TESTOSTERONE & CORTISOL

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Testosterone & Cortisol

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Testosterone's Role

Testosterone is the major sex hormone in males and plays a number of important roles, such as:

The development of the penis and testes

The deepening of the voice during puberty

The appearance of facial and pubic hair starting at puberty; later in life, it may play a role in balding

Muscle size and strength

Bone growth and strength

Sex drive (libido)

Sperm production

Testosterone may also help to maintain normal mood. There may be other important functions of this hormone that have not yet been discovered.

Signals sent from the pituitary gland at the base of the brain control the production of testosterone in men. The pituitary gland then relays signals to the testes to produce testosterone. A "feedback loop" closely regulates the amount of hormone in the blood. When testosterone levels rise too high, the brain sends signals to the pituitary to reduce production.

Testosterone is synthesized in the body from cholesterol. But having high cholesterol doesn't mean your testosterone will be high. Testosterone levels are too carefully controlled by the pituitary gland in the brain for that to occur.

Too Little Testosterone

Researchers have spent a lot of time looking at the effects of testosterone deficiency, especially among men. As men age, testosterone levels drop very gradually, about 1% to 2% each year — unlike the relatively rapid drop in estrogen that causes menopause. The testes produces less testosterone, there are fewer signals from the pituitary telling the testes to make testosterone, and a protein (called sex hormone binding globulin (SHBG) increases with age. All of this reduces the active (free) form of testosterone in the body.

Over a third of men over age 45 may have reduced levels of testosterone than might be considered normal.

Symptoms of testosterone deficiency in adult men include:

Reduced body and facial hair

Loss of muscle mass

Low libido, impotence, small testicles, reduced sperm count and infertility

Increased breast size

Hot flashes

Irritability, poor concentration and depression

Loss of body hair

Brittle bones and an increased risk of fracture

Some men who have a testosterone deficiency have symptoms or conditions related to their low testosterone that will improve when they take testosterone replacement. For example, a man with osteoporosis and low testosterone can increase bone strength and reduce his fracture risk with testosterone replacement.

The Bottom Line

Testosterone is so much more than its reputation would suggest. Men and women need the proper amount of testosterone to develop and function normally. However, the optimal amount of testosterone is far from clear.

Checking testosterone levels is as easy as having a blood test. The difficult part is interpreting the result. Levels vary over the course of the day. A single low level may be meaningless in the absence of symptoms, especially if it was normal at another time. We need more research to know when to measure testosterone, how best to respond to the results and when it's worthwhile to accept the risks of treatment.

What can reduce testosterone?

Primary hypogonadism

Underactive testes cause primary hypogonadism. They don't manufacture sufficient levels of testosterone for optimal growth and health. This can be caused by an inherited trait. It can also be acquired by accident or illness.

Cancer treatments

Damage to testicles

Several other conditions

Secondary hypogonadism - Secondary hypogonadism comes from damage to the pituitary gland or hypothalamus. These parts of the brain control hormone production by the testes.

Circumstances that can lead to secondary hypogonadise:

Normal aging: Aging affects production and response to hormones.

Obesity: High body fat can affect hormone production and response.

Medications: Opioid pain meds and steroids can affect function of the pituitary gland and hypothalamus.

Concurrent illness: Severe emotional stress or physical stress from an illness or surgery can cause the reproductive system to temporarily shut down.

Does Alcohol Reduce Testosterone in Men?

The simple answer is yes, alcohol use does decrease the amount of testosterone in men. With heavier drinking over a more extended period, the effects of alcohol use on male testosterone increases.

While you drink alcohol, your body metabolizes ethanol a compound found in alcohol. Ethanol metabolism lowers the amount of NAD+, a coenzyme responsible for testosterone production in the liver and testes.

Continued, heavy consumption of alcohol can lead to elevated levels of the female sex hormone estrogen, testosterone converted to estrogen, and increased levels of the stress hormone cortisol, which can destroy testosterone.

Chronic, excessive drinking can disrupt your sleep schedule, which decreases your body's ability to produce testosterone.

How to boost it?

Sleep

Effect of 1 Week of Sleep Restriction on Testosterone Levels in Young Healthy Men

Daytime testosterone levels were decreased by 10% to 15% in this small convenience sample of young healthy men who underwent 1 week of sleep restriction to 5 hours per night, a condition experienced by at least 15% of the US working population. By comparison, normal aging is associated with a decrease of testosterone levels by 1% to 2% per year.6 This testosterone decline was associated with lower vigor scores but not with increased levels of cortisol, a stress-responsive hormone that can inhibit gonadal function. Symptoms and signs of androgen deficiency include low energy, reduced libido, poor concentration, and increased sleepiness, all of which may be produced by sleep deprivation in healthy individuals. Additional investigations of the links between sleep and testosterone are needed to determine whether sleep duration should be integrated in the evaluation of androgen deficiency.

Sleep therefore is crucial to optimising your testosterone levels.

Exercise and Lift Weights

Exercising the right way can boost your testosterone.

People who exercised regularly had higher testosterone levels a large study revealed. In the elderly, exercise increases testosterone levels, fitness and reaction time (15, 16).

Research in obese men suggests that increased physical activity was even more beneficial than a weight loss diet for increasing testosterone levels (17).

Resistance training, such as weight lifting, is the best type of exercise to boost testosterone (18, 19).

High-intensity interval training (HIIT) alos has been shown to be effective (18, 19, 20, 21, 22).

Eat A Whole Food Well Balanced Diet

Your nutrition has a major impact on testosterone as well as other hormone levels (25).

Keeping on track with your progress is important as constant dieting or overeating may disrupt your testosterone levels (26, 27, 28, 29, 30).

Eating enough protein can help maintain healthy levels and aid in fat loss, which is also linked with your testosterone (28, 31, 32).

Research demonstrates that sufficient healthy fats are also beneficial for testosterone and health (25, 34, 35, 36, 37).

A diet based mainly on whole foods is best, with a healthy balance of fat, protein and carbs. This can optimize both hormone levels directly and indirectly through weight management.

Reduce Stress and Cortisol Levels

The dangers of long-term stress are well known, high levels can elevate levels of the hormone cortisol (38, 39, 49).

Elevations in cortisol can quickly reduce testosterone. These hormones work inversely: as one goes up, the other comes down (40, 41, 42).

Stress and high cortisol can impact calorie intake, weight gain and the storage of harmful body fat around your organs. These changes may negatively impact your testosterone

levels (43, 44, 45).

For optimal health and optimal hormone levels, you should try to reduce repetitive stressful situations in your life.

Get some sunshine or Take some Vitamin D

Vitamin D is one of the world's most popular vitamins. It's shown to have various health benefits, and may also work as a natural testosterone booster (51, 52, 53, 54, 55).

Yet nearly half of the US population is deficient in vitamin D, with an even higher percentage has sub-optimal levels (56, 57).

A 12-month study found that supplementing with around 3,000 IU of vitamin D3 per day increased testosterone levels by around 25% (54).

Try to get regular exposure to sunlight or take around 3,000 IU of a vitamin D3 supplement daily to boost testosterone.

Sleep Well.

Good quality sleep is just as important for your health as diet and exercise (68, 69, 70, 71, 72, 73).

It also has a major effect on your testosterone levels.

The optimum amount of sleep varies from person to person. One study found that sleeping only 5 hours per night was linked to a 15% drop in testosterone levels (73).

One long-term study observed that those who slept only four hours per night had borderline deficient levels (46).

Another long term study calculated that for every additional hour of sleep you get, testosterone levels rise 15% higher, on average (74, 75).

Some people seem to cope with less sleep, research suggests around 7–10 hours of sleep per night is best for long-term health and your testosterone.

Natural Testosterone Boosters

A limited number of testosterone boosters are supported by scientific studies.

One with the some of the most research behind it is called ashwagandha.

One study tested the effects of it on infertile men and found a 17% increase in testosterone levels and a 167% increase in sperm count (76).

In additon to this, in healthy men, ashwagandha increased levels by 15%. Another study found it lowered cortisol by around 25%, which may also aid testosterone (77, 78).

One study in infertile humans found that ginger can boost testosterone levels by 17% and increase levels of other key sex hormones (80, 84).

Avoid Estrogen-like Compounds

Exposure to estrogen-like chemicals and compounds may also affect your levels. Try to minimize daily exposure to BPA, parabens and other chemicals found in some types of plastic (86, 87, 88, 89).

Excess alcohol or drug use, whether it's medical or recreational, can also decrease testosterone levels (90, 91, 92, 93, 94, 95).

Laughter, success and happiness may help boost your health and testosterone levels — so make sure they're a part of your daily life (96)

Sex Life

A healthy sex life plays an important role in regulating your sex hormone and testosterone levels (85, 86).

How we coach this.

Our coaching is based around optimising your lifestyle to optimise your results. Through improving your physiology and mindset we can drastically improve the quality of your life. Testosterone is one of the most important pieces of this puzzle.

We coach you through these steps.

Sleep - Optimising it with our habit protocols on sleep and evening routine.

Supplements - Using proven supplements to improve sleep, manage stress and increase testosterone

Nutrtion - Balancing your nutrition for optimum T

Training - Creating the perfect training schedule for you to increase testosterone levels naturally.

What Is Cortisol?

Imagine cortisol as nature's built-in alarm system.

It's the main stress hormone in your body. It works with certain parts of your brain to control your motivation, mood and fear.

Your adrenal glands, organs at the top of your kidneys, make cortisol.

Cortisol plays an important role in a number actions your body does. For example, it:

Manages how your body uses carbohydrates, fats, and proteins

Keeps inflammation down

Regulates your blood pressure

Increases your blood sugar (glucose)

Controls your sleep/wake cycle

Boosts energy so you can handle stress and restores balance afterward

How It Works.

Your hypothalamus and pituitary gland can sense if your blood contains the correct level of cortisol. If the level is low, your brain adjusts the amount of hormones it makes. Your adrenal glands pick up on these signals. They then fine-tune the amount of cortisol they release.

Cortisol receptors are in most cells in your body, the receive and use the hormone in different ways. Your needs will vary and differ from day to day. For instance, when your body is on high alert, cortisol can alter or shut down functions that get in the way. These can include your digestive or reproductive systems, your immune system, or even your growth processes.

Sometimes, your cortisol levels can get out of whack.

Too Much Stress

After the pressure or danger has passed, your cortisol level should calm down. Your heart, blood pressure, and other body systems will get back to normal.

What if you're under constant stress and the alarm button stays on?

It can upset your body's most important functions. It can also lead to a number of health problems:

Anxiety and depression

Headaches

Heart disease

Memory and concentration problems

Problems with digestion

Trouble sleeping

Weight gain

It can also impact our testosterone levels.

Our testosterone level is not a priority for your body when stress is high and you are in a flight-or-fight situation.

When survival is what counts, what your body needs is the stress hormone cortisol. At least that is what some studies have shown. High stress (cortisol) is associated with low testosterone.

What Some Research Shows About Stress and Low T

A study published in the journal Hormones and Behavior provides new evidence for what's called the cortisol testosterone hormonal axis. Researchers measured hormone levels in 57 men who were pitted against each other in one-on-one competition. Their cortisol and testosterone levels were measured after competing. The men who lost were asked if they wanted to compete again. All the men who declined had high cortisol levels and had a significant drop in their testosterone. The researchers believe this is a hormonal response that prepares the body to respond to stress by escaping danger.

As Dr. Shoskes says, it is hard to find any hard evidence that raising your testosterone will reduce stress, but it does seem to work for male guinea pigs. A study published in The Journal of Physiology found that high levels of stress in the guinea pigs results in high

cortisol, low testosterone, and increased anxiety behavior. When they were given testosterone replacement therapy, their anxiety behaviors went away.

What happens when cortisol is high?

Over the last 20 years, studies have revealed that moderate to high cortisol levels can lead to an range of health issues, such as (3, 4, 5, 6):

Chronic disease. Long-term increased cortisol may increase your risk for high blood pressure, heart disease, type 2 diabetes, osteoporosis, and other chronic diseases.

Weight gain. Cortisol may increase appetite and signal the body to shift metabolism to store fat.

Lack of energy/difficulty sleeping. It can interfere with sleep hormones which may impact sleep quality and length.

Difficulty concentrating. Also referred to as "brain fog," some people report trouble focusing and lack of mental clarity.

Impaired immune system. Increased cortisol can hamper the immune system, making it more difficult to fight infections.

Cushing's syndrome. In rare cases, very high cortisol levels can lead to Cushing's syndrome, a rare but serious disease.

High cortisol levels can be caused from many issues such as overactivity or cancer of the pituitary or adrenal glands, chronic stress, and medication side effects (e.g., prednisone, hormonal therapy) (7).

Also, existing chronic disease (e.g., obesity) may lead to higher cortisol levels, causing a "chicken or the egg" type of scenario (7).

How to manage Cortisol

Sleep tight

Looking after your sleep may be an effective way to reduce cortisol levels. Sleep issues like obstructive sleep apnea, insomnia, or shift work have been associated with higher cortisol (8).

A look at 28 studies in shift workers showed that cortisol levels were higher in workers who slept during the day (night shift workers) rather than at night (day shift workers) (9).

In addition to this nsomnia is a sleep condition that refers to difficulty sleeping. It can be caused by stress and obstructive sleep apnea. This can result in increased circulating cortisol which affects your daily hormone patterns and energy levels(8, 13, 14).

The Right Exercise

The intensity and duration of exercise will impact the cortisol effects.

Intense activity increases cortisol shortly afterward but it will decrease a few hours later. The short-term increase helps set up the adaptive response. Additionally, the size of the cortisol response lessens with routine training (19).

Regular exercise has been shown in numerous studies to help improve sleep quality, reduce stress, and improve overall health, which can help lower cortisol over time (20, 21, 22).

Regular exercise is also associated with greater resilience to acute stress and may also lower the negative health effects associated with stress, such as high cortisol (20).

However, overdoing it can have the opposite effect.

Recognize stressful thinking

Accepting stressful thoughts without judgment or resistance, and allowing yourself the ability to process them can help to reduce stress (23).

Training yourself to be aware of your thoughts, breathing, heart rate, and other signs of tension helps you recognize stress when it begins (23).

By focusing on awareness of your mental and physical state, you can become an objective observer of your stressful thoughts, instead of a victim of them (24).

Astudy involving 43 women in a mindfulness-based program showed the ability to describe and articulate stress was linked to a lower cortisol response (25).

Other studies have also shown lowered cortisol levels after regularly practicing mindfulness (26, 27, 28).

Breathe Right

Deep breathing is a super simple technique for stress reduction. Controlled breathing helps to stimulate the parasympathetic nervous system, known as the "rest and digest" system, which helps to lower cortisol levels (29).

Studies show decreases in cortisol after participants incorporated deep breathing into their routines (30, 31, 32).

This type of practice is popular in practices such as meditation, yoga, tai chi, and qigong (33, 34, 35).

Studies confirm that these practices can help to lower cortisol and manage stress (36, 37, 38, 39).

Keep relationships healthy

Conflict within couples results in a short-term elevation in cortisol, followed by return to normal levels (53).

A study of conflict styles in 88 couples found nonjudgmental mindfulness led to a more rapid return of cortisol to normal levels following an argument. Therefore, practicing compassion and empathy toward your partner — and receiving it back — may better manage your cortisol levels (53).

Another study showedthat having an affectionate interaction (verbally or physically) with a romantic partner or platonic friend before a stressful activity resulted in lower stress-induced markers such as heart rate and blood pressure (54).

Be a super you

Negative thinking and feelings of shame, guilt, or inadequacy can lead to elevated cortisol (62).

Fixing the source will mean making a positive change in your life. Also, learning to forgive and accept yourself and others will help your wellbeing(63).

The habit of forgiving others is also critical in relationships.

A study of 145 couples compared the effects of different kinds of marriage counseling. Couples who received interventions that facilitated forgiving and conflict resolution techniques experienced reduced cortisol levels (64).

Eat Right

While all foods can be enjoyed in moderation, being aware of the foods you eat may alleviate symptoms of stress and help you better manage your cortisol levels.

Regular high added-sugar intake may result in elevated cortisol levels. Interestingly, a high sugar diet may also suppress cortisol release during stressful events, making it more difficult for your body to handle stressful situations (71, 72, 73).

One study found a diet high in added sugar, refined grains, and saturated fat led to significantly higher cortisol levels compared with a diet high in whole grains, fruits, vegetables, and polyunsaturated fats (74).

Research has shown a strong relationship between a healthy gut microbiome — all the microbes living in your gut — and improved mental health. Therefore, consuming foods to support a healthy gut may help reduce stress, anxiety, and improve your overall health (75, 76).

Other foods that are helpful for managing cortisol include (77, 78, 79, 80, 81):

Dark chocolate. Dark chocolate contains a high amount of flavonoids, which have been shown to buffer stress reactivity in the adrenal glands, resulting in lower cortisol release.

Whole grains. Unlike refined grains, whole grains are rich in plant-based polyphenols and fiber, which may support stress levels and gut health.

Legumes and lentils. They're high in fiber, which supports a healthy gut while also managing blood sugar levels.

Whole fruits and vegetables. Whole fruits and vegetables contain an abundance of antioxidants and polyphenolic compounds that fight cell-damaging free radicals.

Green tea. Green tea contains a calming compound known as L-theanine, which has been linked to reduced stress and increased mental alertness.

Probiotics and prebiotics. Probiotics are friendly, symbiotic bacteria in foods such as yogurt,

sauerkraut, and kimchi. Prebiotics, such as soluble fiber, provide food for these bacteria. Both probiotics and prebiotics are linked to better gut and mental health.

Healthy fats. A diet high in unsaturated fat and low in saturated fat is associated with better overall health and mental well-being. In particular, omega-3 fatty acids are best linked with brain health and reduced stress. Good sources include fatty fish, nuts, and seeds.

Water. Dehydration has been linked to a temporary increase in cortisol levels, making it even more important to drink water throughout the day.

What the balance looks like..

Low Testosterone/Low Cortisol – Lower confidence and strength, but very calm and relaxed - a "Go with the flow" type. However, with too little cortisol, they may not respond to stress in a constructive way.

High Testosterone/Low Cortisol – Confident and strong, this person is cool under pressure and manages stress effectively - This is the optimal balance for leadership.

Low Testosterone/High Cortisol – Lacking confidence and strength and also appears nervous and stressed out all the time.

High Testosterone/High Cortisol – Think of a pressure cooker. Yes, this person has the confidence and strength, but may also be overly aggressive when dealing with stress or always seems on the verge of an explosion.

How we coach you through it

Sleep

We work with you through the sleep section of the habits coaching to ensure you are getting the optimum quantity and quality of sleep for peak testosterone levels and suppressed stress response.

Inner dialogue

Self-compassion is the ability to be mindful of your emotions—aware of the emotions that are going on inside whenever you fail at something. It doesn't mean you identify with them; you can just observe and notice them, without feeding the fire. Self-compassion also involves understanding that everyone makes mistakes and that it's part of being human. And it is the ability to speak to yourself the way you would speak to a friend who just failed, warmly and kindly.

Breathing techniques

How we breath impacts our body and mind far more than we can imagine.

Common signs of dysfunctional breathing include:

Inhaling with your chest. If you notice that the first thing to move when you take a breath is your chest, this is a sign your breath is shallow, or you are breathing from your upper chest.

Your trunk doesn't widen. Place your hands on the sides of your rib cage and take note. Your hands should move to the side about 1.5-2 inches as your trunk widens.

Mouth breathing. Unless you have congestion or a sinus infection, you should be breathing through your nose. Breathing through your nose releases nitric oxide to be carried to your lungs to maintain homeostasis in your body.\

When you breathe through your mouth, the body activates its sympathetic (stress) nerves. When these nerves turn on, they tell the brain to send the stress hormone cortisol and turn on the immune system and increase to prepare for an "attack". If you regularly breathe your mouth, your body believes it is under attack all of the time, leaving you with chronic, damaging inflammation.

Breathing through your nose can be especially beneficial during exercise or sports performance because the exchange of oxygen to carbon dioxide is more significant, making it easier for your body to perform – and recover.

Nasal breathing also helps stimulate the reflexes of the nasal mucosa and activates the nerves that control your breath. By turning on these nerves, your body knows it is working correctly. If these reflex nerves are not enabled, your body recognizes that something is "off" and struggles to maintain your regular breathing. As a result, you could develop a breathing disorder such as sleep apnea, a condition we see a lot of in Frisco, Texas.

Tight shoulders and upper neck/chest muscles. Tension in these areas can be a sign of shallow or stressed breathing.

Frequent yawning. Frequent sighing and yawning is a sign your body is not receiving enough oxygen.

High resting breath rate. Take a moment to see how many times you breathe in one minute. A normal resting breath rate should be 10-12 breaths per minute. A resting breath rate over 12 is a sign of too quick or shallow breathing.

Slouching. If you find yourself slouching your head or shoulders forward often it can be a sign that you are not activating your diaphragm when you breathe.

Nadi Shodhan (alternate nostril breathing)

Nadi Shodhana, or "alternate nostril breathing," is a simple yet powerful technique that settles the mind, body, and emotions. You can use it to quiet your mind before beginning a meditation practice, and it is particularly helpful to ease racing thoughts if you are experiencing anxiety, stress, or having trouble falling asleep.

Take a comfortable and tall seat, making sure your spine is straight and your heart is open.

Relax your left palm comfortably into your lap and bring your right hand just in front of your face.

With your right hand, bring your pointer finger and middle finger to rest between your eyebrows, lightly using them as an anchor. The fingers we'll be actively using are the thumb and ring finger.

Close your eyes and take a deep breath in and out through your nose.

Close your right nostril with your right thumb. Inhale through the left nostril slowly and steadily.

Close the left nostril with your ring finger so both nostrils are held closed; retain your breath at the top of the inhale for a brief pause.

Open your right nostril and release the breath slowly through the right side; pause briefly at the bottom of the exhale.

Inhale through the right side slowly.

Hold both nostrils closed (with ring finger and thumb).

Open your left nostril and release breath slowly through the left side. Pause briefly at the bottom.

Repeat 5-10 cycles, allowing your mind to follow your inhales and exhales.

Steps 5-9 represent one complete cycle of alternate nostril breathing. If you're moving through the sequence slowly, one cycle should take you about 30-40 seconds. Move through 5-10 cycles when you're feeling stressed, anxious, or in need of a reset button.

Box breathing

It's used by everyone from athletes to U.S. Navy SEALs, police officers, and nurses.

Box breathing, also known as square breathing, is a technique used when taking slow, deep breaths. It can heighten performance and concentration while also being a powerful stress reliever. It's also called four-square breathing.

Step 1: Slowly exhale

Sitting upright, slowly exhale through your mouth, getting all the oxygen out of your lungs. Focus on this intention and be conscious of what you're doing.

Step 2: Slowly inhale

Inhale slowly and deeply through your nose to the count of four. In this step, count to four very slowly in your head.

Feel the air fill your lungs, one section at a time, until your lungs are completely full and the air moves into your abdomen.

Step 3: Hold your breath

Hold your breath for another slow count of four.

Step 4: Exhale again

Exhale through your mouth for the same slow count of four, expelling the air from your lungs and abdomen.

Be conscious of the feeling of the air leaving your lungs.

Step 5: Hold your breath again

Hold your breath for the same slow count of four before repeating this process.

Supplements

Ashwaghanda

Reduces cortisol, a testosterone "stealer"

Cortisol, a stress hormone, is physiologically released in response to stress. This becomes problematic when stress is persistent and cortisol levels become chronically elevated. Both cortisol and testosterone are made from the same precursor in the body, therefore, if there is a high demand for cortisol it will have a negative impact on testosterone production. This explains how stress can affect your libido, energy, weight gain, and mood, as these are all health benefits of optimal testosterone levels. The good news is that ashwagandha can also reduce cortisol levels. A study showed that supplementation with the herb in chronically stressed adults significantly reduced their cortisol levels, compared to the control group

Ginko biloba

It is concluded that the ingestion of Ginkgo biloba extract has effect on the hypothalamic-pituitary-adrenal axis leading to reduced basal cortisol levels and reduced cortisol production in response to acute hyperglycemic challenge.

L-Theanine

L-theanine calms without impairing cognitive ability, reduces stress and levels of cortisol (the stress hormone) in saliva, and also lowers blood pressure.17,18 L-theanine has been observed to promote relaxation and reduce stress, possibly by increasing alpha wave activity and by blocking the binding of L-glutamic acid to excitatory glutamate receptors in the central nervous system.19,20

Omega 3

Researchers in France (Delarue et al. 2003) did one of the most important studies regarding the connection between omega-3 fatty acids and stress. They measured the stress response to mental arithmetic and other stressors before and after feeding human volunteers 7.2 grams of fish oil a day as supplements for three weeks. The measurements included plasma cortisol, catecholamine (epinephrine and norepinephrine), and non-esterified fatty acid. The response to stress, including elevations of cortisol, epinephrine, and fats, was dramatically reduced by supplementation with omega-3 fatty acids. They concluded that adrenal activation could be inhibited by adequate intake of omega-3 fatty acids. The site of action is in the central nervous system. Furthermore, it was postulated that essential fatty acid supplementation might reduce the injury to the hippocampus from cortisol and slow the subsequent development of Alzheimer's disease and other manifestations of premature aging.

What we track.

How we measure this

Score 1-5 each section
Weekly total = score

Excercise

Visualization

Gratitude

Sleep

Pro & prebiotics

SCORE TOTAL