



EPISODE 798

The Truth About Stress and Weight Gain

With Guests: Dr. Sara Gottfried, Kelly McGonigal and Dr. Izabella Wentz

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SHAWN STEVENSON: Stress is an epigenetic controller that deeply impacts our rate of weight gain and weight loss. On this episode, you're going to hear from three leading experts on stress and metabolic health. You're about to learn directly from an expert on endocrinology, from a health psychologist, and from a pharmacologist who shifted her focus to optimizing thyroid. Again, you're going to discover how stress can function as an epigenetic influence that alters the way your body stores and burns fat. Now this is an incredibly important and overlooked part of the conversation when we're talking about weight loss. Because we can be in a caloric deficit and yet struggle to actually lose weight. And what's going on there is again stress can alter the way that our metabolism is working. So yes calories do matter in the equation of weight loss and fat loss. But most importantly we've got to look at how the hormone function underlying everything.

We've got to look at the function of our overall endocrine system of our immune system and understanding what's happening behind the scenes, what can slow and increase our metabolic rate. And today I wanted to give you the real keys again from some of the leading experts in the world and how do we actually give ourselves the real safety signals that enable our bodies to feel less stressed. Because all of us handle stress differently and that's gonna be a part of this conversation as well. But we need to be able to tune in and understand that stress can literally push us into a place where we are struggling to lose weight, to lose body fat and see excessive amounts of body fat start piling on regardless of how good we might be eating, how we're minding our exercise habits. Those things, of course, they matter.

Absolutely, they matter. But we have to mind our stress and our body's stress management. Now, you might think, I'm not really that stressed right now in my life, but another part of this equation that you're going to hear about is how stressors early in our lives can alter the way that our metabolism is working.

And so to do that, Very, very important inner work to give our bodies the time and attention that they truly need our bodies and our minds in order to heal. So that we can have more ease and grace in this process of having the best health of our lives. So very, very excited about this episode.

Now, before we get to our first expert, if there is one stand out nutrient, in particular, one stand out vitamin that plays a critical role in our body's management of stress, it's vitamin C.

Now you can look at vitamin C as a C standing for calm your down, calm your ace down. All right. A study that was published in the journal of nutrition and food scientists found that both emotional and physical stress may affect a person's vitamin C status. It can increase the requirement for vitamin C to maintain normal blood levels. Now, when stress depletes vitamin C, according to these researchers, it reduces the body's resistance to infections and diseases and increases the likelihood of further stress. All right. There starts to become a compound effect when we're deficient in vitamin C. We become deficient in vitamin C when we're under higher levels of stress. And by the way, it doesn't have to be one big stressor in our lives. It could be micro stressors that just pile up that we're not processing. And this is causing our adrenals to just dump out vitamin C and our tissues to dump vitamin C out in order to help our bodies to manage the stress. Now, according to these researchers as well in this study, when vitamin C intake is increased, the negative effects of excessive stress hormones are reduced and the body's ability to cope with the stress response improves.

Alright, so just being mindful of getting in some vitamin C rich foods. And if we're going to supplement with vitamin C, which I'm a huge fan of, especially during times of stress, we've got to understand this. And unfortunately, most people still don't know this. The vast majority of vitamin C supplements on the market are from genetically modified cornstarch and corn syrup. All right, really, really low quality sources. And again, like those little packets, those little vitamin c packets that you might see at the checkout aisle is Garbage. All right. We want to make sure that we're getting whole food based vitamin C and whole food based concentrates if we're talking about supplement form.

And there's only one supplement that utilizes these whole food sources from the very best and most dense sources of vitamin C ever discovered with no binders, no fillers. No synthetic ingredients and that is the essential c formula from PaleoValley. PaleoValley utilizes the power of camu camu berry Which is highlighted in a randomized placebo controlled study that was published in the journal of cardiology Affirming that this source of vitamin c was able to significantly reduce oxidative stress and inflammatory biomarkers versus synthetic vitamin c

supplements that made no difference at all. The bottom line is this really does make a difference when it comes to helping our bodies to reduce inflammation and handle stress. Go to paleovalley.com/model, and you're going to get hooked up with 15% off their essential C complex and also. You know what? They're going to hook you up with 15% off store wide. You're going to be blown away by all of the incredible things that you'll find over at paleovalley.com/model. That's P a L E O V a L L E Y. Dot com/model for 15% off. And now let's get to the Apple podcast review of the week.

ITUNES REVIEW: Another five star review titled "GLP one" by Taylor Fogg. Shawn, this show is truly incredible. Not only have you changed my life. But the life of my family, I would love to hear more about GLP 1 and how to naturally increase the presence in the body. I struggle with my weight and it's hard to not take the bait of Ozempic.

SHAWN STEVENSON: Thank you so much for leaving that review over on Apple Podcasts. And I am listening. We've done multiple episodes and brought in, again, some world leading experts on metabolic health to talk about some of the science behind Ozempic and we'll put a couple of those for you in the show notes, number one, and also in my book. And this was years ago before these GLP 1 agonists hit the scene. I talked about GLP 1 in depth in my book, Eat Smarter. It's a USA Today national bestseller. I'm very grateful to say that, but the science is all there. All the different foods that can increase the production and mobilization of not just, that's not the only satiety hormone that we have. There are several.

And so really looking at this holistically and not trying to focus on one isolated compound in our bodies because nothing in our bodies are working in isolation. And so that's the benefit with real food focus as well. Even when the conversation is looking at something like vitamin C, if it's coming from a whole food version of that. There are hundreds at least hundreds of other nutrient cofactors that enable our bodies to interact with this in a healthy way. But we focus on the one thing and that might inspire us to take better care of ourselves. But we need to look at overall good nutrition and our sleep quality. Of course our movement habits and today's focus, ensuring that we are intelligently and intentionally helping our bodies to modulate and metabolize stress.

So first up in this powerful compilation with these three leading experts on stress and metabolic health, we have New York Times author and physician with a specialty focusing on hormone health, Dr. Sarah Gottfried. And she's going to be sharing the shocking connection between cortisol and belly fat. Why big stressors, even in childhood, can impact your metabolism later in life and why your stress solution absolutely needs to be personalized. Check out this segment from the amazing Dr. Sarah Gottfried.

Can you talk about how excess stress and stress related hormones like cortisol can lead to more weight gain and even block our ability to lose weight?

DR. SARA GOTTFRIED: It's such a critical point. I feel like this was my story when I was in my 30s. So I had a couple of kids, I was trying to lose the baby weight, and nothing seemed to be working. Like, all the things I used to try in my 20s just wouldn't pass muster anymore. And what I realized was that I was a total stress case. I had what I would call now high perceived stress. So even if you looked at my life and you looked at, okay, I was a practicing physician, and I was working long hours, and I had two kids at home and all those things, but there were a few pieces that I think are really relevant for our listeners. One is that I have a history of trauma and I think that changes your stress response system. Not just, I think it, I know it. And I think that's really critical. Like we know this from the research that's been done by Rachel Yehuda at Mount Sinai, where she looked at the offspring of Holocaust survivors and also people who were in the 9 11 terrorist bombings.

And she's shown how soul wounds can be passed on. So it may not even be you, it could be that it's your parents or your grandparents or someone else in your lineage. Who's passed on this tenancy toward metabolic dysfunction. And we can talk more about the research if you want to, but the two groups of genes that get affected in terms of how they talk to the rest of the body. When you've got toxic stress on, your metabolism and your immune system, really critical. But more, you know, this garden variety stressor experience that people have. I think of it in two different categories. I think of, you know, kind of the capital T trauma. The things that all of us would agree are really traumatic, you know, like surviving nine 11 or being in a car crash.

And then there's these small T traumas. That some of us, myself included, can get somewhat bent out of shape over. And that could be, you know, a breakup with a partner. It could be an email that you receive that upsets you. There's so many different things that fit into that small T trauma. And then the question is, what's the downstream consequence of that? And it's got a lot of downstream consequences. I mean, it affects the microbiome. It can give you increased intestinal permeability, leaky gut. It can stimulate the cortisol receptors in your abdomen. So abdominal fat has four times the cortisol receptors as fat elsewhere. So if you're like me, and you're in your 30s and you're, you're so stressed out and you're, you've got so much cortisol kind of floating through your blood vessels.

It really stimulates that belly fat. And then it can block the production. A lot of the sex hormones that help you with metabolism, things like testosterone and progesterone, which in women is really important for sleep and for soothing, but it's important in men too. Then there's the effect on insulin, which you and I have talked about before. And a lot of people don't appreciate that, you know, it's not just what you're eating that affects your dance with insulin and then downstream. What's happening with your glucose levels, which is probably the best way to really assess your metabolic health. But stress has a huge impact, you know, whenever I wear a continuous glucose monitor, I could eat like an ideal hormonal specimen. But if I'm stressed, my glucose is going to be 10, 20, 30 points higher than it should be. And so really understanding the role of cortisol, I think is critical.

SHAWN STEVENSON: Now this is another thing we don't think about in regards to our blood sugar, even, you know, when we think of that, we generally put that in a pithy box of like food is going to influence that, but your thoughts and your perceived stress as well. So I just yesterday was looking at this really interesting paper and this particular paper, this was. Just published in 2019 and it was titled adverse childhood experiences in the onset of chronic disease in young adulthood. Yes, and finding that these traumatic experiences that also can get passed down by the way Transgenerationally, and there's another paper on that as well.

Basically, there's alterations in our genes, but also Non genomic aspects of how our cells are functioning. Basically our sex cells in particular are getting altered and Passing that information down to our kids.

DR. SARA GOTTFRIED: Yes.

SHAWN STEVENSON: Possibly making them more Adaptable or more suited to live in a hostile environment right so more propensity towards being reclusive, more propensity towards being aggressive more propensity towards holding on to more belly fat and fat in general because you might need to hide, right? These are all evolutionary adaptations that in a way help us to survive but not necessarily to thrive.

DR. SARA GOTTFRIED: Cortisol, I think of as the highest priority in terms of hormones in the body. So there's hormones that you might think of things like estrogen, testosterone, DHEA, progesterone. Those are not necessarily needed to live. So you can get away without them. So a lot of women who go through menopause, men who go through andropause, and have low testosterone, you can still function. You may not function as well, but you can still function. They're not necessary for life. Cortisol is necessary for life because it controls your blood sugar, as we talked about.

It also modulates your immune system. And it's one of those hormones, it's the chief hormone of your stress response. And so it's designed to help you if you encounter a threat, you know, like a tiger to run or to fight or to, in the case more so for women, because women have a different stress response, freeze or fawn. So cortisol is the main actor behind the stress response. And what I see in my practice is that probably 97 to 98% of people have a problem with their cortisol and they don't know it. So it could be high cortisol, which was my story in my thirties. That was kind of the central problem that I had with belly fat and weight loss resistance. So when I measured my blood level of cortisol, it was about three times what it should have been. And I remember talking to a psychiatrist friend at the time, and I was like, Luann, Luann Brizendine, I was like, "why is my cortisol so high?" And she said, "girl, every female physician I know has a cortisol that's two to three times what it should be".

It's just the nature of being in a stressful system. And then there are people who have low cortisol. They've gone through a phase of producing, overproducing cortisol in response to their environment. And now they're in a state where they don't make enough. And so there's this gap that they feel like they wake up in the morning and instead of jumping out of bed,

like I imagine you do and start dancing with Ann. They put their feet on the floor and they're like, Oh, I don't feel restored. I need Shawn's book, sleep smarter. So it's.. And even for some folks, they have high and low cortisol within the same day. So it's not just your level of cortisol, which is supposed to peak within 30 minutes of when you wake up and then gradually decline. It's also, what is the shape look like? What's the cortisol awakening response? What's your cortisol? When you first wake up 30 minutes later, 60 minutes later? What's your diurnal cortisol? Because cortisol is kind of like a flower, like a gazania that opens in the morning and then slowly closes. And a lot of people lose those patterns, which lead to more immune dysfunction, more of those chronic diseases that you mentioned associated with the ACE study.

And I'm so glad you brought up the ACE study because you reach so many millions of people. And a lot of folks don't realize that some of those challenges that you and I had in our childhood, even if we're quite resilient now as adults, they then map to 40 different chronic diseases as you get older. Whether that's mental health, depression, anxiety, post traumatic stress disorder, or physical health, like immune dysfunction, autoimmune disease, cardiovascular disease, all the, you know, most of the main killers in the U. S.

SHAWN STEVENSON: Yeah. And it's so obvious once we realize that our thoughts create chemistry.

DR. SARA GOTTFRIED: Yes.

SHAWN STEVENSON: And obviously again, You talked about this really interesting connection between cortisol and possible weight gain, but you also mentioned the thyroid earlier and the thyroid and cortisol have an intimate connection, you know, they're all along that HPA axis. And so the thing that you said that is I don't want people to miss is that our thyroid and Associated hormones can essentially downregulate or upregulate our metabolism. So we might be cutting calories, but your bodies perceive stress or threats can down regulate your metabolism to slow things down. And then this is where people start to get into that self defeating or learned helplessness, because there's like, I'm cutting the calories, I'm doing the exercise, but my weight isn't budging.

DR. SARA GOTTFRIED: Critical, critical point. So there's all this interdependence between these hormonal systems. And I feel like you just described it perfectly. So what we know with thyroid, for instance, is that if you're a stress case, like I was in my 30s until I became a yoga teacher and, you know, started to meditate every day, which is really essential for those of us who have ACEs, Adverse Childhood Experiences, before age three, got to have a daily mind body practice, essential, non negotiable. So when you've got High perceived stress. It can block thyroid function, as you described, so there's so many things that can do it. It's not just high stress, but cortisol is a big part of the story with how you up or down regulate your thyroid function. There's the role of nutrients. There's copper, zinc, selenium, iodine. There's the role of vitamin D, which is so essential for thyroid function. And then there's this piece that I think is so important that... the body has a few different brakes in the system. And by this, I mean, you know, like a handbrake you have in the car. And one of the brakes is that if you're under a lot of stress, the handbrake that goes on with your thyroid is called reverse T3.

So you start to make more reverse T3, which blocks thyroid receptors if you're under a lot of stress. And what I see with a lot of folks, because I measure reverse T3 along with a full thyroid panel, and I measure cortisol, is that a lot of folks will go through a stressful situation, even potentially like low carb, reducing their carbs, you know, to a significant degree. That is perceived as the body by the body as stressful. And so that can potentially raise reverse T3. It's designed to be this emergency brake that you use if you're in an intensive care unit. But what I see is that a lot of people have those small T traumas, those little slights that aggregate and lead to this toxic stress response that can lead to weight loss resistance, can lead to the thyroid not working the way it should, can lead to dysregulation of the cortisol. You said one other thing that I want to highlight that I think is really important. And you know how I like to nerd out with you.

So this is a nerd moment, I'll just call it out. So I think of the control system for your hormones as the hypothalamic pituitary adrenal axis. So you've got your brain kind of talking to your adrenal glands. That's where you make your sex hormones, like estrogen, progesterone, testosterone, et cetera. But there's a bigger control system that we're still learning about and that includes the thyroid. It includes the gut, and it includes the gonads. So testes in men, ovaries in women. And so the way I think of it is not just the HPA, I think of

it as the HPA TGG. So hypothalamic pituitary, adrenal thyroid, gonadal gut axis. It's quite a mouthful, but that's kind of the bigger control system that we want to be thinking about.

SHAWN STEVENSON: Yeah, that's, thank you for saying that. The next thing I was going to reference is that even when we're testing a hormone, for example, we cannot look at that thing in isolation.

DR. SARA GOTTFRIED: Yes.

SHAWN STEVENSON: None of our hormones are operating in a vacuum. And all of these powerful metabolic stations in our bodies are deeply connected and interacting. And so we tend to identify like, you know, my adrenals are whatever, dysfunctional, but it's just like your adrenals are part of a much bigger system. And the conventional thinking is like, we got to try to hammer away and address that broken piece where in reality, this could be something upstream or downstream that's actually causing the issue. The most important thing is proactively having a stress management slash Processing practice. You said it's non negotiable. When you said that, I was like, let's bookmark that moment. Non negotiable practice for yourself.

DR. SARA GOTTFRIED: Especially for those of us with early trauma. So, you know, I sometimes use myself as an example, not because I think I'm so great, but because....

SHAWN STEVENSON: You are. You are.

DR. SARA GOTTFRIED: ..That's debatable, but I, you know, I had parents who divorced when I was really young, I was a year old. And, I've never had a relationship with my father. And so that counts as an ace, an adverse childhood experience. So my ACE score is about six, which is pretty high. I've had some psychiatrists who count it as seven. It's, you know, debatable, but the point that I want to make is that when you have these early childhood experiences and they occur so early, you get this kind of trigger response with stress. You go into these automatic responses that often do not serve you really well, they might serve you, you know, if you've got that tiger chasing you, but they don't serve you when you're trying to stay married

They don't serve you when you're trying to parent. They don't serve you when you're trying to lead an organization. And so the more that we can really slow down that process and maybe even heal the way that those adverse childhood experiences affected us, the better. So I'm not saying that's the magic bullet for weight loss. What I'm saying is you deserve, we all deserve to know about some of the ways that we can clean up the residue of adverse childhood experiences and adult adverse experiences too.

And so those daily mind body practices for sure. You know, I meditate for 30 minutes every morning, no matter what, but also, you know, there's things like psychedelic assisted therapy that has been shown to make a gigantic difference, durable, in terms of post traumatic stress disorder. And I feel like a lot of my patients, even if they don't meet criteria for post traumatic stress disorder or PTSD, they have partial PTSD, or they have what's known as subthreshold PTSD. And what I think is so promising is that many of these sacred medications that went underground in the 70s and 80s, now we know from large randomized trials. They can really help us with the way that these toxic stressors and trauma get lodged in our system.

So we've talked a bit about how it affects cortisol, and you made this point that I think is critical, which is, it's bigger than just cortisol, of course. My next book is about the pine network, the psycho immune neuroendocrine network, and how trauma affects it. So we all know about the mental health effects of trauma. We're quite conversant, you know, there's lots of books about that, but I think a lot of people don't connect the dots to physical health, to the weight loss resistance, to the autoimmune disease, to the dysregulation with their hormones, as we've talked about. So I think it's important that we look more broadly, especially with physical health. I think you're also saying, and tell me if this is right now, we have to personalize it.

SHAWN STEVENSON: That part, yeah.

DR. SARA GOTTFRIED: I think that's such a part of this conversation because you know, what works for me in terms of Working in a positive way with my adverse childhood experiences may not work for you. Not everyone wants to sit and meditate for 30 minutes. That just doesn't work. They'd rather dance or they'd rather have sex and orgasm, you know there's so

many different ways that you can work with your stress response. And I think it starts with an awareness of how toxic stress might be lodged in your system. So this awareness of your own adverse childhood experience, and I hope maybe we can have folks Google the ACE questionnaire so that they can assess that or we can link to it. So knowing your own ACE is so important. And then to understand that it's not just You know, your A score is bad. Good luck with that.

It's that we've got all of these ways that we can work with it and then to personalize it so that you can, you know, not let that trauma continue to live on in your body and continue to maybe harm your relationships and affect your, your connection to meaning and purpose and the way you work out at the gym, the way you take care of yourself.

SHAWN STEVENSON: All right. That was our first expert in this powerful compilation. We've got two more powerful segments to go. And putting this together reminded me of a conversation that I had with my really good friend, neuroscientist. And NYU professor, Dr. Wendy Suzuki, and she's done a lot of research on anxiety and she's tested a plethora of different things, like literally putting things through clinical trials.

And she's found for herself and what she's really stuck to in her own life that she loves to do is a tea meditation. All right, and this was the first time that I really heard it articulated like that. And she really emphasized this practice has been done for centuries this Japanese tea ceremony, that it's akin to a very powerful meditation that really helps her to relax. And she's seen notable changes in her cortisol levels, notable changes and reductions in her anxiety and the emphasis here. And this is something that I highly encourage you to try out, you know add this to the mix see how you like this. But also here's the benefit. It's not just the practice of being present and mindful in the process of making the tea but the Japanese tea itself. The Japanese matcha green tea in particular, because a study that was published in the journal Brain Topography found that Drinking matcha tea provides our bodies with an abundance of L theanine, which was found to increase the frequency of alpha brainwaves, indicating reduced stress, enhanced focus, and even increased creativity for test subjects.

Now, there's one matcha green tea that stands up above them all and is from the folks at Pique Life. It's shaded 35% longer for extra, and L theanine to support healthy stress management. And it's actually crafted by a Japanese tea master, which there are less than 15 of these folks in the entire world. And also it's the first matcha that's quadruple toxin screened for purity. So head over and check them out. It's piquelife.com/Shawn. That's P I Q U E L I F E . com/S H A W N to get hooked up with up to 15%off. Free shipping and even some bonuses. They're going to send you a free sample pack to be able to try some of their other award winning teas with some of their different tea bundles. All right. So head over there, check them out. That's piquelife.com/Shawn. P I Q U E L I F E . com/S H A W N and now moving on in this powerful compilation to address the truth about stress and weight gain.

We have best selling author and health psychologist, Kelly McGonigal. Now she's going to be sharing why your beliefs about stress are so powerful, the truth about doing stress by yourself, and why smart exercise is a gateway to success. Not just less stress, but a lot more pleasure. Check out this segment from the amazing Kelly McGonigal.

KELLY MCGONIGAL: So stress can have positive and negative effects, and often it has both at the same time. It's not the case that stress is always toxic. And every time you're in a stressed out state, it's like your body betraying you and you're destroying brain cells. I mean, we have a lot of false ideas about stress and the main one is that it's always a negative state to be in, and it only has negative consequences for your health and your happiness. So the stress mindset effect is all of this research that shows that people can be protected from a lot of what we think of as the inevitable consequences of chronic stress or severe stress. If they hold certain beliefs about what it means to be stressed and their capacity to deal with that stress. So there are a few key beliefs that seem to make people really good at stress. One of the first beliefs that can make people better at stress is the idea that stress is energy you can harness and that when you feel these symptoms of stress, maybe your heart is pounding or you're breathing faster or you feel butterflies in your stomach or even muscle tension, that it's a sign that your body is getting ready to rise to the challenge.

And this is, it's actually true. But what's interesting is as soon as people decide to embrace their stress and harness the energy, it actually changes what's happening in your immune

system and your cardiovascular system and in your brain, that makes the stress response both healthier and more skillful so that you actually are more likely to perform well under pressure. You're more likely to be able to connect with others. So the idea kind of allows that to happen. That natural capacity to emerge. So that's one idea. Another idea is to understand that you don't have to do stress by yourself. So many of us feel like stress is a do it yourself project. Everything in life is a do it yourself project. I alone can deal with this. I don't want to be a burden on others. Nobody understands what this is like. All those different ways we can feel alone in our stress. And people who have a bigger than self mindset and understand that stress is often a signal that you need to reach out. That you're feeling stressed because you need help.

Or because you're not the only one and sometimes your body and your brain will make you feel lonely, or anxious, or overwhelmed, in order to nudge you to connect with other people who are going through the same thing or who have resources to support you. And so people have that mindset. Again, they tend to be much more effective at dealing with the big stress and also they tend to have a stress response that's healthier, that's good for the heart and good for the immune system. And the third key idea is the belief that even if you're going through a stress, you would never have chosen for yourself that it is possible that it can bring out something good in you. So maybe there's nothing good about the situation, like the situation sucks. And also, we know that situations that are traumatic and stressful can bring out our strengths, can help us overcome them, reprioritize, understand our values, strengthen relationships, point us in a new direction, that capacity to learn and grow from stress is part of our, it's in our DNA. And people who believe that again are more likely to access it. So when you have those mindsets, that stress is energy, you can use that you don't have to do it all by yourself. And that it's possible to learn and grow from any situation. People who have that stress mindset, They, they just are better at stress and it doesn't mean it's going to protect you from everything that you don't want in life. But man, it just, it makes people healthier and happier and better able to experience the meaning even in their stress. I wanted to give people another way to think about movement. That if you're motivated by weight loss, And it's working for you. It's like, that's probably already happening. I don't think people need more information or encouragement about that. I feel like so many people don't understand the effect that exercise has on mental health and on belonging and on resilience.

And that it's so profound. I mean, you said it's what our genes expect from us, that when we move on a regular basis, when we are active. We are able to access the parts of our human nature that help us thrive and that literally produce joy and allow us to experience joy and meaning. So I just, I decided to leave the whole conversation about weight aside, and say, like, It doesn't matter what your size is or what your health goals are or what your physical goals are. You don't even need to have physical goals. You don't need to have weight loss goals to want to embrace movement as something that is going to truly enhance every aspect of your life. If people understand, I feel like people would be lining, like people don't exercise all day. So there are very few things that can do the first thing, which I'll mention, which is that it sensitizes your brain to pleasure.

There's nothing you can do that actually changes the structure and function of your reward system the way that exercise seems to do it. And that it teaches your brain to expect things to be pleasurable and it enhances your brain's capacity to enjoy everything from good food and a beautiful sunset to interactions with your kids or with your friends. To anything that we find pleasurable, it actually amps up your reward system. It makes it more robust and responsive like endorphins work better, you know, endocannabinoids work better. And like I said, I literally never seen anything in the research that has that effect on the brain other than deep brain stimulation where you literally have to implant an electrode into your reward system and wear a pacemaker for your brain. And that, you know, it's one of the cutting edge treatments for depression. And it may also help people recover from addiction because addiction can really mess with your reward system. But other than implanting an electrode in your brain and literally giving your reward system an electric shock continuously to try to wake it up.

Exercise seems to be the only thing that does this. And think about what that means for your wellbeing. If everything that feels good feels better and it does the opposite too, right? So everything that, So it makes your brain more resilient to stress. It's, you know, exercise is such a powerful antidepressant. So it works on both levels. And I feel like people have a better understanding of that side of it. At least they've heard, you know, that exercise can be an antidepressant or that it can enhance antidepressant medication and therapy. But I feel like

this idea that exercise actually makes you better at enjoying things is the thing that people really haven't heard yet.

SHAWN STEVENSON: That's gold. That's absolute gold. It sensitizes you to more joy. I know. Or you can do the opposite, which sounds very archaic, like let's drill a hole in your head.

KELLY MCGONIGAL: Yeah, or do that.

SHAWN STEVENSON: You know, or you go for a walk.

KELLY MCGONIGAL: But you know, I know there are some people who would rather probably get the implant than go for a walk. But I think that that, that is often a mindset.

KELLY MCGONIGAL: So one of things I don't write about in the book, but I, you know, I, it, it sticks with me. There's something that I call the joy gap, which is that people dramatically underestimate how good it will feel to move their bodies. If you ask people, how will you feel when you work out? People tend to predict, I'll be tired. It'll be exhausting. It'll be boring. It'll be unpleasant. And when they actually do it, even people who say that they don't like to exercise, what people typically report is, I feel better, I feel more optimistic. I feel like I can take on the world, I have more energy, not less energy. And so, you know, this is a gap we have where we think exercise is going to be so hard and so uncomfortable and so awful that we might think we'd rather, Have an implant in our brains, that would be easier, but the actual experience people have is so much the opposite.

So I'm interested in all psychology, all neuroscience, and this is the, I think, the most interesting finding of the last decade in all of science. And this is the insight that your muscles are basically an endocrine organ that secrete hormones into your bloodstream that affect every system of your body. And from a health point of view your muscles will secrete hormones and other proteins that are good, you know, that fight cancer cells and that are good for your heart health. The things that we know, typical, why exercise is good for your health. But, your muscles, they secrete chemicals and proteins when you exercise that are also really good for your brain health.

And one of the first papers, you know, almost 10 years ago, that was published explaining that when you contract your muscles, they literally secrete these proteins into your bloodstream that make you resilient to stress and can protect you from depression.

The scientists called them hope molecules, this idea that literally your muscles are manufacturing. like antidepressant molecules. And the only way to get them into your bloodstream where they can then travel to your brain is you have to contract your muscles. Like that's it. But your muscles are, it's like a pharmacy in your muscles and anything you do that contracts them walking, hiking, running, dancing, weightlifting, like swimming, anything. You are going to be dumping hope molecules into your bloodstream that when they get to your brain, they work as an antidepressant and they also help people recover from trauma. Like that, that's like a miracle. I mean, I, you know, because of course it's wonderful when medications work for you, but for so many people, medications don't work or they don't do the full job in terms of helping with mental health. And the idea that your muscles could provide you with the, the equivalent of something like an antidepressant medication like that is just, I think it's phenomenal.

SHAWN STEVENSON: All right. We're at our final expert in this compilation to address the truth about stress and weight gain. And next up, we've got New York Times bestselling author and expert on thyroid and adrenal health, Dr. Isabella Wentz. Now she's going to be covering the relationship between your adrenals and your stress response, the transformative power of reducing stress by sending your body what she calls safety signals. And creating the conditions in our bodies to make weight loss far easier. Let's dive into this segment with the amazing Isabella Wentz.

DR. ISABELLA WENTZ: So some of the symptoms that people might have are trouble waking up in the morning. So they just can't get out of bed, and they might be sluggish. That's one pattern. Another person might just jump out of bed startled, right? And another person, they will have irritability and mood swings throughout the day, sometimes that 3 p. m. crash where you either like want to take a nap or you, or you like want to yell at somebody, that can be a sign of adrenal dysfunction. Then things like pain all over in their body, libido issues,

fatigue, irritability, anxiety, trouble sleeping, which I know you and I are both passionate about getting our adequate sleep.

This can be very much connected to adrenal dysfunction. People tend to say they feel tired throughout the day. And then they end up being moody throughout the day. They end up being tired but wired at bedtime where it's time to tune in for the night. They start getting that second wind of energy and they can't fall asleep. Other manifestations might be things like excess weight gain. And people just can't regulate their healthy weight levels. In some people, and most of these people don't complain as much or maybe aren't seen as much, but I think this is very relevant as some people just can't put on the weight. So they might be like, I'm exercising, but I can't put on muscle, muscle wasting. Just feeling like you're wasting away. You're not thriving. I would be a way to describe. The adrenal dysfunction and just being a state of overwhelm at all times.

SHAWN STEVENSON: Wow. So this speaks to a lot of people's experience, which is, you know, they're really trying hard to lose weight and they're counting their calories. They're in even a caloric deficit, right? Because that's kind of the superficial scientific thing, you know, when I was in my nutritional science classes in college, it's just like, you know, expend more calories than you take in. It's simple, then you'll lose weight.

DR. IZABELLA WENTZ: Basic math, right?

SHAWN STEVENSON: Basic math. Your body's a calculator, right? You know, but in reality, your thyroid is deeply, and this association is connection with the adrenals, deeply influential over your, "metabolic rate". And how your body is processing and expending that energy. And so, you can be in a place where you're cutting your, and I've seen this, I've seen people come into my office and they're eating 900 calories a day. And the scale's not budging. And they're just suffering, they're broken, and they, they're just like, I don't know what's wrong with me, right? And of course you've seen this many times, but helping people to understand what's going on internally, and helping to heal and support these glands is a big part of this mission.

DR. IZABELLA WENTZ: Mm hmm. And it's challenging because I'll see some women that are like overly exercising and they're restricting their calories and that sends a message to the body and that message is, Hey, girlfriend, we're in a stressful time, but don't you worry, I'm going to hold on to your calories so you're not going to starve. I see that food isn't available right now and I see you're doing great. All this running, you know, you must be running from some intruders, right? Because our genes haven't really adapted to dieting and the stress of our day to day lives. They're more, and our stress response is more adapted to, hey, we're being chased by a tiger right now. What are we going to do? Or, hey, we're in a famine, can we conserve some of that, some of our calories so we don't have to look for food right now? And so it's really adaptive physiology at its finest. Our body's always trying to help us out, trying to help us survive. And if we're sending these messages to the body, like, hey, food is not available.

Or, we're under a lot of stress, the body's gonna try to help us out, it's gonna help to, it'd be like, I'm not, you don't have to look for food, honey, we're gonna, we're gonna hold on to all of your calories for you, right? And so that's what happens, unfortunately, is the base, the metabolic rates slow down, and I will have some women where I will say, Hey, how about you really focus on sending yourself safety signals and eating nourishing foods and not exercising so much, maybe switching up the type of exercise that you're doing? And they're like, I'm exercising less and I'm eating more, but I'm actually losing weight, because the body knows that it's safe and it's getting the signals that food is plentiful. That we're not being chased by a bear. And so it's okay to like thrive and focus on metabolism.

SHAWN STEVENSON: And so what brings about adrenal dysfunction? Like what is the thing that causes that to manifest?

DR. IZABELLA WENTZ: Well, it's stress, right? So when I ask people that I work with, what was going on in your life before you get sick? There's always some sort of a stressor, and I would say majority of people, it's something like they were going through a divorce. Maybe they had, unfortunately, a death in the family. Perhaps they went through a bankruptcy. Or some other kind of accident, something, you know, either terrible happened or something like going to graduate school, moving to a new city, starting a business, or having a baby, even

joyful things that really change our life in a big way. These can be stressors that become, that essentially get our body stuck in that survival mode.

And normally our stress response is supposed to be acute. So we see that saber toothed tiger or the bear or the lion, whatever it is, right? We see it and our body puts out cortisol and cortisol prioritizes survival. So it, when we have lots of cortisol on board, what our body's starts to do is it starts to break itself down, the longer we need cortisol to fuel that cortisol response, right? And it's really, really helpful when you're trying to run away from something, right? And eventually, you know, hopefully you got away from the tiger and now you can get some rest and perhaps sleep it off, eat some food, whatever, shake it off. There's various methods of dealing with acute stressors. And then after that, if the stressor is gone, then we come back to our healthy adrenal system. Function healthy amounts of stress hormones where we have a little bit more in the morning to get us out of bed. And then it's like a smooth ride down slide until we're ready to ease into our nighttime routine and sleep really, really well. Now the thing that sets it off is chronic stress so this could be You know, we don't have tigers chasing us. Most of us don't these days, but this could be..

SHAWN STEVENSON: Maybe Tiger King.

DR. IZABELLA WENTZ: Tiger King. Oh my gosh. That could be anything from our inflammation within the body because of the foods we eat or the chronic infections or hidden sources of inflammation like toxins we may be exposed to. This could be not eating blood sugar balanced. So eating too many high carb foods, not enough protein, not enough fat, this can put us, stress out our adrenals. It could be psychological stress. So if you're currently dealing with, and I always say, cutting out toxic people works sometimes even better than cutting out toxic foods, right? But if you have a source of toxicity in your life right now, that could be incredibly stressful. I had one reader that read one of my books and then wrote a review and I said, I didn't have to do anything. She said, I just quit my job, which was highly toxic. And then I, you know, I feel better and I'm in remission now. And I'm like, yay, if you could identify that current stressor, get rid of it, or do something about it, then you can make yourself much healthier.

There's past stressors too, like traumatic stress that it happened, you know, 20, 30, 40, 60 years ago, but still stay with us and that can really, really mess with our ability to handle stress. And with our overall adrenal stress response, and then there's one that sends people into adrenal dysfunction, like the fastest way to get in is sleep deprivation. So if you're not sleeping enough, if you're having perhaps too much coffee, or Whatever is interfering with your sleep, that's actually one of the fastest ways to get in.

What happens initially when we're under a lot of stress, our adrenals are going to produce a lot of cortisol, right? And cortisol is what I like to think of. It is like our go hormone. It's like take, drinking eight cups of coffee. And it's like putting a bunch of rock stars in a hotel room and just letting them go on forever. Or, you know, just like, Like one toddler in this room for 10 minutes, right?

SHAWN STEVENSON: One toddler versus eight rock stars.

DR. IZABELLA WENTZ: Exactly, exactly. So it can make a mess very quickly. And if you don't check your cortisol levels, you're going to lead to a lot of breakdown of your body, right? It's something that instead of building our body up, It's going to break our body down and puts us in a bit of a catabolic state. And so our body recognized this and our body's always trying to adapt and always trying to help us survive. And so where we're under prolonged stress, the body starts to say, you know, do we really need to produce that much cortisol at all times? Let's try to shut down some of this cortisol production because it's affecting other systems, right? And so, the early stages of adrenal dysfunction in some people, for this might be 10 minutes, for other people this might be 10 years, where they're more in a high alert state.

And they're, they're more like angry and irritable and they're like just ready to go, everybody around them is like super slow, not smart enough, and they're just go, right? And then as time goes on, this might turn to, like that 3 p. m. crash or trouble sleeping in the evenings, but, you know, their, their cortisol production is going to be a little bit suppressed. Where if you were to do a test, they might have normal levels of cortisol, but they're just on a bit of a roller coaster throughout the day. So, they might not have healthy levels of cortisol in the morning, it might be too low, and then later in the day, it might swing up too high, and they'll get a bit

anxious. And then perhaps then it'll drop and then they'll have again a raise, rise in cortisol in the evenings. And I call this like a roller coaster, you can kind of picture what it looks like, right?

And then as time goes on, all of those peaks start to drop down, and this is what I see in people with autoimmunity, with Hashimoto's, like 80 percent of them. They just have flatlined adrenals, so they're just having trouble waking up in the morning, they can barely get by, and they go to bed, and then they, like, sleep, and they don't feel refreshed in the morning. And these are the people where they're things like intermittent fasting isn't going to work for them. It's going to make them feel worse. Doing things like cold plunges is going to make them feel worse. They just don't have enough stress response to build a healthy stress response. So everything is overwhelming to them, right? So you ask them to don't know, you know, let's say if you had a child or a partner with it, you'd be like, can you take out the trash?

No, I can't do it. That's just too much for me. And it's just day to day life becomes too much because they just don't have enough of that cortisol, which is enough of it helps us be vibrant and present and helps us survive. So we talked about all these stressors that we're bombarded with on a daily basis, whether that's like watching the news or whether that's, yeah, we don't recommend that.

SHAWN STEVENSON: Just that, in and of itself.

DR. IZABELLA WENTZ: Whether caring for others or work stressors or past traumas or just ongoing inflammation exposure to things in our life. And thinking about what messages that sends to our body and to our, to our ancient genes, right? And it's saying, okay, we need to conserve energy. We don't have enough energy. There's just. Too much, let's slow down metabolism. Now, for a while, I thought about, when I was trained in functional medicine, what do you do when somebody has adrenal dysfunction? You can put them on replacement hormones, right? So they're not making enough cortisol. Let's give them cortisol, right? But that doesn't necessarily solve the issue if they're still under a lot of stress, right?

And you can suppress their own production of internal, internally produced hormones that way. You can kind of suppress the feedback loop that way. And so it's not a long term solution and the solution is really to rebalance that stress response. And so what if, rather than having all these messages to the body that say you're not safe, What if we found a way to tell our body that it's safe in a language that our body could understand, right? And this is what I call safety signals. And these are targeted interventions, I have 14 different ones in the book that focus on making your body feel safe so it could get into that parasympathetic, that rest and digest and heal state, and we can get into more of an anabolic state versus that catabolic state.

Let's break everything down because we're stressed out. Let's like, let's clean house, right? Let's focus on rebuilding and healing. And, um, I, I have a lot of different ones that we do and it's amazing because it works really, really well in just two to three weeks versus using some of the hormones or some of the Extreme lifestyle changes that I used to recommend, it would take three months to two years to get better. A safety signal, so one danger signal might be if you are starving, right? So if you're not getting enough calories, if you're nutrient deficient, if you're eating foods that are inflammatory to you, your caveman genes are gonna think, Oh, my goodness. We're just eating grass all day that we're humans.

We don't eat grass. There must not be enough food available, right? And we're so depleted. We need to conserve energy, right? We need to slow down our metabolism. And so what we do is we actually focus on nourishing the body, and we utilize anti-inflammatory, nutrient dense foods that focus on getting plenty of macronutrients. So we're doing protein and fat, we're eating blood sugar balanced, and we're also getting a lot of micronutrients, so that lets the body know that we have lots of food. We do not have to conserve energy, right? We can ramp up our metabolism because we have everything that we need. And it, I don't know, maybe it sounds boo boo, but it actually works and it works in just like two to three weeks where people are like, wow, I'm, I'm healing.

Another thing is getting rest. So getting enough rest is going to be helpful. Your body can heal. You could go into those. It could heal your body with deep sleep and you can heal your

body with your brain with REM sleep when you get enough of that. Then you're going to start healing really, really effectively.

SHAWN STEVENSON: Now would this be in contrast to exercising your face off? If you're trying to lose weight, And you've got, you're dedicating two hours a day to working out and you're sleeping for six. What would you do? Would you shift one of those hours to sleep rather than having those two dedicated to exercise?

DR. IZABELLA WENTZ: I would shift that time to sleep more and then I would, Also consider the type of exercise that you're doing. So if you're in a catabolic state you want to consider what types of exercises are going to be anabolic and build up your metabolism and build up your body versus what exercises are going to be catabolic. So if you're doing like a lot of like biking and aerobic exercise, running, that's actually going to help to break down your body further, and so you need to build up your body more. So doing things like weight training can be beneficial. Doing things like yoga for relaxation. Those are usually the types of exercises that I recommend for people that are in that catabolic state and that have low metabolism because building more muscle is going to help us become.. It's going to help our, speed up our metabolism, right, along with getting more protein on board. And it's, it sounds counterintuitive, but it actually works, right?

SHAWN STEVENSON: Yeah.

DR. IZABELLA WENTZ: Because people are like, but I was told, like, the math is this and this, but it's like, but there's all these other factors and parentheses and, and powers that you need to consider. It's more, you know, it's more like trigonometry than math.

SHAWN STEVENSON: Thank you so much for tuning into this episode today, I hope that you got a lot of value out of this. This is one to share out with your friends and family. You've got to get this education out because we get so hyper focused on, yes, the importance of our nutrition, the importance of exercise, but we're not discussing just how powerful stress is on our health. Now, stress is of course something beneficial and we need it. But it has to be managed properly and efficiently hormetic stressors help our bodies to get stronger and

more efficient But we need to heal We need to take time to heal give ourselves permission To heal and utilizing some of this knowledge and some of these tips that you learned today Is a bridge to getting from where we are to where we want to be.

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