

Adrenal Fatigue Syndrome (AFS)

Hype, Denial & Reality

By Verne Varona

“Fatigue makes cowards of us all. “

—Vince Lombardi

Everything exists in polarity, from all aspects of observable life to opinions on health. If you research alternative medical information on Adrenal Fatigue Syndrome (AFS), you’ll find a plethora of writing about how pervasive these symptoms are and numerous ways to diagnose what alternative calls a, “crippling and devastating condition.” Yet, to most conventional western medicine advocates, Adrenal Fatigue Syndrome is a “fake” disease.

The most common symptoms of AFS are:

- Excessive fatigue or exhaustion
- Not feeling rested after sufficient sleep
- Insomnia
- Inability to lose weight
- Poor recovery from injury, illness, stress or exercise
- Cravings for salted and/or sweet foods
- Low blood pressure
- Low libido
- Excessive thirst and frequent urination
- Caffeine dependency
- Low blood sugar (excessive hunger) or, lack of appetite
- Irritability, restlessness, impatience

To most alternative opinions, the underlying cause of adrenal fatigue is continuous unresolved stress, which can be emotional, mental, physical or from external reasons, such as; deficient diet, toxicity from heavy metal exposure, extreme shock and emotional trauma, excessive exercise, physical trauma, working too hard without enough rest, indulgence in stimulants (caffeine, tobacco), narcotics, excessive use of cortisone therapy, insufficient sleep or any infectious condition.

The “Fake Disease” — Conventional Medicine’s Denial of AFS

According to the Sciencebasedmedicine.org site:

“There’s no entry in Dorland’s medical dictionary, nor does the [ICD](#) classify it as a medical condition. Pubmed lists only [one relevant paper](#) which is a review by two naturopaths, and published in the *Alternative Medicine Review*. But there’s no evidence for them to review....With adrenal fatigue, there’s no objective operational description, nor is there a validated symptom score. Using a vague list of symptoms to identify patients is the second mistake. While laboratory tests are advertised for identifying adrenal fatigue, there’s no persuasive data to demonstrate that blood or saliva tests provide any meaningful information, or are correlated with any underlying pathology...while adrenal fatigue may not exist, the same can’t be said for the treatments. When you’re treating a fake disease, anything goes. Everything from homeopathy to herbal remedies to hydrotherapy, to traditional Chinese medicine and vitamin supplements are advocated for treatment.”

To most western medical perspectives, adrenal conditions are usually limited to more extreme symptoms found in either Cushing’s Syndrome, Hyperaldosteronism or Addison’s Disease. And therein lies a dilemma: *You say to-may-toes, I say tom-mah-toes...*

On the other hand, from what we know about stress hormones, blood sugar and mineral depletion, all of these common reactions influence the condition of our adrenal glands on a daily basis, if not hourly. So, how can we say that this condition, to some form of deficiency, doesn’t exist?

Whenever you have a conflict of opinion between conventional medicine and traditional/folk medicines (or any other aged cultural medicine be it Chinese, Indian, etc.), you will find yourself embroiled in a conflict between a philosophy of matter and a philosophy of energy. Most traditional medicines of various cultures base their medicine on an invisible energy body. Now, that might sound like a lot of hocus pocus to most people, but consider this: can you see the current that makes a computer work? That amazing machine we call a computer is a mass of highly developed physical technology, however without a current it’s useless machinery. Most traditional folk medicines, from Chinese to Indian to even Native American, first consider that we are energy bodies and that energy feeds and nourishes our physical health. Of course, we are also matter: bone, skin, blood, lymph, cellular fluid, complex organ structures and nerve pathways, but all of these physical attributes are dependent on energy. In any health matter, we must consider the influence of the physical and the energetic.

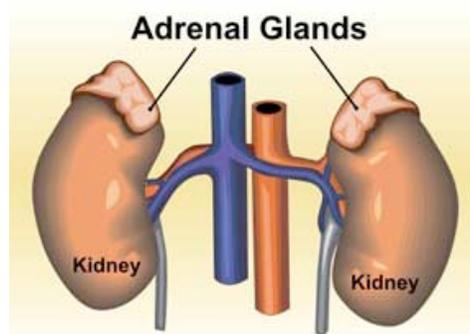
Perhaps, both camps are voicing extreme opinions: conventional medicine denies this condition exists; alternative medicine calls it a “crippling and devastating condition.” In over 40 years of counseling, study and personal experimentation, I am convinced that this condition does indeed exist and that we need to become aware of its symptoms. At the same time, we need to understand that the blood,

similar to the nourishment of a tree, feeds all functions, systems and cell quality of our being. If we stop eating, we die. Therefore, the quality and chemical balance of the blood and body fluids is paramount. While this condition does seem to exist, we need to be mindful that it's just not the adrenal and kidney function we need to be concerned about, but the total organism. That being said, I want to focus this piece on how our adrenal glands are influenced by diet and emotion and what are the physical and visual signs of this decline or dysfunction. Understanding the physiology of this complex system can create new value for how it works and how to manage its care.

Quick Physiology of the Adrenal Glands

The adrenal glands, a vital part of the endocrine system, are composed of two small pyramid shaped masses (often compared in size to a walnut) that sit on top of each kidney, sort of like cone birthday hats. They're roughly an inch high, about 1-1/2 inches wide and about typically ¼" thick—about as big as your last pinky joint! They weight under 5 grams—a bit more than the weight of a grape! But don't be deceived by these little guys that seem extraneous. They are essential to life and help you to cope with all sorts of stress from injury and disease to work and relationship problems. Their primary role is to manage our "flight or fright" response (an alarm reaction) and prepare you for serious action. To do this, they produce over 50 hormones, many of which are life essential, such as cortisol (which helps to maintain our immune system's inflammatory response), aldosterone (helps with maintaining blood pressure), epinephrine (AKA: adrenaline; which increases your heart rate, blood flow and quickly converts glycogen to glucose in the liver for emergency times when immediate energy and strength is needed), and norepinephrine (functions as a neurotransmitter and elevates blood pressure).

In a healthy body, the adrenals (**AD**ditions to the **RENAL** system) make sure that just the right amount of hormones are produced, as too much, or too little of certain hormones can cause internal havoc hindering your body's ability to deal with the demands of day-to-day life. Practically speaking, our natural resiliency, energy and endurance are all dependent on healthy adrenal glands.



Interestingly, both adrenal glands are only inches away from the major artery of the body, the *aorta*, as well as the major vein known as the *vena cava*. The strategy of this placement allows for a very rapid adrenal response to hormonal messages that are transported via the blood.

An example of this working relationship occurs with the important messenger, ACTH. This chemical messenger originates from the pituitary and signals the adrenal glands to release cortisol (stress hormone). Within seconds, the necessary amount of cortisol is on its way to the adrenals. Although cortisol is secreted by the tissue of the adrenal glands, it is regulated primarily from brain chemistry.

The hormones produced by our adrenal glands control the following body functions:

- Maintains and manages blood sugar levels as well as our inflammation response
- Regulated the salt and water balance of our body
- Regulates our "fight or flight" response to stress
- Helps manage pregnancy health
- Initiates and controls sexual maturation in childhood and into puberty
- Produces sex steroids, such as estrogen and testosterone

The Hardest Working Glands In The Business

- According to some physiology studies and the interaction of Circadian Rhythms, cortisol, ACTH and aldosterone, are not secreted from the adrenal glands throughout the day in any particularly even or regulated pattern, but follow a *diurnal* pattern. That pattern has seen the highest levels secreted at around 8 AM, while the most reduced levels seem to occur between midnight and 4 AM—an excellent reason for early bed times.

Supposedly, it is the elevating levels of cortisol that helps us to awaken in the morning hours. After these levels begin to peak at 8 AM, it continues to follow a descending trend throughout the day, usually with a well-known dip in the afternoon hours between 3 and 5 PM--a time traditionally associated with low energy or napping. At this time, a small meal can make a noticeable difference in improving energy levels. Exercise can also make a difference, so these are two positive factors that can be used to combat adrenal fatigue.

- Since cortisol has anti-inflammatory control over our immune reactions and regulates lymphocytes (white blood cells), low cortisol levels are associated with weakening immune function.
- Cortisol also helps to control the contraction of the arterial walls in regulating blood pressure levels. An abundance of circulating cortisol means that there are more contracted mid-sized arteries. Therefore, it has been found that individuals deficient in cortisol usually have low blood pressure

- (hypotension) and diminished responses to other body functions that constrict our blood vessels.
- Cortisol helps to regulate sodium and potassium in the cells of our heart, thereby increasing the heart muscles contractive strength. While cortisol can actually increase blood pressure, it can be effectively regulated by calcium and magnesium, minerals that keep our hearts pumping smoothly.
- It is also known that cortisol influences our behavior, fosters mood swings and increases the electrical movement of brain neurons. Excesses and deficiencies of cortisol levels can promote frequent behavioral changes. With levels of high or low cortisol, sleep disorders are common. Remarkably, some signs of adrenal fatigue involve moodiness, poor mental clarity, reduced memory and decreased tolerance. These conditions are common since any excess or deficiency of cortisol affects brain function. As our stress levels increase, increasingly higher levels of cortisol become necessary. If cortisol production is reduced, our ability to respond to stress is diminished.
- The relationship of cortisol to blood sugar is especially interesting and very relative to many people who mismanage their blood sugar. Cortisol is critical for regulating blood sugar levels. In fact, when the blood sugar drops (in this example, as a result of going a long period without eating), the adrenal glands are signaled to make more cortisol. This sudden increase of cortisol instantly elevates blood sugar levels by converting fats and proteins into needed energy. This process, one that keeps the blood glucose levels fairly constant, is known in physiology as *gluconeogenesis*.

It is well known, and has been for some time, that individuals who suffer from low blood sugar (as in hypoglycemia) also suffer from adrenal fatigue.

Cortisol works with pancreatic insulin to supply the cells with adequate glucose for burning in order to create energy. In summary, *the action of cortisol makes certain blood glucose levels rise while the action of insulin opens the cell membranes to allow glucose into the cells.* With increased physical or emotional stress, more demands are placed on glucose to refuel energy production in the cell structures. This ends up *lowering* cortisol levels and often results in adrenal fatigue. It is well known, and has been for some time, that individuals who suffer from low blood sugar (as in hypoglycemia) also suffer from adrenal fatigue. The reason for this is fairly simple: with fatigued adrenals, our cortisol output is reduced and we end up with lower levels of blood cortisol.

When you have lower levels of blood cortisol, your liver has the task of converting stored blood sugar (glycogen) into active blood sugar (glucose). When we are under stress, even cases of mild stress, our fatigued adrenals have a difficult time producing enough cortisol to generate higher glucose levels from our reserves. As insulin increases in the presence of low cortisol, the blood drops quickly and suddenly we have fluctuating moods, low energy, sugar cravings, irritability, decreased libido and reduced sex hormones.

- Salt cravings could also signal the beginning of adrenal fatigue. Often, salt cravings are the result of a *lack* of adequate aldosterone, since aldosterone controls sodium, potassium and the fluid volumes in our body. Here's how it works: When the circulating levels of aldosterone fall, sodium is removed from our bloodstream by being discharged through the kidneys and eventually the urine. If our sodium supply is not replenished by taking *more* digestible forms of salt (fermented foods, salt *cooked* into food, etc.), sodium and water is pulled from our tissue cells into the blood to prevent sodium levels and water from continued loss. This results in cell dehydration, mineral imbalance, fatigue and assorted cravings.

Why This Condition is Not Recognized By Most Mainstream Physicians

While adrenal fatigue symptoms seem to be fairly common, there still seems to be a reluctance among conventional medical doctors to acknowledge this condition. Here are three reasons often cited for this reluctance:

1. Inconclusive Lab Tests

Because of the wide ranges that most labs use as reference points, most tests appear inconclusive. The common tendency is to look at a cross-section of the population, evaluate their cortisol levels and then set reference ranges at 2 standard deviations from the mean. This invariably leads to very wide levels. Ideally, cortisol levels need to be taken at several spans of time throughout the day.

2. Insurance Companies Discourage An AFS Diagnosis

This may seem hard to believe, but each disease is recognized by insurance companies has a code commonly known as *International Classifications of Disease* (ICD). These codes are administered by the World Health Organization (WHO). However, there is no code for AFS. Theoretically, physicians could use the code for Addison's Disease (*severe* adrenal insufficiency), but when lab work comes back "within range," this diagnosis is rejected. Therefore, if your doctor's diagnostic is AFS, they won't get paid for treating you. Complicating the situation further, AFS is difficult to treat and can involve dietary adjustment, herbs, supplements and even, in more extreme cases, hormone replacement. At best, the conventional recommendation would be for antidepressants or ADHD meds to increase energy and bolster mood. Of course, this is simply a bandage and not treating the cause.

3. Medical Establishment Stagnation

While Addison's disease is accepted as a diagnosis, milder forms of adrenal insufficiency are denied. A brief from the Hormone Foundation, a division of the Endocrine Society (2010), states the following:

“Adrenal fatigue is not a real medical condition. There are no scientific facts to support the theory that long-term mental, emotional, or physical stress drains the adrenal glands and causes many common symptoms.”
– Hormone Foundation

It amounts to thinking in black and white terms. You either have a severe dysfunction case of adrenal insufficiency, or nothing!

Adrenal Gland Stressors

The following factors are known to stress our adrenal gland function:

- Anger, fear, anxiety, guilt, depression
- Overwork, including physical/mental strain
- Excessive exercise
- Sleep deprivation
- Light-cycle disruption (such as late night shift work or staying up late)
- Surgery, trauma or injury
- Chronic inflammation, infection, illness or pain
- Temperature extremes
- Exposure to toxins
- Nutritional deficiencies and/or severe allergic reaction.

Determining Adrenal Fatigue

In a question on Andrew Weil's website Q & A about the accuracy of saliva testing for adrenal health diagnosis, his answer was fairly succinct:

“...Blood tests ordered by a physician are the most accurate way to assess most hormone levels and that this type of testing continues to be regarded as the "gold standard" against which results of other testing methods must be measured....however, saliva tests for cortisol, the adrenal hormone that mediates stress responses, are now considered highly reliable and that a growing body of evidence suggests that saliva tests can also accurately determine levels of the testosterone and DHEA (a precursor to male and female sex hormones, including androgens and estrogens).”

There are two (2) simple home tests, recognized as less accurate, but in some cases a fair indicator of tendency, that you can do to get a picture of your adrenal health, and are usually done in combination with more conventional testing of saliva, blood or urine testing. Saliva testing will give a better estimate of the cortisol levels within your cells. This is where most hormone reactions occur.

An additional blood test would be to have a complete Thyroid Panel. It has been shown that weakening of the hypothalamus and pituitary gland can lead to a lower thyroid function. If your blood tests suggest you have a case of mild *hypo*-thyroidism, the underlying problem could actually be that you have Adrenal Fatigue!

A complete thyroid panel can be helpful. It is commonly advised that a physician reading your blood work should look beyond the standard reference ranges given by each lab. Unfortunately, it's common for someone to be diagnosed with mild hypothyroidism even if the total results are within "safe" ranges.

"Home" tests for AFS Symptoms

1. The Iris Contraction Test

Developed by a Dr. Arroyo in 1924, the Iris Contraction test measures the contraction of your iris with repeated exposure to dark light. It is claimed that those who have weakened adrenal function will be unable to maintain iris contraction for a long period. This test is fairly simple: You sit in a darkened room, before a mirror. With a flashlight, shine it from the side of your face across your eye. In a hypo-adrenal state, your pupil will not be able to maintain its contraction for more than 2 minutes. It will begin to dilate despite the flashlight's light exposure. In those with healthy adrenals, the contraction usually lasts much longer.

2. Postural Low Blood Pressure Test

When we suddenly rise from a prone position, those in good health experience an almost immediate elevation in blood pressure. By contrast, people suffering from Adrenal Fatigue will see no change in their blood pressure—sometimes, even a slight fall. Generally, a larger drop in blood pressure indicates a more severe condition of Adrenal Fatigue.

These are very simple tests that you can do in the comfort of your home. Use a standard blood pressure monitor (inexpensively available at pharmacies) and check your blood pressure in a prone position (bed or couch). Then stand up and immediately do the test again.

Can You See Weakened Adrenal/Kidney Function from Looking At the Eye Area?

In the traditional diagnostics of Chinese, Japanese and Indian medicine, the area beneath the eye indicates the systemic health of the kidney, which includes the bladder, reproductive organs and adrenal function. These systems are all considered one unit as “flowers” of the reproductive system. Therefore, any discussion about kidney health, also references reproduction, bladder and adrenal health.

One reason given by a New York Chinese medical professor that I studied with many years ago, was that because the skin tissue is very thin in that area, presumably with less fat and the blood vessels are close to the surface, we can get an idea of blood quality from the coloring of this area. His claim was that cortical hormone “colors” the blood. While I have not seen any scientific research on this, I know from personal experience as well as from seeing hundreds of clients at a Los Angeles medical clinic, which I co-founded and ran for four years, that discoloring of the area beneath the eye could indicate the following:

Causes of Darkened Areas Beneath the Eye

1. Excessive Use of Dietary Sodium
2. Caffeine Excess (“excess” is relative to an individual’s tolerance and habits)
3. Sexual Exhaustion
4. Poor sleep, Irregular Sleeping Hours, Late Bedtimes, etc.
5. Medication Excess

Beyond noticing systemic constriction or indicators of exhaustion, I have also noticed other signs of deficiency. The most extreme of this color can be seen in anemia, or to a greater extent in certain cancers, particularly with leukemia. In people with such a deficiency you will see a pale color beneath the eye, with the inside corners being slightly darker. Sometimes, the color will be going toward shades of purple, progressing from light, in mild cases, to more extreme dark colors, and mixed with a tinge of yellow or brown.

Causes of Purple Coloring Around the Eye Bag

1. Excessive Sugar Consumption
2. Alcohol Excess
3. Marijuana Frequency
4. Salt Deficiency
5. General Body Fluid Acidity

This inner corner, in many traditional medical diagnostics, represent the adrenal glands, rising up the inner eye corner toward the nose. Since the condition of the kidney is revealed by the eye bag, the inner eye-corner would appear to resemble the physical structure our kidney—the adrenal gland being on top. In seeing

extreme cases of adrenal sickness, I've noticed that the inner corners of the eye bag are usually darker than the rest of the eye. People with this condition have a "washed out" sort of look from their overall complexion, tend to be very economical in their energy, exhibit a sense of cautiousness in their manner and exhibit the classic Traditional Chinese Medicine "kidney voice" quality of groaning speech attached to its tone. This purplish color seems to be common in vegetarian children who may lack sodium, have poor absorption and tend to eat more fruit and simple sugars such as honey, agave, maple syrup, etc.

Immediate Steps to Replenish Adrenal Fatigue

- A foundational consideration for healing the adrenal glands is to make certain that you are confronting your stress sources. Begin to make some immediate changes to resolve lingering emotional difficulties, chronic emotional stress, parental conflicts, work issues, relationship healing etc. That famous Talmudic saying, "If not now, when? ..." says it all. Respect time and realize that every moment you stand in denial is a wasted one that you cannot be fully present for to enjoy, or savor. So, what's it going to be? Now, or later? Sometimes, people with AFS, *look* for drama or stress where it may not exist. This is almost like a fleeting stimulant to the body. However, while it has functional reasoning and can get you moving or feeling, it only ends up creating more stress. Drama for the sake of drama can be a destructive influence.
- Enjoy a whole food diet that contains minimum fruit, minimum animal protein and reduced fat. Some people do well with the complete omission of animal protein and some do better with reduced and infrequent amounts. It's highly individual and should be based on your previous diet and tolerance. Overall, the less, the better. The addition of sea salt cooked into food is critical. But too much salt can bring on cravings for sweet or fatty foods (as in oils, nuts, dairy, etc.). Maintaining blood sugar by more frequent eating (approximately every four hours) is an absolute. If you're famished and practically shaking as you hunt for something to eat, you've gone way too far in allowing your blood sugar to fall.
- Getting deep sleep is essential for restoring energy and functioning to the adrenal glands. However, this is not a quantity issue, but quality. Going to bed early has been established and proven to be a better influence hormonally. The old saying, "one hour before twelve is worth two after twelve," has validity. Particularly, in regard to the "sleep hormone" *melatonin*. It has been documented that our chief levels of melatonin are produced around 2 AM—a time we should be entrenched in deep sleep. If not, we lose the immuno-enhancing benefits of this hormone. Even sleeping in a well-lit room will reduce melatonin levels, so ideally, get to bed by 11 PM, if you're on a healing path, or just want to restore your adrenal health.
- Three to four times weekly, place a hot water bottle (fill almost halfway and push out remaining air before capping tightly) across your adrenal glands (by your last rib). Just lie on the hot water bottle (make sure most of the air has been pushed out

and that the cap is leak-proof tight. Place this across your adrenal glands for about 20-minutes per night. This concentrates the circulation in the area and helps detoxify the kidney, while improving the circulation. Would recommend to do this maybe 3 to 4 times weekly and with moderate (not scalding!) heat.

- Don't forget to exercise. *Note:* Texting with rapidly moving thumbs does not qualify as "exercise." We need the three categories of exercise: *stretching* (yoga, for example), *aerobic* (brisk walking or indoor/outdoor biking) and *strength* (weights). I recommend exercise for a minimum of 5 days per week. Seriously! Get moving!
- Supplements: Supplements have to be personalized, so I do not support generic recommendations for them. If I recommend them at all, I suggest them for 4-day periods on, 3-day periods off—just to keep the body in a state of change and promote less dependency. Siberian ginseng, Rhodiola, Cordyceps, Vitamin C, Zinc, B-Complex, Ashwagandha, Chlorella, and a number of others are frequently recommended when dealing with AFS.

There can be nothing cookie-cutter about recovery recommendations for AFS—everyone is uniquely different; however, that said, we all have to eat and we are all similar in that we need fiber for regular evacuation; complex-carbohydrate (whole grain, bean and vegetables) for brain function; blood sugar regularity for emotional equilibrium; protein for functional needs within our cell structures; and a body fluid quality that has minimum acidity, with a healthy balance of choice alkaline minerals.

MORBUS EST VITA PRAETER NATURAM

Disease is from living beyond the natural way."

VERNE VARONA

Verne Varona has become known as one of the most captivating and dynamic health educators in the country with an engaging style that uses humor, insight and practical science to improve and enrich the lives of many. He studied Traditional Chinese Medicine and nutrition at the East West Foundation of Boston, Massachusetts (1970-1974).

He is the author of, *Nature's Cancer-Fighting Foods* (Revised from an original 2001 edition to a completely new and updated 2014 edition from Perigee Books (Division, Penguin/Random House). Verne's second book, *Macrobiotics for Dummies* (May, 2009—Wiley Publications), belongs to the internationally popular Dummies series and is a comprehensive work that embraces a flexible, multi-cultural health perspective on body, mind and spirit.

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