Just trying to feed my muscles the stuff it needs to rebuild itself after my workout.

- **Caffeine.** Use caffeine moderately. Too much of the jittery juice increases cortisol, which decreases testosterone. Moreover, consuming caffeine late in the day hurts sleep, which lowers testosterone production. But one recent study indicates that caffeine consumed before working out may boost testosterone levels and help you exercise more efficiently. During my experiment I popped a piece of caffeinated gum five minutes before my workouts. Each piece had 100 mg of caffeine, about the same amount in a cup of coffee. That was usually it for my caffeine intake that day.

- **Vitamin C (unnecessary).** I don’t know where I first heard about vitamin C’s supposed T-boosting benefits, but it’s one of those things you see all over the internet when you Google “how to increase testosterone.” Without trying to find the research that backs up that claim, I took a vitamin C supplement during my experiment. I later found some research that suggests that vitamin C does increase testosterone levels in diabetic mice, but because I wasn’t diabetic (nor a mouse), I’m not sure how much the vitamin C helped. I’ve actually stopped taking vitamin C supplements. I’m likely getting more than enough with my diet. Unless you have diabetes, you probably won’t see much benefit from this supplement. Don’t waste your money.

- **ZMA (unnecessary).** So when I researched how to increase testosterone, a supplement called ZMA kept popping up. It’s a blend of zinc, magnesium, and vitamin B6. The purported benefits of ZMA include better and deeper sleep which indirectly is supposed to increase testosterone. Zinc and magnesium are necessary minerals in testosterone production, so a mega-dose should be useful, right? Well, no. I bought some and took it during the duration of experiment. I should have done some more research before I made the purchase. While one study in 1998 showed increased strength among athletes taking ZMA, two recent studies (study 1, study 2) have shown that it has absolutely no effect on total or free testosterone levels. Crap. My advice, unless you have a zinc and magnesium deficiency, no need to waste your money on this.

**What about Tribulus and Stinging Nettle?**

There are several supplements on the market claiming to be natural testosterone boosters. I get these sorts of things in the mail all time. The companies that produce these products claim that the herbs (typically stinging nettle and tribulus) in their pills increase free testosterone by reducing SHBG. They also throw in some B vitamins for “increased energy and vitality.”

If you read online forums about boosting testosterone, many guys swear by the effectiveness of natural testosterone boosters. The evidence is mixed. A study found that stinging nettle did indeed increase free T in mice, but another study showed no increase in humans. You see the same sort of results with tribulus — works in mice, but not humans.

With the exception of ZMA, I didn’t take any other purported testosterone boosters.

**Exercise**
Exercise boosts testosterone in two important ways. First, specific types of exercise actually cause our body to produce more testosterone. We’ll talk more about those in a bit. Second, exercise helps to increase muscle mass and decrease body fat. As we’ve discussed previously, adipose tissue converts testosterone into estrogen. The less fat we get, the more T we have.

**Lift Weights**

If you want to increase testosterone, you’ve got to start lifting – and lifting heavy. No, doing a short circuit with the weight machines won’t cut it.

Here’s what the research says on how to craft your weightlifting routine to maximize testosterone production:

- **Use compound lifts.** Squats, bench press, deadlift, and shoulder press should be your main lifts. [Exercises that work large muscle groups are associated with higher increases in testosterone.](https://example.com)
- **Go for high volume.** Workout volume is determined by the following formula: sets x reps x weight. [Studies suggest that higher volume workouts result in higher T production.](https://example.com)
- **Don’t take each set to failure.** It’s okay to push yourself to failure on the very last set, just don’t do it for all your sets.
- **Rest for more than a minute and less than two minutes between each set.**

Two workout plans that I used that meet most of these criteria were the StrongLifts 5x5 and 5/3/1. I primarily used Strong Lifts during the 90-day experiment. I’ve been a fan of the program for years. I recently discovered 5/3/1 and have been pleased with the results I’ve seen with it. I definitely recommend picking up a [copy of the book that lays out the program.](https://example.com)

**HIIT Training**

In addition to weightlifting, [studies have shown that HIIT workouts can also help boost testosterone levels.](https://example.com) For those of you who don’t know, HIIT stands for high-intensity interval training. It calls for short, intense bursts of exercise, followed by a less-intense recovery period. You repeat with the intense/less-intense cycle several times throughout the workout. In addition to increasing T, HIIT has been shown to improve athletic conditioning and fat metabolism, as well as increase muscle strength.

You can find a whole bunch of HIIT workouts online, but the one I used during my 90-day experiment was a simple wind sprint routine. On Tuesdays I went to the football field near my house, marked off 40 yards with some cones, and sprinted as fast as I could. I’d slowly walk back to the starting line, giving my body about a minute to rest, and then I’d sprint again. I typically did 40 sets of 40-yard sprints in a workout. I love sprints.

**Don’t overtrain!**

It seems like today it’s a badge of honor to train every day until exhaustion. The ethos is to push yourself harder and harder every day. If that’s your philosophy towards exercise, you might be sabotaging your testosterone levels (as well as your 20 Mile March). [Studies have shown that overtraining can reduce testosterone levels.](https://example.com)
significantly. Yes, it’s important to exercise hard, but it’s even more important to give your body rest so it can recuperate from the damage you inflicted upon it.

Give yourself at least two days during the week when you don’t do any intense exercise at all. Depending on your workouts, more days off might be in order. I typically took the weekends off from intense exercising. I’d go on a light walk or hike, but that was about it.

Just move more. I tried to be more active throughout the work day. I took breaks every 30 minutes or so to take a walk. I also used a standing desk more often than I usually do.

Get More and Better Sleep

Most Americans today are sleep deprived, which may be a contributing factor to declining testosterone levels in men. See, our body makes nearly all the testosterone it needs for the day while we’re sleeping. That increased level of T that we experience at night is one of the reasons we wake up with “Morning Wood.” (If you don’t have Morning Wood on a consistent basis, you might have low T).

But if you’re not getting enough quality sleep, your body can’t produce testosterone as efficiently or effectively. In one study, researchers at the University of Chicago found that young men who slept less than five hours a night for one week had lower testosterone levels than when they were fully rested. The drop was typically 10-15%.

Not only does sleep boost T, but it also helps manage cortisol, a stress hormone that has been shown to wreak havoc on testosterone levels when present in high amounts.

During the month before my experiment, I was definitely sleep deprived. Some nights I was only getting 4 to 5 hours. Testosterone killer! During my experiment I tried to get 8 to 9 hours of sleep at night as consistently as possible. I had to go to bed earlier, but I was only cutting into time that I would have been using to mindlessly surf the net anyway.

I also took measures to improve the quality of sleep I got. For example, I reduced my exposure to blue light in the evening, reduced my consumption of caffeine in the evenings, and took warm showers before bed. In a future post, I’ll go into more detail about some of the more crazy things I did to improve how well I slept. It was fun.

Manage Stress

When we face stress, our adrenal glands secrete cortisol to prepare our bodies and minds to handle the stressful situation — the primal fight-or-flight response. In small dosages, cortisol is fine and even useful, but elevated cortisol levels for prolonged periods can do some serious damage to our bodies and minds. One area that seems to take a hit when cortisol is high is our testosterone levels. Several studies have shown a link between
cortisol and testosterone. When cortisol levels are high, testosterone levels are low; and when testosterone levels are high, cortisol levels are low.

My stress-filled August was likely another factor leading to my low T levels. Knowing about the connection between cortisol and testosterone, I took the following measures to improve my stress management:

- I mediated for 20 minutes a day.
- When I started to feel stressed, I got up and went for a walk.
- I practiced deep breathing exercises.
- I focused on being **more resilient** in the face of stress.

### Avoid Xenoestrogens and Other T-Lowering Chemicals

Many endocrinologists are sounding the alarm about the damaging effects that come with exposure to common household chemicals. Called “endocrine disruptors,” these chemicals interfere with our body’s hormone system and cause problems like weight gain and learning disabilities. One type of endocrine disruptor is particularly bad news for our testosterone levels.

Xenoestrogen is a chemical that imitates estrogen in the human body. When men are exposed to too much of this estrogen-imitating chemical, T levels drop significantly. The problem is xenoestrogen is freaking everywhere — plastics, shampoos, gasoline, cows, toothpaste. You name it and chances are there are xenoestrogen in it. The ubiquitous nature of this chemical in our modern world is one reason some endocrinologists believe that testosterone levels are lower in men today than in decades past. It’s **also a reason doctors say the number of boys born with hypospadias — a birth defect in which the opening of the urethra is on the underside of the penis and not at the tip — has doubled.** Note to expecting parents: make sure mom stays away from xenoestrogens during the pregnancy.

Despite the stacked deck, I did my best to avoid products that contained xenoestrogens during my 90-day experiment. Here’s what I did:

- **Stored food in glassware and never, ever, ever heated food in plastic containers.** Most modern plastics contain phthalates. Phthalates are what give plastic their flexibility, durability, and longevity. But they also screw with hormones by imitating estrogen. Because I didn’t want any of those T-draining molecules in my food, I kept all my food in glassware. I also made sure to never heat food in plastic containers, as heat increases the transfer of phthalates into food.
- **Avoided exposure to pesticides and gasoline.** Sure the smell of gas is manly, but it contains xenoestrogen. Same goes for pesticides. Limit your exposure to these products. If you do come in contact with them, make sure to wash your hands thoroughly.
- **Eat organic when possible.** Pesticides and hormones that are used in our food can imitate estrogens in our body. When possible, eat organic. If budget doesn’t allow, at least make sure to wash your fruits and veggies before eating and find meat and milk that comes from cows that haven’t been treated with hormones.
- **Use natural grooming products.** Most grooming products these days contain parabens, another type of xenoestrogen. And by most, I mean more than 75% of all products. To reduce my exposure as much as possible, I became a hippy during my experiment and started using all natural, paraben-free grooming products. You can find most of these items at most health food stores:
  - Jason Shampoo
  - Grandpa’s Pine Tar Soap
  - Tom’s of Maine Toothpaste
  - Crystal Rock Deodorant (This deodorant smells good and works pretty well. But by the end of the day you’re going to be kind of stinky. And if you work out the following morning, you’re going to be *really* stinky. I eventually made the switch back to regular deodorant/antiperspirant post-experiment. Everybody makes trade-offs.)
- Avoid BPA. Studies suggest that BPA, a chemical that lines food cans and thermal printer paper, may reduce testosterone. I reduced my exposure to BPA as much as I could.

### More Sex

Testosterone is the fuel that propels our sex drive, but did you know that actually having sex puts fuel in our testosterone tank? That’s right. More sex = more testosterone. So, yeah. Have more sex.

No, I’m not going to share my experience with this part of the experiment.

### Cold Baths

Twice a week during my three-month experiment, I took a 15-minute cold bath after my really hard workouts. I did it for a few reasons. I wanted to help with recovery and I was trying to prep myself for the [GORUCK Challenge](#). Another reason was that I thought it could help increase testosterone levels.

The basis for my thinking that T levels could be boosted by cold baths came from a post I wrote a few years ago on the [benefits of cold showers](#). One benefit I found in my research was that they could increase testosterone levels. I mentioned a 1993 study done by the Thrombosis Research Institute in England that found increased T levels after taking a cold shower. Here’s the thing. I can’t find a link to the original source and I can’t find any other studies that support this claim! So without supporting research, I’m unsure of the effects of cold showers on testosterone.

I still found the practice beneficial, invigorating, and helpful in building my self-discipline.

### Conclusion

So that’s what I did to double my testosterone levels in three months. No artificial gels, creams, or injections. Nothing top secret or cool. Just discipline and good livin’. I’m still at pretty much this whole regimen five months later, and I don’t see any reason for stopping.

Now a few last caveats and comments:
First, it’s important to note that these tactics and practices to boost testosterone naturally probably won’t work with men who have hypoandrogenism. If the glands and cells responsible for producing testosterone are damaged or defective, no amount of eggs or sleep will help you raise testosterone levels. You’ll likely need to use testosterone replacement therapy to get your T levels to a healthy place.

Next, while testosterone levels do decline with age, this may simply be because the older that men get, the less they take care of themselves – they stop exercising, start putting on weight, and don’t pay as much attention to their diet. A recent study suggests that age-related T decline is not inevitable, and that if you keep living a healthy lifestyle, you can maintain healthy testosterone levels. So if you’re an older guy, try to do all you can as far as lifestyle changes before you get on the prescription T. I don’t mean doing a little cardio a few times a week, using the machines at the gym, and eating “pretty” healthy. Follow the guidelines above, and see what happens first.

Finally, these kinds of posts always bring a deluge of questions, mostly focused on, “Can I make an exception to X?” “Can I sub in A for B?” “What if I can’t do C?”

Tailor the above recommendations to your personal needs and lifestyle. If you’re a vegetarian drop the bacon and steak, but keep the whey protein and eggs. If you have an injury that prevents you from heavy weightlifting, move as much as you can in the way that you can. There are no studies out there which can tell you exactly what will happen if you do X and Y, but not Z. And I certainly can’t tell you either. Don’t be afraid of self-education – that’s how I learned all this – and embrace the idea of conducting your own experiment and being your own test subject. Incorporate as many of the recommendations above as you’re comfortable with, consult your doctor, and track your results.

Semper virilis.
Cortisol, Stress, Testosterone and Health
Keeping levels of the stress hormone cortisol in check may help prevent illness and slow aging By Edward R. Rosick, DO, MPH, MS

Edited and reviewed By Professor of Medicine Desire’ Dubounet IMUNE
International Journal of the Medical Science of Homeopathy

Today, we are more stressed than ever before. Men and women are working more hours, teens are committing suicide at high rates, and physicians cannot write enough prescriptions for antidepressant and anti-anxiety medications.

Although modern technology is light years ahead of that of our primitive forebears, our biological make-up has not changed appreciably for many thousands of years. Because of this, understanding how our bodies react to external and internal stressors is vitally important to the quest for optimal health and well-being.

While questions remain as to precisely how stress contributes to the disease process, research has shown that chronic stress causes a significant dysfunction of one of the most vital systems of our body—the neuroendocrine system.1-4

The Mind-Body Connection
The study of brain-body interaction, or psychoneuroimmunology, is one of the most contentious fields in medicine today. While more researchers and physicians believe that the mind and body are one, a significant number of doctors still insist that the mind and body are separate entities that have only minimal interaction.

Of course, this stubbornness is not surprising, as Western medicine has long held as one of its major axioms that the mind and body are separate entities. By contrast, Chinese and other traditional medicines have always recognized the interconnectedness of the body and mind. For those who still doubt this interplay, recent scientific research proves that what happens in the mind can profoundly influence the body.

The Neuroendocrine Connection
Scientists are just now beginning to unravel the ways in which in the mind influences the body, and vice versa. The hypothalamic-pituitary-adrenal (HPA) axis plays a major role in both mind and body health. The intricate connection between the brain and endocrine system broadly influences our health, and many researchers suggest that our stressful, modern lifestyles are overtaxing the HPA axis.

Before we explore how aberrations of the HPA axis can contribute to many chronic disease states, it is important to understand how the HPA axis works. It starts with the hypothalamus, a specialized glandular area of the brain that some consider the “master gland” of the neuroendocrine system. The hypothalamus has many functions, such as controlling the body’s temperature, water balance, thirst, and hunger. It also acts as a controller of the pituitary gland, a small, bean-sized structure that sits just below the hypothalamus. During times of stress, the
hypothalamus releases corticotropin-releasing factor, which in turn signals the pituitary gland to release adrenocorticotropic hormone, or ACTH. This hormone then travels through the bloodstream to the adrenals, two small, triangle-shaped glands located on the top of the kidneys. When ACTH reaches the adrenals, it causes them to release a biochemical known as cortisol.

**Cortisol: the Stress Hormone**

Cortisol is, in many ways, a paradoxical hormone. A certain amount of cortisol is needed to maintain optimal health, but too much or too little can be deadly. Cortisol is involved in multiple bodily functions, including blood pressure regulation, cardiovascular and immunological function, and the metabolism of fats, proteins, and carbohydrates. In stressful situations, the body secretes cortisol at higher-than-normal rates to help break down and use fatty acids and proteins for energy production, which is especially important for optimal brain function. Unlike levels of other hormones such as testosterone and DHEA, cortisol levels generally do not decrease as we get older. In fact, some researchers now believe that many age-related problems may result from a ratio of increased cortisol and lowered DHEA as we age.5-7

**How Stress Kills**

In the 1930s, the renowned endocrinologist Hans Selye discovered that both psychological and biological stress can adversely affect human health through interactions between the mind and the adrenal glands.8 Following his landmark work on the crucial link between stress and the HPA axis, in 1946 Selye published his now-classic work on the relationship between chronic stress and disease. Selye reasoned that living organisms, including humans, react in physiologically predictable ways to both physical and psychological stressors, seeking to maintain homeostasis, or a constant, dynamic metabolic equilibrium wherein all organ systems function to maintain optimal health. He termed these often-complex physiological and behavioral responses to stress the “general adaptation syndrome,” or GAS.9 Selye also observed that if the stressors were continuous, the organism would ultimately “burn out” and die. He devised the following three-step model to describe the process:

- **Step 1:** alarm reaction. Faced with an immediate stressor (either physical or psychological), there is activation of both the “flight or fight” response and the HPA axis, leading to secretion of greater amounts of hormones such as cortisol.
- **Step 2:** resistance phase. If the perceived stressors are not countered in a timely fashion and the HPA axis is in a continual “on” mode in an attempt to maintain homeostasis, adrenal hypertrophy and numerous other deleterious health effects begin to occur.
- **Step 3:** exhaustion phase. If the perceived stress is prolonged, the adrenal glands and other organ systems begin to “burn out” and experience a precipitous decline in function. If the exhaustion phase continues long enough, the organism will die.

**Stress, Cortisol, and Illness**

Taking their lead from Selye’s original work, scientists have demonstrated that both acute and chronic levels of stress contribute to elevated levels of cortisol.10-12 In addition, high levels of stress are now known to be significantly linked to various illnesses, including upper respiratory infections,13 exacerbation of multiple sclerosis,14 and gastrointestinal disorders such as irritable
bowel syndrome.15,16

Since the mid-1990s, scientists have presented provocative evidence linking cancer, stress, and elevated cortisol levels. In a 1996 case-controlled study, scientists examined hormone levels of the hypothalamic-pituitary-adrenal system in women with both early-stage and metastatic breast cancer.17 Both groups had statistically higher levels of cortisol compared to women without breast cancer. Furthermore, those with metastatic breast cancer had higher cortisol levels than women with early-stage breast cancer. The authors noted, “these data provide evidence that breast cancer is associated with a hyperactive adrenal gland.”17

A more recent report in the journal *Lancet Oncology* summarized what is currently known about the complex interactions between the HPA system, stress, and cancer. According to the authors, “Evidence mainly from animal models and human studies suggests that stress and depression result in an impairment of the immune system and might promote the initiation and progression of some types of cancer…Through HPA activation, the mediators released during chronic stress suppress some non-specific and specific parts of the immune response…compromising the most important effectors of the immune response against tumors.”18

While cancer is probably the most widely feared chronic disease, heart disease remains the number-one killer of Americans. Mayo Clinic researchers examined the medical and economic costs of stress in heart disease patients.19 In a study of 311 men and 70 women, the authors found that patients with the highest stress levels had markedly higher rates of rehospitalization and reoccurrence of further heart disease-related problems, including heart attacks and cardiac arrest. Concluding that psychological distress may adversely affect prognosis in heart disease patients, the authors suggested that identifying and treating psychological distress could improve outcomes in these patients.

A more recent report in the *European Heart Journal* supports the theory that stress can literally be a killer.20 In this 21-year prospective study of nearly 14,000 men and women, researchers concluded, “chronic stress is an independent risk factor for [cardiovascular disease], particularly fatal stroke.” Other scientists, however, have criticized these data, indicating the need for further investigation.

Alzheimer’s disease, the most common cause of dementia in those aged 65 or older, is characterized by a progressive decline in cognition and memory. This debilitating condition currently affects over 15 million people worldwide. With the rapidly aging US population—an estimated 30% of all Americans will be 65 or older by the year 2050—projections are that 14 million people in the US alone will be affected by Alzheimer’s in the next few decades.21,22 This represents a quadrupling over the current prevalence of Alzheimer’s in the US.

Although scientists continue to search for the root cause of this devastating illness, new evidence suggests that increased levels of stress, along with high levels of cortisol, may play a significant role. Research indicates that high cortisol levels may promote degeneration and death of neurons,23-25 along with decreased memory function in otherwise healthy elderly men and women.26 Furthermore, a recent report in the journal Neurology showed that chronic stress is associated with the risk of developing Alzheimer’s disease.27 In this study, researchers found that people who were prone to experiencing high levels of stress had twice the risk of developing Alzheimer’s as those who were not prone to stress. The authors concluded, “proneness to experience psychological stress is a risk factor for [Alzheimer’s disease].”
While mainstream medicine offers little in the way of reducing chronic stress or high cortisol levels, making behavioral changes and using certain supplements can help you bring your stress load and high cortisol levels safely under control.

**Exercise Counters Stress**

Humans are designed to be physically active. However, our typical twenty-first century lifestyle—sitting in front of a computer all day—is a far cry from the daily hunting and gathering activities of our ancestors. While it is common knowledge that exercise can keep our muscles and bones strong and healthy, less often recognized is that moderate exercise can also decrease stress and high cortisol levels.

A newly published study in the journal *Psychoneuroendocrinology* examined the effects of aging and fitness on the HPA axis response to stress. The study authors hypothesized that aging is associated with a greater HPA axis reactivity to psychological stress leading to higher cortisol levels, and that exercise could ameliorate this reactivity. The researchers subjected three groups of women—categorized as “young-unfit” (aged 25-30), “older-unfit” (aged 64-67), and “older-fit” (aged 64-68)—to a battery of psychological and physical tests meant to induce stress. These tests included an EKG-monitored treadmill test, a mental arithmetic test, an anagram test, and a cold pressor test, where subjects placed their hands in a bucket of ice water for as long as they could tolerate. While cortisol levels rose in all three groups of women, those in the older-unfit group had the most significant increase. The authors concluded that “aging is associated with greater HPA axis reactivity to psychological stress, and that higher aerobic fitness among older women can attenuate these age-related changes as indicated by a blunted cortisol response to psychological stress. These findings suggest that exercise training may be an effective way of modifying some of the neuroendocrine changes associated with aging.”

**Relaxation and Meditation**

If you want to decrease stress and lower your cortisol, then taking time out each day to relax and meditate may be just the solution. Considerable scientific evidence has established that relaxation and meditation techniques are valuable therapeutics for optimal health.

An article in *Psychoneuroendocrinology* highlighted meditation’s effects on levels of various hormones, including cortisol, in otherwise healthy male subjects who were subjected to mental and physical stressors. In this prospective, randomized study, blood samples were taken and hormone levels analyzed at the study’s onset and again four months later after the subjects had learned and practiced a meditation technique. Those who had practiced meditation had lower average cortisol levels compared to subjects who had not meditated, suggesting that meditation may help reverse the effects of chronic stress. A paper in the journal *Psychosomatic Medicine* described how women with stage I or II breast cancer could decrease their perceived levels of stress, as well as their cortisol levels, by simple cognitive-behavioral stress-management techniques.

**Supplements to Combat Cortisol**

Exercise and meditation are two important modalities that may help many individuals manage stress-filled lives. In addition, studies suggest that effective natural supplements, such as vitamin C, fish oil, phosphatidylserine, and herbal adaptogens, may help keep the HPA axis in equilibrium,
reduce elevated cortisol levels, and help optimize health.

**Vitamin C**

Besides its beneficial effects in maintaining proper immune system function, vitamin C has been shown to help modulate high levels of cortisol brought about by stress. A study in 2001 examined the effects of supplemental vitamin C on high cortisol levels brought about by physical stress in marathon runners. In a randomized, placebo-controlled study, ultramarathon runners were given 500 mg a day of vitamin C, 1500 mg a day of vitamin C, or a placebo seven days before a marathon, the day of the race, and two days after the race. Researchers found that athletes who took 1500 mg per day of vitamin C had significantly lower post-race cortisol levels than those taking either 500 mg a day or placebo.

Another study published in the journal *Psychopharmacology* reviewed evidence showing that vitamin C can reduce high cortisol levels brought about by psychologically induced stress. In a randomized, double-blind, placebo-controlled trial, researchers gave 3000 mg per day of vitamin C or a placebo to 120 volunteers who were subjected to psychological stress through the Trier Social Stress Test (TSST), a commonly used assessment tool in psychological research that simulates public speaking and arithmetic tests to induce stress and raise cortisol levels. Subjects who took vitamin C had lower blood pressure, subjective stress, and cortisol measures compared to those who were given placebo.

**Fish Oil**

In a number of clinical tests, fish oil has been shown to reduce cardiovascular risk in women and men. Preliminary research has shown that fish oil may help individuals cope with psychological stress and lower their cortisol levels. In a study published in 2003, researchers gave seven study volunteers 7.2 grams per day of fish oil for three weeks and then subjected them to a battery of mental stress tests. Blood tests showed that these psychological stressors elicited changes in the subjects’ heart rate, blood pressure, and cortisol levels. After three weeks of fish oil supplementation, however, the rise in cortisol levels secondary to stress testing was significantly blunted, leading the authors to conclude that supplementation with omega-3 fatty acids from fish oil “inhibits the adrenal activation elicited by a mental stress, presumably through effects exerted at the level of the central nervous system.”

**Phosphatidylserine**

Another supplement that has been shown to be useful in combating the deleterious effects of stress is phosphatidylserine. This phospholipid constitutes an essential part of biological cellular membranes. For more than 10 years, studies have shown that phosphatidylserine is able to cut elevated cortisol levels induced by mental and physical stress. In one early study, 800 mg per day given to healthy men significantly blunted the rise in cortisol caused by physical stress. Another paper reported that even small amounts of supplemental phosphatidylserine (50-75 mg administered intravenously) could blunt cortisol increases secondary to physical stressors. In this study, eight healthy men had their blood drawn before and after physical stress induced by riding a bicycle ergometer. While all subjects showed increased cortisol levels, pretreatment with the 50- or 75-mg dose of phosphatidylserine significantly blunted cortisol response to the physical stressor.

Finally, a study published in 2004 examined phosphatidylserine’s effects on endocrine and
psychological responses to mental stress. The stressor used was the Trier Social Stress Test (TSST), which consists of 15 minutes of psychological stress induced via a mock job interview, followed by a mental arithmetic challenge. This double-blind study followed 40 men and 40 women, aged 20-45, for three weeks. The subjects were given either phosphatidylserine (either 400 or 600 mg daily) or a placebo before taking the TSST. Phosphatidylserine was effective in blunting the cortisol response to stressors, with those taking 400 mg daily (but not, surprisingly, 600 mg) of phosphatidylserine showing a significantly decreased cortisol response. The authors concluded that phosphatidylserine helped dampen the effects of stress on the pituitary-adrenal axis, and may have a role in managing stress-related disorders.

Herbal Adaptogens

Plant-derived adaptogens can be a very useful in combating the mental and physical rigors of our modern lifestyle. Adaptogens work by modulating the levels and activity of hormones and brain neurochemicals that affect everything from cardiac activity to pain perception. For any herb or substance to be properly classified as an adaptogen, it should:

- produce a non-specific response and increase an individual’s resistance to a wide range of deleterious stimuli
- produce a normalizing response in an individual when subjected to physiological, emotional, or mental stressors
- be non-toxic and not induce changes in the physiological, emotional, or mental state of a non-stressed individual.

One such herbal adaptogen is Rhodiola rosea, or rhodiola. In traditional Asian and European medicine, this herb has been used for centuries to increase physical endurance and longevity, as well as to manage fatigue, depression, and impotence. Rhodiola’s positive effects are thought to be mediated through the actions of rosavins and salidrosides, chemical compounds found in the plant’s roots. Multiple studies from the former Soviet Union have demonstrated rhodiola’s effectiveness in combating both physically and psychologically stressful conditions.

Another herb that serves as an adaptogen is ginseng, which has been used throughout Asia since antiquity. It is important to note that ginseng is the name given to three different plants used as adaptogens. The most widely used ginseng is Panax ginseng, also known as Korean, Chinese, or Asian ginseng. Panax quinquefolium—or American ginseng—is also considered a “true” ginseng. However, Siberian ginseng (Eleutherococcus senticosus), while commonly referred to as ginseng, is not a true ginseng but a closely related plant. Yet no matter what the genus or species, all three of these plants have experimental evidence backing their adaptogenic claims. Animal studies have shown that ginsenosides, bioactive compounds in ginsengs, improve the sensitivity of the HPA axis to cortisol. In addition, studies suggest that all three plants provide protection against both physical and psychological stresses.

Finally, another plant that deserves mention as an adaptogen is ginkgo biloba. For the last 5,000 years, leaves of the ginkgo tree have been used to treat various medical conditions. While ginkgo is currently used to help combat the debilitating effects of memory decline and dementia, emerging evidence suggests that it may be useful in treating the impact of stress and elevated cortisol levels. A recent double-blind, placebo-controlled study published in the *Journal of Physiology and Pharmacology* examined ginkgo’s effects in modulating cortisol and blood.
pressure levels in 70 healthy male and female subjects. When subjected to physical and mental stressors, subjects who were given 120 mg per day of a standardized ginkgo extract saw smaller increases in their cortisol levels and blood pressure than did their counterparts who were given a placebo.

Raising DHEA Levels

While cortisol levels stay the same or even increase as we age, levels of another vitally important hormone, DHEA, decrease with each passing year. This relationship between cortisol and DHEA has led some to suggest that these adrenal hormones may play a significant role in the aging process and its associated negative health effects. A recent paper in the European Journal of Endocrinology examined the pathophysiological correlates of age-related changes in the HPA axis. The authors showed that the cortisol/DHEA ratio increases significantly as one ages, and is even higher in elderly patients who suffer from dementia. Supplemental DHEA, however, enhances the brain’s resistance to stress-mediated changes, maintains functional abilities, and protects against age-related diseases. The authors concluded, “the changes of the hormonal balance [between cortisol and DHEA] occurring in aging may contribute to the onset and progression of the aging-associated neurogenerative diseases.”

Conclusion

Exercise, stress management techniques such as relaxation and meditation, and nutritional supplements can help you manage stress and lower cortisol to promote optimal health and longevity. The following are scientifically supported techniques that can help support a healthy response to stress.

1. Behavioral techniques to lower stress and manage high cortisol levels
   - Exercise: 30-45 minutes of both anaerobic (resistance training) and aerobic (jogging, cycling) every other day.
   - Meditation/relaxation: 15-30 minutes daily.
2. Supplements to reduce high cortisol levels secondary to stress
   - Vitamin C: 1000-3000 mg/day.
   - Fish oil (omega-3 fatty acids): 1-4 gm/day.
   - Phosphatidylserine: 300-800 mg/day.
   - Rhodiola rosea: 100-200 mg/day, standardized extract.
   - Ginseng: 100-300 mg/day, standardized extract.
   - Ginkgo biloba: 100-200 mg/day, standardized extract.
   - DHEA: 25-50 mg/day (any hormone supplementation should be monitored by your physician).

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Desiree is the Professor Emeritus of IMUNE. IMUNE is an accredited and legally registered medical university in Europe.

Since 1995 IMUNE has been offering medical education in a variety of subjects to defend and perpetuate Natural Medicine. There are many small minded people being driven by the SINthetic chemical companies to destroy Natural Medicine as a viable choice in Medicine. IMUNE has offices in Switzerland, Mexico, Dubai, Budapest, England, and the British Virgin Islands. The small petty minded pikayume minions of the chemical companies constantly attack with their anal retentive biased short sided views. We must fight for freedom of choice and especially freedom of choice on medicine.