

THE MODEL HEALTH SHOW

EPISODE 628

Improve Your Energy, Balance Stress, & Enhance Immunity Using Adaptogens

With Guest Tero Isokauppila

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SHAWN STEVENSON: Welcome to The Model Health Show. This is fitness and nutrition expert, Shawn Stevenson, and I'm so grateful for you tuning in with me today. Today we're having an important conversation about resilience and about adaptation. A lot of folks don't realize this, but this was published in the Journal of the American Medical Association, JAMA Internal Medicine, and the researcher stated that upwards of 80% of all physician visits today are for stress-related illnesses. Stress is a huge underlying component of our degradation, of our breakdown as a species. Now stress is very different today. We're exposed to a lot of micro to moderate stressors and not the intense big stressors that our ancestors might have been exposed to, for example, face-to-face with a saber-toothed tiger. They always use saber-toothed tiger, by the way. What about a woolly mammoth? Alright, a woolly mammoth probably wouldn't be very pleasant to run up on either. But that exposure where you have to fight or flight, or we have an exposure to a period of struggle trying to procure our food, maybe a rival tribe, exposure in a war circumstance or violence.

But our stress response would be very high and then it would come back down, we have a temporary stress, come back down. Today, stress after stress, after stress. We have the same very primitive wiring in our response to stress that has a lot to do with this integration point with our endocrine system and our nervous system. And we're going to talk about this today, actually, with our special guest, and the HPA axis, and the implications that that has with stress, and also how that can drain your body of a particular nutrient that's well noted to help to manage our immune system. So, look out for that, that's really going to be cool to talk about today. But the bottom line is, today our overabundance of stress exposures, even the environments that we're living in. We are designed and hard-wired for a constant association with nature, with fresh air, with natural lights. We can effectively manufacture the lights that we want, the lighting conditions, and our system is confused. Evolution takes time, we've only had for, recent decades, the ability to modulate and supersede a natural day and night cycle, we can effectively manufacture a daytime at night.

Have you ever been to Vegas? Alright, the city that never sleeps, also shout-out New York, they have that moniker as well, but... Just understanding our circadian rhythms, our circadian timing system within each and every one of our cells. And today we know that these are functional genes and proteins, these body clocks that are constantly trying to sync up all of the cells in your body with a 24-hour solar day. We're not just talking about planetary; we're talking about being synced up with the entire solar system. But we get so caught up in our micro world that we ignore the macro world and that we're a part of something much bigger. And so, these micro-stressors, a stressful message from your boss, or for something that's going on in a

relationship context. Or traffic, I live in LA, I don't get it. Put it in the GPS. We got two-mile drive, why is it taking 30 minutes? It's just two miles, I don't understand. So, traffic.

But also, this is one of the greatest homes for podcasts and listening to podcasts, because you're going to be in it. Alright. Now, the thing about LA traffic for folks that don't know, there is still some pattern to it. There is still a puzzle you can kind of put together and kind of ebb and flow with the traffic, you know where it's going to be more abundant at certain times of the day, but still, it can be inconvenient and also add to another stressor. So, all of these things are helping to formulate our overall stress load. Also, put on top of that, our diet stress.

Just imagine how much it stresses our bodies eating some damn Apple Jacks. Alright, your DNA has no idea what the that is, it is so far removed from being a real food, anything with any resonance of life force or anything natural. It's just chaos that takes place within our system as it's trying to associate with... Trying to assimilate whatever straggle of a nutrient, but also that's going to get zapped immediately try to process this. The elimination, the detoxification, the metabolic waste, all of this stuff, incredibly stressful situation that happens when we're associating with these fake foods that now make up... About 60% of the average Americans diet is made of these ultra-processed foods.

And I know this because not only was I a card-carrying member, I was also the president of the processed food consuming US citizen. Alright, so much so that I ate fast food about 300... At least 300 days a year. Alright, this is... I'm not proud of this, I'm not proud of this, and I've done my work to help to make amends, and not just for myself, but pay it forward in society in a major way. But that put me in this position. And we're going to talk about this actually, after the interview today, with our special guest, so you'll hear more as to that story and some of the outcomes that it had for me that I don't often talk about. So, make sure to stay tuned for that as well.

But the bottom line is our abnormal conditions, our abnormal diet, our abnormal stress exposure and our inability to process stress... Like we talked about recently in the episode with Dr. Caroline Leaf. If you haven't listened to that one, make sure after this episode, this powerhouse episode that you're into right now, make sure to check that episode out. And we're talking about the distinction between the mind and the brain, and also being able to process our exposures and how powerful we are to change our minds and to change our lives. But... So, you couple all this together, an inability to properly assess and manage stress and our abundant stress exposures, we're in a position right now... We need a little help. Alright? So that's what this episode is about. We're going to be talking about this really remarkable category of nutrition called adaptogens. And some of the signs around this is going to blow your mind. Super powerful. And really, really excited about this.

I've got one of the leading experts in the world on this subject matter and... Wow, just super powerful information for us to know, and it's also empowering itself, because we have access to things like this today, because this speaks to the benefit of innovation and growth in our connected society, that can also be a detriment in another way. So, we're marrying today ancient wisdom and also modern technology in a really special formula that our special guest is very well-equipped to be able to share, to dictate. Now, during the episode, he briefly mentions one of my favorite adaptogens that I utilize on a regular basis that I don't want to glance over, because it's so accessible, but it's also so powerful. In fact, in the context of stress, this adaptogen is very remarkable in helping us to manage our emotions. A study published in the Journal of Ethnopharmacology points to turmeric's potential in reducing the severity of both anxiety and depression.

Another study published in the European Journal of Nutrition uncovered that compounds in turmeric can down-regulate inflammatory cytokines and up-regulate the activity of things like adiponectin and other satiety-related hormones that help us to feel more satiated and balanced. Alright? Now, turmeric obviously has become much more popular, specifically an isolated compound in turmeric called curcumin. Now curcumin has some remarkable benefits with cognitive function, with anti-inflammatory capacity, but what people are really missing out on is that there are over 300 bioactive compounds in turmeric itself. We're missing out on all these other powerful co-factors and polyphenols and other really remarkable phytonutrients. One of them is a compound called ar-turmerone. And in and of itself, it provides turmeric's really powerful, more abundant than curcumin, its anti-inflammatory abilities.

And so, this is why I love a super concentrate of turmeric, in addition, bio-potentiators that make turmeric work better in the human body. And this is why I utilize the turmeric complex from Paleovalley. It's one of my all-time favorite supplements. It's something that I personally use on a regular basis. Highly encourage you to check it out. You get 15% off, actually, if you go to paleovalley.com/model. Use the code MODEL and check out. That's P-A-L-E-O-V-A-L-L-E-Y.com/model. Use the code MODEL at checkout. Grab their Turmeric Complex. It's phenomenal. It should be in your superfood cabinet, your supplement cabinet all the time. Super helpful in times of stress. When you know you're about to face a stressful day, when you're traveling, that's a good time to up that intake of this turmeric concentration.

And also, of course, if you feel something coming on a little... You know if you've been exposed to some sickness, radiation, these are all helpful. Again, these are adaptogens. However, being an adaptogen as you're going to learn about today, it really works to kind of tonify and build up over time your body's resilience to these stressors in the first place. So, you're not trying to treat a symptom, you're trying to get back to health. You can just stay healthy, so you don't

have to get healthy. Alright? Head over there, check them out, it's paleovalley.com/model. Now let's get to the Apple Podcast review of the week.

ITUNES REVIEW: Another five-star review titled “Awesome” by JDBF2011. “I have learned so much interesting and useful information on this show. I love the diverse topics and guests.”

SHAWN STEVENSON: Amazing, thank you so much for leaving that review over on Apple Podcast, I really appreciate that acknowledgement. And it's something that we strive for, of course, just bringing a level of excellence when we're bringing on world class experts in their respective fields, and today's episode is nothing short of that level of excellence. So, let's jump into this conversation with our special guest and our topic of the day. Our guest today is Tero Isokauppila. And he's the author of multiple best-selling books, including Healing Mushrooms, and his latest book, Healing Adaptogens. Tero was chosen twice as one of the world's Top 50 Food Activists by the Academy of Culinary Nutrition. He has appeared in Time Magazine, Forbes, Vogue, GQ, Bon Appétit, and many other major media outlets.

Tero is also well known for being the founder of Four Sigmatic, and also his roots go back to his homeland in Finland, where he grew up growing and foraging natural foods on his 13th generation family farm. And also, he earned a degree in Chemistry, as well as business, and a certificate in plant-based nutrition from Cornell University. So, such a diverse experience, such a wealth of knowledge. Let's jump into this conversation with the one and only, Tero Isokauppila. Alright, we've got Tero Isokauppila in the studio. I said that right, didn't I?

TERO ISOKAUPPILA: Yeah, you did.

SHAWN STEVENSON: That's right.

TERO ISOKAUPPILA: The best ever.

SHAWN STEVENSON: 'Cause you're my guy. You're my guy. Welcome to The Model Health Show studio, this your first time here.

TERO ISOKAUPPILA: Oh, it's beautiful. Congrats on building it.

SHAWN STEVENSON: Thank you, man, thank you. Last time I saw you, we were in Santa Monica. We were in a nice recording studio, but being in spaces like that, you never know what's going to happen in between sessions. Like, I might come on a Friday, come back the next Friday. Barbara Streisand has been there. She's got her glitter all over the desk or whatever. Mike Tyson recorded there one time and had the room smelling a little weird.

TERO ISOKAUPPILA: Yeah?

SHAWN STEVENSON: You know? But yeah, it's really good to have a home space, so.

TERO ISOKAUPPILA: It's nothing like your own.

SHAWN STEVENSON: Yeah. But thank you so much for gracing us with your presence. I know you're a new dad again. Double dad, new baby is here and, man, you're just... It's... Kids are the cutest ever.

TERO ISOKAUPPILA: They're the best ever. They're kind of, hard to describe with words. It's something... Words are such a low form of communication when you try to describe a child.

SHAWN STEVENSON: Yeah. Yeah. And also, of course, you're getting the sleep dialed in as well. We talked about that a little bit. You know, me and you, it's kind of off the record. So, how's that been going?

TERO ISOKAUPPILA: Yeah. Well, I would say for parents it's one and then one for the kid. But definitely for the kid, it's been incredible to do the sleep training with the older one and now kind of starting with the second one. And it's a good lesson also on sleep hygiene for us adults and how important it is and to get it right and routine. 'Cause then I think as an adult we can kind of get away with like bad sleep hygiene, but with kids, you see how important it is in consistency. So, it makes you also strive to be even more consistent with your own sleep hygiene.

SHAWN STEVENSON: Yeah. That's the thing. That's probably that gap in our thinking. Is that we have these cultural beliefs that the kids are just here to wreak havoc on your sleep and on your life. But the reality is their little human DNA compilation wants to sleep too, they're not at odds with you. They're just trying to sort out... They were in this very protected environment, they're here, they're trying to get everything sorted out. But it tends to be us and our culture today as adults, our stuff is so all over the place when we come into it. You know, so it's just finding that pattern that match together and finding some grace. And by the way, there's a few years ago, but we put some notes for everybody, linking the show notes to an episode we did. Sleep Tips For Parents and the Science of Napping. So that's some of the stuff that I shared with you.

TERO ISOKAUPPILA: Amazing.

SHAWN STEVENSON: And your wife. And apparently, I'm getting quoted in your house.

TERO ISOKAUPPILA: Oh yeah. Yeah. My wife keeps saying keep his ass up in the evening to extend the tiredness. And so, then when they go to bed, they're extra tired and they'll sleep longer and better.

SHAWN STEVENSON: Yeah. That's the way I left in your voice text. Keep that ass up. I love it. I love it. Because again, sometimes when the baby goes sleep, we just... That's like our time. Like, "Okay, they're asleep," but then they're going to get up, especially in the evening, once we get to that time where you're trying to create a sleep pattern, don't let them fall asleep too early. Like just keep them up, keep 'em entertained, because of course we know the baby gets fussy when they're sleepy, just keep them entertained. Have some one-on-one time and just make sure they're nice and tired, nice, and full belly at that time, just little simple stuff like that. But man, you've got an incredible new book, Healing Adaptogens, pivoting off of Healing Mushrooms. And this book is phenomenal. It was so interesting to read. And the stories and the background of integration. We have this fascinating category in nutrition called adaptogens. So, first of all, what are they?

TERO ISOKAUPPILA: Adaptogens are natural substances that help you to adapt to stress. And it's an evidence-based word. There are these words in nutrition, like super foods, that are good words, but they don't really mean anything. Adaptogen is actually a scientific word, and it's been around for 70 years in research to describe things that create these balancing effects in our body that we can go deep dive into. But they're actual substances have been used for hundreds, if not, thousands of years around the world. And they're kind of like from every corner of the world the best of the best of the best. And then later modern research has validated them.

SHAWN STEVENSON: Yeah. I mean, I was pleasantly surprised, but not really surprised because of who you are, but just the amount of research, you know, and just citing some of the best studies, a lot of, you know, randomized controlled trials, placebo-controlled trials, really supporting the efficacy of these things, like you said, have been around thousands of years. So, let's talk a little bit about what makes an adaptogen an adaptogen. You cited three specific things. One of them is being non-toxic.

TERO ISOKAUPPILA: Yep.

SHAWN STEVENSON: Let's talk about that.

TERO ISOKAUPPILA: Yeah. So actually, that roots to the origins of how this was discovered. So, the idea of adaptogens came in the former Soviet Union, and they were trying to find out what to give to soldiers to perform better without addictive properties. Around the world, not just in Russia, people have been giving nicotine, caffeine, amphetamine, different stimulants to

enhance performance, but there's addictive properties and there's a huge letdown next day if you don't continue to use it or up the dose. So, they were trying to find what are non-stimulants that would still improve performance. So, the very first researcher, Dr. Lazarov, made a definition that an adaptogen needs to be safe, nontoxic, non-addictive. And that's actually super... Not that common in herbalism either. There's many day-to-day foods from, let's say, garlic, that you shouldn't take every day because they have either a stimulated or sedative impact. You know this from the sleep world. You know, you could take chamomile every day, but if you start pounding Valeriana every day, that will eventually catch up to you, or kava, or something like that. So, they're safe, you can take them every day, you cannot get addicted to them, and they don't have this toxic load.

SHAWN STEVENSON: Awesome. So that's one of the tenets, we got non-toxic. What's another one? Nonspecific. What does that mean?

TERO ISOKAUPPILA: Yeah. And that's where you lose a lot of people because the body has 11 main systems in. In physiology and anatomy, you have your reproductive system, your skeletal system, your nervous system. You have your circulatory system, your digestive system. Anyway, the point being is that they impact is systematically, your body. So instead of like, "Hey, here's one building block for this," but they support our system to operate more efficiently, therefore reaping benefit, which also means... Goes to the third one, which is that they restore balance because the systematic approach, they are able to... You could take them in the morning and in the evening and get benefits in both cases, which is, again, where you lose a lot of people. But to use one example, they could, for example, improve the ability of blood circulation or oxygen intake. So, imagine if you have more oxygen in the morning, what happens? You're more energized. What happens if you have more oxygen in the evening, you're going to sleep better. And especially people who have or stuffy nose or can't breathe properly, they actually might get sleep apnea or don't sleep so well. So, oxygen as one example is a thing that helps you in both morning and evening, and that's what the adaptogens support.

SHAWN STEVENSON: And that's fascinating, because, generally, we have a certain food or herb that's targeting a body part, kind of like a dominant force, like maybe a beet for example and targeting the cardiovascular system or the heart, versus something... And of course, they are systemic because everything is connected, but truly with adaptogens they're non-specific. They're really tonifying so much of the body. Is that correct?

TERO ISOKAUPPILA: Yes, exactly. And we can go into the method of action of different systems, but they provide the right kind of stimuli or this remedial stressor into these body parts, so that the body parts have the ability and intellect to operate correctly. So instead of upregulating or downregulating these systems, they provide the systems with these triggers to be better either way.

SHAWN STEVENSON: Yes. So, if, for example, we are in a state where... Again, our bodies are always seeking homeostasis, but we tend to be around or create conditions to where it makes the body struggle to reach homeostasis. So, with adaptogens they help us to adapt. So, they help us to... If we are... Things are kind of running low and we need to be energized and bring our energy up to balance, they can work from that angle...

TERO ISOKAUPPILA: Mm-hmm.

SHAWN STEVENSON: Or they can help to bring down calm. Maybe we're in a state of anxiety and bring everything down. So, and this can happen within the same person, and you break that down in the book. And you also use wonderful frameworks like with Ayurveda, a traditional Chinese medicine. These systems have been around literally for thousands of years. And also, you're tying that into western medicine in this like wonderful trifecta. Like, what was the driving force to put all those together?

TERO ISOKAUPPILA: Because I've been in nutrition since I was a child, and I've worked with adaptogens now for 20 years. And I find it frustrating, in health and wellness and nutrition, this kind of black and white thinking, and then like pegging things against each other. And I find that it's not productive. These beliefs don't support the cause and I'll give a couple of examples. People love to hate if you should... "Are carbs good or bad? Are fats good or bad? Should you eat plant based or not eat plants?"

And I find it problematic 'cause that's really not a... For most people that's not critical. Unlike sleep, is critical. But those are not what you should be obsessed with. And it also confuses a lot of people. A lot of people are confused 'cause they hear an expert say, "Don't eat that." And then the next expert says, "Do eat that." And then this next guy will show like our teeth and say, "We're designed to eat meat." And then this next person is like, "Look at our teeth. You're not designed to eat meat."

"Look at our digestive track." And I think it just ends up... Obviously, your listeners are very educated, but most people out there, I guess myself included, it's easy to get confused. And there's these dualities and one of them is science versus natural. They're like against each other, but they're not.

SHAWN STEVENSON: Yeah.

TERO ISOKAUPPILA: Science is the pursuit of truth, and it's validating certain functions. And it has its right place, but it also has its flaws. But if you could take things like adaptogens that are evidence-based and validated by modern science, but also been used after generation, after

generation, after generation safely... And though every generation has thought of them as the best of the best. So, I think to me that's beautiful. You don't have to sacrifice.

SHAWN STEVENSON: Yeah. And I love it. And by the way, in the book, and make sure everybody gets a copy like yesterday. In *Healing Adaptogens*, you outline the tenets here because one of the flaws in conventional medicine and modern medicine today, here in the United States in particular, is this one-size-fits-all perspective, right?

TERO ISOKAUPPILA: Mm-hmm.

SHAWN STEVENSON: So, if you have a headache, you take this drug, or you have fill in the blank, everybody gets the same medicine, oftentimes the same dose unless you're a kid, like 12 and under is the only stipulation, but in general, it's a one-size-fits-all treatment modality. It doesn't take into account, hardly at all, your unique attributes. Whereas these other systems, traditional Chinese medicine, you have a certain temperament that's being paid attention to that you're just... Kind of there's this nature versus nurture there that can be kind of deconstructed. But with Ayurveda, same thing. And I would use some of these tenets in my nutrition practice many years ago. There's a certain body constitution or dosha that at least gives some classification, some uniqueness to us to start to pay attention to.

TERO ISOKAUPPILA: Mm-hmm. Yeah. The anecdote I like to say is that in modern medicine where it kind of falls short is that headache is a headache despite the body experiencing it. So, like whoever has a headache, it's the same. But we're not the same. And also, we, as individuals, keep evolving. So, if you had a headache 10 years ago, every cell in your body basically has changed since and you are a different version of yourself. So, taking into the count either the seasons, is it winter or summer, or your body types... And by the way, all of these are also backed up by modern science. If anybody listening who's into body building or fitness, you've heard of the body type.

Like, are you an Ectomorph? Or like how easy it is to gain muscle is a clue on your metabolic process. Do you run fast and quickly? Or is it slower and more calm? And that impacts how quickly you build muscle, how quickly you lose fat. It also means like maybe how... What's your temperament? Like, do you get angry easily or are you super calm? And that, how does, for example, spicy foods, heating, and cooling foods impact your body? They're just good clues to have. It's not something you need to obsess if you're first-ing into herbs, mushrooms, adaptogens. It's not something you need to like, "I got to get this right on day one," but it is good as you progress to think about a little bit of your own body and what works for you.

SHAWN STEVENSON: Yeah, I love that you brought that up because we are using modern technology, for example, to see the different body types and your muscle fiber dominance. Right?

TERO ISOKAUPPILA: Yep.

SHAWN STEVENSON: So are you more geared towards... Like my wife being from Kenya, some of the best long-distance runners ever.

TERO ISOKAUPPILA: Sure.

SHAWN STEVENSON: Not my wife, she's not into that. But you know, having more of those slow twitch fibers, right? Versus somebody who's more geared towards, acclimated towards sprinting short distances very quickly. You know, so there are, just based on the way that we're constructed, our genetics, were kind of put together a certain way. Now, obviously that's what makes us so remarkable. As humans, we can change, we can tilt the scales in certain directions, but what if we really, like with nutrigenomics and nutrigenetics, we can kind of dial in what is your temperament right now? And what would your genes be more happy with that we can feed you? Right? So, it's really exciting, but I want to get into how adaptogens actually work systemically and it has a lot to do with this major kind of super highway in our bodies that's managing our stress.

TERO ISOKAUPPILA: Mm-hmm.

SHAWN STEVENSON: And you said in the book, this is a direct quote, "Together the HPA can be thought of as the endocrine energy director that controls how your body reacts to stress on a physiological level." Can you talk about what that means?

TERO ISOKAUPPILA: Yeah. So, us, we've been here as, you know, homo sapiens about 200,000 years, they say, smarter people than me, and before that as pre-humans. And over that time or whatever time period it is, we've built evolutionary triggers. Like you said, you can change up to a certain level, but if you take multiple generation now, you can change even more. And over time, depending on who your ancestry is, we've exposed ourselves to different challenges and we've learned how to deal with it. That's our special power, is our ability, how adaptable humans are, against other species. And we've... One of the most impactful things is how we deal with stress. Stress is not new.

And I would also like to say that stress is good. Not just the... You might have heard eustress and distress, eustress being good stress, distress being distressful, so it's bad. But I think all of the stressors are good because they help our body to perform better when it's needed. So now

comes... Lion attacks you, boom. "Okay, let's shut down some systems, like on a computer screen, let's close some tabs we don't need. We don't need reproductive system at that point. We don't need digestive system; we don't need to digest food right now. Let's use those... Close those tabs and use our computing power to upregulate our circulatory system." Right? And one of the masterminds of this all is our endocrine system, which is our hormones. So, you might have heard hormones, many people who've heard of hormones might not know what they are, but they're messengers, they're slow moving messengers. And this HPA axis is at the core of this, our hormonal system.

It's our hypothalamus pituitary adrenal. It's this trifecta that basically is like, like you said, the master highway, and it tells the other systems kind of getting their place. So, they're like the captain in the football team or something like that. They're like, "Hey guys, let's... " The quarterback. You know, like, "Hey guys, let's go in order." And they respond when we have a trigger. Back in the day, it was that lion maybe? And now it's an angry email from your landlord or whatever. And that triggers a response in us, and our heart rate goes up. And that is, again, good.

The problem is we've now artificially created a society with huge amounts of these constantly bombarding stressors. And that means we're like, if prolonged, we're chronically stressed. And that means, for example, that in our blood plasma, that's just one example of many, our stress hormone, cortisol, is too high. And then, you know, from a sleep point of view, if when you go to bed and your blood plasma's cortisol levels are still too elevated, then your melatonin, melatonin will then not be able to peak in a way that you sleep, get high quality sleep. So, the hormonal system, the endocrine system is the kind of the quarterback for everything else. And it responds into these triggers. And if the response is not ideal, it'll probably have a long term and negative impact on life quality, starting with energy, then sleep, but later mood, and other body functions from like thyroid and ability to perform every day.

SHAWN STEVENSON: I love that. This is one of the few books that mentions the fact that along that superhighway, the HPA axis, the thyroid is one of the stops.

TERO ISOKAUPPILA: Mm-hmm.

SHAWN STEVENSON: This is well noted in our culture now, a lot of people are aware, it's kind of like the metabolism general in many ways, and it's deeply affected by stress as well. But when we have thyroid issues, we just tend to like look at the thyroid, "The thyroid is the problem. Let's use a drug or a supplement to try to treat the thyroid," not understanding that it is intimately connected to this overall stress pathway. And it's so cool, in the book you mentioned that the adrenals, under stress, secrete large amounts of vitamin C and vitamin B five.

TERO ISOKAUPPILA: Mm-hmm.

SHAWN STEVENSON: So, this is how it all starts to play together with what adaptogens can do to help to normalize or to bring homeostasis with the HPA axis.

TERO ISOKAUPPILA: Yeah. I absolutely hate the nutritional guidance that we get for a lot of reasons, but here's... That is one of the main reasons. So one is that all of these... Like amount of, let's say magnesium or vitamin C one needs, is based on a bell curve around standard population, against major illnesses, not even optimal human performance, but they're like, "Hey, how do we keep 95% of people not having osteoporosis? Okay, is this the minimum dose of calcium? That's how the mind works." That's not thriving. Secondly, life situations impact our needs dramatically. Stress being one of them. And different things like the amount of EMFs might start requiring more magnesium. So now suddenly, your magnesium needs are sky high if you fly, for example. You travel and fly, now you need to up your dose, way above normal standards.

And I think vitamin C and B vitamins because they're water soluble and safe, they're incredibly powerful and safe in the times of stress. It's not like you will have scurvy and be vitamin C-deficient, and knowing that high doses of vitamin C, in especially natural form that is bioavailable, has massive impact on pretty much every body system and absorption of other nutrients, like iron and whatnot.

SHAWN STEVENSON: Awesome. Let's talk about how adaptogens help to supplant the body's needs to dump out so many of those antioxidants and immunoregulatory factors like vitamin C, how adaptogens can help your body to stay in more balance so you're not just gassing yourself up.

TERO ISOKAUPPILA: Yeah, there's a few methods of action, I would... And in the book, I outlined all of them, but just to highlight a few. So, one is these modulators like polysaccharides, beta-D-glucans, we went deep on them in our podcast a few years ago, so if you haven't listened to that episode, you can go and learn about the 1.3 beta-D-glucans and how they modulate immunity. But they basically go into our gut. They give our natural killer cells and cytokines a message to like, "Hey, get our stuff together," but not in a stimulated way, but they put them into work. And that's one way how we can stimulate. And the immunity is under looked because people only care about it when they're sick, but the immunity is deeply tied with our gut health, our microbiome and mycobiome. There's mushroom biome in our gut, everyone's gut has fungi, and then that through the vagus nerve, impacts our mood and how we build neurotransmitters. A lot of the neurotransmitters are built in our gut, so happy gut also means happy mood. So those are built there, so that's one method of action. Related to that is

antioxidants like vitamin C, melanin now that I spoke earlier, which is separate than melatonin. Melanin is often linked with our skin and our skin color, but it's actually an antioxidant.

SHAWN STEVENSON: It gives me my nice...

TERO ISOKAUPPILA: Complexity.

SHAWN STEVENSON: Cocoa color that I have.

TERO ISOKAUPPILA: Yeah. Exactly. But it's also an antioxidant. And you hear these with... Everybody throws this word kind of like "antioxidants", and it's used so much that it become... Starts meaning nothing, but they're actually very powerful, particularly these polyphenols and things. And they coat the lining of our gut, but they also impact on cellular energy, like how quickly or slowly our cells die, how my mitochondria work, it's super powerful way how it works. And the last one is these terpenes and saponins, which are compounds that are really like creating a stress on the body in a good way, like lifting weights makes your body stronger. So, it's called xenohormesis and that the plants force the body to become stronger, like giving a little kick in the butt, and that's how it kind of reactivates certain body functions.

SHAWN STEVENSON: That's so fascinating, and these are all embedded in a lot of the adaptogens, these particular nutritive powerhouses. You just mentioned the polysaccharides, antioxidants, the terpenes, the phenols, you also talk about as well, and that's in that category with antioxidants in some ways, and they do other things as well. But just to point back a little bit to melanin, I mentioned, of course, this is one of those things that it's baked into humanity, and ironically, the sun baking us, in a sense, like this can help to express that, but... So, we've got this. So also, along with the skin, also the color of the eyes, hair, all that stuff, but what we're really looking at here is a very potent antioxidant. And this is something that it's not just within us, this is within certain adaptogens as well. So, is there a particular adaptogen that we can find some melanin in?

TERO ISOKAUPPILA: Yeah, there's actually a few. Chaga is one of the top antioxidants that is the highest in melanin, and it is very powerful. I would generally say is that these color pigments are a good clue on some health benefits, and if you're looking for longevity and long-term well-being, black foods are very powerful, not just Chaga, but also coffee, cacao, black olives, black sesame seeds, are examples of foods that are particularly good for longevity. There's other color pigments, we can talk about the reds, then you mentioned beets, but there's also other red polyphenols... Red foods with polyphenols that are good for circulatory things and heart, and they all kind of serve a little different things. So, if you've ever heard a long time ago in the '80s, somebody talked about the rainbow diet, there's something there, you just want to know where you're getting those.

SHAWN STEVENSON: Wow, it's like nature gave us like a Dora the Explorer map, which is, it's so simple if we pay attention to it, that indication with black foods, darker foods, dark brown as well being an indicator of melatonin... I'm sorry, I just said melatonin... Being an indicator of melanin, which is so funny that these things are very close, being an indicator of melanin content. And Chaga is arguably, maybe not so arguably, one of the most, if not the most, dense source of antioxidants.

TERO ISOKAUPPILA: Correct. The other one is cacao, real chocolate. I'll give you a couple of fun studies that I recently learned. There's a study, I believe it was a 2019 study out of Zurich in Switzerland about dark chocolate, 74% dark chocolate, to be precise. And they looked at cardiovascular health and one of the things they note is that literally blood circulation improves for eight hours after eating dark chocolate. So, it's also funny that we eat it at night, but in a way, you should eat it before a workout. There was another study where they gave in vivo, which is not that common, that means that they gave it to actual living beings humans... And they gave people, these test people, human influenza virus. So basically flu. They gave on purpose people flu.

And the one group didn't get any help, and they looked at how they behaved with the flu. The other group got cacao, so chocolate in the purest form chocolate, three weeks eating it before and three weeks after getting the human influenza virus. And the people who ate chocolate, basically the cacao powder, felt massively better than the people who didn't eat chocolate. So black foods, chocolate, whatnot, get it in. You know, it's like dark chocolate in its purest form is really good for you.

SHAWN STEVENSON: Yeah. And finding creative ways, healthful ways to do it has never been easier. Of course, our initial exposure to chocolate in our culture for the vast majority us is Halloween candy types, you know, so, you know, 3 Musketeers, and Snickers bars, and Hershey's Kisses and all those things, that are riddled with all of these toxicants and low-quality sweeteners, and artificial this and artificial that. So far removed from its origin. But I love it because you have this highlighted so well in Healing Adaptogens. And also, I didn't... I don't know if I've told you this. I think I might have mentioned this to you, but even today before coming to the studio today, I made my youngest son... This is one of his favorite things. This is his morning ritual. I made him the Reishi Hot Cacao from Four Sigmatic. And this is imbuing. And you talk about this in the book how most adaptogens have this synergistic effect with other adaptogens. And so, in it, you have one of these adaptogens being cacao, but also reishi is a part of that formula. Can you talk about reishi and how it plays a role, a profound role, as an adaptogen?

TERO ISOKAUPPILA: Yeah. It's one of the most study things you can find off the adaptogens and anything. Ginseng has a massive amount of research, about 30,000 research papers. Turmeric has about 4000 research papers. These are a lot by the way. Even 200 is a lot. But reishi's right up there. And it was in the first materia medica in traditional Chinese medicine. It was ranked as the number one, the greatest of all time of all the herbs, even though it's a mushroom. And it's known as the queen of mushrooms. It grows on tree logs, and it's very bitter, and it's very powerful. Often, the bitter the better. And it has tremendous benefits for immunity. Good health. There's very interesting rodent studies about it of how just taking that along with normal workout regiment, people lost weight because it started improving. This is a study out of San Francisco. And the rats, basically their gut biome improved and because of the result of better digestion, they lost more fat on an identical diet and workout regimen than the rats that didn't get it. But what it's... The biggest power for me is with reishi, its impact on the HPA axis that we talked, and the endocrine system, and its ability to balance out our stress and with often resulting in more deep sleep. So, reishi is great if you have occasional stress, and it is amazing if particularly people who want to try to naturally improve their sleep quality.

SHAWN STEVENSON: Now, here's what's really fascinating about an adaptogen like reishi, is that it works on the appropriate place, because you just mentioned it's influence on sleep quality, but I'm giving this to my son to start the day and he's energized and happy and calm and balanced. And by the way, I shared this study before, but it's so powerful because this was published in the journal, Pharmacology, Biochemistry and Behavior. This is a journal dedicated to pharmacology, but it looked at the profound impact of reishi mushroom on sleep quality. And the researchers found that it can significantly decrease sleep latency, meaning you fall asleep faster, also increasing overall sleep time, and also increasing non-REM deep sleep and REM sleep as well. All of these benefits, just checking those boxes. And so, this could be something great in the evening to help you to wind down. So how do we deal with that conflict mentally where it's just like, "This is supposed to do this one thing over here. Why on earth would I have reishi to start the day if it's supposed to make me sleepy?" But the thing is it doesn't make you sleepy.

TERO ISOKAUPPILA: Correct.

SHAWN STEVENSON: Just talk about that.

TERO ISOKAUPPILA: Yeah. And that's where, like I said in the beginning, the definition of these adaptogens targeting multiple systems and restoring balance is very confusing, because we're taught this very reductionist view that, hey, you take something, an upper or downer.

SHAWN STEVENSON: Right.

TERO ISOKAUPPILA: Take a pill for an ill. And that's not necessarily how a lot of things work in nature or in our bodies. There's a lot of examples like drinking water, like, hey... You know, or salt or things... These fundamental nutrients, you can take them in the morning and the evening. But in this case, the methods of action are not sedative. They're not calming your body in a way that it's going to reduce body function. Instead, it's trying to get rid of the stuff that make the sleep quality worse. So, it's trying to remove roadblocks instead of like calm you down directly. So that's the power of the systematic approach versus the sniper riffle approach, where you're just trying to hit this one thing. And that's why they are so sustainable, and they have so many other benefits that come with it.

SHAWN STEVENSON: So, let's talk about the... Because people hear things like this and they get excited about it, reishi sounds amazing, it's a number one thing in traditional Chinese medicine, it's a mushroom of immortality.

TERO ISOKAUPPILA: Correct.

SHAWN STEVENSON: Right? And so, it can be very exciting and energizing, where "I want to go get this," and then they go... And you give some great distinction, it's so important right now because marketers tend to screw everything up. They'll find out about it, and they'll create products that are literally missing the point when it comes to something like medicinal mushrooms or functional mushrooms. So, folks can go out and buy a reishi supplement and they're not actually extracting any of these nutrients, the beta-glucans or the polysaccharides because of the extraction method not being there. They might be just powdering down a mushroom. Let's talk about how to actually get what we're looking for out of the mushroom itself.

TERO ISOKAUPPILA: Yeah. There was a study that came out a couple years ago, a USP study studying the reishi supplements sold in United States, and that study... And I believe it was then published in Science, which is arguably the most credible of these journals, and it showed that 74% of reishi supplements sold in the US don't contain any reishi mushrooms.

SHAWN STEVENSON: Well, damn. I mean...

TERO ISOKAUPPILA: So, it's an issue. It's an issue. In some cases, it is marketers that just want to capitalize and make a lot of money. In some cases, it is companies that don't know any better because we are not very mushroom illiterate... We are mushroom illiterate here in the US, we don't have this knowledge. Same with adaptogens, America is behind, but there's a lot of confidence that America is the best, so that's a little bit of an issue. That's one of the reasons why I write these books, it's to bring people the knowledge so that we can make more educated choices. And I think that's already started to happen. So, what should you look for is you got to

make sure that you're first of all getting what you think you're getting. So, if you want ashwagandha, make sure the product actually includes ashwagandha or reishi or whatever it is.

Secondly, you want it in the right form. If you're meant to use the root of the plant or the fruit of the plant, then make sure. It should say in the supplement facts that it is using that part. And then you want to make sure it's bioavailable, in most cases that means it's extracted. And then you want to make sure it's pure. Organic is a good starting place, not perfect, but if you've not done that, then what other corners are you skipping? So those to me are some critical factors. The other thing I see a lot, particularly with beverages, bars, and certain powders is that they say... They have so little of it, they just put enough of it that on the label they can say this bar includes reishi or this powder includes... Oh, this is the most insane, is you see these powders, that it's a little scoop and it says, "We have 70 superfoods and adaptogens," then looking at the science, you need enough of a dose on each one to get the effect, desired outcome. So based on modern science, you just can't have... The science says minimum 250 milligrams ideally twice a day for 60 days, and then you take 25 milligrams, you take 1/10th of what they're asking once a day every other day, you're not going to get the benefits. So yeah, just as a consumer, make sure you're getting what you think you're getting, getting in the right form, getting it bioavailable and making sure it's pure.

SHAWN STEVENSON: Yeah. Now let's talk about the extraction method itself. So, barring... So, we already identified that reishi might not even be present in the thing that you're going for, now let's just say that it is present, how we actually be able to extract some of these adaptogenic compounds?

TERO ISOKAUPPILA: Yeah. So, a lot of these nutrient-dense foods and many herbs are not bioavailable by themselves, and that's actually true for a lot of common foods as well. Take rice, you got to cook the rice, right? You got to cook it, make it edible. And that's because these plants have created these nutrients and compounds to protect themselves. They have a little shell, they're in their shell and they need to be somehow processed, that could mean fermentation, that could mean cooking. But in the case of adaptogens, it's often a combination of hot water and another solvent that is commonly alcohol that will later evaporate from the product. But you need something to extract, then hence the name, extract, all these beneficial compounds out of it. Our ancestors would boil tea or soup and put fats and water in it, and that would be the way to get it out.

But in today's world, there is people who can do it for you, and you can just get the extract form, that means it's concentrated and it means usually it's extra bitter and extra strong, so you got to be careful. It's like a spice you use, not too much of it, you don't put two tablespoons of it. But it also means that in that case, it is bioavailable, and the active compounds have been

broken from the sturdy product, let's say a root or an inedible mushroom, it's hard, it's like a rock, and so that's why you need to cook it and...

SHAWN STEVENSON: And what is that shell called?

TERO ISOKAUPPILA: With mushrooms, it's called chitin. It's the same structure you see on a shell of a lobster. So, you wouldn't eat the lobster shell, you got to remove the lobster shell, in this case, you got to cook it off. You almost make it like you would make bone broth. Bone broth, they cook the bones for many, many hours and that's how you get this liquid that has naturally collagen and these other nutrients. And that's similar with adaptogens, you cook it, and you extract it into the liquid, and then you can make the liquid into a powder.

SHAWN STEVENSON: That's called a decoction.

TERO ISOKAUPPILA: Yes. So, if you make tea at home and you make yourself a nice cup of green tea, that's called an infusion. You leave it, put boiling water for three minutes, five minutes, something around that. Or you make coffee, put it on the French press, you got the grounds, that's infusion. But decoction is you cook it on high heat for hours, sometimes days, but you put it on the stove, fairly high heat and you let it cook for 12 hours, that's called a decoction. And then if you use alcohol, that's called a tincture. And if you combine the two... The broth, the decoction, and the tincture, that's called the dual extraction.

SHAWN STEVENSON: Yeah, that's what blew me away when we first met was that specific thing, because for years I would get decoctions, hot water extracts of mushrooms, and I'd also get tinctures. So, I'm buying these separate things to try to get the various benefits because one extraction method isn't going to get everything out from the mushroom that you might be looking for. And so, meeting you guys and you were doing a dual extraction, I was like, I didn't even know that was a thing. I didn't know anybody was doing that for me, and not only did it save me money, the quality was just outrageous because of course, getting things that are wild, harvested and just the standards were so high and you could tell the potency of Four Sigmatic versus fill in the blank.

And so that's why, again, even with my son today, in the reishi hot cocoa, it's a dual extraction of the reishi. By the way, go to foursigmatic.com/model. That's F-O-U-R-S-I-G-M-A-T-I-C.com/model. Get 10% off everything, alright. Store wide. And today, in addition to that, I want to ask you about this one, I haven't talked about my love for this yet, because it was off my radar. I've been using the coffee grounds, the cordyceps recently, the cordyceps coffee. And I used to do... Like, bring it with me, the little travel packs, but now I've got the coffee grounds itself and I'm doing the drip? Whole different level. Whole different level. And this formula is geared towards performance, mental performance, and of course it's a high-quality coffee and

cordyceps. Can you talk about that combination? And cordyceps is another adaptogenic. Let's talk about that one.

TERO ISOKAUPPILA: Yeah, coffee is very healthy and amazing, it's also a great powerful delivery tool. It's... People use it for energy and performance, but there's tons of studies around workouts, be it pre-workout, post-workout. But whenever you need to get stuff done, when you need to perform, in your mind or in your body or both, cordyceps is a very synergistic thing with coffee. Cordyceps is a fungi, very unique fungi. It was originally discovered in the Himalayans when the Sherpas, the people who go and climb Mount Everest and help people to get there, they were in high altitude with their large mammals called yaks, and the yaks would help carry stuff up. And the yaks were tired, 'cause in high altitude, you work all day, and you have less oxygen. And then they were kind of tired and then they started grazing on this mushroom growing in the high altitude called cordyceps, and they suddenly got all horny and they got horny yaks, were like... The Sherpas was like, hey, is there something here? The yaks suddenly got all this life force. And enter cordyceps.

Later, it's been used for hundreds of years, studied for many decades now, and we found out a few very interesting things for performance. One, it helps to increase VO2 max. So, there's multiple tests with athletic men and people who are not so athletic and looking at their maximum oxygen intake after they consume cordyceps extracts, and we found out that once you consume it on a regular basis, you can take more oxygen in. So, this is obviously helpful for any kind of performance. Secondly, improve cellular health. So, ATP production. It's kind of like how inside every cell in our body we have this little factory, and this factory creates this energy, and that energy production just goes up, up to 50% more efficient in energy production. So that's powerful. In that specific product we also take L-theanine, it's derived from green tea. So, green tea has this powerful thing, besides caffeine, it has this amino acid that is, it helps you concentrate but in a calm way so that when you take the coffee, you can kind of negate some of the negative downsides of the stimulation of the coffee with help of L-theanine.

SHAWN STEVENSON: Very smart, very smart. So that's again, seeing clinically, being able to help balance out that stimulating effect can bring in that kind of calmative... This is why green tea doesn't tend to, even though it has caffeine, stimulate people in the same way. It just kind of like that nervous system stimulant button that it can push. So, it's super balancing, it just feels good, and also, obviously it tastes great too. But it's just such... It's such a smart thing to upgrade the coffee experience. People are going to have coffee, it's just... It's a cultural phenomenon so deeply baked into our culture, but it is the future, but it's present, it's happening now. You see it, you guys gave... You brought it to the market in a big way, these mushroom-infused coffees. Now, there's a lot of, you know, the copycats are... We are just going to call them what they are, they're out there. But eventually, you already know this, this

is going to end up at Starbucks. They're going to... If they're not already doing it, they've got their eye on it.

TERO ISOKAUPPILA: Folgers already launched mushroom coffee, so I thought that was...

SHAWN STEVENSON: Are you serious?

TERO ISOKAUPPILA: Yeah. And...

SHAWN STEVENSON: Wow!

TERO ISOKAUPPILA: We just launched with Walmart. And I'm all for it. When we first came to the US, there was health and wellness circles, especially in the kind of advanced way, it was very exclusive. You had to be a cool guy, and that's why I bought this hat because you... Otherwise they wouldn't accept me if I didn't have a hat. If you don't have a...

SHAWN STEVENSON: Got to be a fungi.

TERO ISOKAUPPILA: You got to be a fungi. If you don't have a hat, you don't belong. You got to... Yeah, so yeah, it was very like, you got to be cool, there was like... It was expensive. It was hard to use. There's this and that. You had to... You want to be one of the cool kids. And we're like, "No, we want this to be... We want to be inclusive, and how do we make this easy? How do we meet the people who need the help the most?" So, from day one, we first worked on flavor, we wanted the coffee as way to make it fun and easy. And we worked on price. Every year we've been reducing the price. So, coffee prices are up now almost 15%, so if you buy the same coffee, prices are up. This year, Four Sigmatic is one of the only companies who've lowered prices, our coffee's gone down. Now you can get it for more than 15% less at almost every retailer. And then now we're trying to get it to accessible to the everyday person who needs help, who, these are the people who run the country, run every country. And that why when we partnered with Target first and then now Walmart and getting it to more people so more people can enjoy the healing properties of these mushrooms.

SHAWN STEVENSON: Yeah.

We've got a quick break coming up. We'll be right back. Few people know that regularly drinking coffee has been shown to help prevent cognitive decline and reduce the risk of developing Alzheimer's and Parkinson's disease. This attribute referenced in the journal, Practical Neurology, is yet another reason why intelligent coffee consumption makes the list of best neuro nutritious beverages. Another study featured in the journal, Psychopharmacology, uncovered that drinking coffee has some remarkable benefits on

mental performance. The research has found that intelligent coffee intake leads to improvements in alertness, improved reaction times, and enhanced performance on cognitive vigilance task, and task that involve deep concentration. Now, why am I stressing intelligent coffee intake? This means acknowledging the true U-shaped curve of benefits and not going ham on caffeine. The data clearly shows that some coffee, a cup or two a day and the accompanying caffeine is a great adjunct for improved mental performance. But going too far starts to lead to diminishing return.

So, we wanna make sure that we're getting an optimal intake of coffee, and again, not going overboard. But also, coffee is best when it's not coming along with pesticides, herbicides, rodenticides fungicides, these chemical elements are clinically proven to destroy our microbiome terrain. So, destroying the very microbiome that helps to regulate our metabolism, regulate our immune system. The list goes on and on. Obviously, you want to make sure that those things are not coming along with the high-quality coffee that we're trying to get these benefits from. And also, what if we can up level the longevity and neurological benefits of the coffee by combining it with another clinically proven nutrient source? Well, that's what I do every day when I have the organic coffee combined with the dual extracted medicinal mushrooms from Four Sigmatic. And if we're talking about optimal cognitive performance and the health of our brain, the protection of our brain, there are few nutrient sources like lion's mane medicinal mushroom that pack these kinds of benefits.

Researchers at the University of Malaya found that lion's mane has neuroprotective effects, literally being able to help to defend the brain against even traumatic brain injuries. It just makes the brain more healthy and robust. So again, this combination of medicinal mushrooms plus organic high-quality coffee is a match made in nutrient heaven. Go to foursigmatic.com/model. That's F-O-U-R-S-I-G-M-A-T-I-C.com/model to get 10% off. They're incredible. Mushroom elixirs, mushroom hot cocoas and mushroom coffees. Again, that's foursigmatic.com/model. And now, back to the show.

This is one of those things that as you do this work, you realize that there's also an intelligence within certain foods and nutrients that can start to change a person from the inside out, you know? So, it's just like the mission for me for so many years, is just like, let's get these compounds in people's bodies and just like let them do it versus me telling us a personal thing to have that experience, right?

Because food isn't just food, it's information. The same thing with these adaptogens. And so, it makes us more receptive to ideas, to listening to our internal guidance system to making healthier choices, right? So, it's all baked into it. And making it accessible, because there's another thing, I was against, you know, for example, like McDonald's putting, you know... Maybe they're having like an organic smoothie at McDonald's over something, I'm just like, you

don't go to a drug dealer for your vitamins, you know what I mean? Like that kind of perspective. But in reality, here in the United States, about 84 million Americans get fast food every day, right now... On any given day. Not they're getting it every day, but on any given day, 84 million Americans are getting fast food. It's just a thing. It's happening. If we can start to interweave and find ways to provide more nutrition through those mediums, that's a great inroad because as we truly are voting with our dollar and these companies, we're starting to cut into their market, right?

When we are like directing people away from them, they get with the times, right? They're seeing like a burger lounge, for example, with grass fed parameters, and they're just like, they're taken away from our bottom line. Let's lean into that ourselves. Now, not to say that they can't corrupt that as well, but we're going to be able to affect change in so many more people. I really believe that there's this tipping point as well with human consciousness and also health. It's just been this steady decline for so many decades. We need something to turn it around and like what you're doing, making this accessible to other folks. Because initially of course, I would only see Four Sigmatic and like Erewhon, you know, Whole Foods, like a higher end, and now making it more readily available. I love it. I love that idea, that concept, that thrust towards change and now it's... But it's not just this, there's more to the story. Now we're into adaptogens and let's talk about another one. Let's talk about ashwagandha. It's one of those... It's a fun thing to say, ashwagandha, I dare you to say Ashwagandha and not smile. But let's talk about what it is. Let's talk about its adaptogenic properties.

TERO ISOKAUPPILA: So, for reishi is the number one or number two thing out of the traditional Chinese medicine system, ashwagandha is the number one or number two thing out of the oldest medicinal system used today, ayurveda. And it is a, an herb. It's a root, most commonly used, and it is so powerful. And it's... Here's one of my favorite facts lately. I check Google Trends. You can go and go to Google Trends, and you can see whatever the world is searching. It's a great place to learn about what's happening in the world. And I looked that, then I compared ashwagandha, which is funny to say and hard to spell... And I looked at it compared to other big food trends, and I noticed that more people are searching for Ashwagandha than green juice. And that's...

SHAWN STEVENSON: Interesting.

TERO ISOKAUPPILA: That's, to me, that's the proof of it. To me it also says it's a proof that it works, because it's not... It's been many decades. If you've been in the natural product stores 10, 20 years ago, you already saw ashwagandha. But it's slowly kind of become a thing and it's because it works. So, what does it do? Well, to me, it's similar to reishi, its power is in the HPA axis. Those are the two powerhouses to work on this superhighway as you call it and help with stress and improving sleep quality and some of those neurotransmitter production. Secondly,

there's also couple... Particular clinically studied extracts. I'm not a huge fan of these branded extracts because you're trying to kind of steal from nature, but there is products called KSM-66 and Sensoril that have clinically proven to help with cognitive function. So, it's interesting that how if you're a calmer version of yourself, a less stressed version of yourself, your brain fires better, right? So, I would mostly recommend ashwagandha similar to reishi to help with stress, but it also helps with cognitive function.

SHAWN STEVENSON: Awesome. Awesome. Another one of these adaptogens that you're talking about in the book, and I haven't shared this with you, this was prior to us even setting this date to have this discussion, gynostemma.

TERO ISOKAUPPILA: Yeah.

SHAWN STEVENSON: I've been really into gynostemma. I've known about it for maybe 15 years, but just the last like three months, I've just been so compelled. And that's the thing too about some of these things, like your body's just like a resonance, you know? So gynostemma, let's talk about gynostemma.

TERO ISOKAUPPILA: Yeah, it's funny. I co-wrote the book Healing Adaptogens with Danielle Ryan Broida, she's a registered herbalist, and a teacher of mycology and just like me, she spent a decade plus studying these adaptogens. And then we went through over a thousand research papers, and we tried to weed off... You know, you've written books, it's just so much this kind of weeding and trying to find the nuggets. Make the nuggets easy to use and accessible. And after doing all that, we both sat down and was like, "Hey, what are you impressed about? Like, what are you, after going through all the research papers, like you're an expert at this, what caught your eye?" And you were like, "Hey, wow, that it was even more incredible than I realized." And she said gynostemma as one of these things. It's it's been used for hundreds of years, but it's newer than the ginsengs and the reishis.

And it was discovered in this village. And since discovering, we found out that it's the highest source of these saponins, four times more saponins than ginseng. And it is an incredible plant. By the way, easy to grow at home. If you have a windowsill, a little place for a home garden, you can buy these seeds and you can create your own medicine at home. Like, you don't need a big garden or a big farm to grow this, you can just put it on your window and teach your kids how to grow your own food. And it's one of these amazing plants you can grow at home. But it is incredibly powerful and so versatile. But these saponins, just like the terpenes you found in reishi, have incredibly powerful adaptogenic properties and they restore balance in the body in so many healing ways. And absolutely, it's one of the more overlooked, yet well studied adaptogens in the world.

SHAWN STEVENSON: Yeah. Yeah. These saponins are these soap... Like sugar molecules, and you kind of break that down in the book. But this leads into another point of emphasis and clarity that we need to talk about, which is, we do have colleagues who are like saponins are slowly murdering you as well, like these plant defense chemicals. And these are my friends, you know, so Dr. Gundry, for example. I love Dr. Gundry and he really brought to a mass scale the awareness of plant defense chemicals, that there is a lot of truth within that about certain plants and about certain compounds degrading our health. But we tend to throw the baby out with a bathwater. And by the way, if you ever see someone throwing a baby out with, nah, that's, it's just one of those crazy things that we do. We tend to put everything into this all or nothing basket and throw everything out the window and miss out on the fact that for thousands of years, our ancestors have studied, have utilized, have perfected, and uncovered the benefits in certain plant compounds. And so, to just say these plant defense chemicals, that's a bad thing. Let's help to bring some clarity and balance to this discussion.

TERO ISOKAUPPILA: Yeah. I love Dr. Gundry, known him for years, met him and his wife years and years ago on this one cruise, long before he wrote these famous books. I've known Paul Saladino and many amazing people, and I've talked to them about this topic as well. And I, he... And although they're onto something, I think it's very dangerous, very dangerous to throw out whole food groups without focusing on quality and knowing what we're talking about. First of all, if you start this path, you're going to eventually remove everything one can eat. So, you can find negatives on every one of these larger food groups. Secondly, in these plants, we got lectin, and saponins and these things, or with fungi, is you have to understand that why they work is because they're low-level toxic. That's why they deliver the incredible health benefits.

And this might feel counterintuitive, so hang with me a little bit. Let's take an example of working out. If you work out, you run up a hill, you take sprints or you lift weights, you are temporarily weaker, do a heavy set of dead lifts. It's hard to wear squats and then try walking up the stairs. You're not walking up the stairs as well as you did before the workout. But then after healing, your body says, "Hold on, I got to be more strong. I got to be anti-fragile." And in that case, you become a better version of yourself. That's what a lot of spices and these adaptogens do. They give you a low-level trigger. I'll give an example of turmeric. All of these people recommend turmeric. And turmeric, actually the curcumin, does that, it actually triggers. It is a compound turmeric created to protect itself. When we consume it, we get a low-level stress response, it's called xenohormesis. It's a hormetic stressor that the plant created for itself and when we ingest it, we get the benefits.

So, this is what you do, now if you have huge digestive issues and you've been eating absolute garbage for years, then yes, excluding food groups temporarily can help you heal your gut, but your goal is to have buffer, your goal is to have a range. I think it's incredibly dangerous if you follow any diet, you're on keto all day long and then you eat one spoon of your wife's tiramisu

and suddenly your metabolic health crashes. That probably means you're doing not that well; you have some underlying issues. Same that if you have one cup of coffee and suddenly, you're absolutely... Your adrenals are out of whack. That probably means you got some work to do on restoring those adrenals first.

So, to me, a lot of health is about range. We will face stressors and that's good and we need to build resistance, this anti-fragile thing that we can have ability to navigate through the challenges of life. And specifically, be it spices or adaptogens, they have these compounds that are used safely for thousands of years and when you take them at low levels, still, reasonably low levels, even if it's an effective dose, you're going to elicit evolutionary responses that will make your immunity better, your skin better, your gut better, your brain function will be better. And if you ever meet people who are... There are these words that I don't want to throw, but there are people who have real issues with food, I mean, they are super healthy, they go to the healthiest grocery stores, and they eat all the healthy stuff. And they know all the health stuff and when you meet them and you look them in the eye and you go like, "How are you?" And they're not good.

They're not good. Some of them will admit them, it's like, "Oh, my gut is all messed up," and some of them will not, but you can tell that you're not good. It's like you can see that they have this pained body, they have this stuff. And then you meet a surfer, he had a breakfast burrito with gluten and tater tots in it at the beach and went surfing. And he comes out and you look him in the eye, and before you even ask how are you, you can know from the eyes that he is awesome.

SHAWN STEVENSON: Yeah.

TERO ISOKAUPPILA: He is awesome.

SHAWN STEVENSON: And he will tell you.

TERO ISOKAUPPILA: He is full of life.

SHAWN STEVENSON: Yeah.

TERO ISOKAUPPILA: And that's why I think you got to be careful on the obsession with nutrition and the obsession of blaming things bad without focusing on quality and dose, and understanding your goal is eventually to have this range where you can eat anything, and you'll still be fine. And so, I do understand why for people who have major gut issues, lectins and other plant toxins can be problematic, but you should be temporarily excluding them. And I feel like a lot of these people who've spoken about it will still have plants, they will still go back

to different plant kingdom items, and it was maybe temporary for them to heal their body. And for the fungi itself, you want it or not, you will have fungi in your skin and your gut, and even if you don't eat plant products, you'll probably have fungi in your meat, and it's going to be part of the air we breathe, there's going to be fungi. So, fungi, you cannot escape whoever you are, and in the plant case, they're powerful allies. But with like anything, you need to know the quality above anything. You have to understand what you're getting and your bio-individual needs.

SHAWN STEVENSON: Yeah. So powerful man. Thank you for that. And you mentioned this earlier, you mentioned the microbiome and the fact that this is the make-up, this is a part of who we are. The similarity, we talked about this last time you were on, with our DNA and fungi DNA... And I don't know if everybody caught earlier when I said you got to be a fungi, shout-out to everybody who got that little nugget, but you mentioned just recently turmeric, and again, we can get into this place where we see this as it has these plant defense chemicals, so we understand we're giving our body this really remarkable safe stressor that then all of our modern peer-viewed data is showing all of these benefits by doing so. And I'm just going to share a couple really quickly.

This was from the Department of Neurology at USC, they're probably not that smart, I mean... But they found that the active ingredient in turmeric... Well one of the active ingredients, there's like 300 that we've noted, curcumin, is able to help eliminate plaque in the brain and also slow down the aging of our neurons. It helps to eliminate heavy metals from our system, reduce inflammation in the brain. And another study, this was published in the European Journal of Nutrition, uncovered that compounds in turmeric can downregulate inflammatory cytokines. And so, this has been a big part of conversation recently with this virus, this cytokine storm. What if there are things that, again, have been used for thousands of years that help your body to tamp down and modulate the stress response, modulate the immune response? That's what I wanted to circle us back to with Chaga. It's an immunomodulator. Can you talk about that aspect of it?

TERO ISOKAUPPILA: Yeah, so our body has a defense mechanism and even with or without the k-pom and corona, I would say we always have toxins. We can... We eat toxins, we breathe toxins, we face toxins, and we have viruses, bacteria, and this has happened since we're a kid. And it is not uncommon to face these intruders, that's why the body is smart. It built a defense force here like you have natural killer cells, you have these cytokines, and they're... Like intruders come in, they get to work, and they get rid of the intruders. There's like your... They're your internal security officers. Now, if they're lazy or weak, you will likely get sick, and that's when you need to boost them up. You need to get them stronger. That's called stimulation or boosting. That's when you upregulate your immune system. Unfortunately, a lot of people, for various reasons we don't really probably have time for, have confused their internal officers,

and they don't know that when your cousin comes over, the cousin should be able to enter the house. Instead, they block even the good people, so then you get autoimmune stuff. You have your internal security officers are confused, and that's when a lot of people have to take pharmaceuticals like immunosuppressants.

What's cool about adaptogens and these immunomodulating properties is they can do both. If you are the one who needs upregulation or you are the ones who need downregulation, these guys will help your natural killer selectivity, the cytokines, activate but not stimulate. And that is so powerful because that means you can work on your immunity well before you need it, and you will be ready there without the risk of making yourself sick and being overly stimulated in your immunity.

SHAWN STEVENSON: So, with Chaga... So, you mentioned reishi the queen of the mushrooms, right? Chaga is the king.

TERO ISOKAUPPILA: Yep.

SHAWN STEVENSON: Is that correct?

TERO ISOKAUPPILA: Yes.

SHAWN STEVENSON: And in the book, you shared some... It should be... Everybody should know this. Some of the research around Chaga and cancer. It's fascinating because this was even used as a pharmaceutical, some extracts of Chaga, in countries like... Again, very advanced, like Japan.

TERO ISOKAUPPILA: Yeah, so Chaga and other of these adaptogenic mushrooms, like turkey tail and reishi, there's a... And I have to walk a fine line here because of a law and what can I say and what I cannot say. But if you go to PubMed or you go and you search the Latin name of reishi, Ganoderma lucidum or Chaga or turkey tail and you look at them, and there's just hundreds upon hundreds, upon hundreds of studies around that, to the point that actually on the turkey tail, there's two extracts, PSK and PSP, but they were used as a cancer drug in Japan. And Chaga was used... Formally, it is in... As a medicine in Russia, and it would become famous in the West because of a noble winning author, Aleksandr Solzhenitsyn, wrote Cancer Ward, which is a book basically about him having cancer and then taking Chaga to heal. And there's a lot of other interesting studies about Chaga extract that was found a few years ago that I think is a 2019 study, and the IOSP polysaccharide found in Chaga helping with mitochondria cellular death, slowing down your mitochondria. There's another one on the 28% of test subjects who had psoriasis skin problems that are often due to immunity and gut war took Chaga and completely healed psoriasis in the study.

So, there's just powerful, powerful thing. And so, if you're interested in immunity and cancer, go to PubMed, see what the research is. We tried, in the book, to compile as much of it as we could, but it is like... The official recommendation is you take these mushrooms alongside a conventional cancer therapy, and that's what... My dad had cancer a little over three years ago. He's now completely healed, but he had stage four cancer, multiple types of lymphoma, and he had conventional cancer therapy, but also lifestyle and diet have a huge impact on it, even though I think official parties would it say has no impact on health and wellness, but I'm just going to call BS on that.

SHAWN STEVENSON: Yeah, man. And also, again, you cited studies in the book, as a complementary to conventional cancer treatments, utilizing things like Chaga and turkey tail, and dramatically improving survival rates, for example. And so again, this doesn't have to be one or the other, all or nothing, there's an integration point here that we can look towards, and also... I think... Is turkey tail *Trametes versicolor*?

TERO ISOKAUPPILA: Yes.

SHAWN STEVENSON: I think it's the coolest Latin name. And so, I can mix... Sometimes you can get these mixed up, but with turkey tail, that was seen with, again, an extract of that being utilized in Japan as an approved medicine, and with Chaga being such an integral part of the system in Russia, but also that might be one of the most, in a way, story of mushrooms just across the world in various places. Where are we going to naturally find Chaga in the wild?

TERO ISOKAUPPILA: Well, you find it a lot. Actually, the most common place to find Chaga is in the world's largest forest, Taiga, T-A-I-G-A, and that forest is larger than all of United States. It spans from Norway all the way through Russia into Alaska, and then Canada, and it's a massive forest, but it's... You can find it in US, Canada, Norway, Finland, Sweden, Iceland, Russia, Mongolia, kind of in the colder climates going on, wild in Birch trees, and there's an abundance of these Birch trees. Estimates vary anywhere between 10% and 30% of all Birch trees will carry this Chaga mushroom in it.

SHAWN STEVENSON: In the book also, I love that you talked about sustainability as well, so again, make sure to get a copy of *Healing Adaptogens*. And you're just answering a lot of questions that might come up as we're learning about this stuff. But I want to talk to you about an adaptogen that we haven't talked about in the show before, eleuthero. Let's talk about that one.

TERO ISOKAUPPILA: Yeah, it's super underrated, and it's crazy that it's underrated because it is one of the absolute first ones that the Soviet doctor group studied, and it is the most versatile.

I would put it right up there with ashwagandha and others. And it is crazy how powerful it is and how well studied it is. Some people call it Siberian ginseng. Technically, it's not a ginseng, so you're not allowed to use that word legally because it's not that genus, but it's eleuthero.

Eleuthero is amazing for immunity, brain power and sports performance. It's one of those adaptogens, there's a handful of them, where there's massive amounts of both rodent swim studies, but also human studies in stamina and endurance, and looking at taking stress response, be it swimming, biking, running, skiing type of tests, and then looking at lactate acid build up, looking at nitric oxide. And eleuthero is amazing as a pre-workout booster, there's incredible studies on memory recall, and also it supports with immunity. And I just don't know, maybe the name is bad, maybe we should come up with a better name, more marketable name, but it is based on historical use and modern research and versatility, something that everybody should be on, like who doesn't need immunity, brain, and performance.

So, to me, it's just a no-brainer. And to the point that Four Sigmatic makes protein powder, the main point is that it's a really clean protein powder without gums and sweetener, like there's no stevia in that... We use actual real vanilla, real cacao, yada, yada, yada. But we also wanted to add mushrooms and adaptogens 'cause it's part of our heritage, and we chose the five best mushrooms. And we're like, "Okay, we can afford to put two of these adaptogens and high dose before the flavor becomes not good if you put more." And we are like one of the top two adaptogens to put in this protein powder that are the most versatile for everyone from sports performance to everyday wellness? And we chose ashwagandha and eleuthero. And that's, to me, the greatest testament I can give, is what are the two, the best for the everyday person out of the plant-based adaptogens, and to me, ashwagandha and eleuthero are right there.

SHAWN STEVENSON: It's wonderful, in the book, you actually break these into categories. So, we've got energy and performance, we've got adaptogens for brain and focus, we've got adaptogens to restore, for stress and mood, for longevity and well-being. Under the category of brain and focus is another one I just... Prior to us setting this date, I just so happened to start dabbling in it again and it was mucuna. Let's talk about that one.

TERO ISOKAUPPILA: Mucuna is like the most fun, it's the hakuna matata... Mucuna matata... It is just so powerful. It's a bean, it's the same family as the beans and peas of the world, Fabaceae family. And it's actually interesting that besides these top adaptogens are the most sacred, best known, well-studied foods of each corner of the world. They're also the best of the best in their own family of foods, like acerola is best of the cherries. And in this case, mucuna is the best of the beans, and it is a velvet bean, you can find it around the world. I've read that they've used it long before... But what makes it interesting it is the highest source of L-DOPA, which is a precursor to dopamine, which is an important neurotransmitter, you might have heard, that creates a lot of happiness and joy. And it's actually the natural L-DOPA performs better than

isolated L-DOPA, it's incredible. And it's a mood enhancer, it's a cognitive enhancer, and then also, it's used for libido. So happy mind, it also means happy erectile...

SHAWN STEVENSON: Happy flappy.

TERO ISOKAUPPILA: Happy flappy. So, what I really like it is particularly combining with coffee or cacao these things that otherwise activate your different neurotransmitters. So, if you want to make your wife or your kids something mood-enhancing, powerful, and yourself, is maybe a hot chocolate with vanilla and mucuna. Or start using maybe mucuna, with your coffee with cordyceps and L-theanine and it is... You will notice likely cognitive enhancement, mood enhancement, and then maybe eventually also sexual enhancement.

SHAWN STEVENSON: I really do believe that there can't be a problem without a solution. The fact that the problem exists, it's like one side of a coin. And this forces innovation, it forces creativity, it forces figuring things out. And the challenges that we're facing today, there are things that are rising up to help to address or balance out or reach a homeostasis for the planet, whether we realize it or not. And I feel that the emergence of these things amidst this chaos, what seems to be chaos looking from the outside perspective with human health today is just, it's insanity. We have so much "sophistication and innovation and technology", and yet we're the sickest we've ever been as a species, from largely preventable things, and kind of creating this epidemic of diverse sickness. There's so many different ways that we're getting taken out. And also, our quality of life as we...

We have this perception that we're living longer, but we're really dying longer, we're extending suffering. And so, when we have things emerging like this, that again have been there as solutions for so long, but our accessibility because of our innovation is what's new to help us to match these things, it's what's so exciting about adaptogens, but we need education around it. And I'm so grateful that you took the time to put this together, and this is accessible for us to get more educated about. But in the book, you also talk about... This is a specific quote from the book, you say that "This time we need to become more adaptable and to become more anti-fragile. Talk about that.

TERO ISOKAUPPILA: Yeah, yeah, we're not doing okay, like despite the technology advancement, we have smart phones and Twitter, but we're not happier, we're worse. And actually, despite all the healthcare spending... The US spends on way more on health care per capital than anyone else, we're actually living shorter now. The last few years, we're not living longer, we're living shorter, which is incredible in the modern times. Sexual reproduction, what a taboo that is. Male testosterone in the Western world is declining. Actually, it's probably happened now that the global population has peaked. It's now starting to go down. And wait 10-20 years and our population will go down. Some say that a few more decades and we're

down to 3-4 billion, and that's incredible. And females have not been studied as much on sexual health, but it's clear that that infertility is a male and a female issue. And I don't think you... The Pandora's box you can close as far as stress and modern life. I don't think that's possible anymore. That would require massive cut issue. So, to me, don't assume it's going to get easier. Assume you need to be better. Better doesn't mean new, better means better. Better doesn't mean more, better means better. You need to figure out a way how you can adapt to the modern influence.

Let me take one example that not enough people talk in the health world. Eye health. There's no way these screens are now suddenly going somewhere. We have not, over the last 200,000 years, evolved staring at a fixed distance upon hours and hours, and the blue light and everything that we're facing, and that is incredibly stressful for our eyes. So, we have not, for enough many generations, learned... Our eyes have not evolved to stare at these different screens and push these buttons. And I don't think they're going anywhere. So, what are you doing for your eye health? What are you doing to adapt into this new reality of staring at screens all day long? What are you doing? I would not assume things will get better, at least dramatically better, a little better, maybe. They might even get worse. Maybe they get worse before they get better. So, what are you doing to adapt your lifestyle and your systems and tools to adapt to this new world that we're living in? I think that is something everybody should ask themselves. There's no one right answer. I don't think I have the answers either, but there are clues that we can learn from our ancestors and evidence-based science that we know today, that you can start leveraging today, and you can even make it fun and enjoyable and playful, be it a hot chocolate with your son, or be it a cup of coffee, or be it something else. Be it cold plunge breathwork or a game of pickleball outside with your friends.

SHAWN STEVENSON: Yeah, my guy. Tero, can you let everybody know where they can pick up Healing Adaptogens and also just where they can connect with you and just get more into your universe?

TERO ISOKAUPPILA: Yeah, you can get the book and my other books anywhere where books are sold, or you can go online to the big book giant, or you can go to your local bookstore and support them. And you can find me on the Gram, lamtero, T-E-R-O. And then my company, Four Sigmatic, is everywhere. We're kind of F-O-U... Like you said, F-O-U-R S-I-G-M-A-T-I-C. You can find it on social and online. And if you want to try the products, we have money back guarantee. If you don't love it, you get 100% of the money back. And if you want to get a discount code, I believe you can use the code...

SHAWN STEVENSON: Absolutely. Foursigmatic.com/model. Legendary out there. My guy, thank you so much for coming by and hanging out with us.

TERO ISOKAUPPILA: Thank you.

SHAWN STEVENSON: Awesome. Tero Isokauppila. Thank you so much for tuning into the show today. I hope you got a lot of value out of this. This is another call to action, to really focus on this tenet that he shared, which is making ourselves more anti-fragile. As a culture, as a species, we've become more and more susceptible to all manner of degradation. Instead of becoming stronger and more robust, we've become more fragile as a species. And we know that chronic and infectious illnesses are shortening the lifespan and also causing sudden death for many of our citizens who are finding themselves in this fragile category. Now, there is obviously certain conditions as a individual that we could find ourselves in that we didn't necessarily construct, we didn't ask for it. We might come into the game with a genetic defect, or we might come into an environment where we are just inundated and surrounded by things that encourage poor health. That's where I'd come from. I came into the game... My mother smoked. My mother's smoke coming into the game. I got here with that template. And then later on, of course, there's all this research, you shouldn't smoke when you have your children, you shouldn't drink, all these different things. I'm coming into the game, I'm living in a household where my mother and stepfather smoke, they're smoking in the car.

Is it a wonder that I developed asthma? That my little brother developed asthma and hospitalized annually? Is it a wonder? I'm in these conditions. I didn't ask for that. But at some point, when I realized my power, I began to have the authority to not be around it. Even as a teenager, a preteen, starting to like... Of course, like I'm hearing about this stuff in school, like the dangers of smoking, I'm trying to find creative ways. Of course, I've gotten a little bit of trouble hiding my mother's cigarettes, things like that. That didn't work out well, alright? But instead, I could just remove myself from the environment. I'm going to be outside more often. I'm going to... If my mom is smoking in a room, I'm not going to hang out in her room at that time, right? So, I'm doing little things, even in that place where I'm still not legally able to make my own decisions, of course, according to the laws of man, alright? Not the spiritual and universal laws of like... I have the ability to make choices. Even if the environment is going to force me into certain conditions, I still have the ability to think externally of those things. No one can ever imprison my mind if I don't give them permission to.

And so, moving on from that, of course, finding ways to make sure that I'm not even environments, my friend group that I'm attracting aren't partaking in those things. It isn't in resonance with me. My diet changing. And I remember I actually just shared this story last night with a friend, when I first met my wife, right? So, we'd probably been together for maybe eight months to a year, and this is a true story, this is so crazy. We've been together for about 18 years, but in this time period, I had transformed my body, I was in a really great state of health, but I still had these nagging things. I would have an occasional asthmatic bout, or hay fever, seasons, seasonal stuff would really get to me.

And even though, again, I'd done so much to improve my health, I was still dealing with this thing, and actually she took me to the emergency room because I was having difficulty breathing. This was that recent. In my cognitive timeline, there's before and after Anne, before and after my wife. In that cognitive timeline, it seems like a very short time for me that like it's something that I can reach for, I can't believe I was straight up at the emergency room because of an asthmatic response. And at that time, again, I had done so much to... Nowhere near how I was, of course. And also, my little brother and still being on medication, all the things, that wasn't my story, however, here I am in the emergency room, and it was because of a conversation. After leaving the emergency room, getting my script, got my prescript.

Alright, probably the run of the mill antibiotics, which was probably not even a bacterial issue I was dealing with, but I just wanted something, "Just give me something to help me to deal with this. Give me something to help me breathe." We have a place for that, we're have the emergency medicine, emergency situations, we're still treating symptoms. We oftentimes are going in for relief causing more long-term damage, because what if I'm taking another antibiotic and just creating massive disruption to my microbiome, to my cellular communication, and leading to more susceptibility down the road? Versus leaving that emergency room, we stop by her place where she's living with my mom-in-law, but of course we're just boyfriend-girlfriend at the time. My mother-in-law was like, "Njeri tells me that you were having difficulty breathing?" Njeri is her Kenyan name, it's her middle name, so it's Anne Njeri, and Stevenson now, put a ring on it. But anyway, she was like, "Njeri is telling me that you were having difficulty breathing and you had to go to the hospital?" or whatever, and I'm like, "Yeah, it's the seasons changing. It's the weather." And to know this woman now, what she was probably thinking about me, but she responded with directness, but also holding a space of compassion for me. And she asked me this question when I said that, that it's the weather, whatever...

She said, "Is the problem out there? Or is the problem in you?" To this day, still bakes my noodle. She deconstructed because at the time, again, because I had achieved so much as far as my health, and now I'm helping others, and we can fall into this thing where we really think we've got it figured it out, where we know everything. Clearly, I didn't, I'm in a moment of suffering. And I've constructed this false thing that it is 'the environment is trying to take me out', when really it was me. I was fragile in this context. And it opened up my mind because at the time, for me, the big trigger... And this is not for everybody, but this was a part of my story. I had made this mantra, this standard, of organic food, high quality, avoiding pesticides and preservatives, all that stuff. Instead, so now I'm getting milk that is organic and it's non-homogenized, so I'm just trying to like, "This has got to be better stuff," but my make-up at the time just was not having it. There was a histamine response, there was an inflammatory

response that was taking place when I was trying to have dairy. Within that time block of this happening, I did what we refer to today, it's a very popular part of the lexicon, a cleanse.

But again, for me, this was 18 years ago, 17, 18 years ago. And what that means really is just allowing your body... Getting out of the way. We don't need all these fancy pills and potions and all these different things, it's just a structured fast. I wasn't consuming... The triggering food at the time, for me, again, was dairy. And I didn't return to it for quite some time. I never had another issue. It's been almost 20 years, because for me that was an allergen, for me, that was a triggering response. And I was so... But I didn't want to let it go, okay? So, morphines, there are compounds in dairy that make it just like, where you get very attracted. And here's the thing, I had a little dabble of dairy yesterday. Matter of fact, I can do that today. My template, my genetic expression has changed, obviously, in this time span to the degree that I've created this more resilience, because I don't want to accidentally come across some dairy and it takes me out. So, we can get into, as he talked about, as Tero mentioned today, these black or white perspectives and miss out on the fact that we want to be able to be adaptable and resilient under different circumstances. And so, the elimination of things, the exclusion, so much so that we become hyper-sensitive to them if exposed, maybe that's not the best thing.

But of course, there's a time and a place to have an elimination diet to remove the culprit. And now I can have a little bit of dairy, a little here, little there, different types, especially in the quality, the make-up of it. But also, I know there's a tipping point for me where I can sense, like, "Got a little something, got a little something going on. Got to back off." And so that's the story. For so many of us today, we're losing resilience, we've become more fragile as a species, and we're working today to build ourselves from the ground up again, because that's really what I had to do. Brick by brick by brick, construct a new era of health. Whereas if I continued in the path that I was born into, I clearly would not be here with you today. I was diagnosed with a degenerative advanced aging disease at 20, where my bones and my spine were deteriorating, asthma, go just throughout my family, the 80-90% of folks; obesity, the diabetes, the heart disease, the list goes on and on. These were all in my cards, but making the decision to become anti-fragile, to tap into the truest essence of us as a human species to be more resilient, to be adaptable.

To be healthy. That's what this is about. Again, I hope you got a lot of value out of this episode, please share this out with your friends and family. You can tag me, I'm at @shawnmodel, tag iamtero, as well, tag Tero, let him know that you thought about this episode. On social media, on Instagram, you can tag us. Take a screenshot of the episode, we love to see that. And of course, you can send this directly from the podcast app that you're listening on. And we've got some epic masterclasses, powerful guests coming up very, very soon. So, we'll make sure we just stay in tune, take care, have an amazing day, I'll talk with you soon.

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