This Doctor Says Stress Is Destroying Your Mitochondria (Here's Why!) | Dr. Scott Sherr | Ep. 118 Transcript

(Transcripts are generated by AI and may contain errors)

Introduction and Dr. Scott's Background

Just because you're not sick doesn't mean you are well. It just means you aren't sick. Many of us are walking around with nutrient issues, deficiencies, gut issues.

We don't have any symptoms yet. These will be able to compensate for them. When you symptomatic, sometimes it's too late. Yeah, it can be harder. Give us some examples of like D3 or other nutrients that are out there that your body utilizes to function that if you have those deficiences, what can happen down the line?

The way I think about this, Sam, is that we have Dr. Scott. Sure. Hey. Today's guest is Dr. Scott Scherr, physician, hyperbaric oxygen therapy expert, COO of Trescriptions, and a leading voice in performance-driven medicine.

How can we help people right now? They're suffering, they're hurting, They have brain fog, concentration problems, stress, energy, sleep issues. So the first product we came out with was something called Blue Canotine.

And Blue canotines is a combination of methylene blue with nicotine, caffeine and CBD. very good for focus, for energy, or getting things done and getting away distraction.

Why is it that when people get diagnosed, let's say cancer, a lot of the times when they announce it, all of a sudden it's stage three or stage four? What happened with stage one and two?

That's a good question, Sam. I think I was in medical school, my friends and I had shirts made that said, sleep is for quitters. You don't need to sleep when you're alive, you can sleep while you are dead, right?

But that's not going to be optimized for your nervous system function. Many people that are just living in this fight or flight, they don' t even know it.

And as a result of that you get mitochondrial dysfunction. So how do you calm down the nervous systems? Just tell them to calm it down, Sam. That's going work every time.

Welcome to another episode of a Healthy Point of View podcast. I'm your host, Sam Tahata. And as usual, we're bringing experts from all over the world to talk about health, wellness, beauty, and mindset.

Today, our guests, this guy here, you're gonna listen to a little bit about how he got himself in the word of conventional medicine and what he's doing today that's truly changing the trajectory of people's health.

Today, we have Dr. Scott Schur. Hey, welcome. All right. That's the best, I think, introduction I've ever had, thank you. We're gonna make it better the next time you come on.

Okay, well I appreciate that. So you prefer to go by Dr Scott or Dr Schuhr? Dr, Scott's perfect, thanks man, yeah. Dr. Scott Mann, welcome to a Healthy Point of View podcast.

Thanks for having me, Sam. This is great, yeah. Listen, man, I've had the opportunity to really read about you and understand your story. And you're very programmed into this world of functional medicine, precision medicine.

You talk a lot about the stuff that we practice on a daily basis at Likovita. So I think today's conversation is going to be very unique. It's going be something that I'm very passionate about.

And there's gonna be a few things that we're gonna highlighting that you specialize in specifically. But first, before

we get into any of that, I want to talk about your story.

I'd like the viewers and listeners to really understand how you even got into medical school to then in the world of conventional medicine, your traditional medicine and then where you're at today.

So yeah, the story starts very young. I grew up the son of a chiropractor, Sam. So my dad was very unconventional. The opposite of conventional, as far opposite as you can get when I was a kid.

And so I grow up outside that whole box of convention medicine. until I went to medical school. And then did I really get to understand it? I dove in like head first and was like, holy shit, where am I?

Like, I'm in, this is a very, very strange place. But the reason why I decided to go to Medical School was that as I was growing up, first I in my father's waiting room, hanging out in coloring, and then I running around playing sports as a kid.

In high school, was collecting money at the front desk at his office. So I kind of saw what he was doing. I enjoyed The patient interaction aspect of it.

I saw how he interacted and I really enjoyed that part but also the limitations as to what he could do and you know when I was thinking about what I did want to go to a school like either chiropractic or medical school decided on medical because I realized that it would give me the most breadth of understanding from the conventional side and Then from there I could kind of figure it out.

That's what what kind doctor was your father? He's a chiropractor. He is still a Chiropractor in New York for 45 years. Nice. Actually seeing him this weekend as I'm here in Florida with you.

And so it was an interesting journey growing up in that really unconventional world. Then I went to medical school and my goal was to bridge this huge chasm that we have.

Especially then this is back in 2003 when I went to medical school but between alternative and conventional medicine there really wasn't anything functional medicine was just starting that really was a very early on.

There was integrative programs in medical schools but it was very very small and so I ended up. as I was going through medical school, my goal was always, from the beginning was, how can I bridge this chasm?

What am I gonna be able to do to be to able do this? And I decided to internal medicine as my specialty because internal medical kind of gave me the best breadth of information and got me out of school and training the fastest so I could figure out what I wanted to.

And when I in medical I learned about hyperbaric oxygen therapy actually. That was my first major in road into a field that was used conventionally as you know.

but also used very unconventionally in a lot of different ways. And back in 2003, 2005, when I was first learning about it, it was still very new and not being well used outside of the medical system in the U. S.

and so I became very knowledgeable about hyperbaric therapy and it became my first foray outside that conventional system when i finished medical school and residency training and that was initially in California and became the Medical Director of a number of hyperbolic facilities.

And over about a decade, I created an integrative practice around hyperbaric therapy because I realized that, as you well know, it's a fantastic tool and technology.

But if you don't have a good framework to understand how best to optimize somebody before, during, and after hyperbolic therapy, you might not get the benefits that you want.

Or, sometimes it could be even detrimental, right? So I've created a whole practice around that, which took about a decade to do, and I was initially medical director of a number of facilities.

And then from there, I became more of. Of a consultant. I had an online presence and doing online consulting before it was cool back in 2018, 2019. and then I w I searching for a foundation to everything that I did, because I realized.

that hyperbaric therapy is a fantastic technology, but if you didn't have optimized foundation of vitamins, minerals, nutrients, your gut, you're hormones and things like that were really not optimized that you wouldn't do as well in hyperbolic therapy, especially if I like a more of a chronic condition.

And so from there, I became interested in something called health optimization medicine, which is, uh, a foundational framework that was founded by a friend and colleague mentor named Dr.

Ted, Dr Ted Articoso, and I become involved in that both on the organizational side, but also got trained in this foundational framework. And then from there, we created a company called transcriptions, which helps people right now, while they're on that longer path to optimizing their health.

So my clinical practice is a combination of hyperbaric oxygen therapy, health optimization medicine, and being what I kind of call like a conductor of all things health optimisation.

I like that, man, health optimization. What's the name of it, Health Optimization, what? Health optimization medicine, yeah. Health optimisation medicine.

Yeah, we call it home for short. You talked about functional medicine in the beginning. I'm a big fan of functional medicines. And I have a lot of friends that are trained in that.

Functional medicine's a huge step forward from conventional medicine where you just put band-aids on things and put people out the door. But functional medical is trying to do is find the root causes of illness, which I think is really great.

Health Optimization vs. Functional Medicine

However, There's another aspect to this, which is, and what health optimization medicine does is let's focus on optimizing your health first and then shift the perspective to health from disease.

And so if you do that, what you find is that all of a sudden, a lot of the things that you were trying to treat get a lotta easier because you have an optimized foundation.

And it's a shifting perspective. So we're the first standard of care for health, not disease. You know, there's the standard care of diabetes, for high blood pressure, any of our stroke or whatever, but there is no standard for care health.

What we've done is we have shifted that perspective to health and then we created a foundational framework that uses the age range of 21 to 30 as the optimal range for everybody.

So we all remember how it felt to be 21 to 30 years of age. You could wake up every morning and you don't doesn't matter how much sleep you had or maybe how many she had to drink the night before.

And you still got the energy. Right. Then you turn in your 40s and 50s. Well, what happened to my energy? Right? So what we do is we optimize everybody's levels of what are called metabolomics or metabolites between 21 and 30. Years of their hormones, their nutrients, like their gut, they're they are neurotransmitters.

not focused on a disease at all. It's just focused their health will make them feel so much better, right? But it's not something that happens initially.

Like it might happen three or six months later where they start feeling much and that's where you need to have things along the way. So you have IVs, which are great.

You have other things at your facilities. We have a company called Transcriptions that makes products that help people right now with energy, with focus, sleep, stress, immune system activation.

The goal really always is to use them as a bridge To get people through that challenge that they often will have when they're coming from, you know, everybody wants to feel better tomorrow, but it's not something that's typically going to happen for most people to get them through.

That three or six month period. And then from there, they have this foundation set. They can peel off some of the products and they know they are on their way, that kind of thing.

No, that's amazing. And you know, coming from conventional medicine and emergency medicine as a firefighter paramedic working in the ERs, et cetera, you really notice that the world that we live in, number one, the way that medicine is practiced is very algorithmic, right?

It's more disease medicine versus, like how you said, functional medicine, it's going to be more root cause medicine. But now what we're talking about here, the health optimization medicine.

You know, health-optimization medicine, you don't have to be sick, right? Based on what you're saying. So the thing is, this is a good thing we always talk about, is that just because you are not sick doesn't mean you well, it just means you aren't sick.

That's something that Dr. Ted told me a long time ago, The Founder, because many of us are walking around with nutrient deficiencies, gut issues, neurotransmitters, hormones, but we don' have any symptoms yet because we'll be able to compensate for them.

Well, one of the things is when you're symptomatic, sometimes it's too late. Yeah, it can be harder, but it not like it is the end of, I mean, there are things you can still do.

But I remember I was working with an athlete when I initially started this program, doing it with my own patients, and he was at the top of his game, like a lead guy.

And I looked at his nutrients and gut and think, oh my God, this guy's not gonna last more than a couple more years doing what he's doing unless he does something right now, right?

Because we have amazing capacity to compensate until we don't. And that's when it's like, all of a sudden, something happened to me. All of sudden I fell off a cliff and my energy just went down in the tank.

It's not typically because it was just one thing that did that. That was accumulation of things that happened over a long, long period of time. Then all the sudden you hit some sort of threshold and then you, you went right.

Right. You start feeling, well, wow, what happened my focus? What happened? I used to have no pain. I wake up with pain every morning and things like that, so, It's not to say you can't work with people in optimizing their health when they're sick or I work With cancer patients.

I worked with the lead athletes I've worked people that are across the spectrum of health, but it's always better to be proactive, right? It was better me and that's what's so cool about the ecosystem now that you're in that I'm in which is that more people are interested in being more proactive which Is not like a human thing humans just care really about you know, typically tomorrow or the next hour, and then it becomes very reactive at that point, so so You know, Dr.

Scott, one of the things that I've noticed with what you're talking about, you just mentioned that, when you start doing some of these things, and taking care of yourself, taking some supplements, it's nothing that you are going to

notice instantly.

I want to talk about that because I always talk the three different divisions of what we should focus on, which is prevention, early detection, and then treatment intervention.

I literally have it on the back of this cup. Yeah, I was reading about it just a minute ago. One thing that people have to understand is that Early detection is not prevention.

Prevention is prevention on its own. So when we start talking about some of these different nutrients and some these supplements that are out there, I want you to give us a few examples.

Like for example, vitamin D, right, Vitamin D3. It's one of those things that if I start taking it today, i don't necessarily feel something instantly.

And if i'm deficient in it for the next five years, and I don' test it to know if im deficent, but let's say im deficiency, I probably won't really notice much of a difference change in my life in the next five years.

But if I've had this deficiency for a very extended period of time, you know, 10, 15, 20 years, I want you to give us some examples of like D3 or other nutrients that are out there that your body utilizes to function that if you have those deficiencies, what can happen down the line?

So the way I think about this, Sam, is that when I work with a patient, I use a test called metabolomic testing. Metabolomic Testing is a really cool, it's been around for over 20 years now, but it is just starting to hit functional medicine, integrative medicine in general.

What metabolomics does is look at the small metabolites, small molecules that are happening in real time in your cells right now. So understanding what your vitamins, minerals, your nutrient levels are, how well you make energy, and how you detoxify from the energy you and it's all what's happening now or what has just happened.

What I love about that is that gives me a really good sense of how somebody's actually functioning at this moment. So, you know, genetics, of course, genomics and looking at your DNA can be helpful, but it kind of a static thing, right?

Your DNA is not changing. but your metabolomics are always changing in real time. And what you can do is you look at various micronutrient or macronutrian issues, you could look it toxicities, things like vitamin D for example.

You can get a good sense of what their foundational framework of health is now. And then what I typically would do from there is create a foundational baseline of supplements that somebody would take that they can use now to help support their metabolomic levels of various types of things.

And that's really the best way to understand what they need over time is to manage that, to look at those levels over-time and see how they shift. It doesn't change right away, though.

A vitamin D level will come up over about three months. Vitamin B6 or all your B complex vitamins will take about 3 or 6 months to get better. But what you're really talking about, Sam, is that if you go for a long period of time and you have deficiencies or toxicities, what's going to happen is the system's gonna start breaking down.

And the biggest place that you see this typically is in your mitochondria, right? And in the mitochondrial part of your cells that make energy. We talk a lot about metabolic health these days.

Metabolic health really just means that you can't make energy, can you make it effectively? And can detox from the energy you made? We don't like energy like an electric power car, we're more like a gasoline powered car.

We have inputs in and we have exhaust out. we had ATP, CO2, oxygen, water, and reactive oxygen species. Sorry, you met about the healthy means you're able to make energy effectively from the food that you eat.

And at the same time, we're going to detox effectively, from their reactive oxygen species and waste products we make of making energy. So where I see a lot of issues over time is in mitochondrial function is if this starts breaking down, everything else starts, breaking it down as a result of that, because you can't make it effectively.

You can meet your energy demands and the system starts going into these various cycles that As a result of the energy cycles, not being optimized, you're not getting enough energy to the various organs that you need it, including your brain, for example.

And then then you start seeing symptoms develop. You started seeing brain fog, concentration issues, mental health disorders, inflammation, pain. There's a lot of reasons why the mitochondria start breaking down.

But in the end, that's what you started. Seeing is that this breakdown process. And so if you can get people on the right supplementation, you get them on right diet, lifestyle, and manage their stress, optimize their supplementations, their medications and things like that, then that's when you see the biggest shift in how people's trajectories are going to be.

But it may not be immediately, as you said, it maybe three, five, ten years down the line that you prevented them from having mild cognitive impairment.

You prevented them from having a stroke or a heart attack or even a fracture, for example, with vitamin D and other things. And of course, vitamin is a really powerful antioxidant as well.

So I don't know if I just round about your question a little bit there, but that's kind of how I think about it from a framework. No, no, that was a, you answered it.

When you were talking about the mitochondria, mitochondrial health, what data points are you utilizing to test for mitochondrion health? So right now what we're using, there's a lot of things that are newer to the market that're looking at supposedly mitochondrial function directly, but those are new and not well validated yet.

There's couple swabs and things like that that out there for mitochondria function. What I typically use is organic acid testing, which is something you can use if you go to a functional lab like I use Genova Diagnostics.

Do you use Genova Vibrant as well too?

Deficiencies, Metabolomics, and Mitochondrial Health

I don't use Vibrant as much. The reason I use Ginova mostly is that their normalized age range is between 21 to 30 or about that. Which fits. Yeah, fits, right.

So Vybrant, I like, but the problem with a lot of the other labs out there is they normalize their normal levels to somebody between 18 and 65. And so that's okay, they're healthy 18 to 65 year olds, that range a little bit wide for me.

Like a good, a, good example of this is if you go get your thyroid check now, your TSH, right? The average, the average out thyroid levels for somebody who's like eight years old to 90 years.

And then they make a normal range out of that huge range of people. Right. Do you want it a thyroid level that's closer to a 91 year old or closer. To a an eight year-old, and so it'd be very careful with normal levels.

That's why we call it optimal ranges instead of normal level. in general, but so I use organic acid testing. What's nice about that is you can look at all the various intermediates that are responsible for you helping flip off electrons from your food, because that's why we eat fat and carbohydrates is really to make electrons that go into our electron transport chain part of the mitochondria to help us make energy.

You can look at all that, you can also look antioxidant status. You could look heavy metals, fatty acid status,

oxidative stress levels as well, and things that might be mucking up the membranes or the mitochondria itself.

So they're indirect measures. There are some newer measures that are coming out that supposedly say that they can measure direct mitochondrial function, but the gold standard is called a punch biopsy.

They punch you in the leg and they take a piece apart of your muscle, they actually look your your muscles under a microscope in real time to see how the myocondria is working.

I think that these tests are getting better but what i think is really important is that you look at in the context of the person and how they're feeling and what you can kind of potentially be able to do with them now to help and then over the long term and kind to see clinically how their doing but you could measure organic acid levels very easily in patients over periods of time.

So that's how I typically do it. And then I, I'm also doing a very good clinical history to understand how they're feeling and then kind of watching them over time as we're, you know, starting to do interventions that might be helpful to them now, and things that can help like over the longterm.

Right. So because like there's short-term things I can hope now which are great. But because those other things, optimizing B vitamins and optimizing electron flow and antioxidant status, these don't work immediately.

They take time that's why sometimes I use IVs actually sometimes if especially if they're significantly Antioxidant deficient and they have a lot of mitochondrial stress like using IVS can be very very helpful in the short term there As you optimize and build up their levels and you have them on oral after that that can work really well for some people depending on the situation So I've used it in that capacity.

And I also use other interesting compounds like one called methylene blue that I think you know of as well. Did you do the intravenous one? I usually use oral methylenine blue.

I mean, I have used IV in the past. But the nice thing about oral methylene blue is that you can take it home, right? And it's a little bit… What's interesting about methyline blue in general is it is a fantastic…

It's called a redox cycler. It can help with energy production and it can also help detoxification. So it's like the electric powered car, right? You can give more energy to the system without causing a lot of stress.

The challenge with IV sometimes is that, depending on the dose, is if you give too much, too can go to brain too quickly for some people, causing some more symptomatic kinds of things.

But if keep the dos pretty low, I find that IV can be very helpful. Over the long term, oral can very, very help because it has this significant impact on that mitochondrial function.

And if can support mitochondria function, people start feeling better now. And that's what you want. You want to give people enough motivation, like, wow, I do feel a bit better.

Now I can go do the harder work of optimizing my supplements, optimizing, my diet, getting out of a shitty relationship and or doing some harder. Work of working with trauma that has a child or whatever it might have been.

Right. Sometimes it's so difficult because you don't have enough energy. Like the two main complaints that I get as a clinician. And I've actually corroborated this with other clinicians that that.

I work with our colleagues. The two main complaints are not enough energy and anxiety. And the problem with it is that these things feed each other, which what I mean by that is if you don't have enough, energy your mitochondria, the part of your cell we're talking about, they flip into this mode called the cell danger response, Which actually puts your sympathetic system in higher gear, your fight or flight nervous system.

As a result of that, you get more anxiety, and then that anxiety feeds your mitochondria with all these hormones and neurotransmitters that increase the stress on your Mitochondria.

Right. So you have this terrible loop that starts. Is this what you call the sympathetic spiral? You got it. Yeah. This is called the Sympathetic Spiral of Doom.

You guys should have music. But the Symphathic Spiro of doom is this loop where you get this sympathetic activation, which is. Fighter flight. Everybody, I think, knows the fighter flight part of it, but our nervous system has two components.

One's called sympathetic nervous. The other part is the parasympathetic nervous system. And so the sympathetic nervous is what is our fight or flight nervous.

It's the one that keeps us, you know, getting if we're getting chased, it helps us run away. If somebody is underneath a car, we can lift the car with superhuman strength, maybe depending on the type of car.

But that can help get the person out of the. The parasympatetic. Nervous system is arrest, digest, detoxification and recover nervous systems. but most of us are living in that sympathetic dominance most the time.

And that's just because of how society is operating, right? We're not, we're program now to think about relaxing. We thinking about how much hustle, how we can do in a certain period of time nonstop.

And I grew up in New York, right? It's the city that never sleeps and I didn't grow up, grew in the City, I growed up on Long Island. So to be clear, but at the same time, you know, that that culture is a big part of it.

Right. And so I was in medical school, my friends and i had shirts made that said sleep is for quitters, because you don't need to sleep when you're alive.

You can sleep in your dad. but that's not gonna be optimized for your nervous system function. And so you have this significant component of people out there, many people that are just living in this fight or flight and they don't even know it because they've compensated for a while until things start coming off and the wheels start falling off the car, right?

And then that mitochondria, the part of your cell gets all these stress hormones that getting released all the time if you're in that sympathetic. As a result of that, you get mitochondrial dysfunction.

And that's one of the main reasons we have mitochondrial dysfunction, which is this sympathetic spiral, this is sympathetic activation. So you can have the sympathetic because of a bad job or a stressful job, or stressful life because you have kids at home.

I have four, right? And then you're not getting enough sleep or you a have a snoring partner in the same bed as you. It's not gonna make you sleep very well, I promise.

Or if you've had trauma as a child, you never feel safe. There's nothing I can do, no supplement I give them. And this interesting, There's people that I've met over the years, patients, where it's almost immediately understandable.

I almost, immediately understand that there's no amount of supplementation I can give this person if I don't also calm down their nervous system. Because it like, and I hate to say this, because my conventional doctors will say it all the time, it was like oh, I'm just giving people expensive urine because I am giving them, like if you take a vitamin it is just expensive.

That's what a lot of conventional doctor will They're right. If you have somebody that comes in, that's in this sympathetic spiral in the sympathetic overload, there's no amount of supplementation you're going to be able to give them.

That's going help them over the long term. Short term, maybe, but long-term, no, and this is just, it's not going happen. And so the key really in that case is to calm down the nervous system and learn, learn and find ways to do that.

And so supporting, but the supporting the mitochondria at the same time is absolutely essential because if you just calm down their nervous system without supporting them mitochondrial at same, they're gonna feel terrible because you're turning off the, you've taken down the gas pedal, that you have nothing there to show for it, right?

So one of the things that I know you talk about is the body, mind and soul, and how the Mitochondria bridges those three. So I want to talk about that because we're talking about someone who's going non-stop in this sympathetic spiral of doom, right?

And if you don't calm down that nervous system, that can cause an issue in all these different facets that we are talking. So how do you calm the nervous systems?

Just tell them to calm down, Sam. That's gonna work every time, right? The last thing you wanna tell somebody that's sympathetically activated is to come down.

Because I promise you, it will not work. It's like telling your wife or your spouse, you just should calm, because that gonna go well. Yeah, that not gonna well, and never does.

No, no, so the key is understand, as a clinician over the years, what I've realized is you have to find a way in. And the question always is, What that way is going to be?

And then, the way I have done it, For a lot of people that are really this because so many people are type A right now, like they want more information.

They think more and more more is going to be better. But we now know, most of us know intuitively that actually taking things off of our plate is actually going be to better for us if we can and focusing on the things that we truly love, enjoy, that find, give us purpose.

That's hard to do that. It's harder to figure that out. Right. And so what I often talk about is the GABA system. So GAB is our primary inhibitory neurotransmitter in the brain.

is one that calms down the firing of the brain. So we have our primary excitatory neurotransmitter called glutamate, which is our kind of gas pedal, let's call that.

And then our GABA is, our breaks. Now, most people probably haven't heard of either of those neurotrasmitters. They've heard have norepinephrine and dopamine and don't mean fasting and serotonin and things like that, those are your superstar neurotranmiters, but it's actually the glutamine GAB a balance.

That's the most important. The glutamate is excitatory, GABA is inhibitory. But I talk about the balance between these two neurotransmitters. What happens when you're always in this sympathetic spiral is that that GABAA level goes down, it's deficient.

And so the challenge with that is you have less GABBAA around, you get more anxiety. you have more insomnia, you've more depression, and you're more mental health problems, right?

And so if you go to your doctor and say, doc, I'm feeling depressed, anxious, insomniac, whatever, or I have mental problems. They're not gonna be looking at thinking about your GABA levels, but.

No, they're gonna try to give you a pill. Yeah, try and give a PIL. Try and get you an SSRI, an antidepressant. And we now know, sure you probably know this too, Sam, is that when I went to medical school, we used to think that People with depression had low serotonin levels compared to the average person that did not have depression.

We now know that's all bunk. That's Allbin was all misguided. So people with. Depression have no lower seratonin. Levels and people that don't have. Depression.

Now, if you give somebody an SSRI, they will they. Will feel better, but it takes four or eight weeks. Maybe there's also a black box warning on those drugs.

In fact, I know the person who advocated to get the black. Box warning. On those. Drugs because her sister. died, unfortunately, of suicide after taking one of those drugs back in the 1990s.

So they're not without risks, but we have much better data that people with depression are GABA deficient and serotonin deficien. And so if you can optimize those GAB levels, you start seeing the brain, the body, everything start calming down.

What I often say here, Sam, is that what we need to be able to do is show this person, this individual, one my patients in this case, what it feels like to calm down their nervous system.

And the fastest way to do that is to improve their GABA levels, but you cannot give them GAB as a supplement because GABI as. A supplement is too big to get across into the brain.

So if you're taking a GAPA supplement, for example, and you feel relaxed and calm, that's not necessarily a good thing. Yeah. Like I take a, uh, Quicksilver Scientific, they have one that's, I think it's like a liposomal, or sub-legal.

That's a GABA-alpheonine. Yeah, so Quiksilvers is the only exception here, because Quiksliver has this nanoliposome, which is really, really small. But other GABAA supplements on the market is too big of a GABAA to get across.

If you do take a GaBA supplement and it does work for you, it is probably because that, its called your blood-brain barrier, is leaking. It's leaking things in that shouldn't get in there.

and that's causing inflammation most likely in the whole body.

The Sympathetic Spiral and Nervous System Regulation

Most likely the sort of the nidus of that is going to be a leaky gut typically. So if you have a leaking gut, you also have leaking brain. Sorry, but you can optimize your gut and your brain barrier gets better.

And I've had patients that have been taking GABA supplements. making them feel better. And then we optimize their gut and the GABA supplements stop working because you've optimized their guts.

You've sealed that up and now their blood brain barrier is working better as well. So they don't have the capacity. The key with optimizing the Gaba system is to look for supplements that can enhance it in various ways, the gaba receptor, but without being GAB directly.

I use things like Cava, CBD, CBG. We have a product called Trocomet, Trescriptions that has those along with something called nicotinol GABa, which is a vitamin B3 attached to a GAba.

and the B3 has a transporter that gets it across, gets across the blood-brain barrier, and then you have the b3 and GABA in the brain, which is nice. We also have something called agarin too, in one of our sleep products, a couple of products actually, because agarin's a long-acting compound that binds onto the GAB receptor, it's from a psychedelic mushroom.

The Amanita mushroom. So it's the mushroom with the red cap, the white spots. Santa Claus is supposedly coming from the Amanito mushroom in Siberia or, you know, Alice in Wonderland and those other kinds of even Mario Brothers has this mushroom, but this Mushroom is psychedelic, not like the tripping balls way of like psilocybin, But more in the way Of of kind of, like, sort of Like an ethereal kind Of state, it gives you this sort Of luminal state

without feeling too, too out of it.

But But it also can cause nausea and vomiting actually. So because there's two ingredients, two main ones in the mushroom, one called Ibotenic acid, which is neurotoxic.

One called agrin, Which is the long acting one that works. You have to be careful with the dosing on that one. Yeah. Agrin's very, we have To be very low dose.

We typically use a milligram or maybe two milligrams tops in it. And what's nice about this is that Formulating on the GABA system is very, very important because you can also go out and go drink a whole bunch of alcohol, too.

That's going to work on The GABASystem. But that's not good for us, as we know, right? Because what happens with alcohol with benzodiazepines like Ativan, Valium, and Xanax, with sleep drugs, what these all do is bind to the GaBA receptor, but they deplete GaBa in the process.

And as a result of that, you get GABA deficiency, which gives you all the things that I just mentioned before. It also gives dependency, tolerance and withdrawal for these drugs, right?

So the way we formulate is by combining something that binds to where GAB would bind on the receptor and something on a separate site called an allosteric site is the fancy name.

And that combination prevents GABE depletion. There's no other companies that are doing it. We have a patent on this kind of process as well, because the key is to give something to enhance the GABI system.

but not deplete gap in the process. But that's the short term, Sam. Like in a long term you want to give people the feeling of what it feels like to be parasympathetic, to down-regulate their nervous system.

And when they do that, that when you have an in. That's when say, okay, now let's do some breath work, let do meditation, find you some yoga classes. Let's also look at the long-term, like why do you so much stress?

What is it that you think? And is because you've had trauma as a child, because had a significant medical illness for a long period of time, that'll do it too.

There's lots of things that will do, but those take longer to address, right? But if you give people the experience of like, Oh, That's what it feels like to actually breathe.

Then they, okay, now I know how to get back there right now. Now I, know where there, there is, you know, Have you ever tried any device to do a vagus nerve reset?

Yeah, those can be great too. There's the vagal nerve stimulators. The auricular nerve ones as well. A couple different meditation devices that are pretty good.

Another company that makes a vibration, one that I like a lot. They're friends of mine too, so… Yeah I do the brain tap. Brain tap helps with a lots of relaxing the mind.

Guided meditation. I've tried to do like the regular meditation Can't really get myself there. So yeah guided meditation is good I mean, I think that the big thing about meditation for people is that I?

Mean when I first learned about medication I thought it was like you have to have no thoughts like that's not going to happen unless you're on like a very high dose of psychedelics or some other like some of their drug that will quiet your mind, but in general your Mind is going be actually more noisy when you try to meditate because you your brain, your ego is trying to like get you to get out of that.

So the key is just observing your thoughts. I tell my patients all the time, I send them this like this very simple infographic that just says, just spend a couple minutes just to observing.

Your thoughts just do that and then over longer periods of time you can do it for longer. and actually becomes a superpower, right? Because you don't get taken away by every single thought that comes into your brain after a long, after period of time doing this.

Let me ask you a question, man. And I know that you've probably had your share of friends and family members that fall into this bucket. and especially being a medical provider, you've seen this, but why is it that when people get diagnosed with some kind of really bad illness, let's say cancer, a lot of the times that friend or family member, when they announce it, all of a sudden it's stage three or stage four.

What happened with stage one and two? That's a good question, Sam. I think since the pandemic, we've seen a lot of these, what are called sort of turbo cancer kinds of things.

And there are some thoughts that the particular virus, the COVID virus specifically caused this sort senescent, it's called this very fast, aging population of cells in many people causing these, these sort of like younger people getting cancer, younger, people are getting these diagnoses.

I think that's one piece. That's a big significant piece, right? And I've been seeing that a lot, but that doesn't negate the need to build a foundation, do everything that we've And the other aspect of things is that, and this is the big piece, I think overall, even with the COVID and the pandemic is just that the toxicity that we're subject to at earlier and early ages is, just out of control, right?

Everything from the food we eat or the water we drink, to the air we breathe, so the sheets that sleep on to, the detergents we use. I mean, when I work with a patient, It's just amazing to me what people have in their homes, just the amount of toxicity.

And so I have a friend of mine, her name is Jill Carnahan, she's an MD, and she talks about a toxic bucket. I like this analogy because What she describes is that everybody has a different size bucket.

Some people have small buckets that can't take a lot of toxicity and all of a sudden they go over that threshold and start having symptoms, having early cancers or progressive cancers, or regressive cancers.

You have people with really large buckets. It's like you're, I don't know if you remember George Burns, but like the guy that could smoke cigars until he was in his 90s or 100 and have no issues at all, right?

But you have this, and like my wife's family is all Scandinavian, they all live into their hundreds. I heard my wife's father was overeating KFC and he's in his 80s.

I'm like, you could do that in your 80's. If I did that, I'd have a heart attack the next day. Certain people just have genetic predispositions to be able to really be to take a lot of toxicity.

But the challenge I think is that most of us don't fall into that, you know, larger bucket. Most of have smaller buckets overall, and then we're overfilling those, right?

And so the, there's a, the whole science, it's called exposomics, which is the science of toxicity. And now we can measure toxicity, we could measure it in the environment.

As you, know we, can it inside plastic tubing, as you as well. Then with microplastics and things like that. We can also measure this inside the body, but looking at Various metabolites.

I was talking about the tabloids. We look at signs of toxicity. Look at look, at things like, you know, plastics. You can look. Glyphosate. you can. Other sort of corresponding aspects of what happens over time is that when you have a lot of toxicities, that you.

A lot. Of need for antioxidants, right? And over a time, and you're going to deplete those antioxidants. And as a result of that, you're gonna have less of those and then you gonna be more subject to more stress and you can't

neutralize that you, can compensate for that.

And so I think the biggest reason Sam overall is that just have more toxicity at a lower younger, younger ages. very difficult for somebody from 21 to 30 years of age to feel bad.

You could do a lot to this person and then the next day they would feel fine. I don't think I really fall into that category exactly, but in some things probably.

But I had a friend of mine in college, he was of Irish descent. He could drink himself vomiting and falling asleep in an elevator and the day he could run a marathon.

And so that's the double edged sword there when it comes to that kind of liver. And I see this even in my, I have kids, and I four kids and my youngest is 15. And we know the amounts of pharmaceuticals that kids are taking now is just absolutely crazy for depression, for ADHD, anxiety.

Anxiety is such a huge issue. You get people started on these medications when they're. Seven ten or twelve. It's like that's crazy But you know with it with like the cancer patient that comes and all of a sudden stage three or stage four Where are the symptoms at stage one and two what why does cancer hide so well?

Well the thing about cancer in general is I and you have to think about this from a terrain perspective a foundational perspective, right? If you don't have an optimized level optimized immune system, so you're making cancer cells every day every moment of your life, but your immune systems are Is if it's an optimized immune system is going to find those and take care of them before they start causing an issue.

Okay. So what happens is that as our immune systems gets more dysregulated, we don't have the same capacity to address those cells at their early stages.

And then some of, you know, get through the cracks. Right. people won't have symptoms if they have one or two or 10 or even 100, sometimes 100 thousand cancer cells, right?

These are relatively small. But what's happening there is that the immune system and the body's not doing what it's supposed to do to take care of these kinds of things.

And that's because we have all these early all these aspects of our biology that are not being addressed. Our vitamins, our minerals, or nutrients, are mitochondrial function.

Like mitochondria function is a huge piece here, right? If your mitochondrion are working well, the energy production system is not working. Well, this dysregulates everything.

And we know now like there's a significant interest in understanding the mitochondry as a big, big notice of why cancer starts and why it becomes so aggressive in so many people.

Right? And so we have to think about focusing on that foundation. That's really the key. The mitochondria. The mighty mitochondrion. So earlier you talked about different things that can help with people that are dealing with anxiety, stress, which we know that stress is a true killer, regardless if it's good stress or bad stress.

Stress is stress They'll kill you, right? So for the people that you were talking about that might go to alcohol. Yeah. Where they feel better because of what you said, attaches to the GABA.

Right? Yeah, yeah. They feel good. It gets all GAB-ergic all very quickly. So what does alcohol truly do? Well, what is alcohol really do to an individual when they're taking it?

because a lot of people, they wanna drink it to kind of unwind at the end of the day of work or on the weekend and get a little shit face with their friends.

But truly, what's happening to them when they're drinking this alcohol? I mean, from, there's multiple levels to answer that question, right? The main thing that you're describing there, why people drink, is because they make it makes them feel more relaxed, makes him feel disinhibited.

So they don't have as many stress signals. Like their brain is not stuck in sort of a mode, what we call the default mode which is our default motor network.

It's called the DMN, which has a part of our brain that tells us, my name is Scott. I live here. These are my kids. The things that I do, the things I don' do.

This is my likes and dislikes. When you have more GABAergic tone, so you relax all of that, you're not as stuck, so you feel better, right? But the problem with that is that the GABA receptor is very, very sensitive to alcohol, which means that when you drink alcohol what happens is you bind the alcohol to the GAB receptor very tightly.

And when that happens, you feel good, but then it unbinds a couple hours later. And that's when you wake up two hours after going to bed and feel terrible, right?

And alcohol also has various metabolites that are also toxic to the liver, for example. The liver requires these enzymes, including an antioxidant as well, like glutathione, to be able to process and detoxify from the alcohol itself.

And so what happens is that over time you deplete your antioxidants in your liver, for example, that are supposed to, they're trying to detoxify all that alcohol that you're drinking and you become more subject to having more capacity or less capacity, excuse me, to be able to talk to life from other things as well.

So over a time, what happened is you get more inflammation because you down regulate your capacity to make GABA naturally. And also you. Deplete you antioxidants at the same time causing more incapacity to to compensate for the inflammatory load you have on a regular basis.

And as a result of that, what's going to happen is that your body's gonna become more and more inflamed. The alcohol is gonna cause more inflammation.

From the oxidative stress. Exactly, and as result to that everything starts deteriorating. Liver function deteriorates, but on the macroscale, by the microscale it's the mitochondria again, that have significant deterioration.

And then you have, then your liver starts failing and then everything else goes by the way. That's my least favorite diagnosis is liver failure in patients because it's one of the hardest things to treat.

And when I was working in the hospital, which I did for many years, there were people that I saw come in that were like in their 20s with liver failures because they're drinking so much, right?

I drank a lot when I was young as well, and I'm actually really happy. I don't know if you know this, Sam, but the rates of alcohol intake now are significantly less compared to they were when we were kids, right?

And so when you were a kid, it was the thing that everybody did. But now people have alternatives, which is great. And not all of those are great alternatives.

If it's going to be a little bit like THC, I think kids should be having a bit of TH for example.

GABA, Sleep, and Calming the Brain

Alcohol itself, I mean, people just die terrible deaths with that stuff. I've seen it do a lot of damage. So in your professional opinion, what is the safe amount of alcohol?

We don't know right now if there's any safe of amount alcohol. What I say is that the best way to drink alcohol is if

you're an Italian family, drinking it in a Mediterranean climate, and you have your wine and your meal, it's becoming part of your parasympathetic response.

So there are some antioxidants in red wine. I think that having it with meals and having, it, I, think the key here, Sam, is that what I thinking about a lot, a friend of mine, like we were talking about it.

A patient of hers where did all these food sensitivities, everything she ate, she'd have a sensitivity to, right? But as soon as she started being more intentional with her meals, enjoying them, eating them taking your time, having them with family, not scrolling her phone while she was on her field, like she stopped having sensitivities, right?

Because I think a big part of this, huge part, of it is finding ways to feel parasympathetic, feel relaxed. And that often requires community. Like, what is your community?

Like is it your family? Is it friends? How are you calming yourself down, you know? And if a little bit of wine is part that, I that's completely okay.

But if it's wine to wind down after your kids go to bed, if its wine after a day of work because it was so stressful, those are not the way to use wine.

Like it. It's the it the use cases. Right. So the. Way I think about it, I don't drink wine wine just makes me want to go. To bed. I remember like I was just dating my wife.

She was before she became my. Wife and we went to a party and she's like, let's share a bottle of wine, it must have been in my 20s. That was I. Was a fall.

Oh, that was asleep by 10 o'clock. He was he was New Year's Eve, actually. And so her friends thought I, was kind of a dad, but I just can't. Drink wine But I think if wine's done in that capacity where it's in a family setting, in the community setting where there's food, there is drink, and there are laughter, then that's the way to do it.

But don't use alcohol to go to bed at night. Don't you use it to wind down in evening. That's when you really have to be thinking, what are the other things I could do?

People are using it almost as a dependency at that point. And I'll comment on it, obviously you're the doctor. For me, you know what I tell people is there no safe Level of alcohol right I also have my smoked old-fashioned.

I'll have a glass of wine here and there sure you know But if it was really up to me I'd love to see myself not even touch it ever again because at the end of the day alcohol is a poison your body recognizes it as a Poison there's no medical benefit from alcohol being introduced into the cellular system.

But you're right, when people start to make it where it becomes like the medicine, that's a problem. Because now you are using something that is toxic.

For it to be your medicine. So why don't we find other things like for example a lot of the products that you have here that You're addressing some of these type of symptoms or things say meditation and you know Vegas nerve reset.

Yeah, there's a ton of technologies out there and So now when it comes to alcohol, what happens to your biology? Does it worsen that stress recovery that you're having?

Is most people like, oh, let me get a glass of wine because I'm stressed out. Is it really fixing the stress? Well, that's the thing, right? It's not fixing what's going on underlying the stressed itself.

There are natural ways to bring down your nervous system. You mentioned a couple of them, right? You can talk about meditation or breath work, but these take time.

They take effort. People don't like to do those things, because they take, they want to take something. We all want that magical thing that we can take to make us feel the way we want it to feel.

that may work in the short term, but in a long term it's not the solution. Even some of our products that we've made, I think that, we have a great one called Turocom, for example, that I love, patients love.

And it gives you that capacity to down-regulate your nervous system. But I'm very clear with my patients, like this is not a, long-term solution, this something you can use in pinch, you could use it when you're on an airplane, when have family dinners, Is the holidays again?

It's stressful. Yeah, that's when it's great to use. But over the long term, you should be looking at ways of, well, why am I so stressed? What can I do to manage my stress better?

That's going to be more long-term sustainable, right? In the sense that, is it optimizing mitochondrial function? And that can be a big part of it, if you have a lot of toxicity, If your gut's toxic, or if your leaky, These are things that you need to address to help address your stress response because it's manifesting and augmenting your Stress response to not have those things optimized.

So for me, it always comes back to first principles. It's like foundational principles It like that's optimize your your diet your lifestyle your supplementation.

Let's let's do some adapt metabolomic testing Let us optimize our environment your let us talk about your relationships. Do all these things But those things are not sexy.

They're not the sexy things like, I wanna go drink my bottle of wine tonight with my wife again, because we know that's gonna calm us down. So it's always about…

having a conversation with people to take them and give them things that are going to help them now because we all need those things. Then giving them the long-term play, which is like, do you want to live a long time?

Do you wanna live as healthy as you can? Is what we call health span, right? So there's a lot of emphasis on longevity these days, but you don't want live long life if you also have a Pain and suffering throughout the way you want to have as long a life as possible.

That's as healthy as as Possible and then die as quickly as possibly as we call morbidity compression. So you're living as happy as you can until you die very quickly is the idea and so that's what most people want if you ask them that right and that we want provide them.

But we need to get them there, right? And we also need them to give them things along the way, because you're gonna have stress, you gonna to have insults, it's all part of the human condition.

You're going to go travel on an airplane, You are going have sick children, your gonna get sick yourself, Your gonna sick parents, like these are all things that are gonna happen to you.

So what are the things your going do? To help you those times. But what's the foundation you have so that everything else gets easier so you don't get as knocked down and as you would have otherwise.

Right. So, you know, like, I don' want to get knocked out and get up again. Everybody gets knocked me down. That's a song. Yeah, it was going to say. You know, you mentioned earlier about IV nutrition, and the benefits of IV Nutrition, which, there's a lot of doctors out there, especially in the conventional medicine world, where they look at any kind of these nutrients, vitamins, minerals, amino acids, going intravenously, they think that this is a bunch of wacky, yakadoodle type of stuff that the doctors in functional medicine space are doing.

So, I want you to respond to that. They also think that checking only two B vitamins is all that you need whenever you go to the doctor, right? Let's check your B12 and folate, and then if those are good, you're fine, everything else

is gonna be normal, except for all those other B-vitamins you didn't check, or all of those antioxidants you don't checked, all the gut metabolites you did not check.

So, look, I'm trained conventionally. I understand the mindset, which is that if it's not a randomized placebo-controlled trial of so many thousand patients that I am not going to believe it.

But the problem with that is that those take a freaking long time. And then oftentimes you can't really do those things for things that are naturally occurring in the body, like some of your vitamins, for example, right?

And so where I think that IV nutrition really can come in is, is a great bridge for patients. A great way to bridge them as we were talking about when they're first starting, when the have nutrient depletion, their antioxidant depleted, they feel like crap.

Like it could be a nice way to help them feel better faster and get them repleted faster as opposed to taking things just orally, which can take, as I said, three or six months to get there.

So I think it can be great. Bridge and I think it's a great thing for people under certain types of additional stress, right? If you have a stressful, you know, if you're going on a trip or you feel like you are getting sick or if have something else in your body that's causing a stress or immune system response, then using IV nutrition can be great.

I mean, when I go to a new city and I know that there's a lot going on, I'm gonna get an IV because I now it's gonna give me some additional support. Like I might get some peptides, and might do some other things, right?

So just to give it to me, give some support so when shaking hands and kissing babies, as I knew you do as well, like you gotta be immune system supported.

like I was just at a conference in Vegas and it was like, those things are like super spreader events, man. And like half my team came down with the flu.

But I didn't get it this time, you know, because was optimizing all the things that I had to do and using some of our products. We have something called Tromune, which is great, it's a great immune system product.

I'm using Quicksilver stuff, and I use a lot of different things to help support me. But using IV can be a good way to give you that additional support, so I am a big fan of using it.

And I know the way that you do it specifically, which is like really trying to tailor it to the person and really kind of give it in this more of an ecosystem of of safety, of accountability, have of understanding preservatives and and plastics and things like that, Which is which I think the forefront of this.

So let's talk about some of the stuff with IV nutrition, because, you know, when you go into this world of IV Nutrition, And listen, like any business, there's always a few bad actors, right?

Sure, of course. Where you go into their clinic and all of a sudden you think you're at the smoothie shop, you know, and you kind of pick in what you want.

Yeah, so I know you're a very data-driven type of physician. So I want you to talk about the importance of having specific data points before actually engaging in something like IV nutrition.

Yeah. I mean, what most of these sort of shops do around that are how these kinds of menus is that they make the doses so low that there not therapeutic, but they're also potentially not going to be harmful either.

And that's how they get around it. Right. But the best way to do it is to have data to know what you need and then design your IV nutrition around what's required.

Knowing that there's only so much you can do with oral very quickly and that you could use what I often do for glutathione, for example, is that if somebody's super low, what we'll do is IV for a couple of weeks, maybe a little bit longer, and we will have them on oral at the same time.

or maybe we'll have them on some precursors like NAC for example, and then monitor their levels and see what they need, right? But I think the key really, I'm a huge proponent of this, is that you do not guess what people need.

You test, excuse me, you test what the need and from there you find out what you need then you give them what need right and you monitor it over time, that's the keep.

It's not just one static data point, we are not static. We are always changing. We're like that flowing river that you never fall, you know, never step into the same river twice.

Where that same kind of thing, where that biology that's always shifting. So we have to understand that we're looking at data points from one period of time.

And we follow those data point over time, and then people are going to go and do crazy things and go to raves and MDMA parties and things like and come back and like you look at their labs and you go like, what'd you just do?

And I'm like, oh, I went to this. I was like okay, that's why. And so that happens all the time in my patient population. But the key for all of this, whether you're doing metabolomic testing like I am, and then optimizing things over three to six months, or you doing micronutrient testing and you testing, then you using IV supplementation, IV nutrition to help optimize, you need to be testing over time, right?

That's the keys. The key is to personalizing this it's not just a one size fits all. That's the problem and you and I are both on the social media side much more you more than me and like you see people out there telling like, you should just take two kiwis a day or just have a handful of blueberries.

That' all you need to do and your gonna just optimize your health. Like no, stop. It really needs to be more personalized to the individual. Would you say that most of your medical practice at this point is primarily N of one data with your patient?

So what I do is I use this framework called health optimization medicine, and I used it via telemedicine from my house in Colorado. And I work with patients on getting their data and then optimizing their directly.

So this is not evidence-based medicine. This is what we call evidence informed clinical care, right? Because this something that we've developed, which is something Dr.

Cancer, Toxicity, and the Terrain Perspective

Ted, the founder of the nonprofit, as well as transcriptions, very smart guy, you know, kind of decided on because you really can't do evidence-based care of things like nutrition, for example, right?

Is you're like, You're giving somebody something that they need. Where is the study? Well, they're deficient in it. You give it right. And so what I do is I'm very much personalized with my approach.

What I always say to my patients is that, You need to have a foundational number of supplements you take on a regular basis because these are the things that you need is we tested what you needed.

This is what we need. Right. Like in 2018, 2019, I remember giving a talk where I said, is it a biohacking conference? Like, how many people are taking supplements?

Everybody raises their hand. Just about. But then the next question I asked is how may people tested, what they needed? and are taking supplements based on that.

About 30% of people raise their hand, right? Now that's higher now, that was seven years ago now. But at the same time, it's still not as common to test what you need.

Like, do you wanna have some fun with some supplementation that you didn't test? So for example, my base level of supplementations, about 80% on what I take on a regular basis is stuff that I've tested that that need, and then it to about 20%, I'm like, oh, let me try this for a month, lemme see how I feel.

Let me this try for month and see what feel, but that okay. You need to have your base on you're doing, From your base, you can add like I add methylene blue to that.

I had, we have something called Tromium, which is a cordyceps extract. Or I'll use them just for the three to five days at a time. And just as a something to help improve my immune system or improve, my mood or calm me the hell down or whatever it might be.

So I use things periodically, but we all should have a base that we're taking on a regular basis. and or we're using various supplements, or IVs in this case, in very intentional ways, and then testing things over time to make sure that we are doing what we were supposed to be doing and not clocking the system in ways that shouldn't be clocked.

Yeah, I appreciate you commenting on that. Doc, when it comes to IV nutrition, there's a lot of different IV nutrients out there. We see people utilizing these multi-dose vials, Frequent as you can imagine right especially even with patients that are dealing with autoimmune issues cancer patients That are receiving not just a little bit of vitamin C I mean these patients are received in 25 grams 50 grams 75 grams, you know up to 100 grams sometimes which is quite a bit It's multiple vials.

Yep. So I want to talk about the importance of utilizing preservative free nutrients when you do an IV nutrition versus preservatives which The known preservative is benzo alcohol, which we kind of talked about alcohol earlier.

Right. I mean, this is like a very big conversation, Sam, because the supplement industry in general is self-regulating. Okay. Nutrition, IV nutrition, it's the same thing.

It's self regulating, The FDA is not under the purview of the FDA's not to regulate supplements. So if you take a supplement, you better hell know the company that's making it is making as cleanly as possible.

Does it have heavy metals in it? Does have with the microbiology testing and it with IVs? It's even more important because it's going directly into your veins, right?

So you have alcohol, other preservatives that are going in there. I've seen this with peptides, for example, people having local reactions. I'm like, well, what's going on?

These are preservatives that are typically causing the reactions, it's a big deal, right? And so you have to think about these kinds of things. And like everything else, you don't want to take your mitochondrial support with a side of heavy metals, with the side alcohol, and so like with methylene blue, which is something that we use a lot, often contaminated with lead, mercury, cadmium, arsenic.

You don' want those things, your using it to support your metachondrial function, not using to get more heavy metals and make things worse, right? And it's the same thing with an IV.

It's like, you don't want to use these alcohol and other preservatives as much as possible for the Same reason, Right? You're using it to support mitochondrial health, using support nutrition or help with vitamins, minerals and nutrients and things like that.

But, or, You know, in a cancer diagnosis, where you Don't wanna give somebody a whole bunch of toxicity at the time as you're giving them like their vitamin C or whatever.

So it a big conversation. I talk about it A lot because what happens a lot is like a Lot of the supplement companies will get ingredients from other countries.

which is okay, most actually supplement companies are getting their ingredients from other countries. It might be Japan, China, Korea, it might India, for example.

But what often happens is that these supplement company will get a certificate of analysis from these manufacturers from this other country and take it at face value and put it into their products.

that is a bad idea, right? Because we know that there can be lots of issues with all that forgeries and things like that. I don't know if you heard that, there was this big creatine gummy scandal recently where all these creatines gummies had zero creatinine in them.

Even though if he went on their website, The manufacturer said that they were perfect, right? So this is the Chinese manufacturer. It's not just a Chinese thing.

You could be anywhere, but it was said the chinese manufacturer of the creatine said it, was exactly what it. Was right. Wow. Forage documentation. Right.

So what we do at our company is that all the, all, the raw ingredients that we get, including methylene blue, they come into the United States. We test them again with an independent lab to make sure they meet their specifications.

So very few companies are doing that, right? And then once it meets our spec, then it goes into our products, and then after it's goes to our product, we test it again to make sure that it meet our specs so that the label claim is what it says.

And so the challenge with a lot of liquid methylene blue out there, for example, is it never meets their label claims. The potency is never what is says, but then people tell me they're taking like 10 drops a day.

I'm like, how much are you actually taking? I don't know. Well, that also drives me crazy because they have no idea. As a result of all this, it's such a big deal.

I know you're part of an organization that helps regulate on the IV side. We are very much a proponent of understanding exactly what's in your supplements.

And the worst place to get your supplement, Sam, is Amazon, unfortunately. The problem with Amazon is being fulfilled from an Amazon warehouse is that a lot of that, at least some of it, we don't know how much is counterfeit.

And we have some of these bigger companies out there that have gotten, you know, slams, like Metagenics actually is very famous for this. They had millions of dollars worth of counterfeit stuff in Amazon warehouses.

And so if you're going to buy supplements on Amazon, try to make sure you are buying it from the company that you actually respect and you care about.

As opposed to your prime shipping. loves prime shipping. The problem with prime is it's in their warehouses. And so we'll never do that with our products, for example, because we just don't know the quality control of what it is going to be.

So I know that's hard. Everybody wants to buy their supplements on Amazon, but everything on amazon. But quality, quality. Yeah, it the key. With IVs, with supplements, you know, It's really, really important.

Yeah, man. Doug, earlier you were talking about how people can use CBD to help regulate the GABA, right? CBD is one of the things that can do it, yeah.

So I actually sit on the advisory board of a company called PicoCBD. They're the first in the world to develop sterile injectable CBD. I've seen this.

That can go intravenously, which is some of stuff we're seeing with the studies in universities. It actually doesn't even need to be super high dose. The interesting part about having CBD that can go intravenously, you know what they've done, they created it into the Pico molecule, which is a thousand times smaller than the nano molecule.

So it gets across that blood brain barrier and it get into certain areas of the body that you can never do it with like an oral tincture or something like that.

which you already know, there's thousands of clinical studies on CBD, which have really good positive outcomes, but now the bioavailability is just at a whole different level.

So obviously you know a bit about CBD in full spectrum and the different cannabinoids that are out there. I want you to talk to the listeners and viewers of what CBD can really help you with, especially if you have that type of bio-available.

Well, that's a really cool project that you're on with that. I mean, I did see them at a conference recently, over the last year. What's interesting about the cannabinoids, the non-psychoactive ones, we're talking about CBD, CBN, CbG, those are the ones that I know most of, they work on multiple different areas of the brain.

They work in what's called the endocannabinoid system. The endocannabinoid system is this system in our body that's kind of like what's called a homeostatic system.

It's our balancing system, so it's super important from everything from inflammation to stress to energy production, to so many different things, right?

And then there's also what are called promiscuous, which is kind a funny word, but that what we use for molecules that bind to different types of receptors.

So it is also these cannabanoids non-psychoactive ones, bind to the GABA receptor too. They bind the serotonin receptor. The bind of the GAB receptor and they increase the amount of GABAA, the affinity for GABBAA itself to bind.

As a result of that, you get this calming effect. And part of that is the endocannabinoid system and the balancing aspect. Then also this other neurotransmitter called anandamide, which you probably know of.

Anandimide is a neurottransmitters, not a lot of it, but it's called a bliss neurotansmiter. So what CBD does is it prevents the breakdown of this particular neurotranmiters.

You have more anadamides, so you feel more blissful when you take it. The other cannabinodes actually do something similar, CBD much more than the other ones.

And but buys the gap receptor binds to serotonin so it has this sort of this, this effect on multiple receptors, causing decrease in stress decrease and anxiety from a macro scale decreasing inflammation, it's neuro protective.

And then if you have a higher bioavailability, obviously you're gonna have higher propensity to have those kinds of effects. That's very, very promising.

And so I use a lot of CBD, but I don't usually use it on its own. I usually it in combination, typically other things together that are working on the endocannabinoid system or working in the GABA system.

As I mentioned earlier, but I think CBD is a great one and it's one that I. Is now hit the mainstream right as far as oral, But the bioavailability is definitely an issue with CBD, especially the various types of tinctures out there.

And so what we use at our company is we us a, an isolate. But CBD isolate, CBG isolate CBN isolate depending on the product. And those have their own effects, right?

But there's also the entourage effect, as you mentioned earlier, which is an important one, too, if you have terpenes in there and things like that, that are also going to be very, very helpful as well.

So there are different strokes for different folks, Sam, and I think it really depends on the person, what they're interested in, you know, they are going be sort of navigating and gravitating towards, because there is some people that don't wanna do cannabinoids for whatever reason.

I'm like, okay, that's fine. We can do some other things instead, right? And so I'll kind of navigate. But the great thing is that we have a lot of different options for people.

The key is to understand, it's to zoom out and go, Okay, on the meta level, what's really going on here? Is the sympathetic spiral of doom ongoing?

Alcohol, IV Nutrition, and Preservative-Free Formulations

Like, where do we need to break this? Is it, how can we do this in a very natural and a supportive way, right? And then short term and how we can do it long term, and then how could we support mitochondrial function?

So I always try to zoom out, I get lab data on my patients and I look at that from a zoomed in perspective, but also everything's a network, Sam. So you can't just look one node on the network You can just look at one note in the network and just think you can do that, right?

Because it's going to have an effect on everything else. This is where I think a lot of TRT, for example, is very misguided. If you're just looking at testosterone, an increasing testosterone.

But what about your growth hormone? What about thyroid? Adrenal glands? Looking at your gut and your nutrients and things like that. It's misGuided, and I know that people feel better, obviously, on TRTs.

because they have more testosterone, but that's really not the entire answer oftentimes. So the way I always think about this is that we have to think of it in a network way.

Yeah, man. I completely agree with that. You know, we see it every day. It's you got to treat the whole body. The person as a whole. There's a lot of testing that is required to be able to do that as well.

But having that knowledge to understand that, is the first step. The biohacking space has grown tremendously. And you got a lot of bio-hackers out there doing a crazy different things, taking all kinds of different supplements and riding their bikes up mountains and doing this and jumping off of this thing.

Everyone has the best next thing, you know? My question to you here is, we're talking about blind spots. What are some of the blindspots that you've seen from these bio hackers that are technically doing everything right?

It's funny because I've been in this world for a long time Sam I I went to the first ever maybe second ever biohacking conference in 2014 13 somewhere around there and at that point It was like the Wild West people were walking around with like suitcases full of capsules and saying hey You want to try my new supplement and try me something and trying new technology like so it's matured a lot and which i'm happy about right because i think it needed to do that because now there is more it's more foundational in various ways but the problem with with biohacking in general is that it doesn't have a foundation if you're just looking at the new technology the the new ayahuasca journey you're going to do next week, you are forgetting about that foundation.

And that's what health optimization medicine is for me. It's that Foundation that I can give to my patients to give them a foundation that everything else lays on top of.

it's like the bottom of your pyramid, right? Because if your bottom, your Pyramid is nice and strong, You can try all your crazy biohacking things, but at least you have a Foundation where everything is laying on Top of right.

Because If you were looking at that next supplement, that Next tool, the next technology, But you don't have A foundation where Everything is going To be sort of like that sustainable base.

then it's just like, it just dopamine hits, man. You know, that's all it becomes. I think the big blind spot is that the next technology is going to help you.

The next technologies can help. Now this one, now that one. Some of that might be true for a little while, but if you don't have a good foundation, It's not going be sustainable for you and so I love the idea of having like your biohacking lounge in your house.

Like I have my own sauna. I have a hyperbaric chamber, I can have my equipment, my gym equipment. I haven't my my lights and things like that's all great.

But if I did all that stuff without having like, what's my what my vitamin mineral nutrients, like how's, how is my gut doing? How are my hormones? Like, then all of that becomes like just kind of fluff, to be honest.

And I think that that is the biggest blind spot in the biohacking world and what I health optimization medicine is. is a great framework for biohacking, because then you have a foundation, then everything else becomes, what are you gonna do on top of that foundation?

So how are gonna use your hyperbaric chamber? How are going to use you lights? Are you going use sauna, right? These are all things that I think are great, but if you don't have something foundationally for them to sit on, it all becomes like, sort of like these, the visual I'm getting is just like it's all just bouncing balloons.

It's like okay, where is it? It all is helium, man. Like, where is that foundation? The basic foundations. So, Doc, right now there's a big movement that's going on right.

Now, the MAHA movement, Make America Healthy Again. Sure. You know, they're doing some great things, but at the same time, we don't want the Maha movement just to be this fancy name that everybody knows.

When it comes to systemic health reform, in your professional opinion, what is it that that really needed to make America healthy? I love that question, Sam.

It's a difficult one, but an easy one for me because I've thought about this a lot with my team, Dr. Ted, who I will work with very closely. I think the real challenge is you cannot fix the system from the inside.

it's impossible. There is so much red tape. there's so many bureaucracy. You need to create a system that works in parallel. And I would love to system to be health optimization medicine really, because it is really looking at foundational health principles.

Looking at taking things from the sick model, even the root cause illness model and bringing it into like, how can we keep people healthy, right? That would be my goal.

But I think in general, we need to have that conversation, which is that there, yes, you can take red dye out of the food supply. I that's important. Yes, You can talk about environmental pollutants.

These are all very important, but there's still this foundational biology piece that is missing. And I really think that that where I would love the conversation to go, this foundation as I keep kind of coming back.

Because if you can work on this Foundation, everything else is going to get easier. You can keep people healthier for longer periods of time. you're going improve their health span, which is what everybody wants, right?

I think this is such an important piece. And I the other piece that I would really want to talk about more, Which isn't being talked about is this sympathetic spiral of doom, because it's the sympathetic activation, the Sympathetic Overdrive, this fight or flight all the time, can't sleep.

You know, can't find ways to de-stress. Always stressed, always on, don't know how to turn off. Like this is what's killing people, right? And so if we can have more of a conversation about that being the main driver, one of the mean drivers of everything, of mitochondrial function, and of cancer, heart disease, all of it all.

And then find a ways, to give people back some of common in their life, even just a little bit. It would go a huge way, a HUGE way of helping people. And so I think those are the two conversations that I'd love to have.

What's the foundational health that we can really provide for people by looking at the system, by creating a new system really? And then the second would be like the overarching, which is this sympathetic spiral.

How can we show people that there's a NEW way? It doesn't have to be sleeping when we're dead. It doesn't have to be working ourselves to the bone, to ground so that we retire and then we die three years later, right?

And so you see this so often, and your lines of work especially, people work and it doesn' work out that well after that, it's a lot of times. And those are the conversations I love to have.

The stress one, It's home for me because this is how I tend to be as well if I'm not careful, which is go, go go all the time. Don't sleep as much as I need to.

And then as you get older, you just don't have the capacity, even if you're trying to get optimized, to really be able to bounce back aswell. So it homes for my, I have four children, and I care about their stress, their health, they're now eating too much ice cream in Miami right now as we sit here probably, but that's okay.

The thing about it is that there's a context, like we're talking about red wine. If you're drinking red and wine in the setting of family and meals and laughing and like, you know, great, right?

If, if you having ice cream with your cousins and it's like it a vacation, then have your icecream, have you cake and eat it too, but also not all the time, because it not something that we should have.

And so it is a funny conversation with my kids, for example, dad, You said you like pizza, but you don't eat it. Why? Like if you liked something, shouldn't you eat?

I'm like, well, there's a difference, right. I can like something but not have it all the time. Right. And so I think those are the conversations that I like to have.

Absolutely. So let's talk about the foundation, man. You got this product here, so want to go through so people kind of understand what it is that you've put together and why.

So this product suite, we have a company called Trescriptions. I can pick them up, I guess, to make it easy here. What we had first will be a player's choice.

Ah, the blue canadine here, so. Blue canada. So what we decided as a Company, this is the Company Tresscriptions was, How can we help people right now?

They're suffering, they're hurting, They have brain fog, have concentration problems, stress, energy, sleep issues, right? So the first product we came out with was something called Blue Canotine.

This is this one here. And Blue canotene is a combination of methylene blue with nicotine, caffeine and CBD. So it is very good for focus, for energy, or just getting things done and getting away distractions.

And so for three to five hours without any come down or crash, it has a little bit of CBD in there and helps round it

out. So you don't feel too edgy on it.

Um, and I love it, um, And it's also nicotine, you know, people get scared of it but very low doses of, if you, don' smoke it or vape it anti-inflammatory great for the brain.

Great for your nervous system, actually as calming it down. Interestingly enough, So people think nicotine's a stimulant. It is in the brain, but in a body, it calms you down because it actually enhances your vagus nerve.

So we were the first company that came out with a methylene blue product in 2020, right before the pandemic. This is the one we came up with, blue canitine.

Periodically, I use it a lot in my patients with more chronic complex medical illness. I have chronic brain inflammation. They do well, and also my elite athletes and my professionals that really just want to show up.

That's how they do it. And so the cool thing about these two, which I can open them up and show them here, they're called trochies. They're a buckle troche.

So there's dissolvable lozenge that goes between your upper cheek and gum. And what's nice about that is it bypasses digestion, so they work faster. And also, they're titratable, so they are scored, which you probably can't see there, but they have like a little line.

You can do a quarter, half, or full, and you can find the right dose for you. So typically, what would someone start off with? A quarter. A half is typically the dose, for most people.

One thing about methylene blue, though, that people should know is that methyylene blue is very, very blue. And as a result of that, if you dissolve in the mouth, your mouth is going to turn blue so you may not want to do that right away.

We'll get that later. This is our Just Blue over here. So what I should say about that is that, like in the Blue Canotine, the one I just showed, that one is better in-the-mouth because it's gonna be faster, but our just blue, which is pure methylene blue here, this is 16 milligrams.

The full trochee is sixteen, so people start with a quarter, half, and full. Typically take it in in morning because its gonna give you more energy, But the nice thing about methyylene blue is it not a stimulant.

It doesn't make you stimulated. Its not like your caffeine crashes and things like that. Gets straight up energy and you get sustainable energy. You get it for about four to six hours.

So I use it a lot in patients and my family as well with energy focus, inflammation.

Trescriptions Products and Closing Advice

It really does do a great job supporting that mitochondria, which we talked about earlier. This is kind of my base for a lotta people is to use Methylene Blue, the Just Blue because it gives them that my mitochondrial function, that microchondrial support, energy detoxification.

Actually, the nice thing about this, actually, you can combine it with red light. If you combine Methylene Blue with Red Light, it's synergistic. So, Methylene Blue and Red light work in the same part of the mitochondria.

You get this synergic energy, this feeling of just clarity, which is really nice. Great for brain fog, great for people that have intention issues and things like that.

You can also use it with sauna I use a lot with Sauna because people are going through saunas like they typically detoxing and they don't feel that great.

Just blue in combination with the methylene blue is a little bit of energy and detoxification capacity. energized after a sauna instead of feeling like, you know, wasted, which is nice.

And then we also have these two, this product here, This one's called Trozee. TroZee is our comprehensive sleep solution. Eight different ingredients in this one.

Most people think of sleep, they think melatonin, but there's actually at least four or five molecules of Sleep that are really important. So melotonin is important, that's in here a little bit of that.

We also had five HTP, Which is serotonine and CBD, CBN, are the endocannabinoid system. and we have adenosine. Adenosine is our neurotransmitter in our brain, has multiple functions, but in out brain it actually gives us sleep pressure, it makes us want to fall asleep.

We have a adenosin in here, something called cordycepin from the cordiceps mushroom, that also increases adenesine, or is adenezine-like. And we Anokyal and agarin, which are both working on the GABA system.

So it's the most comprehensive sleep support out there on market, and it is probably the more novel with some of the ingredients in there. It's really something you can use periodically or can use it more regularly if you need to.

And then we have Trocom here. TroCom is our relaxation anxiety decreasing formula. Works very quickly, but doesn't make you feel tired, which is nice.

So it's anxiety reducing without making you like you're sleepy, Which is great. Again, quarter, half or full, you titrate all of our products. which is nice because you can find the dose that's right for you.

You can take this during the day. We talk about this being from the boardroom to the bedroom because he can use it when you're giving speeches or giving talks or using on podcasts and things like that.

And you could also use this as something to wind down in the evening so you take it as you would take alcohol, for example, this is much more supportive.

As a result of the way we formulated, it has Cava, CBD, CBG, and also the B3 GABA in there, which is great. And you can also use it in the bedroom. So performance anxiety is a thing for males, right?

You can use this to calm down your nervous system and relax. People don't know Many people don't like, an erection is parasympathetic, so you have to be calm, relaxed to get an anorexia, and sympathetic is ejaculation, actually.

And so, more parasympathy for longer, this is gonna be happy for people like your partner in the bedroom. So, it has a nice capacity. Trocom is great, I use it a lot, And I feel like it's really great as a supportive for just calming down the nervous system.

But again, my hope actually, Sam, you probably agree with this, is that people need my products less. As they get more optimized, just like needed less IV nutrition as they're doing better over time and optimizing their diet, their supplementation, stress, all those kinds of things.

And that's my goal. That's our goal with our company is like it's a bridge. Right. Then over the long term, you can take it when you're stressed or when your traveling as needed.

Yeah, exactly. I love that. Yeah. So, Doug, we're going to have a little fun here. Yeah, one of my favorite podcasters, Steven Berlett, with the diary of a CEO.

He came out with these conversation cards. OK, so you'll open that up and just pull a card from the middle somewhere. Any card, any card? Any car. All right.

See what we got here? You'll read the card out loud and answer it. I don't think this is the right card. We can do it again. Here we go. First one was a blank one, so.

Question is, what did you learn from your greatest failure? Ah, this is a good one. I learned there's only so far you can get intellectually, Sam, before you have to realize that not everything is going to work just because you want it to.

And that is because there is more to life and to the flow of life than you realize. There are other things that are coming and going that you had no idea until they And so I remember I thought that a certain business of mine was going to work.

It was gonna grow. And then the people and the things that all just kinda went down. Then this happened a couple times where I though things were gonna go a direction and it all kinda just went.

And then I realized actually my first three day fast was during this. I decided, you know what? I've heard of this keto thing. Let me try this, let me just do three days of fasting and see what happens.

This is back in like maybe 2016 or so, 2015. And so I did three of days fasting. Somehow all my children were not at the house. So I don't know how this happened, but I had three years by myself and I was meditating and.

Realizing I having like this like sort of almost a psychedelic experience after three My brain, my body, this all this ecosystem that I thought was just related to hard charging.

No, no, there's much more going on than I realized. Right. And then I realize that all I needed to do was open myself up to the availability of what was going to happen.

and start throwing shit at the wall and seeing what's stuck. And that's how everything sort of started coming into place for me, right? And getting out of my own head, I'm a very type A person in general.

Then just knowing that you can get out your own way. That's really what I realized I had to do, was get outta my way, so. Awesome, man, awesome. Well, Doug, as we wrap up here, man, if there's anyone listening or viewing this podcast that resonates with today's message, what is that one thing you can leave them off with?

Well… Can I curse or can I not curse? Yes, of course you could. Calm the fuck down. And I mean that in the most nice, supportive way possible, right?

And as I said earlier in podcast, that you never want to tell somebody that's stressed to calm down, but the reason why I say it here is take a biopsy of your life.

Are you finding time to relax? Are You finding Time to wind down is if you're not, it's going to catch up with you over time. And as a result of not being able to do those things to calm down, your biology is going To break down over Time.

No matter what you try to Do, no matter the best biohacking devices that you have, I promise. and so the main thing I would probably take away from this I hope for people is that We want to be able to learn ways to calm down now and then over the long term.

But a lot of this depends on your biology and optimizing your. Biology is a big deal. So don't just put band-aids on things. Try to find foundational frameworks that you align with.

That can help you work with a provider that helps you understand what your deficiencies and toxicities are find a community that. Helps you. Understand that you can have a little bit of wine with with your bread and yes, you could have some gluten.

That's okay. If it's with like in a parasympathetic way. So I think the main things would be Learn ways to calm down.

It's super, super important. And the other piece would be establish a foundational framework that you feel comfortable with that's gonna give you sustainable health over the long term.

That's not gonna be with your primary care doctor, I'm sorry to say. Maybe with a functional medicine provider that really trust. Could be somebody that is trained in something like with me, health optimization medicine.

But stop chasing and start relaxing. I love that. If people want to find you, where can they find So I guess my website would be the easiest place. Dr.

Scott Scherr is my name, drscottsherr.com. That's kind of where everything is. If you're looking more like social media, at dr.scottscher, D-R-S-C-O-T- T- S-H-E- R-A on Instagram, very nascent on YouTube, but going to try that in 2026 and beyond.

And also my company's Trescriptions, at Tresscriptions on Instagram. And we also have a pretty big YouTube channel along with where else? At Treshcriptions.com, our website.

If you're a practitioner listening, we have our whole practitioner line of products. We have petitioner portal with lots of great stuff on prescribing our products as well.

Then if you are interested in a non-profit, it's at homehope.org is the website and at Home Hope org on instagram aswell. Dr. Scott, it was a pleasure having you on a healthy point of view podcast.

This is a message that the world needs to hear. Thank you. That's the last thing you need. You heard it from him. He said that it will damage your biology.

There is absolutely nothing more important in your health. Without your heath, you have absolutely nothin'. So we're living this high stress lifestyle, doing all of this stuff where we are damaging our biology, we getting sick with all these chronically diseases, these chronic diseases that you're seeing our parents go through, close friends, calm, The fuck down.

There's ways to do it. You gotta build that foundation. If you feel like you're not the one who needs this podcast, you know what you gotta do. Share it to your friends, your family.

Someone needs his podcast today. Make sure you subscribe, like, share, do all that fun stuff and we'll see you for the next one.