

## **Part 2**

# **Assess, Diagnose & Treat: How to Become an Ideal Hormone Specimen**

### **Are You Stressing Out?**

Question: You say cortisol is the most complex and misunderstood hormone in your practice. What is cortisol and why is it so complicated?

Dr. Sara: Cortisol is your main stress hormone. I think about it like an alpha hormone, similar to an alpha male, in that it just doesn't take no for an answer. It's very aggressive and it's something that's super helpful to get you out of a crisis, but the rest of the time when you're not in crisis, it often doesn't serve you well.

Now stress causes high cortisol, but in the later stages of long standing stress, cortisol can actually swing too high and too low and everything in-between, sometimes within a matter of hours in the same day.

What that means is often you can't rely on just your lab test you have to go more based on your symptoms. The other problem that happens, which is a more advanced concept—which is the idea of hormone resistance. We know that about 40-45% of Caucasians are at risk for having cortisol resistance through something called the short-serotonin gene and what that means is that the lab tests aren't always reliable. That's where you want to really understand what your symptoms are, which is yet another plug to go do the quiz so that you know the root cause of your symptoms.

Here is the main point, if you are in a situation where stress is unmanaged; stress is managing you, your adrenal glands which are where you make cortisol as well as several other hormones and neurotransmitters involved in the stress response. Such as epinephrine also known as adrenaline and norepinephrine, those adrenals, those cute little adrenals on your kidneys and your mid back are about the size of a pencil eraser they can't keep up. Ultimately, it can lead to a point where cortisol levels become persistently low which is the worst stage that is a really advanced stage.

Now in conventional medicine if you talk to a doctor who's been traditionally trained often they don't believe this whole idea about cortisol. They say you're either in failure, which is called Addison's disease, or you've got a severe high level of cortisol which is called Cushing's syndrome.

What I find is that many women, in particular men also, but more women are in-between those two extremes. It maybe that you have symptoms of high cortisol you may also

have symptoms of low cortisol and what I want to know is what's dominant. What do you have more symptoms of?

When you read my book, if you go to the questionnaires, you'll actually see more detail about how to separate those high cortisol symptoms from the low cortisol symptoms we want to know. What do you have more symptoms of?

What we want optimally is for you to get to the Goldilocks experience of getting your cortisol just right, not too high and not too low.

Question: You mentioned this just now. How do men and women differ when it comes to handling stress?

Dr. Sara: Yeah, there are a few differences. So men when they feel stressed tend to respond in that classic manner of fight or flight. Men are also more likely to lash out, or withdraw; they use something called avoidance coping, such as going numb. Using substances, such as drugs or alcohol they stone-wall their response to stress is thought to be at the root of their poor health as well.

You know the original data that was collected on stress was done in the 1930's by a guy named Walter Cannon, he was a physician at Harvard and he was the one that coined the term "fight or flight." He actually thought that the stress response that he found in men also applied to women.

The newer data shows that women respond differently we've got a different reaction. There's a team of people at UCLA who've really led this charge and I mentioned them in the first audio as well. They are describing women as having a response called tend and befriend-tend--tend and befriend. Women tend to seek out the company of others when under stress, while most men do not. Of course, there are exceptions (I'm making broad journalization here).

You can see how this turns out, because what that means is that marriage tends to favor men more than women when it comes to health, we know that married men for instance have lower blood pressure at home versus at work. We know that when you have a heterosexual married couple with young children, the cortisol levels of women rise dramatically when they worry about work and men's cortisol levels correlate, not so much with other concerns, as they do with women.

The other part that I think is interesting, I learned this a couple days ago from a really interesting therapist who does some work on helping women with melting their men's hearts. It's a guy named Randy Bennett and he was telling me how men have more gray matter in the brain than women. Women have more white matter and as women the white matter actually makes us feel more connected and social.

There are structural differences in men and women in terms of our brains, as well as how our body responds to stress, that whole HPA axis which stands for the hypothalamic-pituitary-adrenal axis, you don't need to know the details on that, but I can get more into if you'd like.

Question: Some stress is good for us. How do we know when we've gone over the edge and that how we're feeling is not normal or healthy? I feel like everyone around me is stressed. It's hard to know what's not normal.

Dr. Sara: Excellent point, I mean the idea is not that all stress is bad. The idea is that you want it in the Goldilocks position of not too high and not too low. If you don't have any stress at all you're more likely to be apathetic and not accomplish your tasks, not rock your mission. But if your cortisol is too high you'll get to a place to where it's hard to focus, you start to lose productivity, and you get to something that we called in science hyperarousal and I think the sign for that is being stressed out. That means that your body's alarm system either never shuts off or it doesn't shut off sufficiently.

There was a great study done by the American Psychological Association published in 2012 and I found that three-quarters of Americans claim they have an unhealthy amount of stress to bear. When I talked to women who work with me online I definitely find that this is the case. When we ask people when they feel stressed and what they do when they feel stressed. What we found in the study is that about 40% over-eat, 30% skip meals, 44% have trouble sleeping and lie awake at night, and we definitely know from these surveys that women experience higher levels of stress than men.

The idea here is not necessarily for me to give a blanket statement about what's normal when it comes to stress. It's really an individual decision and the way to figure that out is to go back to the quiz. If you evaluate yourself, if you score high on the cortisol symptoms in my quiz then there's a good chance that you have unmanaged stress and we need to do something about that.

Question: What is happening in our bodies when we have high cortisol?

Dr. Sara: Great question. What's happening in our bodies when we have high cortisol? Well I want to back up for a moment, I am making a lot of this simple, I'm over simplifying for the sake of trying to accelerate your hormone cure. We need to keep in mind that cortisol is not the only stress hormone, right; there are other hormones that are involved in the stress response. I want to really focus on the solutions for you, but it's worthwhile to spend a moment backing up and talking about some of this.

The way that I think about high cortisol and how it causes problems in the body is I think about your brain, your nervous system. If we make this also astonishingly easy we can think about this as having an on-button and an off-button. The on-button is your sympathetic nervous system, I know you've heard of that before its "fight or flight" and

the off-button is actually your parasympathetic nervous system I called that your "rest and digest" system and the magic for you as you accelerate your hormone cure. The mastery comes from being able to balance your on and off button.

A little bit about that—What we know is with race car drivers, bear with me here for a moment, I love how Brené Brown talks about how stories are data with a soul. I was working with Vedic Astrologer (I'm going to get totally Northern California on you, here for a moment). I was working with a Vedic Astrologer and he said, "You are designed to spread a message far and wide in the world, but as with many women that you're trying to help you have an issue with the same problem that race car drivers have."

Race car drivers are distinguished not by pressing their pedal to the medal and going all out, their distinguished by being really strategic about when to take a pit-stop, when to hit the pause button, when to pull over when they're racing all those laps and get the tires changed, get the windshield cleaned. They're super careful about really designing it so that the team works together. They have just a minimal amount of time and they're balancing, basically the pedal-to-the-medal. Kind of that really highly productive sympathetic nervous system piece with the repair that needs to happen and they're doing it in a preventive way, they're not just waiting until the race car crashes or runs out of gas they're figuring out okay, I got to stop this upstream.

As we think about the nervous system, and this on-button and off-button I want you to really think about your off-button. When do you turn off, because it's essential? A lot of women who come to see me or work with me online they are not so good at turning off that button. They never learned how to do, you know maybe their parents didn't model it very well, or they don't love yoga, or meditation sitting on a cushion as the last thing they want to be doing. Those people are often the ones who most need to find a balance between the sympathetic and parasympathetic nervous system. Your mastery comes in learning how to hit that off-button.

For women who are hypervigilant, which is a defining problem of our modern lives as women. Hypervigilance is what keeps you from sleeping restoratively at night. It's what keeps you constantly scanning your environment for the next crisis. It's also what accelerates your aging process, it makes you have wrinkles before your time, and it shortens your telomeres as we've talked about, it accelerates the aging process—so we don't want that.

Just too back up to, okay, what's the story tell me what it actually does when cortisol high. Just give me the facts ma'am. Here are the facts:

Number one it depletes you of the happy brain chemicals, so it makes you run out of serotonin, dopamine, norepinephrine, some of those brain chemicals that really keep you happy and engaged. Serotonin as I've described is one of those brain chemicals neurotransmitters that's responsible for three main things mood, sleep, and appetite.

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Dopamine is responsible for pleasure and satisfaction. Norepinephrine helps you when it's in its Goldilocks position it helps you with focus and mood and sleep.

All of these, you know if you think about Venn Diagrams, I don't know if you're like me and you think about Venn Diagrams, I think about them all the time because I'm a total geek and if you think about the Venn Diagrams these brain chemicals overlap don't they. So that's one of the problems, number one.

Number two is that when cortisol is chronically high it's got a few jobs one of the jobs that it has is that it raises your blood-sugar and I just want to dive into this for a brief moment. I had the supreme pleasure of talking to one of the men that I have a major crush on, a guy named Mark Hyman perhaps you've heard of him. I think he is so cute, he's like a little dorky, and we had a lot of fun together in an interview that we did last week. I just want to talk a little bit about one of the things he and I were talking about and that was that really important connection between cortisol, blood sugar, and insulin.

Let's just talk about that for a moment, because when cortisol is high you're screwed when it comes to this particular relationship. Let's talk about that. Here is the deal, when you eat sugar it raises your cortisol. When your blood sugar is out of balance your cortisol goes up. When you're stressed, when you're chronically stressed, your cortisol goes up and that makes your blood sugar go up. You get into this really vicious cycle where these things feed each other they're not just additive, they're synergistic. They're synergistic like sum is much bigger than the individual parts and when you're talking about something negative--hmm not so good for you.

I'm going to give you a little example that I heard from Mark Hyman last week. He was talking about how sometimes you'll go on a little binge, right, you'll start eating foods that you know aren't good, maybe your having donuts, or eating processed food, you go back to eating cereal, whatever it is bread, and what happens is that you get these spikes in your blood sugar. Your blood sugar goes up and then it drops really steeply and that leads to these spikes and swings.

When you have that in your blood sugar your body actually thinks that you're in a life threatening emergency and so it tells your adrenal glands to make more adrenaline and make more cortisol. Cortisol is like the long acting adrenalin. Now this allows you to release more sugar that's stored in your liver in your muscles and that the problem is though that it raises your blood sugar even further. It does this when you're on the low side with your blood sugar, when your hypoglycemic, and I used to have this problem in my 30's where I would just feel all of a sudden if I forgot to eat, I would feel irritable, and angry, and my husband would just look at me and kind of give me those eyes like--Oh do you need some almonds. (Laughter)

That's what's going on, you have these when you have a problem with cortisol you get into this pattern where your spiking too much with your blood sugar and that then is

creating your cortisol to be even higher and more of a problem. This is basically the idea behind the stress response and how it's connected to the sugar response the blood sugar response and as you might imagine the opposite is also true.

When your more stressed, when you're not managing stress skillfully, when you kind of feel like a tigers always chasing after you. In my 30's I always felt like oh my gosh did I get the field trip form in, I'd wake up in the middle of the night, did I do this, did I do that, did I do this, and your school lunches would make me raise my blood sugar and my cortisol level.

When you're in that place where you're stressed, you make more cortisol, when you make more cortisol it raises your blood sugar, then you become more insulin resistant. You pump out more insulin, insulin is a fat storage hormone so then you start storing fat, we definitely know that people who are chronically stressed with high cortisol have more belly fat. They also tend to lose their muscle, they have smaller brains, I don't want you to have a smaller brain. In fact, we know that people with high cortisol start to fry their hippocampus I mentioned this before it's that part of the brain where you do memory consolidation and you also do emotional regulation. You need that hippocampus, take good care of it.

What else happens there's a long list Multiple Sclerosis, increased risk of Alzheimer's Disease, etc., etc... I've got this list in my book so you can also consult a table that I have where I describe this in great detail.

Another part that's important here as we think about high cortisol. We're not talking only about high cortisol, because some folks start off with high cortisol if they don't address this if they don't turn the ship around they start to develop swings in their cortisol, so it can be high and low within the same day. Ultimately, some people have low cortisol and that's not good either.

I think as we consider how we adapt to stress, it might be worthwhile to just mention one of the guys that I follow Robert Sapolsky, I'm a big fan of Robert Sapolsky, and he's done some really interesting work talking about how to manage stress. I like him because he's funny, he's a little funny looking honestly, he's a Stanford Professor he's got this big beard, he almost looks like he's from a different era.

Anyway, he talks about something called allostasis--allostasis. Allostasis is the process of achieving stability through how you eat, move, think, and supplement. It's by adjusting your reaction to stress, your perception of stress, kind of the gap between your stimulus and your response, as Victor Frankl put it. It's almost a paradox. There's a paper by Sterling and Eyer, from 1988 where they talk about how your greatest success with remaining stable, is by being variable. Isn't that kind of interesting, so the idea here is

how adaptive are you--how adaptive? If you're not adaptive, you're much more likely to have high cortisol.

Part of what we're doing as we accelerate your hormone cure is to really focus on, okay how do you become more supple, how do you dance with stress in a different way, especially if that's just the last thing on your mind and you don't want to be given a list of ten things that you need to do.

For those of you who do have the bandwidth to measure some of these things. What I like to do when I think about your response to stress and how do you stay in that good relationship, good neighborhood with stress and not get into a bad neighborhood.

I think about the different ways that we can measure these issues for you. I think about some of the metrics that we have to measure something called allostatic load--allostatic load is this concept that's worth describing for a moment. It's the balance of wear and tear on your body. Cortisol is a wear and tear hormone verses the growth and repair, the good neighborhood. It's a balance between the bad neighborhood and the good neighborhood as you respond to stress.

What happens with many of us, what I see in my practice, hmm about 80% of the time, if not more, is allostatic overload so I want you to get honest about whether you have allostatic overload, in fact you may even want to pause the audio right now and just consider this. Just breathe for five deep belly breaths and really be honest about whether you have allostatic overload. Is that at the root of the problems that you have right now with your hormones? Is that at the root of why you bought this program, why it cults you?

How do you measure this, I'm going to give you a couple suggestions here. One is that you can measure cortisol in your blood. I often will recommend this because it's the language of conventional physicians, clinicians who work in traditional medicine and of course it's not just physicians, nurse practitioners, there are lots of others who believe in this. I find that starting with blood levels is a really good screening test; it's a way to look at allostatic load.

Another way to look at allostatic load is the questioner that I've shared with you. I'm going to give you another URL for that here is another URL it is [thehormonecurebook.com/quiz](http://thehormonecurebook.com/quiz). Another way of looking at the wear and tear of hormones verses growth and repair is a lab that I like a lot called Genova - Genova - Genova Diagnostics. They have a lab test called The Complete Hormone's Test and I really like it because it measures all of the sex hormones that you make. It measures your cortisol and its whole family, it measures your progesterone, it looks at your estrogen metabolism, it looks at your androgens, DHEA, testosterone, etc., and it looks at the balance as a whole of all of these different entities and you can actually create a

ratio of the anabolic hormones, the growth and repair, versus the catabolic hormones, the wear and tear.

So if you want to go further, great this is an option for you extra credit, if this is making your eyes cross then forget it, you can just move onto the next little section.

I want to mention a couple other ways of looking at allostatic load. You've heard me talk about telomeres and that's certainly a great way to look at whether you're overloaded in terms of your allostasis. And then finally cytokines—cytokines these are the little messengers of inflammation. They're the little messengers of the bad neighborhood and once you start to get too many of them, there is a problem; it's a sign that you are creating a bad neighborhood. And the whole thing with cytokines it's interesting, when I look at the a la carte menu of all the different ways that you can manage your cortisol, manage your stress, we know for instance that yoga was just shown to help people with inflammation it's been shown to reduce one cytokines in particular called IL-6 now that may not mean anything at all to you, but if you follow these things in inflammation that might be helpful.

Question: What is our HPA, and more importantly, how can we calm it down?

Dr. Sara: HPA, so this is one of those science moments, let me try to make this as painless as possible. Your HPA is the hypothalamic-pituitary-adrenal axis, short version it's the way that your brain talks to your adrenal glands. Your adrenal glands are this really important endocrine gland that's in your mid-back that makes many of the sex hormones that where talking about—doesn't make thyroid because that's made in your neck, but it makes these other hormones it makes cortisol, and progesterone, and DHEA and testosterone.

What is it? I think about it as almost like a GPS system, the GPS system for your body and how it rolls with the punches, how you cope with stress. If you're really good at dancing with stress, managing stress, then you have a happy GPS, you have a happy HPA.

What happens if you don't is that, if you're chronically exposed to stress and your reactive you're in that allostatic overload that we were talking about, then you get to a situation where cortisol is so busy flooding your bloodstream that you cannot calm down the hypothalamic-pituitary-adrenal axis. It's kind of like that scene in Fantasia where Mickey is busy with the broomsticks and its start to get really trippy because all the broomsticks are like trying to move around and anyway—I actually thought Fantasia was a little weird, but you get the idea.

What we want is we want to make sure that we got these really nice feed-back loops and we're able to hit that pause button—hit the off-button with your nervous system that's the whole idea, that's the main takeaway.

Question: Why does high cortisol make us age faster?

Dr. Sara: High cortisol, okay, we've said this in maybe of couple different ways and I just want to maybe group it together slightly differently. When you're accelerating the aging process, part of what's going on is that you're in that allostatic overload, in other words you're just pushing those cute little adrenal glands too hard, you have a persistently elevated cortisol level and it's not good for you.

Just to think about an analogy—Who do you think ages faster? A woman who runs marathons or a woman who is a monk, can a woman be a monk? Let's think about a man for a moment, think about a marathon runner who's a guy and think about The Dalai Lama or a Tibetan monk. Who do you think ages faster? If you guessed the marathon runner you're absolutely right. The marathon runner has much higher cortisol levels from running, and is much more likely to get more injuries and ages faster.

In fact, we know from some of the studies that have been done, the Helsinki Study for instance, that if you look at a group of men and you divide them into three different groups based on the amount of exercise that they get. The three different groups are those who sit too much the sedentary types, second group is those who do moderate exercise and then the third group is the serious hard core athletes, you know people who do things like ultramarathons.

What we know is that it's the middle group with the moderate exercise that has the best telomeres. Here is another place where we can measure how fast your aging and we know that moderate exercise is better than the hard core ultra-marathoner who is making too much cortisol.

Now not only that, what we know is that when you have prolonged high cortisol, you get this domino effect and the other hormones that are working together with cortisol start to fall into neglect and it's not pretty. Your skin starts to sag because you're eating up the collagen in your skin with the high cortisol, then your muscles start to droop because you lower your anabolic hormones your testosterone, you need testosterone it's really important for you. When testosterone starts to drop, especially in women also in men, you lose confidence and agency and resilience, at that point your life in your body just aren't as lively as they used to be.

Question: What are your three best strategies for lowering cortisol?

Dr. Sara: Well I have about 97 and you've probably heard me talk about a few, but for me personally I really find that yoga is one of my favorite ways of doing this. I am someone

who is kinesthetic, I need to be moving I can't just sit on a cushion and meditate. We know that that actually lowers your cortisol, hooray for that, so if you're into mindfulness or you like to sit on a cushion--please go to it it's going to help you lower your cortisol. We know that chanting does this too. So if you're more of a singer or you like to chant and say oooww, you know that works too.

I also really love something called GPS for the Soul and let me just tell you a little bit about this. You've probably heard me talk about this before. There's a group called The HeartMath Institute in the Santa Cruz Mountains, not far from where I live in the Berkeley hills, and they just put out this free app called GPS for the Soul. They are just recently coming out with a new version of this called Inner Balance. The idea is that you can use your iPhone, you can download this app, and you can put your finger over that camera and you can measure something called your Heart-Rate Variability, which is your stress response. You can detect with this app how stressed you are. What is your allostatic load? Are you in allostasis or are you a complete stress case?

The other thing that I like to do, you know I love to talk about how to eat, move, think, and supplement. I really love Fish Oil, so Fish Oil is another one that's important, we know that somewhere between 2,000 and 4,000 milligrams a day is very helpful for both men and women at lowering cortisol also bonus prize it improves your lean body mass.

One other supplement that I really like is called phosphatidylserine--phosphatidylserine. Everyone always asks me to spell this because it's hard to spell, the good news is with Google you can stick it in your Google and you can actually find it even if you can't spell it so it's phosphatidylserine call it PS for short.

Question: What is happening to our bodies when we have LOW cortisol?

Dr. Sara: Low cortisol really interesting, you know I consider it to be kind of a later stage problem linked to unmanaged stress. It maybe that it sounds counter intuitive, but when you have gone through a period of too much stress, you've got more on your plate that you can manage and you're churning. That's the period of time where you've got high cortisol and then what happens next is that you can have both high cortisol and low cortisol within the same day.

Then as your cute little adrenal glands are no longer able to produce cortisol that you need throughout your entire day, that's where you start to burnout, that's where you can have high and low within the same day, you can also have the ultimate low cortisol, and that's not good--we don't want that totally flat curve.

What happens when you have low cortisol, well this is the situation where you have irritability, burnout, depression, low blood pressure--low blood pressure you may have heard me say this before, I often will have people come see me and they'll be really proud

if their low blood pressure, but you don't want to have low blood pressure, you want it to be in that Goldilocks position of not too high not too low.

Many of these folks especially those who have adrenal insufficiency also known as Addison's disease. In fact, I just saw a woman today who has it, she's 62 years old, she has something called congenital adrenal hyperplasia. She needs to take cortisol, prescribed by an endocrinologist, just to be able to make it through her day because it's a life threatening emergency if you're really low.

So orthostatic hypotension is another problem and that's where your blood pressure drops when you stand up and you feel light-headed.

Another feature that we see from literature is folks who are low in cortisol feel pessimistic. They feel out of sorts, out of sync with maybe the natural rhythm that they once had, they don't feel at home in their bodies anymore, and that's tragic we must do something about that.

Question: Why do we sometimes have low and high cortisol in the same day?

Dr. Sara: Well we address this in the last question; I really think that when you're under chronic stress and you're not managing your dashboard-you're not managing that allostatic load and feeling supple and adaptive. The high cortisol can start to convert into a burnout situation where the cells in your adrenal glands just can't keep up and that's where it's really common to be high like I was in the morning and then low in the afternoon or the reverse.

I had a woman that I saw today 57 years old, and her situation is that she's got really low cortisol in the morning and she must have a cup of coffee, do not stand between her and her cup of coffee, and then she's got cortisol that's really high at night and this started when she hit menopause. The high cortisol at night is a problem because it's very hard to wind down and she, as you might imagine, has had problems with her sleep ever since this happened.

There's many ways to deal with this but I think it's important to realize that your cortisol changes over the course of the day. We want to know what's normal given the hour of the day, we know based on normal circadian rhythms if you're really in sync with the light-dark cycles and you've got the right amount of cortisol and melatonin, then you're more likely to be creating a good neighborhood in your body. A bad neighborhood is when you're out of sync with normal circadian rhythms.

Question: What are the primary causes of low cortisol?

Dr. Sara: Primary causes, okay well, I just mentioned one of them. I saw a woman 62 years old with adrenal insufficiency--Rare. We see this infrequently. You know there are a number of problems that just make you less likely to make cortisol. Addison's disease

is one of these, congenital adrenal hyperplasia also known as CAH, these are some of the main reasons why people have problems with low cortisol. You don't really need to know about this, they are very rare like 1 in 250,000 people have this.

Another problem that happens is some of the people who have low thyroid function, or maybe their pituitary doesn't work, they have a sluggish pituitary in their brain, which is where you make the hormones that are talking to your adrenal glands and talking to your thyroid. You may be low across the board with your hormones. So those are some of the common reasons.

Another one that's important to know about is trauma--trauma. So trauma for instance folks who are traumatized when they were children. I have a colleague, for instance, who was sold by her mother into sex trafficking when she was a girl, a young girl, and she went through extraordinary periods of trauma. One of the risks when you go through trauma like that, is you can have post-traumatic stress disorder, you can have low levels of cortisol.

This brings up almost a chicken and egg phenomenon. What are some of the consequences of having low cortisol? I mentioned post-traumatic stress disorder. Another is chronic fatigue syndrome--chronic fatigue syndrome, fibromyalgia, all of these are really well documented. Conventional physicians often will say, "We don't believe that there's anything that exists between the two extremes of Addison's disease and Cushing's syndrome," which is the high cortisol. But the truth is we've actually got really good literature connecting these consequences of low cortisol to fibromyalgia, chronic fatigue syndrome, electrolyte problems, bone loss and burnout.

Question: How does Pregnenolone fit into the mix then?

Dr. Sara: Pregnenolone!!! You say Pregnenolone, I say Pregnenolone, it all works. It's the hormone, it's the mother hormone that you make in your adrenal glands and it's what's made out of cholesterol. So this is one of the reasons why you want to be careful about statins, you want to be careful what you're doing with your cholesterol.

I actually think we need to get a lot smarter about heart disease and not focus on the wrong thing, I'm not saying you must come off of your statins you got to talk to your doctor before you make "any" medical changes, this is not medical advice that we're doing here in Fast-Track Your Hormone Cure. But, pregnenolone is interesting it's one of these hormones that I find European women pay a lot more attention to than American women maybe it's one of the reasons why they're doing a little better than we are and they are happier.

Pregnenolone is the precursor that gets made into all the other sex hormones and if you are low in pregnenolone it causes memory issues. It makes you less interested in socializing. If your someone, I had a client who came and saw me this week, who's 52

year old woman and she told me pretty much every time she's got people over to her house, she actually has a dinner party, she just can't wait to kick them out of the house, she loves connecting with them, but she has this feeling like she can't wait for them to leave so that she can extricate herself from the situation and go to bed.

I often find that that's something that I see in women that are low in pregnenolone. It also can make you have muscle and joint aches, it can feel like your life is not quite in Technicolor the way that it maybe it was 10 or 20 years ago. It can also be linked to PMS, although that's not as well defined as some of these other things that we're talking about.

Question: You say the first step in treating both high and low cortisol is to make lifestyle choices that mitigate stress in your life. Beyond that, what do you recommend for those with high cortisol?

Dr. Sara: Well this is where we're starting into The Gottfried Protocol so step one of the Gottfried Protocol is that we're focused on number one—the lifestyle tweaks. How do we eat, move, think, and supplement so that you really are able to have a more adaptive response to stress and cortisol is back in that neutralized position.

Some of the lifestyle things here is some good news. Dark chocolate actually helps you if you have high cortisol it lowers your cortisol. You heard me just talk about Fish Oil and phosphatidylserine, you want to be careful about caffeine. I find that most people who are reaching for caffeine are reaching for it for the wrong reason. You don't want to be having three cups of coffee everyday just as a way of trying to have the energy to make it through hour after hour, it's almost like an interest loan and you're going to have to pay it back sometime soon. I much rather that you have a green smoothie in the morning with those beautiful antioxidants, stick some kale that you keep frozen in your freezer into a vita mix with the smoothie, a protein powder, and when you have that in the morning maybe with a little maca it's much more energizing and it's not a high interest loan.

We know that acupuncture is effective, you've heard me talk about the HeartMath, orgasm is one of my favorite ways of managing cortisol. You can practice forgiveness, there's really interesting research coming out of Stanford with a guy named Fred Luskin, who's shown that when you do a specific forgiveness ritual it actually helps you lower your cortisol and not surprisingly it also helps with longevity.

Vitamin B5, Vitamin C, these all help, I love theanine, theanine is an amino acid that is not sedating, but it really helps you calm down, it's got an extract from Green Tea in it, but it's not got caffeine in it.

Step two of The Gottfried Protocol if you're not able to, you know become more supple just with those changes. What I suggest then is to look at some of the herbal therapies that are effective such as Rhodiola, you have to be careful with Rhodiola because in

some people it can be overly stimulating, but try it some people really find that it's a lifesaver, probably depends on your genetics and we're just not smart enough about that.

Another supplement that I like is something called Relora--Relora which is a mix of philodendron and magnolia, kind of this herbal combination that helps with lowering cortisol at night, especially if your overweight. The ginsengs are also effective.

The third part of the Gottfried Protocol is to consider bioidentical hormones, but when it comes to being a stress case I find that this is rarely a good idea. I often find that folks who practice natural medicine will hand out hydrocortisone or they'll hand out IsoCort or other forms of bioidentical cortisol and I'm not a big fan. I think you have to be really careful about it, if you use it, use it for just a short period and then move on to addressing some of the root causes don't stay on it for long--don't stay on it for more than ideally 8 - 12 weeks.

Question: What about for low cortisol?

Dr. Sara: Low cortisol is interesting only a few things are proven. We know that exercise is helpful. African Dance has actually been shown to be really helpful. Vitamin C, the Vitamin B's are important, when it comes to herbs licorice is what's effective you have to be careful with licorice though because it can raise your blood pressure, you got to do that with a clinician who knows what they're doing and their helping you.

Grapefruit juice also has been shown to help you with cortisol. And again, I don't recommend prescriptions when it comes to having low cortisol; I'm not a big fan of using bioidenticals in that situation. I really think it's important to focus on lifestyle.

Maybe even do some grounding so this is something I didn't talk about in the book at all, but we've now got this situation where we know when you put your feet on the earth, when you walk on the beach, when you walk in the garden in your bare feet, it really helps you reset your adrenal glands, it helps you reset your cortisol levels, so that's another really good way to do it.

Question: How will I know when my cortisol level is in balance?

Dr. Sara: Here's how you know, that's funny it makes me think about that quote about pornography, "That you know it when you see it." When it comes to cortisol, when your level of cortisol is right where you want it to be you feel buoyant, you feel calm, you feel collected and poised, you bounce out of bed in the morning.

I remember seeing a documentary with Wayne Dyer where he gets up in the morning puts his feet on the floor and he says. "Thank you, thank you, thank you." The mornings when I wake up and I can't do that I'm thinking coffee-coffee-green tea. That's when I know that my cortisol is not in balance and I need to start to channel Wayne Dyer.

There are no bags under your eyes, you know for folks who have these dark circles under their eyes it is adrenal, it is totally adrenal. You don't have blood sugar swings, you don't have those crazy blood sugar cravings, your body is in a rhythm with the light-dark cycles the allostatic load is not overwhelming you. You are able to eat nutritious foods and really absorb it. You're not so stressed out that the cortisol is making your gut in trouble. You're able to find this balance in your life between input and output and when you see sugar you can take it or leave it, you know like have all eyes on the sugar as Britney Spears would say.

Yeah! Fantastic, I'm so excited that we were able to make it through part two, the second audio about how to access, diagnose, and treat. This is part of you Fast-Tracking your Hormone Cure so that's it for now we'll move onto the next hormone next.