Clear understanding of how to restore and maintain their body’s energy reserves.

Traditional healers fully understood that reestablishing energy levels was an essential component of achieving optimal health and longevity. Unfortunately, their ancient (yet proven) techniques for accomplishing this goal have practically been forgotten. They aren’t taught in medical school and, frankly, most so-called alternative physicians don’t even understand the concept. These techniques just don’t fit into the current narrative of “better living through chemistry.”

Lack of energy is truly a pandemic issue. Fatigue, lethargy, and exhaustion have become the new norm, and complaints of chronic fatigue are so common that hardly anyone takes them seriously. The majority of our population now requires some form of stimulant to either start or get them through the day. One of the most popular stimulants worldwide happens to be caffeine.

I’ve discussed the pros and cons of coffee/caffeine consumption in the past. Although I personally never developed the habit, a daily cup of coffee doesn’t seem to cause any harm and may even provide a degree of protection when it comes to diseases like Parkinson’s, Alzheimer’s, and cirrhosis of the liver. From the limited amount of research available, it appears the benefits of moderate coffee drinking stem from its antioxidant content and not from the caffeine. In fact, the caffeine appears to be linked to many of coffee’s not-so-beneficial properties.

Caffeine can elevate blood pressure by adversely affecting blood vessel tone and function. It can impede the absorption of calcium and increase risk of osteoporosis. And it disrupts glucose metabolism, leading to higher blood sugar levels and type 2 diabetes. The effects are doubled when you combine caffeine with carbohydrates.

Caffeine’s stimulant properties are what make it so popular. The public has been convinced that caffeine provides energy. They don’t understand where energy really comes from and actually believe it can come in a cup or can.

Marketers have propagated this idea. If you don’t have time to grab a Starbucks, no worries. “Energy drinks” can be found everywhere and they are only the tip of the iceberg when it comes to finding a caffeine fix. Caffeine has been added to ice cream, cookies, hot sauce, chewing gum,
How Energy Is Produced

While caffeine is a stimulant, there is no energy in caffeine, per se. Energy in the body is produced by intracellular mitochondria—the little “energy factories” in each cell. Mitochondria use fat and sugar (carbohydrates) as their primary sources of fuel, along with oxygen to produce energy. It has been estimated that 90 percent of the oxygen we breathe is utilized in mitochondrial energy production.

Stimulants such as stress trigger a cascade of hormonal events, starting in the adrenal glands, that cause mitochondria to accelerate their production of energy. (Nature 2003 Feb 6;421(6923):583)

The adrenal glands naturally produce hormones like cortisol, epinephrine (adrenaline), and nor-epinephrine in response to stress. To a lesser extent, the brain stem also responds by producing these hormones.

In short-term emergency situations, these hormones are lifesavers. They ramp up the production of energy by the mitochondria, increase blood pressure, elevate the heart rate, maximize blood sugar levels, shut down digestion, and divert blood flow to the muscles. We’ve all experienced stressful situations that have worn us out for a day or two. It might have been a day in court, an emotional argument, a funeral, a week of exams, or a night on the town. Although we might not be able to function at 100 percent the next day or so, everything eventually returns to normal. The levels of anti-stress hormones needed were within the body’s output capacity.

However, both chronic stress and the regular use of stimulants can lead to serious health problems because they cause these hormones to be produced constantly. Studies have shown that persistently high levels of these hormones lead to a shrinkage of the hippocampus (the brain’s primary memory center), along with continual inflammation and exhaustion of the adrenal, thyroid, and pituitary glands. From a health standpoint, you pay dearly for unresolved chronic stress. This becomes readily apparent when you look at the chain of events triggered by chronic stress, as well as the use of stimulants.

Chronic stress can emanate from emotional, physical, mental, or environment situations. A short list could include high sugar consumption, chronic illness, depression, infections, dental problems, insomnia, excess exercise, gum disease, unresolved anger issues, and chronic bowel or digestive problems.

In each of these situations, the body responds aggressively with hormones such as cortisol from the adrenal glands to overcome these stressors. However, over time, the adrenal glands become overwhelmed and lose their ability to produce adequate amounts of hormones.

Signs of Adrenal Fatigue

The process of adrenal fatigue is usually gradual, and one of the first signs is fatigue. The other signs and symptoms read like a list of today’s top health complaints: irritability, PMS, menstrual irregularities, headaches, dizziness upon standing, sensitivity to bright light, poor night vision, heart

Alternatives

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Dr. Williams works with Healthy Directions, LLC to develop his unique formulations that supply many of the hard-to-find nutrients he recommends. Dr. Williams is compensated on the sales of these nutritional supplements and health products, which allows him to continue devoting his life to worldwide research and the development of innovative, effective health solutions.
palpitations, weight gain (particularly in the belly region), night sweats, fluid retention, muscle tissue loss, hypoglycemia, inability to stand for prolonged periods of time, brain fog, slower metabolism, depression, and high triglycerides. These signs and symptoms are a result of the cascade of events that follow adrenal fatigue (also called adrenal insufficiency, hypoadrenia, and adrenal exhaustion).

Another sign that has plagued me personally in the past is insomnia and frequent waking at night. The body works diligently to maintain normal blood sugar levels both day and night. Since we don’t eat after going to sleep, the body relies on glycogen that is produced and stored in the liver. Cortisol is responsible for converting the glycogen to glucose, which serves as the energy source for the brain and central nervous system during the first few hours after a fast and during sleep. If blood glucose levels drop too low, the body automatically awakens in hopes of refueling.

Low nighttime glucose levels and insomnia can result from inadequate liver stores of glycogen, but the most common reason is low cortisol production due to adrenal fatigue. Circulating levels of cortisol are lowest between midnight and 4:00 AM, and waking up between 1:00–3:00 AM is a very common symptom of adrenal fatigue. A couple of bites of a high-protein/high-fat food (cottage cheese, peanut butter, slice of cheese, etc.) shortly before bedtime can help prevent this until the adrenals return to normal. However, every disruption in the sleep/wake cycle further weakens the adrenals and requires more time for cortisol levels to normalize.

As I mentioned in the list to the left, hypoglycemia (low blood sugar) is one of the telltale signs of adrenal fatigue. The body works on a priority system, and keeping the brain functioning is at the top of that list. The brain is the most energy-demanding organ in the entire body and utilizes half of all the glucose energy produced by the body. As such, the body works relentlessly to keep blood sugar levels in the normal range, especially in the brain. This has been well known for quite some time, and not just in the medical and scientific communities.

In the 1920s, Dr. Walter Eddy at Columbia University studied human metabolism. Dr. Eddy did a tremendous amount of important work on ways to quantify and isolate various vitamins from food. He also discovered that a natural drop in energy occurred at 10:30 AM, 2:30 PM, and 4:30 PM. But this slump could be avoided by eating or drinking something at 10:00, 2:00, and 4:00.

In the early 1930s, one company capitalized on this discovery. You’re probably familiar with the soft drink Dr. Pepper, which was created in 1885 just up the road from me in Waco, Texas. Back then, Dr. Pepper’s advertising agency came up with the slogan, “Drink a bite to eat at 10, 2, and 4 o’clock.” On older bottles and caps of Dr. Pepper, you’ll find the numbers 10, 2, and 4. Advertisements proclaimed that the drink was a “healthful form of nourishment” for “little human dynamos” that run out of juice between meals. It was a way to provide the sugar that kids crave “in a form that can’t be abused...for a quick energy supply.”

Times have obviously changed, and we now know sugar isn’t as harmless as we thought back then.

**Blood Sugar Control, Hormones, and Energy**

Learning to control your blood sugar is essential for maintaining energy levels and optimal health. Cortisol is a key hormone when it comes to stabilizing blood sugar. It has the opposite effect of insulin. It signals cells to release glucose and raise blood sugar levels when they drop too low.

When glucose levels become too high, insulin removes glucose from the bloodstream so it can be stored as fat. Cortisol moves proteins out of tissues (such as the collagen in muscles, bones, and joints) so they can be converted to glucose when blood sugar levels fall too low. This is just one example of how excess cortisol from chronic stress can start to cause problems.

Under normal circumstances, the destruction or catabolism of proteins for energy is short lived and followed by a rebuilding phase triggered by the hormones progesterone and testosterone. Although testosterone is produced primarily in the testes and progesterone in the ovaries, both of these hormones are also produced by both sexes in the adrenal glands.

Testosterone production peaks around age 20 and starts dropping by about 1 percent a year at age 30. Women don’t produce as much testosterone and are more sensitive to fluctuations of this hormone. Too much results in male characteristics...
and too little can lead to a loss of muscle tissue and bone strength.

When the adrenals aren’t able to produce enough of these hormones, it can impede the rebuilding of muscle, bone, and joint tissue. In men, this becomes more of an issue when they get older and testosterone production naturally drops, combined with exposure to xenosterogenic compounds found in food and water that act like estrogen inside the body.

In women, it is particularly an issue among those who are estrogen dominant. This explains why you frequently see muscle loss, weakness, joint deterioration/arthritis, and premature wrinkling due to a lack of collagen in those with chronic adrenal problems.

When the adrenals are depleted and can no longer produce enough cortisol, messages from the brain, in the form of food cravings, are sent out as a last ditch effort to raise blood sugar levels. The most common cravings are for sweets and refined carbohydrates, caffeinated beverages, and alcohol, which provide the fastest spikes in blood sugar. Giving in to these cravings might provide temporary relief since the subsequent spike triggers the release of insulin from the pancreas, but it’s followed by another drop in blood sugar.

In addition to further exhausting the adrenals, it places undue stress on the pancreas. When the overworked pancreas begins to fail, we start to see the pre-diabetic condition called metabolic syndrome, which is defined by insulin resistance, glucose intolerance, high blood pressure, abnormal cholesterol and triglyceride levels, and the accumulation of belly fat.

In the adrenal glands’ struggle to deal with stress, they start to convert progesterone and testosterone into cortisol. This is another example of how the body works on a priority system based on survival: Reproductive hormones take a back seat when it comes to the need for cortisol. With less available progesterone and testosterone, both men and women can begin to experience weight gain, mood fluctuations, reproductive issues, and a loss of libido.

Men can also experience hypertension, cardiovascular disease, infertility, erectile dysfunction, and gynecomastia (the growth of breasts). Without adequate progesterone, women will often suffer from PMS, endometriosis, polycystic ovary syndrome (PCOS), irregular menstrual periods, cystic breast disease, osteoporosis, fibroids, uterine cancer, and hypothyroidism.

Progesterone also works to balance the effects of androgens (male sex hormones) in women. Androgens like testosterone are produced in the ovaries, adrenal glands, and fats cells. Normally in women, these hormones are converted into estrogen or neutralized by the liver or progesterone. But with low progesterone levels, androgens can be converted into a more potent form called dihydrotestosterone (DHT). DHT can cause acne, hair loss, and excessive, dark, course hair growth. One sign of the prevalence of estrogen dominance is the fact that more adult women are experiencing acne than ever before.

One of the jobs of the liver is to break down and neutralize excess hormones. Poor diet, weakened adrenals, an underactive thyroid, and constipation only make the task more difficult.

I can’t overstress the crucial role that bowel health and the gut bacteria have on liver function and estrogen levels. Studies have repeatedly demonstrated that beneficial bacteria in the gut break down excess estrogen. When gut microflora are suppressed with antibiotic therapy, estrogen levels rise and there’s a corresponding increase in the incidence of breast cancer.

An imbalance of gut flora or a parasitic infection in the gut is one item that needs to be ruled out in everyone with persistent fatigue and/or a lack of energy. It used to be that intestinal parasites were found only in those individuals traveling to exotic, remote locations. That’s no longer the case. Most people in this country are exposed to situations where they could contract tapeworms or roundworms, but organisms like giardia and cryptosporidia are becoming more commonplace. Both of these parasites contaminate streams and lakes throughout the US and have caused diarrheal diseases in many smaller communities. It’s estimated that between 20–30 percent of day care workers harbor giardia, yet few have symptoms and are just carriers. As I’ve mentioned many times, frequent consumption of fermented foods and daily use of a probiotic are the best ways to ensure proper balance of intestinal flora.

Excess estrogen also increases the binding of certain proteins in the bloodstream to both thyroid hormones and cortisol, hindering their ability to enter cells and perform their necessary functions. This creates additional stress and burden on the thyroid and adrenals.
This is not always easy to detect, however, since very few doctors recognize adrenal fatigue or know how to treat it. They only seem to realize the situation when it becomes life threatening and the adrenal glands are close to complete failure. Only then can they put a label on it: Addison’s disease. Addison’s disease is considered an autoimmune condition, meaning the immune system mistakenly attacks the adrenal glands.

Laboratory tests will often show so-called “normal” amounts of hormones in the bloodstream, yet they don’t reflect the inability of the hormones to enter the tissues. For this reason, many women with estrogen dominance never receive the correct diagnosis. I can’t tell you how many estrogen-dominant patients I’ve seen who were prescribed estrogen, thyroid medication, and antidepressants, which only compounded their problems. Adrenal support and natural progesterone therapy (which counteracts the excess estrogen) are routinely overlooked in almost every case. (An in-depth article on estrogen dominance and ways to correct it can be found in the May 2014 issue of Alternatives.)

**The Roles of the Thyroid and Pituitary**

The various glands in the body work synergistically to achieve the highest state of health. This is particularly true of the adrenals in relation to the thyroid and pituitary glands.

Once the adrenals have become fatigued and can no longer produce sufficient amounts of cortisol for energy release, the body will stimulate the thyroid gland. By ramping up metabolism through thyroid hormones, the body tries to supply enough energy to meet the demands of chronic stress. This might work temporarily, but eventually thyroid function suffers. It’s robbing Peter to pay Paul.

As thyroid function falters, you begin to experience symptoms like cold hands and feet, brittle nails, dry skin, hair loss, muscle cramps, constipation, weight gain, and extreme tiredness.

When the thyroid gland becomes exhausted, the body then calls on the pituitary gland to release a hormone (ACTH) that stimulates the adrenal glands to secrete more of the hormone called aldosterone, as well as additional cortisol.

In a nutshell, aldosterone helps regulate the amount of sodium and potassium in the body. On a cellular level, a balance between the fluid inside your cells and the fluid surrounding the cells is maintained by potassium and sodium (or salt).

Potassium stays mostly inside the cell and sodium stays mostly in the fluid surrounding the cells. Fluid retention occurs when the balance between potassium and sodium gets out of kilter and more fluid begins to accumulate either inside the cells or in the area surrounding the cells. This imbalance causes puffiness and bloating in the lower legs, ankles, feet, hands, and fingers. This is another common symptom associated with adrenal fatigue. It can occur rather quickly when you become dehydrated from not drinking enough water or immediately after consuming diuretic drinks like coffee, tea, or alcohol.

Aldosterone is what keeps your sodium and potassium levels in balance. It causes the kidneys to recapture and retain sodium from the urine, and at the same time eliminate potassium.

Sodium attracts water. By retaining sodium from urine, your body is able to maintain adequate water levels, keeping the body from becoming dehydrated. When your adrenal glands become fatigued, overworked, or depleted, they produce less aldosterone. As a result, sodium spills out into the urine, along with the water needed to hydrate your body. With less aldosterone present, your body also doesn’t eliminate enough potassium from inside your cells.

On the surface, it might seem like you couldn’t have fluid retention when this occurs. After all, your body’s inability to retain adequate amounts of sodium results in too much water being discharged as urine. However, this situation leads to more and more potassium remaining inside your cells, which causes an increasingly dangerous condition. Too much potassium can interfere with proper nerve and muscle function.

In response to this danger, your body begins to dilute the concentrated potassium by forcing more water into the cells. As a result, the cells begin to swell, which causes fluid retention. When you understand this sequence of events, you’ll also understand why a diuretic can only make matters worse in the long run. Most diuretics work by inhibiting aldosterone, which obviously worsens it’s not uncommon for the dehydration to trigger a headache as well.
the situation by causing further dehydration and weakening the
adrenals.

This helps to explain the extreme craving for salt and salty foods that
those with weak adrenal glands tend to have. Salt is beneficial to
these individuals and I recommend that they add sea salt to their food
since, along with sodium, it contains trace minerals. Additionally,
they can and should consume more foods naturally rich in sodium (cel-
ery, green beans, zucchini, seafood, cottage cheese, vegetable soups,
sauerkraut).

When the situation deteriorates to this level, the body calling on
the pituitary to release ACTH to stimulate the adrenals for more
cortisol is like beating a dead horse. The final results are negli-
gible. The end stages of adrenal fatigue/failure can get very serious.
In addition to all of the symptoms I’ve covered thus far, you can add
severe depression, major brain fog, and possibly even hyperpigmen-
tation of the skin. Complete adrenal failure can be fatal.

Restoring Adrenal Function and Energy

Restoring your energy levels and building an energy reserve starts
with rebuilding and strengthening the adrenal glands. Downing
a couple of cups of coffee each morning or an energy drink in the
afternoon won’t work.

The good news is that restoring adrenal function can dramatically
change your life. If there’s any downside, it would be that it takes
time, consistency, and patience to achieve. Adrenal fatigue usually re-
sults from a lifetime of poor habits and it’s not something that can be
corrected overnight. Not only do I know this from working with hun-
dreds of patients, but it’s an issue I’ve struggled with personally from
time to time.

Listening to your body and noting the changes in your symptoms will
help you monitor your progress. Under the general health section on
my website drwilliams.com, you’ll find the article, “Supporting Your
Adrenal Glands in Times of Stress.” In it, I explain how to test for the
Ragland effect using a simple blood pressure cuff. This test also be-
used periodically to assess your progress.

In addition to the recommenda-
tions covered thus far, here are
other guidelines to get started:

- Eliminate or limit the stress in your
  life. It can be mental, physical,
  chemical, or thermal stress.
- Avoid coffee, caffeine, and other
  stimulants (natural or otherwise).
- Moderate (not high intensity)
  exercise inhibits cortisol release. Gradually increase exercise inten-
  sity as your adrenals recover.
- Test your thyroid using the Barnes
  basal temperature test, which I
  outline at drwilliams.com. If it’s un-
deractive, I provide steps on how
to remedy that in past issues and
on my website.
- Get adequate sleep. Make sure
  your bedroom is completely dark
  and avoid bright lights prior to
  bedtime. It may be necessary to
  consume a small amount of quality
  protein/fat, as I mentioned earlier,
  before you go to bed.
- Avoid sugar, refined carbohydrates,
  and sweeteners (natural and arti-
ficial) like the plague. The worst
  is high-fructose corn syrup (HFCS),
  and it’s everywhere. Studies have
  shown that HFCS depresses thy-
  roid function and lowers metabolic
  rate. Unlike sucrose (table sugar),
  HFCS doesn’t trigger the release
  of the hormones insulin and leptin,
  which signal the brain to reduce
  appetite and fat storage. HFCS
  also doesn’t suppress the hormone
  ghrelin, which leads to increased
  hunger and appetite. HFCS sends
  the body mixed signals. It packs on
  the fat, but still leaves you unsatis-
  fied and craving more. That’s why
  it has been called the “crack of
  sweeteners.” It would be almost im-
  possible to totally eliminate HFCS
  from your diet since it’s found in
everything from bread and nonfat
yogurt to most commercial sauces
including ketchup. But one of the
quickest ways to reduce your in-
take is it avoid sodas and all other
sweetened drinks.

- If you crave salt, use it within rea-
on. Unrefined sea salt is best.
- Include high-quality fat and protein
  in your diet. Foods like butter, olive
  oil, eggs, seeds, nuts, and nut but-
ters provide sustainable energy,
  prevent blood sugar fluctuations,
  and minimize the release of
cortisol and insulin. I also recom-
mend homemade bone broths and
drinking a protein shake every
morning, in which you can add a
couple tablespoons of beef gelatin
powder, which is rich in the amino
acids proline and lysine that help
restore damaged joints, bones,
skin, intestines, and tissues that
have been robbed of protein. Natu-
ral beef gelatin powder is relatively
inexpensive when purchased in
bulk. (For complete details on the
amazing benefits of gelatin, refer
to the September 2012 issue of
Alternatives.)
- Eat several (four to six) smaller
  meals or snacks throughout the
day, rather than two or three large
meals. Snacks and meals should
consist of high-protein foods.
(Eating a diabetic diet will take the
burden off your adrenals and allow
them to rebuild.)
- Support your adrenals nutritionally
with a good multivitamin because
optimal function requires a long
Fake News: Not Just In Politics

Today, we’re hearing a lot about “fake news.” This may seem like a new term in the political arena, but fake news/research has been a scary reality in the medical world for decades. Sifting through studies in an attempt to determine whether or not the conclusions are “fake” happens to be one of the more tedious parts of my work.

Nineteenth century British Prime Minister Benjamin Disraeli once stated, “There are three kinds of lies: lies, damned lies, and statistics.” Statistics can be selectively used to reach just about any outcome you wish to portray, and the research community is well versed at this. There’s no shortage of researchers that are willing to be paid off to reach particular conclusions. The sugar industry did just that in the 1960s.

Late last year, a study published in the Journal of the American Medical Association revealed that in the 1960s, the sugar industry launched a campaign where it paid for nutritional research to specifically downplay evidence that sugar consumption was linked to heart disease. (JAMA Intern Med 2016 Nov 1;176(11):1685–6)

Over the next few decades, tens of millions of people underwent needless surgeries, suffered, or died as a result of this scam. It should be front-page news and a main topic on every radio and television program. But it’s not.

Even in the 1960s, there were numerous studies that linked sugar consumption to heart disease. In an effort to counteract this damming research, the Sugar Research Foundation hatched a plot called Project 226. They paid Harvard researchers to produce and publish an extensive two-part review concluding that heart disease was tied to cholesterol and fat...not sugar. They wrote that the only dietary interventions required to prevent cardiovascular disease were the reduction of dietary cholesterol and the substitution of polyunsaturated fat for saturated fat.

It has only been in the last couple of years that organized medicine has started to accept the fact that saturated fat and cholesterol aren’t the causes of heart disease. But they still haven’t recognized the very real and very dangerous underlying role that sugar plays. For 50 years, our entire food supply has changed based on the idea that saturated fat and cholesterol were behind cardiovascular disease. A couple of generations have been subjected to low-fat foods and diets, yet we have the highest incidence of obesity in history.

We also had the switch to “fake fats” such as margarine and corn/
vegetable oils, which have wreaked havoc on our health. Then came the ridiculous campaign against eggs and seafood because of their cholesterol content. We’ve launched a war on cholesterol, accompanied by unprecedented sales of cholesterol-lowering statin medications that have debilitated and/or killed millions of people. (Remember a few years ago when the pharmaceutical companies, researchers, and even the US Preventive Services Task Force promoted the idea that everyone over 40 should be taking statins for prevention, even if they had no history of cardiovascular disease?)

On one hand, I guess we should be thankful that this cover-up has finally been brought to light. On the other hand, it just goes to show how corrupt the system is. This latest exposé didn’t occur because the pharmaceutical industry wants to come clean and quit selling statins. After all, Lipitor still holds the record as the best-selling drug of all time ($1.36 billion in 2006 alone). I suspect the only reason this information has been released is because those involved are no longer alive.

One of the scientists and senior authors of the research review was Dr. Frederick J. Stare, the chairman of Harvard’s nutrition department. In addition to being paid off by the sugar industry, Dr. Stare was invited to become a member of the Sugar Research Foundation’s board. He passed away in 2002.

Dr. David Mark Hegsted, another Harvard nutritionist paid by the sugar industry, became the head of nutrition at the US Department of Agriculture and helped draft the federal government’s dietary guidelines. He died in 2009.

Others who were part of the Sugar Research Foundation (now called the Sugar Association) at the time have also passed.

I shudder to think about how many heart bypass surgeries, stents, and transplants have been performed, and deaths have been caused, by this false information.

Sadly, this news hasn’t changed much in the way cardiovascular disease is viewed. The erroneous recommendations of this 1960s review still remain the cornerstone of the government’s dietary guidelines, the American Heart Association, the World Health Organization, and other health authorities around the world.

The cozy relationships between researchers and the food and pharmaceutical industries will continue. Money talks. The “sheeple” who blindly follow advice without question will manifest the health of the general population, which is horrendous. The truth often surfaces 50 years too late for millions of people.

Luckily, you’re one of the few who know the real truth, not just what the mainstream media and medical associations want you to hear. I’ll continue to do everything I can to keep you at the forefront of these developments.

* * * * * * *

Until next month,