Adrenal Fatigue

Making the connection between stress, body shape and your health

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I hope this book allows you to understand why you feel the way you do. Success of recovery is dependent on attacking the right problem! The information below is compiled from many medical text books as well as my own observations. Nothing in the book is meant to provide treatment for any medical disease or condition.

You have probably have been told that it’s all in your head, but before you think you’re are going crazy read on – the failure of the adrenal glands to respond to stress if a real physical issue!

**What are these adrenals?**

You have two adrenal glands, and each one is located on top of each kidney (see the figure below).

![The adrenal glands](image)

A main function of adrenal glands is *countering stress* by producing several hormones. By countering, I mean opposing or buffering. And what I mean by stress is any outside body pressure or inner body pressure. The adrenals don’t know the difference between physical or mental stress; they react both with the same stress hormones. Every type of stress influences these glands— injury,
infection, divorce, financial stresses, job-related stress, irritable people, drugs and medication, surgery, pain, illness, poison ivy, excessive cold or heat, giving birth, menstruation, staring into computer monitors for hours at a time, eating junk foods, starvation diets, excessive exercise, and babysitting fifteen small children under the age of five for over thirteen hours without proper ventilation.

**More functions**

The adrenals have many other functions such as anti-inflammatory actions (ridding the body of pain and swelling), immune system protection, balancing fluid and salt levels, controlling minerals (potassium, for example), rapid heart rate, and sleep and awake cycles. They even act as back-up organs for the ovaries during menopause. In other words, they make the same hormones as the ovary does.

**Why does the adrenal hormone test NOT always show positive?**

There are different degrees of adrenal problems, but many of them do not show up on blood tests until they are well advanced into dangerous stages when 90% of the adrenals are destroyed.

“The normal adrenal cortex has an enormous functional reserve. Indeed, adrenal cortical deficiency does not become clinically manifest until nine tenths of the cortical tissue has been rendered unresponsive”. (Pg. 101 CIBA COLLECTION OF MEDICAL ILLUSTRATIONS, VOLUME ENDOCRINOLOGY, FRANK NETTER, MD)

This means that until 90% of the adrenals are destroyed, you will not be able to see them on testing.

The adrenal glands are set on a timing mechanism in the brain; therefore, testing the blood or saliva for adrenal hormones should be done every four hours during a twenty-four-hour period (cortisol test). Testing the adrenals for a one shot evaluation is useless.

The following is a description of what happens when the adrenal glands do not function properly — some symptoms occur when there’s too much hormone, and others occur when there is deficiency of hormone.

Excess fat in both the midsection (a buffalo-like torso, for example) and the face can occur from overreaction of this gland. In the midsection, the fat forms primarily in and around the abdominal organs and sags downward over the
belly. This is called visceral fat and cannot be safely extracted with liposuction. Another term for this stomach is *pendulous*, meaning loose, hanging and sagging. This is different from the Liver body shape, which is a potbelly or a protruding stomach like a water balloon, while in the Ovary body shape, the person has a small bulge below the bellybutton. More info on this is in my other book, The 7 Principles of Fat Burning.

A common problem with the Adrenal type is the inability to fit into clothing, around the waist. Some people even wear elastic bands to suck it back in, but this can constrict vital organs within the abdomen and the pressure around the waist can irritate the adrenal glands.

*Sagging, hanging midsection weight with thin arms and legs*

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Midsection weight

Fat accumulation in the face gives a round or “moon face” appearance. The face also shows redness because of weakened blood vessels.

A fat pad can develop in the lower neck and upper back area, called a “buffalo hump.” I believe the reason the body creates this hump is to anchor the belly so you don’t fall forward.

Reddish purple striations (strips or bands resembling stretch marks) can appear on the stomach, thighs, buttocks, arms and breasts as well. This is because the person loses collagen, the protein glue that holds the body together.

Why does fat go to my belly?

The reason is very interesting. Since fat is a survival mechanism or what we call potential energy — sounds better, right? — stress triggers the accumulation or holding of this scarce energy and directs it to the most vital area of the body, the organs in your gut. The body is just trying to survive and doesn’t care what you look like.

If this stress continues, the adrenal stress hormone (cortisol) breaks down leg muscle and turns it into sugar. The specific muscle it eats up first is the thigh muscle (quadriceps). This is the body’s survival attempt to find quick energy from itself; if you were being chased by a lion, you would need fast fuel energy and steal it from any place you could. You first take it from the sugar storage in your liver and muscle, but then the legs eventually become thinner and weaker.

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too, especially at the knees. Cortisol, the main adrenal stress hormone, will also take muscle from the buttocks and use it too, causing loss of tone in that area.

The pictures below show the changes from a normal body shape through the progressive stages of the Adrenal type.

Adrenal cases don’t necessarily have to have a belly—it all depends whether the hormones are increasing or decreasing.

The face and eyes become puffy, and a double chin and wrinkles ensue. You say this is age, but I say it’s the adrenal hormones being pumped too much. The adrenal hormones are the aging hormones.
Why can’t I get six pack abs?

In order for your body to start fat burning, there must be NO extra sugar present in the blood. The problem is that the adrenals are constantly releasing sugar, either through breaking down its own tissue or releasing stored sugar from the liver. And in the presence of sugar or refined carbohydrates, your body CANNOT and WILL NOT burn fat. In fact, sugar triggers the fat-storing hormone insulin, which will override all other fat-burning hormones and turn them off. The body will ALWAYS burn sugar in place of fat.
Inflammation, chronic pain, and fibromyalgia

The ONLY anti-inflammatory hormone in the body is cortisol, which is why doctors use it as a popular treatment for every type of inflammation condition from poison ivy to arthritis including itching from hives (excess histamines and infections). You may have heard of the steroid shots, prednisone or cortisone—these are adrenal hormones. They also work for allergic reaction, sinus, asthma, and many other conditions. Every condition a steroid is used for, the adrenals could also remedy—if they could work properly, that is. My question has always been, “why is no one improving the adrenal gland itself?”

Exhausted adrenals can keep the body in pain and with inflammation and stiffness in different parts of the body because the adrenal hormone cortisol (the anti-inflammatory hormone) has become dysfunctional. If the “on-off switch” within the adrenals gets stuck, a person can go into a chronic pain and inflammation stage for years. Sore muscles that don’t seem to recover after exercise are a classic finding. As this situation worsens, fibromyalgia, which is a systemic (overall) condition of muscle pain and inflammation throughout the entire body, develops. This is caused by the adrenals running out of their own anti-inflammatory hormone. Stress hormones triggered by the pain can also block fat-burning hormones. Pain, inflammation, and weight loss don’t mix—in fact, it’s one of the top reasons for people not losing weight.

Knee pain is probably due to cortisol’s affecting the loss of strength of the connecting muscles to the thigh.

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Chronic fatigue

Typically, a person with burnt-out adrenals has darkened circles under their eyes as well as a very tired appearance. They feel tired, drained, and have brain fog. Brain fatigue can greatly affect concentration. Due to the lack of quality sleep, midafternoon naps are desperately needed. Cortisol also destroys the relay switch in the memory data base of your brain (called the hippocampus). This causes short term memory problems and the inability to locate things. You might often lose your keys or your words or even say, “What did I come in this room for again?”

![Image of brain fog or dullness]

Sleep and fat burning

Certain adrenal hormones are responsible for making you feel awake mentally. Others are responsible for the sleep cycle. And by the way, did you know that most of the fat-burning in the body occurs only during the deep sleep cycles? So if you’re not getting deep high quality sleep, you’re not burning fat even if

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you exercise.

Each night our bodies are supposed to go through four 90-minute cycles from superficial to deep sleep…but not if the lion is chasing you. You might be thoroughly exhausted but your body just can’t fully let go and turn off. Many times a person will just wake up at 2:00 or 3:00 am for no reason and end up lying there for an hour (or hours) thinking, thinking, and thinking. Some people get anxiety in the middle of the night. But the worst thing about this is not being able to function the next day.

![Graph of Circadian Rhythm and Growth Hormone](image)

**Caffeine, from adrenal stimulation to burnout**

Adrenal types need the caffeine in coffee to wake up—strong Cuban coffee. Europeans use very small cups for coffee; Americans have humongous jugs of coffee. Caffeine is also in chocolate, sodas, and tea. Caffeine stimulates adrenal hormones, which give you mental alertness for one or two hours until the effect wears off. However, over time there are fewer highs and more lows. In college, I would drink pots of coffee at a time, trying to stay up at night and study. At that age most people can get away with it, but at age twenty-eight it caught up with me—in the form of stomach ulcers, insomnia, inflammation, and severe fatigue. Over the years a person can feel depressed and very lethargic from years of

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stimulation of caffeine. Most people don’t have depression; they just don’t sleep!

The stimulation from caffeine acts like an artificial energy booster. If you measured body stress in these cases, the person would be either in total burnout or full hyper mode. In either case, adding caffeine to stimulate or boost the body when it’s already over-boosted burns out the adrenals even more.

![Fatigued and dragging the body around](image)

**Running out of oxygen?**

If the adrenals do not work properly, oxygen levels can be affected, causing you to feel out of breath, particularly when the body is stressed such as while climbing stairs. The lower legs also will feel heavier as if you were carrying around lead ankle weights, especially when you try to exercise on inclined surfaces. Restless legs syndrome—when your legs are nervous at night—is merely an adrenal problem.
Out of breathe while climbing

Hair loss and facial hair — not a pretty picture for a female

In women, excess adrenal hormones can result in a deeper voice, facial hair, and male-pattern hair loss (a receding hair line)—but other than that, the person is totally fine. I’m kidding. Excess adrenal hormones can really mess with a person’s body.

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Facial hair

Acne and the adrenal

Acne occurs due to enlargement of the oil glands on the face, especially during women’s periods. Since both the adrenals and ovaries make androgens (*andro-* means man), both can be involved in acne. If the female gets acne on the left side of her cheek during her period, then only one of the ovaries is involved since the ovaries take turns each month releasing eggs. Acne can occur at any age but if it is not involved with the menstrual cycle, it results from an over active adrenal gland.

Atrophy (shrinkage) of the breasts can also be present. The above symptoms are due to excessive male hormone production by the adrenals, which are androgens.

Calcium and the adrenal

When excessive adrenal hormones are produced, the person has problems with calcium as well as with other minerals. In order to absorb calcium, your *blood* needs to be at a certain pH level. The term *pH* refers to the acid/alkaline levels. The body has many fluids, which need to be either acid or alkaline, so when someone tells you your body needs to be acid or alkaline, you have to clarify what body fluid they are talking about. The salvia should be alkaline, the

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urine slightly acid, the stomach extremely acid, and the blood just slightly alkaline.

Overactive adrenals make the blood too alkaline, preventing calcium from being directed to the bones and muscles, so one gets not only thinning of the bones (osteopenia and osteoporosis) but also muscle cramps in the calves at night. Cramps in the calf muscles come from calcium or potassium deficiencies. But behind that is an adrenal problem. Instead of calcium going into the body it accumulates on the body tissues. I have observed these cases to have excessive tartar on their teeth, calcium on the eyes in the form of early cataracts, on the bones as heal spurs, on the joints as arthritis, on the bursa (joint sac) as bursitis, on the tendons as tendonitis, in the arteries as arteriosclerosis, deposits in the kidneys, on the toes as bunions, and twitching under or on top of the left eyelid.

Without this balanced body calcium, a person will have a difficult time getting to sleep, not to mention staying asleep. The body will be exhausted, but the head will be awake thinking lots of thoughts and trying to solve yesterday’s problems—it can’t wind down easily.

**Potassium and the adrenal**

An excess of adrenal hormones can increase potassium loss. I believe potassium is the most important mineral because 95% of it fills your cells. Your body requires 400% more potassium than sodium. Of course, our diet consists of lots of salt and very little potassium. This mineral is crucial for the heart to beat and the nervous system to be relaxed. Without potassium, you become constipated, your muscles get tight, and you hear your heart beat when you put your head on the pillow. You should never hear your heart when you’re at rest. If you do, it’s because you have a potassium deficiency, and the heart has to work a lot harder.

Sugar also depletes potassium, which is why you get thirsty after eating something sweet, and it’s also why you can gain three pounds after eating just one donut—it’s all water.

Your body requires 4,700 mg of potassium per day. But of course you say, “I eat a banana each morning”. That’s only 400 mg. Do the math and you’ll see you’re not quite there.

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Immune system and the adrenal

The adrenal gland suppresses the immune system (white blood cells). So if you have a real bad infection, your doctor might give you a cortisone shot to suppress the symptoms—problem over, right? Cortisone is an adrenal hormone, and it has serious side-effects. The big one is your midsection weight because high levels of cortisol increase your girth. Many people have developed a belly after getting steroid injections.

When you lose your adrenal function you lose your immune system. In fact, I believe that it’s impossible to get sick unless the adrenals first are weakened. Weakened adrenals leave you susceptible to infection. Just take a look at the last time you got sick. There was probably some stress or feeling of being run down, which occurred just before you felt symptoms. Over 50% of the most important white blood cells (neutrophils) become dysfunctional with adrenal burn out leaving your body wide open to infection.

I believe that overtraining can severely affect your immune system—Lance Armstrong is an example. Here’s a guy that pushed his adrenals to the limit. When I was in high school wrestling, I had this false belief that no pain, no gain...more is better. I would end up undefeated at the beginning of the season, then sick (I got mono) and exhausted at the very end. Take a look at how tired I was.
Auto-immune and the adrenal

Auto-immune conditions are conditions in which your own body attacks itself—this is weird. The body turns on its own tissues. You can have an autoimmune problem in just about any organ, gland, or even hormone in your body. My opinion is that all autoimmune conditions are really adrenal issues gone overboard. Why, because autoimmune conditions occur after long term stress, an injury, the loss of a loved one, or a divorce.

The treatment for autoimmune conditions is, you guessed it—cortisol, adrenal hormones. Most of these difficult to figure out conditions are suspected to be autoimmune.

Alopecia (body attacks hair)
Ankylosing Spondylitis (body attacks joints)
Crohns Disease (body attacks intestine)
Diabetes mellitus type 1 (body attacks insulin)
Endometriosis (body attacks female organs)
Graves' disease (overactive thyroid)
Hashimoto's thyroiditis (underactive thyroid)
Interstitial cystitis (body attacks bladder)
Lupus erythematosus (body attacks skin and digestive organs)
Multiple Sclerosis (body attacks nerve insulation)
Myasthenia gravis (body attacks thymus gland)
Narcolepsy (body attacks brain structures)
Pernicious anaemia (body attacks blood cells)
Psoriasis (body attacks skin)
Rheumatoid arthritis (body attacks connective tissue around joints)
Sarcoidosis (body attacks lungs)
Scleroderma (body attacks skin, blood, connective tissue)
Sjögren's syndrome (body attacks moisture producing glands leaving dry mouth and eyes)
Ulcerative Colitis (body attacks colon)
Vitiligo (body attacks skin pigment)

Autoimmune conditions occur first with some injury or infection in which some part of the body tissue has leaked into the blood—it bypassed immigration and ended up directly in the blood. The immune system freaks out and creates anti-bodies against this specific tissue. Now the immune system has incorrectly assigned part of the body as some foreign threat and will keep this tissue in a state of inflammation, preventing it from healing. Cortisone treatments (again adrenal hormones) suppress the immune system, giving some temporary relief, but they also come with a package since repetitive steroids destroy the tissues,

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too. In fact, in my 20s, I had bad poison ivy 5 years in a row and had to take steroids—this was the point when I started to break down and get sick, chronically fatigued, ulcers, insomnia, and severe blood sugar issues—other than that, I was in pretty good shape!

Autoimmune conditions are insane. Insanity is the inability to differentiate. Autoimmune conditions are unable to tell the difference between a good body cell and a toxic poison—they are both interpreted as being the same and must be attacked and destroyed. This insanity is the body’s attempt to survive gone out of control.

Another interesting point is that during pregnancy, all autoimmune conditions turn off, which is your body’s ability to protect the growing fetus. One way to get rid your autoimmune condition is to stay barefoot and pregnant—well at least wear some shoes.

**Sinus and the adrenal**

As the adrenals wear out, the person develops sinus problems. This can happen year around because the mucus membrane swells due to the lack of the immune anti-inflammatory effect on inner body membranes. Sleep apnea can also be due to swollen sinus membranes.

**Digestion and the adrenal**

There is a substance in your gallbladder called bile, which gets recycled by the adrenal hormones. Over time, sustained stress can deplete bile, the very substance that allows you to breakdown fats when you eat. Bile also helps lubricate your colon and without it, your bowels can be sluggish.

Without bile you will get bloating, burping and need something sweet right after dinner, because there is little bile to absorb the fats that make you satisfied.

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Bile also allows you to absorb the fat-soluble vitamins. These are the ones that allow you to see in the dark (vitamin A), the ones that allow calcium to move (vitamin D), the ones that prevent bruising (vitamin K) and the ones that prevent the skin from being dry (vitamin A).

Without bile, you’ll have cravings and you will have a hard time sticking to an eating plan because you’re never satisfied with food or any diet.

I recommend a product called Gallbladder Support Formula, because it will give you purified bile salts and make additional natural remedies to get rid of the bloating and start digesting again.

Recovery and the adrenal

Stress is not always bad as long as you CAN recover, and the problem occurs only when you can’t recover. What many people don’t realize is that all stress is accumulative. Your body is like a bucket—it fills up. First, you push your body through college cramming for tests living on ramen noodles and coffee with

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occasional Mad Dog 22 (cheap, sweet, and strong alcohol). You don’t sleep, eat, or take time to recover. Then you get married and have kids. And because you decided to have each child a year apart, you really never get a chance to recover at all. Having babies is a big physical hormone strain on mom, not to mention trying to travel through the airport with one child going this way and the other two going the that way.

Over time the body becomes stuck in stress mode even when the stress is gone. You go to bed having every intention of sleeping through the night, but the body can’t turn off fully despite your counting backwards from 100. Your cells even lose the ability to recharge and make energy, much like a broken alternator in a car engine.

Around 35, you’ll start to notice that your stomach is getting a bit thicker. Despite exercise, sit-ups and boot camp workouts, the mid-section doesn’t budge. This is all an inside job due to cortisol’s attempt to again help you survive. As weird as it sounds, your body is trying to help you—think “short term” survival. The body is merely trying to hold energy—that’s what fat is—around the most important organs, which are located in the midsection.

Some people feel guilty if they skip a day of exercise. FYI: Nearly all the benefit from exercise occurs AFTER exercise in the recovery part. Exercise is a type of stress, and the strength or weakness of your adrenals will determine if the exercise is good or bad. The worse off your adrenals are, then the more you need to walk on a FLAT surface. Going up hills or stairs will keep you out of breath.

As far as muscle tissue is concerned, exercising with weights or doing high-pulse-rate exercise is not a good idea with this condition, since the extra stress overwhelms the adrenals. Like I said before, all the benefit of exercise occurs in the recovery part, not the exercise part. And this also explains why a person could spend 8 months at the gym with very little results. I’ve even had patients turn their body into atrophied flab from doing boot camp types of exercise, which are far too intense.
If you think about recovery as an ACTIVE thing, it will make sense. Your recovery system works aggressively when you are doing nothing. Let’s say you run up some stairs and find at the top your pulse rate is 130 beats per minute. Your recovery system will kick in and push your heart rate back down. The name of this recovery system is called the parasympathetic nervous system. This system is the one that is burned out when one goes through sustained stress. This is the same system that helps you burn fat. This is the same system that gets you into a deep sleep.

**Sleep and the adrenal**

The adrenal hormones are on a timing mechanism (like a clock), which is controlled by the circadian rhythms—waves that affect sleep and awake cycles. With adrenal problems, everything is backwards; you are tired during the day, yet despite being exhausted you can’t sleep through the night.

The body just won’t let you get into the deeper sleep cycles. The adrenal hormones make it impossible to attain the deep, restful sleep that you need to properly rejuvenate the body for the coming day.
Unable to get restful sleep at night

So here lies the main problem, sustained stress and the loss of enough recovery sleep. If the body can’t recover it wears out. Fatigue comes from poor sleep.

Sleep apnea is an adrenal problem. High levels of stress hormones shrink nerves to the muscles in the back of the throat and sinuses. These muscles atrophy and restrict oxygen intake through the nose.

In the diagram below, you can see normal cortisol (adrenal hormone) levels. Notice that cortisol is supposed to be very minimal during sleep.
Normal adrenal hormone flows

People with abnormal adrenal hormone cycles have a hard time getting out of bed, get tired after lunch, need a mid-afternoon nap, and have a hard time winding down to go to sleep. The best sleep for adrenal cases is a half an hour before the alarm goes off. People with weak adrenals are more awake in the middle of the night than during the day.
Can’t stay awake in the mid-afternoon

I remember one night when I experienced torture laying there all night long with not able to even sleep for one minute. As I counted down the hours from 12:00, 1:00am, 2:00am, 3:00am…hoping I would drift off – it was terrible because the next day, I had to be at my best and work all day long.

Tolerance to stress

How your body handles stress tells you the condition your adrenal glands are in. People who have weak adrenals do not deal well with stress; the littlest things seem to irritate them rather easily. This physical adrenal problem can definitely affect your mental state just like a low blood sugar issue. Try to go shopping with your kids when they are hungry and tired.

Since the adrenals are survival glands, and survival is a logical rational thing, anything opposite to logic will be intolerant to a degree. Adrenal cases sometimes have a low tolerance to other people who make mistakes and errors, incompetent people, and so on. They might come into a room and spot something “out of order.” They might have a great day, but that ONE small bad thing engulfs their attention. They say they are multi-taskers, but in reality, they just disperse their attention all over the place. They don’t feel as productive because incomplete projects show their lack of follow-through. Their thoughts come in like pop corn, and not linear sequential thought patterns. They have a hard time concentrating and feel a bit elsewhere. The reason they procrastinate

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and do things out of necessity is because they have lost their focus and concentration mojo.

**IMPORTANT NOTE:** As my disclaimer, I am not attempting to diagnose you with any mental problems at all. I am merely telling you my observations made from what a physical problem can do to a person mentally. You’re not going crazy—you just need your adrenals rejuvenated so you can sleep and recharge.

Excessive worry and anxiety are common with adrenal weakness due to the adrenaline stress response (fight or flight). Flight or fight is a reaction to a stress situation, but when you’re stuck in stress, you feel like flight (running away) or fight (attacking) too often and even when there is no tiger in the room.
Mental stress and the adrenals

Our bodies have not yet developed enough in the evolutionary chain to handle sustained mental stress. Exposure to long term stress without recover time kills brain cells, especially in a part of the brain called the hippocampus. This brain structure is the relay switch to your memory file cabinet, and it’s also your brain GPS (that guidance device in your car that helps you locate where you’re going). So your memories don’t get lost, but you can lose access to these files. You’re driving somewhere, and then suddenly say, “Hhmmm...where am I going again?” You’re talking to someone, but then you go blank. You look for something, and then have to backtrack and try to find out what you were looking for. The hippocampus helps locate your position in space and time—birds have a huge hippocampus, which is needed to fly home in the winter, acting as a guidance system. People with Alzheimer's will walk aimlessly in the parking lot trying to find their car or maybe they are just wandering around because they forgot they have a car. They lose their mental mojo because their hippocampus is shrinking.

When the adrenal gland decrease in function, the inability to handle life’s stress increases. One patient of mine couldn’t even sit through a movie that had any suspense; it would keep her up all night long. I had another patient who didn’t have the patience to stand in line at the grocery store.

The adrenal-deficient case is usually worrying 24/7, which is very draining and leads to the need for stimulants like coffee, soda, tea, and chocolate. These might give them an hour of clarity or feeling up, but the rest of the day is dull and lacks sharpness.

It’s ALL short term survival

From a physiological standpoint, all long term survival functions get turned off and all short term survival functions get stuck on. The body needs quick energy right now! Dump the sugar into the muscles and mobilize keen mental energy, increase blood pressure, heart rate, and breathing. But on the flip side shut down reproduction, growth, and repair of tissues; shut down the immune system, forget about ovulating, and digesting. Over time this doesn’t increase survival because you develop ulcers and diabetes and destroy the brain, become sterile, and of course, lose your libido (sex drive). In short term survival mode, there’s no time for thinking long term—it’s right now—put the fire out, get away from that tiger or you’ll get eaten—there’s no time for reproducing.

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Viruses and vitamin D

A virus is so small that it would compare in size to a ping-pong ball if a bacteria were the size of the Empire State Building. It could fit through the pores of a porcelain dish. They can travel through the body into the spinal cord or brain and stay there. They are like seeds in the ground, waiting for the right environment. They wait for your resistance to be lowered, so they can kick you when you are weak.

Ganglion cysts that bulge on someone’s wrist are a virus. Neuromas (swollen nerve pain on the bottom of your foot) are also viral in nature.

Since the adrenal glands affect the immune system to a large degree, weakened adrenals can also cause increased susceptibility to viruses. The problem with viruses is that you cannot kill them—why? Because they are not alive in the first place. They are a piece of genetic material wrapped in a sac. They live off your cells’ energy. They can only invade sick and weakened stress cells. They go in and out of remission (hibernation), which is exactly why you get that canker sore in the mouth or a herpes infection when you are stressed. But notice that the location is ALWAYS the same, at the end of a nerve. Shingles is also viral related and travels along the nerves on the rib cage. What about the day you had to give a speech or go on a hot date? Remember that zit on the tip of your nose? Virus!

Polio is a virus. What is fascinating about polio is that the outbreaks nearly always peaked in the late summer. Why? Because the children playing out in the sun all summer long were exposed to lots of vitamin D. This vitamin in excess depletes vitamin F, allows calcium to protect the cells from viruses. Too much D and not enough F will lead to sun stroke and low tissue calcium levels. Vitamins and minerals always work reciprocally to balance each other, like sodium-potassium, calcium-phosphorus, and vitamin D-Vitamin F, and so on. This is a good reason not to ever consume isolated vitamins in large amounts—instead take them in a natural complex in food or food concentrates.

There’s another condition called Human papillomavirus (HPV). People are usually infected shortly after they become sexually active in their teens, 20s, or 30s. HPV can progress to cervical (part of the uterus) cancer, which generally takes place over a period of 10 to 20 years. Take a wild guess when most outbreaks occur? August. This is probably due to excessive vitamin D from the summer’s sun, which makes the person susceptible to the virus coming out of
remission. Why do you think we have the “flu season”—again in the early fall after summer? This flu is viral related. Let’s take skin cancer. People think it’s due to the sun, when in fact, it’s due to excess vitamin D and low vitamin F. But if the adrenals are strong, viruses stay in remission regardless of the amounts of D and F in the body. The moral of the story is to keep your body healthy and prevent these problems.

As the adrenal hormones get burned out over time, vitamin D becomes depleted and it becomes difficult to hold vitamins in the body. Many adrenal cases show low vitamin D in the blood. The doctor puts them on a high vitamin dose, as much as 50,000 IU, when the body’s requirement is only 1200 IU. But not understanding the whole picture puts the person into a vitamin F imbalance.

**Digestion and the adrenal**

Another interesting point relates to stomach acid. A person with adrenal issues tends to have higher stomach acid at first, and then over time develops lower stomach acid, which shows as acid reflex or indigestion. Most heart burn and indigestion are really due to low stomach acid.

Why? The answer is the type of acid that regurgitates up into your esophagus. If you tested this acid, you would not find it a stomach acid (hydrochloric); instead it would be a lower intestinal acid (lactic), which is a sour mild acid. Stomach acid is so strong that it would easily burn a hole through your esophagus. The body is attempting to compensate by recruiting lower digestive acids. Anti-acids give some temporary relief, but quickly weaken the system the next time a person eats.

It takes a very acidic stomach to digest and to release the other digestive organs, both the bile (substance that breaks down fats) from the gallbladder and the enzymes (proteins that help with digestion) from the pancreas. If the stomach acid is not extremely acidic, these other fluids don’t get released properly and cause bloating when you attempt to eat. Since the adrenals weaken with stress, a person will be most bloated at the end of the day, and less bloated in the early morning.

**Ringing in the ears (tinnitus) and the adrenal**

Because the adrenals affect blood vessels, one can have abnormally constricted blood vessels in the inner ear, triggering ringing in the ears or even

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high blood pressure.

**Urinary bladder and the adrenal**

The urinary bladder is very active at night in adrenal situations. The valve of the bladder is highly affected by the adrenals. Although they have the urge to go, they have very little urine in their bladder, so a very small volume comes out.

**High blood pressure and the adrenal**

High blood pressure could also stem from a calcium build-up in the arteries, since adrenal problems cause a tendency to get arteriosclerosis (hardening of the arteries). Initially the top number (systolic) of the blood pressure measurement will increase before the bottom number (diastolic).

In a test called Ragland’s, you take a person’s blood pressure lying down and then again standing up. Normally the top number (systolic) should rise 6–10 points when you stand up. However, with adrenal stress, the top number will either be lower than 6 points or higher than 10 points. (In the picture below, the unit of measurement mmHg means millimeters of mercury.)
Low blood sugar and the adrenal

Adrenal cases tend to be hypoglycemic, a condition in which the body can stabilize blood sugar, but it ends up on the low side. People with low blood sugar may get irritable and crave sugar.
Interestingly, you can develop diabetes from your adrenals because the adrenals release quick energy in the form of sugar. This stored sugar will even be made from your muscles, joints and even skin all in the name of your survival. This first stage in this process is called hypoglycemia, that is, low blood sugar. This doesn’t mean you should eat sugar, as one patient asked me; it means that
your cells are starved for fuel, which is behind most sugar cravings. Your body requires frequent meals because it can’t hold or regulate sugar properly.

In addition, the demand for protein increases. Many adrenal cases need to eat protein every few hours just to function. This is because of the muscle wasting and body protein breakdown. Since recovery is poor, it’s all breakdown and very little rejuvenation. You can consume a ton of protein, but it will not solve the problem since the destructive adrenal hormone will not allow this protein to replace the muscles. It's like having a bucket of water with holes in the bottom.

**Salt**

Cravings for salt in the form of cheese, pretzels, nuts, popcorn, or chips in the evening are common. People search the cupboards late at night for something crunchy and cheesy because the adrenals regulate salts in the body.
With salt and mineral imbalances, fluids can get out of balance, causing you to retain fluid (outside the cells) yet be dehydrated (inside the cells) at the same time. Water never properly hydrates in an adrenal case. In fact, no part of your body is pure water; it’s a combination of salts and water—we call these electrolytes (electrically charged minerals). Without the right minerals, water cannot move through the body, leading to water retention especially in the ankles. As a result, your heart has to pump blood through your feet, so water retention puts a lot of stress on the heart.

Ankle swelling at night

Wherever sodium goes, water will accumulate. So when sodium gets lost through the urine, dehydration can occur. But drinking more water will dehydrate the cells because it also washes out the minerals. So make sure you ONLY drink when you are thirsty. The rumor that you need 8–10 glasses of water per day is just a myth. And drinking water does not flush the fat out of

Go to DrBerg.com for more information
your body.

**FYI:** Never consume table salt; consume good quality sea salt. Sea salt has 84 minerals but table salt has only 2.

**Chocolate cravings and the adrenals**

A deficiency of adrenal hormones can also create cravings for chocolate. This is because some of the body’s serotonin is produced by the adrenal glands. Serotonin creates a “sense of well-being or comfort” and chocolate stimulates serotonin. People who crave chocolate are really craving the adrenal hormone serotonin.

If you take the combination of salt and chocolate, you get chocolate-covered pretzels. In fact, this is how I diagnose adrenal problems—I simply hold up a chocolate-covered pretzel in front of a person’s face and see if they go for it.

![Chocolate cravings](image)
Craving licorice could mean you are deficient in another adrenal hormone.

**FYI:** Children who eat dirt or clay, or women who crave ice during pregnancy, could be deficient in iron. (I would recommend eating beets instead of dirt.) Craving ice cream or cheese could also mean you are low in calcium, which indicates an adrenal problem.

**Skin and muscle and the adrenals**

As the destructive nature of adrenal hormones overrides the body, you lose your connective tissue, the glue that holds the skin tight. This shows up under the chin, on the back of the arms, and in the lower gut. Protein in general is lost or blocked from being used to rebuild cells in the body.

You’ll also notice that that your muscles not only lose tone but also become impossible to tone, despite exercise. This shows up predominantly in the thigh muscle, but in the buttocks, abdomen, and arms too.

**Cholesterol and the adrenals**

Your adrenal hormones are made from cholesterol, so you may find that it’s hard to keep your cholesterol lowered even with diet. Why? Because the body needs this raw material to make more hormones, especially under stress. Cutting your dietary cholesterol will not make much difference. Restricting cholesterol can also starve the adrenals of the raw material it needs to make its hormones.

**Bones and the adrenals**

These hormones can be very destructive of the body’s proteins, especially bone tissue, leading to “thinning of the bones,” which starts out as osteopenia (mild bone loss) and then progresses to osteoporosis. They steal these body proteins, convert them to sugar, and use them as fuel. During stress mode, the body will go after any type of fuel, even your own body tissue. Severe adrenal cases need to eat protein every few hours. This is due to a breakdown condition known as “catabolism,” which is excessive destruction of body proteins in the muscles, skin, joints, for example. It’s almost as if they are diabetic.
Cardiovascular and your adrenals

If the adrenals are weak, the coronary artery can become constricted, especially under stress, and prevent blood flow to the heart. The word coronary comes from the word crown because it looks like a crown. It is the main artery that feeds the heart muscle. Adrenal hormones keep this main artery open. Well, guess what happens when you lose your adrenal function—it goes the other way and become closed, which can cause tightness in the chest or actual chest pains. You go to the emergency room, they check your heart, but it’s perfectly normal. They say it’s probably stress—yes definitely, but adrenal stress.

Because the recovery of the heart is highly connected to the adrenal gland, it is a very bad idea to exercise when you are tired, stressed, and haven’t slept. This greatly increases the chances of a heart attack. Of course walking is good, but only on a flat surface.

Lungs and the adrenal

A person with asthma needs a bronco (lung) steroid inhaler (which consists of adrenal hormones) to breathe. If the adrenals can’t relax the lungs, a constriction and tightening occurs, thus preventing oxygen from entering the lungs. So again asthma is really an adrenal problem.

Don’t stop smoking yet!

Nicotine opens the coronary artery to the heart and vessels to the lungs. This is why people say they can breathe better when they inhale smoke—weird. Nicotine stimulates the heart but weakens the rest of the body. I don’t recommend stopping smoking cold turkey until your adrenals are recovered. Why? Because the heart is so accustomed to this drug that taking it away too quickly can add stress. There are some people who get congestive heart failure and heavily swollen ankles after stopping smoking.

Causes of the adrenal body type

There are several things that worsen or burn out the adrenal glands. The biggest of these is taking adrenal hormones, which could be in the form of prednisone or steroids (they are the same thing). When you bypass the body and give it straight hormones, the adrenals don’t have to produce their own. This
side effect severely weakens the adrenals. I’m not recommending avoiding steroids if your doctor has advised them. I had a patient who was a swimsuit model; she developed a heel spur and received a steroid injection for pain. Four years later she developed a huge midsection with lots of stubborn weight. Steroids tend to make you put on weight by affecting the adrenals.

The second cause of adrenal problems comes from taking too much synthetic ascorbic acid (known as vitamin C). Vitamin C in nature comes in a whole-complex form and consists of ascorbic acid, organic copper (tyrosinase), riboflavin, and K and J vitamins. The ascorbic acid antioxidant element is only one part. Taking this one part in huge dosages can severely aggravate the adrenals, since the adrenal glands are a storage system for vitamin C. Man-made vitamin C (ascorbic acid) is often made from cornstarch and sulfuric acid. You could feel good by taking these synthetics for a while because they act as a stimulant. However, I’ve had patients take grams (one gram is 1,000 milligrams) of the stuff and end up with adrenal problems down the road. Always take vitamin C in its whole form from food. In its whole form, the ascorbic acid part is rarely over 100 milligrams.

The third cause of weak adrenals is overwhelming stress to the body. Years of not sleeping, living with stressful people, a stressful environment, experiencing the loss of a loved one, going through a divorce, and so on can drain the adrenal glands.

The fourth cause of trouble with the adrenal glands is infection, especially from fungus, unfriendly yeast, and viruses. The adrenals get a major amount of blood flow because they are above the kidneys. These microbes travel through the blood, become trapped in the adrenals, and create problems later in life.

The fifth source of adrenal problems stems from a combination of taking stimulants and having nutritional deficiencies. Stimulants include caffeine, appetite suppressors, sugar, nicotine, synthetic vitamins, herbal stimulants (ma huang), and drugs. These items deplete vitamins (especially B vitamins) and minerals (particularly potassium and calcium). Add poor eating habits and lots of refined sugars and grains, and you can end up with exhausted adrenals.

Below is a list of symptoms the Adrenal type can experience from poorly working adrenal glands.
Adrenal Type Symptoms

- Pendulous abdomen (sagging and hanging)
- Midsection weight
- Buffalo hump (fat pad) at the upper back, lower neck area
- Thinner legs and arms
- Weakness
- Fatigue
- Lethargy
- Depression
- Sleepiness
- Insomnia
- Difficulty getting out of bed in the morning
- Need for midafternoon naps
- Nervousness
- Anxiety (worry); frequent feelings of stress
- Can’t tolerate stress
- Thinning skin
- Acne or poor skin
- May have white or discolored patches on skin
- Reddish purple stretch marks on the stomach, thighs, buttocks, arms and breasts
- Red cheeks
- Round or moon face
- Puffy face and eyes
- Dark circles around eyes
- Double chin
- Facial hair
- Full eyebrows
- Receding hairline
- Deeper voice
- Sparse hair on forearms and lower legs
- Atrophy of breasts
- Tightness in chest, or chest pains
- High blood pressure
- Lax ligaments – weak ankles and knees
- Weak or brittle bones (due to a loss of calcium and protein)
- Difficulty absorbing calcium
- Needs coffee to wake up
- Salt, cheese, chocolate and sugar cravings, late afternoon and evening
- Inflammation or pain in joints, back, neck
- Heel spurs
- Overreactive immune system — allergies, chemical sensitivities

Go to DrBerg.com for more information
- Autoimmune conditions
- Fibromyalgia
- Asthma
- Increased susceptibility to viruses
- Dehydrated (intracellular) despite amount of water drunk
- Fluid retention in between cells
- Pitting edema (especially in ankles)
- Gets out of breath when climbing stairs
- Legs feel heavy, especially when exercising
- Moodiness and irritability
- Brain fog or dullness
- Ringing in ears
- Low sex drive
Adrenal Body Type Support Formula
(To Order 703-354-7336 or go to DrBerg.com)
http://shop.drberg.com/adrenal-body-type-support

I have created a product to support a healthy adrenal gland. Below I listed the ingredients.

**Adrenal substance**: Using a non-hormone glandular gives the adrenal various raw materials to support a healthy adrenal gland.

**Anterior pituitary substance**: The anterior (front part) pituitary gland is the master gland, which controls the adrenal. Using this non-hormone glandular helps support and assists the feedback loop between the brain and the body.

**Rehmannia root**: This root has been used to increase energy without the stimulatory effects as well as help maintain healthy blood sugar levels.

**Acetyl-L Carnitine**: This helps support healthy cellular energy, metabolism and brain function by assisting in the transport of fat into the mitochondria where it is oxidized and converted into ATP (chemical energy for the cell).

**GABA**: A naturally occurring amino acid, which supports health brain function and ease stress through better recovery and relaxation. It is known as the brains calming agent easing nervous tension.

**DMAE**: Known primarily as a precursor to choline and acetylcholine (chemicals in the brain responsible for nerve transmissions and cognitive function), DMAE has been used most predominantly to improve memory and focus while stimulating neural activity.

**St. John’s Wart**: This herb aids in the support of a healthy nervous system and a positive, balanced mood state.

**Broccoli Sprouts**: Researchers have isolated a key component of broccoli called sulforaphane, a plant chemical, which may have many health protective properties. Freshly germinated broccoli sprouts contain from 30 to 50 times the concentration of phytonutrients as mature broccoli.

**Acerola cherry**: Famed for its vitamin C content, with as much as 4.5% of vitamin C per fruit (compared to 0.05% per peeled orange) acerola cherries are also rich in vitamin A, magnesium, niacin, potassium, thiamine, iron and calcium. Vitamin C is involved in chemistry in building adrenal hormones.

**Choline**: This is necessary for normal nerve transmission and brain health. In addition, Choline is also involved in fatty acid metabolism in the liver.

**Niacinamide (B3)**: B3 is necessary for the normal breakdown of fats and fatty acids as well as promoting healthy circulation and nervous system function.

Go to DrBerg.com for more information
Beetroot: Beetroot is a nutritional goldmine of potassium, phosphorus, calcium, iodine, iron, copper and vitamins, in addition to trace minerals. Recent research suggests that beetroot juice may increase levels of nitric oxide, a recovery nutrient.

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