Introduction and Background

Thank you so much, Ari, for agreeing to be part of the M. S. Neuroimmune summit. Now, please, I'd like you to introduce yourself and explain why you have this area of expertize.

Sure. So I have a long, long background in health science. Since I was a little kid, I started studying this field when I was about 12 or 13 years old.

And typical teenage boy reasons at that time were my my interest. I wanted biceps and I wanted abs, and I was an athlete. And so I wanted to optimize my performance as a martial artist and as a soccer player and basically from then when I was 12 until now, I'm about to turn 40.

This has been my lifelong passion and obsession. And at first I would say the first decade was very much dedicated to bodybuilding and fitness and athletic performance optimization, and in my mid-twenties I got very sick with Epstein-Barr virus, with mononucleosis, and I was severely, chronically fatigued for about a year after that.

And I pursued many different practitioners, conventional alternative functional medicine practitioners within conventional medicine. I mean, after an initial misdiagnosis of strep throat and treatment with antibiotics, as far as the chronic fatigue, they weren't really able to do anything for it or the acute mononucleosis in the alternative and functional medicine world.

Everybody was diagnosing me with adrenal fatigue and of course I believed it and I did a lot of the different treatment protocols that were advocated at that time.

And interestingly enough, my my story changed because I discovered that within conventional medicine, they pooh poohed the idea of adrenal fatigue. And this was kind of brushed off as pseudoscience. And this is a bit of an ironic story, but at the time, I was very annoyed that conventional medical doctors were brushing off adrenal fatigue as pseudoscience.

So I set about to sort of prove that it was a legitimate thing. And I dug into the science and I first of all, I could tell this story over a very long period of time.

I could tell you the story in terms of multiple hours. But the very, very short version of it is that I dug into the science, into the primary literature, and started discovering stuff that didn't make sense to me.

First of all, there was no research on adrenal fatigue on that term at all. And and then when I started digging into the research on related concepts like chronic fatigue and stress or chronic fatigue and cortisol or HPA axis function, hypothalamic pituitary adrenal axis function.

I started to find some studies. I started finding other fatigue syndromes that were named called stress related exhaustion disorder or burnout syndrome, clinical burnout, chronic fatigue syndrome.

So you can look up all these kinds of terms and cortisol or axis function. And basically I spent about a year of my life doing nothing but digging up every study in existence on that subject.

And ultimately I found something that I wasn't trying to find. I found that a lot of the research actually supported that adrenal fatigue was not a legitimate medical condition, and which was the opposite of the bias that I was going into it with.

And to make a long story short, this this experience was a catalyst for me to shift all of my focus away from the world of body composition and bodybuilding and athletic performance optimization to the science of energy, to

really building out a scientific framework for what controls human energy levels, what regulates it, because it was apparent to me that it was not well understood either within conventional or alternative or functional medicine.

So, you know, that's that's the background story of my personal story. I was a personal trainer for many years. I have a bachelor's of science in kinesiology.

I have certifications in nutrition and athletic performance training and corrective exercise. I was in medical school for two years. I did a Ph. D. program in clinical psychology, and I have a master's degree in human nutrition and functional medicine.

Well, you touched on a really important word, energy fatigue. You know, people with me, fatigue is a driving symptom.

Rethinking Fatigue and Adrenal Fatigue

The vast majority are going to develop fatigue that is severe and they can't recover from it. So what what's driving that from from your perspective? Well, after I spent about a year of my life digging into the science of adrenal fatigue, I realized that it wasn't the adrenals and cortisol that were a valid explanation for all of that, because actually the summary of that body of evidence is that most of the the data indicates that most people with chronic fatigue don't have any access or adrenal function or cortisol abnormalities.

They have perfectly normal cortisol levels and adrenal function that's indistinguishable from healthy control groups on average. So what I was left with after that was the question of what the heck is controlling this whole thing of fatigue?

And of course we know that in some way sleep relates to it. So I went down a rabbit hole for a long time on sleep and circadian rhythm and understanding the mechanisms of how that relates to energy levels.

And of course, circadian rhythm and sleep are big, big part of the chronic fatigue epidemic. Of course, we know that nutrition is as well. If you eat a poor diet, you're not going to have great energy levels.

We know that, of course, things like exercise are. So I spent a long time digging into the science of how what are the mechanisms underlying that that link light exposure, toxins, gut health.

And I spent a big chunk of my time really delving into each of these areas systematically, sort of trying to understand layer by layer what, what are the actual mechanisms that are regulating human energy levels.

And I ended up with about a list of 150 or so different physiological and biochemical pathways where another tie into the energy story neurotransmitters, hormones, ampk, on and on and on.

And it really wasn't until I found the work of Robert Inovio and the cell danger response that I had any kind of cohere and framework to understand, to put all of these years of study that I had done, piecing together this long list of mechanisms that are related to energy, into some kind of conceptual framework that was coherent, that allows me to to synthesize everything and make sense of it all and that framework, that paradigm basically puts mitochondria at the center of the universe, really, in the words of Dr.

Navajo, that mitochondria are the central hub of the wheel of metabolism. And metabolism is not just resting metabolic rate or related to weight loss as most people think it is.

Metabolism literally means all of the biochemical reactions occurring in the human body and mitochondria are at the center of that. So I was I was very I was transfixed by that idea and I spent many years delving into that and wanting to understand mitochondria very deeply.

And the more I dug, the more I was convinced that mitochondria are at the core of this. And the central thing to understand from this paradigm is that we all learn that in high school and college biology courses and graduate

school biology courses and physiology courses that mitochondria are the powerhouse of the cell.

And that's pretty much what we learn about mitochondria. Maybe you learn that the different complexes of the respiratory chain, but the basic idea is they're taught about as sort of these mindless energy generators that just take in carbs and fats and pump out energy in the form of ATP. And all of the sudden, this this paradigm shifted from mitochondria as just one of many different organelles, the powerhouses of the cell to all of a sudden, they're the central hub of the wheel of metabolism.

And importantly, the way that the cell what the cell danger response paradigm teaches is that mitochondria have essentially two roles. One is as energy generators, and the other one is as environmental sensors.

So mitochondria are constantly taking samples of what's going on in and around the cell and asking the question essentially to anthropomorphize a little bit.

They're asking the question, is it safe to produce energy? And and to the extent that they are picking up on dangerous signals from different threats, it could be an infection.

It could be physical overtraining, it could be psychological or emotional stress, could be sleep deprivation, it could be poor diet, could be toxic toxin exposures.

It could be any number of different things. To the extent that they're picking up on dangerous signals that are overwhelming their capacity to handle those demands, they essentially switch out of energy mode, into defense mode, into the cell danger response, where resources are being funneled away from energy production, toward AIDS, cellular defense. And of course, there's many other layers and nuances to this story.

But I think as a as as a central paradigm, to understand what's causing fatigue, I think this is the best way to understand it.

Mitochondria, Energy, and the Cell Danger Response

So I, I love this it was on my early decisions was that mitochondria drive disability and that I needed to restore and support my mitochondria. So so everyone who's listening who the vast majority have severe fatigue mitochondria are driving that fatigue and what are some of the things that they could begin doing to support those mitochondria?

Yeah, so I think the way I like to see it is there's two fundamental drivers of fatigue. One is what is the is basically the story I just told you so to what extent are your mitochondria turning off energy mode and shifting into wartime mode?

Wartime metabolism, cellular defense and that is a function of what is the level of stress load and danger signals they are having to process from from your life, from your lifestyle and environmental inputs.

And this this is everything from the way you eat to the way you move, to the way you think, to toxic exposures in your home and in your personal care products, to the light exposure you get every day to your social interactions with others in relationships, to your job, to your purpose, all of these different elements of your life are basically feeding into one input, which is to what extent are your mitochondria sensing, Hey, we're in a dangerous environment where it's better for us to go into hibernation mode and wait out this harsh environment and come out when it's safer and start producing energy again.

That's one dimension. And the other dimension is what is the actual status of your mitochondrial engine? And what I mean by that is we have to understand that much like a muscle.

You know, my background is in physical training and from from a very young age. I was biohacking my body before biohacking was ever a term. So I have about three decades of knowledge through self experimentation and experimentation on other humans.

That is not just learning in a classroom, learning about concepts and studying textbooks. It's actually experimenting with the human body and seeing what works and what does what doesn't.

And you get you get a different kind of knowledge when you have that kind of educational background. And one of the things that I've learned is from a very young age, I notice, hey, when I train really hard, my, my muscle grows bigger.

And when I go on vacation for a month and I go travel to Indonesia or Fiji or someplace for a month, and I stop training, oh, my muscles shrinks a lot.

Well, it turns out that mitochondria behave in pretty much the exact same way, and we just can't see it as easily as as we can see with a muscle. But if you break a bone and you get a cast on your arm, eight weeks later you go to the doctor.

They saw the cast off your arm. You look down at your arm, it's half the size of the other one. It atrophies from disuse. And this is because the body really only cares about survival and anything that is energetically costly, that isn't needed or useful for survival, the body says, Oh, that's not needed for survival, let's get rid of that.

So the same exact process happens in the mitochondria. And we know that for many different lines of evidence that on average humans lose about 10% of their mitochondrial capacity with each decade of life.

Maybe doesn't sound like that much, but the average 70 year old has actually lost about 75% of their mitochondrial capacity. So and specifically this is a loss of 50% of the number of mitochondria.

Purcell In muscle cells and each individual mitochondria has only 50% of the energy production capacity. So the math is 75% loss of of the energy production capacity at the cellular level.

This is basically like going from a Ferrari engine when you're 20 years old in your cells to a moped engine in your cells when you're 70. And this is what's happening to most people as as they're getting older.

So we've basically got these two layers. To what extent are your mitochondria being overwhelmed by dangerous signals? And to what extent has your cellular engine shrunk in size?

Because obviously a very small moped engine isn't going to have the capacity to produce nearly as much energy as a V8 Ferrari engine. So this makes a lot of sense to me and that we we we've moved into an environment where we are very coddled.

We eat all the time. We have a very narrow temperature range, we have air conditioning, we have a heater, and we are very comfortable chairs. So I'm thinking all of that comfort is removing the stress from living, and I'm betting it's removing some of the stress from our mitochondria that my mitochondria needed to thrive.

You got it. So it's exactly the same principle as muscle lift something heavy challenge the muscle. It grows, it adapts. If you put it in a cast and immobilize it, it shrinks, it atrophies.

It's exactly the same principle. The body is a living dynamic system. And what stresses, what challenges since people have a negative stigma attached to this word stress, what challenges your mitochondria and sends your body, your dynamic living intelligence system of your body sends it the signal that you need to maintain big, strong, healthy, robust mitochondria is metabolic challenges.

It is to exercise to to lift heavy things, to run fast, to run far. It is to expose your body, as you alluded to, to heat and cold. It is to fast. It is to do breath holding practices or periods without oxygen.

Hypoxic states. It is light exposure, it turns out red and your infrared light and UV light are also hermetic stressors and different kinds of phytochemicals, as you emphasize in your work, are also what are called xeno or medic stressors that also stimulate the mitochondria through some of the same pathways.

You know, I love this. We are so well aligned here. I think it is very much a problem that we live in such controlled environments, that we have air conditioning, that we have heat, so that we never get outside of that 68 to 72 degree temperature.

That is a big problem in so let's sort of go through the mitochondrial workouts that that you would encourage all of our listeners who are listening now, people with M. S., people with neuro immune conditions.

And we'll sort of start from your recipes as you think about what are easy things that people who are exhausted, who are struggling, well, where can they start?

Yeah, it's a great question. And this question is really important. And just big picture context here. We need to understand that the dose makes the poison so everything can become toxic.

If you do too much of it. If you drink two gallons of water in the next 10 minutes, you can cause permanent brain damage and put yourself in a coma. If you over exercise, you can similarly cause a problem.

Food becomes toxic. If you eat too much of it, you accumulate excess body fat, you become insulin resistant. Everything is toxic and too big of a dose and with automatic stressors.

We have a Goldilocks zone, and that means that if you don't do enough of it, if you do very little of it, you won't create enough of a stimulation to get any benefit.

And on the other end, if you do way too much, you're just creating too much cellular damage.

Stressors That Build Resilience

Too much harm. So we have this Goldilocks zone where we have an appropriate dose, where we create a stimulation, create a challenge to the body that's a little bit beyond its current capacity and create a need for it to adapt, to make adaptations to grow stronger and more robust.

And we don't want to greatly exceed that by too much where we're just creating harm. Now, this this principle is pretty easy to navigate for healthy people.

When you get into people with chronic disease who are very fragile, who have lost their resilience, this dosing becomes very precise and you have to be very slow and very cautious about how you ease into emetic stress.

And this is this is kind of a paradox that is challenging for some people because some people might do these kinds of things, let's say go into a cold plunge or go into a sauna or do a hard workout or something like that, have a negative reaction to it, feel bad for a day or two or three, and then say, Oh, that's bad for me, I can't do that stuff.

Whereas actually the very fact that you reacted so negatively to it is actually a sign that your body is in desperate need to build this kind of resilience.

The key is in the dose. You just have to go very, very slow, very cautiously. So this might mean and I'll I'll so I'll answer for somebody who's chronically ill.

The best automatic stressors, I think, to start with are ones that don't create a huge energetic demand on the system. Like exercise creates a big, big, energetic demand on the system.

You use up a lot of energy to to engage in that hermetic stress as opposed to read in near-infrared light, which stimulates some of these pathways but doesn't create a huge expenditure of energy as well as sauna, I think is a great place to start and breath holding practices are an amazing place to start as well.

Now, many people with M. S. are severely sensitive to heat. To heat, yes. So for those folks, I might suggest in near-infrared light, I like the sauna space, for example, because I can be far away from the red light and I can

gradually get closer to it.

Right? Yes. And the same is true also with saunas. And of course, if you're very heat sensitive and you find it aggravates your symptoms, do other traumatic stressors, you can get benefits without using a sauna.

But in in the case there's some super impressive studies in the context of chronic fatigue syndrome, for example, in sauna use. And these are also people who tend to be very intolerant to heat and very reactive to sunny use.

But if you do it appropriate, if you if you do it cautiously and slowly, you can get excellent effect. So very small dose, very so gradually increase the temperature and a short amount of time.

Right. So so to give you an idea, I might go into a sauna 210 degrees for 30 minutes or 40 minutes. Someone who is just starting out who's who's chronically ill, who's not very fit, not very resilient, who's sensitive to heat.

Maybe you start at 100 degrees Fahrenheit and you go in for 2 minutes or 3 minutes. Did I close your body? Did I hear you say 210 degrees? Yes. Okay. Yeah.

So that's impressive. So, yeah, and most, you know, young fit athletes can can do that. 210, 220 degrees. That's where traditional saunas, typically max out infrared zone is typically max out at 150 or 170.

So if you're starting there, you're starting at 100 degrees, you go in for 2 minutes, 3 minutes, 5 minutes, you stop on the first session, you stop before you feel really any discomfort.

You're just doing almost a test. And then a day later or two days later, you go in, assuming you feel fine, you don't have any negative reaction. You go in again.

Maybe you'd up it from 100 degrees to 105 degrees. You stay in again for 5 minutes, okay? If you feel fine, two days later, you go in 105 degrees for 6 minutes or 7 minutes.

Two days later, you you bump it up to 110 degrees for 5 minutes. Right. So you just go slow and systematic. You don't if you try to rush it and say, hey, I want to do with that guy on that on that interview said and I want to try going up to 200 degrees and doing it for 20 minutes.

And if you're not conditioned for that, you're just going to create a catastrophic. Yeah. Right. So it's a wonderful approach. But if you react to heat, stick with breath holding practices.

So let's talk. About your breath holding. So there's another practice that I'm aware of, blood flow restriction bands as a way of doing a strength training workout that requires less weight and less strain on your muscles and joints, which causes some blood, low blood, oxygen in the muscles are doing the work.

Is that another way of lowering that that oxygen? Is that similar to breath holding. It in a way, yeah. It's more like oxygen. Bankruptcy is what that type of hermetic stress is called. So so basically you're creating a local hypoxia it at the level of the at the cellular level in specific tissues during the exercise.

Whereas with breath holding practices, we create systemic hypoxia throughout the whole body via the bloodstream. At the red blood cell level. Both are great and they're just different.

They're different types of adaptations. The overall literature. First of all, I'm Blood for restriction training.

Sauna, Heat Sensitivity, and Starting Slowly

I should point out, oftentimes people think, you know, especially based on the way that you phrased it there, it might sound like, oh, you're using lighter weights, so therefore it's easier.

It's actually quite painful and quite, quite hard work. Yeah, and. It's hard. Work. Yeah. You create a very high build

up part of the, the specific type of hermetic stress.

There is a very high build up of hydrogen ions and lactic acid locally in the tissue and local hypoxia. You're restricting blood from exiting as well.

So you're getting a very strong buildup like burning sensation in those muscle tissues. I will say the overall literature on that, on blood flow restriction training is such that compared to using heavier weights, it doesn't really show a benefit.

The most appropriate sort of use for that or context for it is is older people who are not capable of lifting heavier loads. And so you you're relegated to to using lighter weights and then you need to be able to to increase the stress load while still using lighter weights.

Okay. Well, let's talk about breath the breath holding practices. What walk us through that. So this has been popularized in recent years by a guy named Wim Hof, known as The Iceman, but it's been around for obviously a lot longer than that.

Free divers have been doing this for many centuries. It's a traditional practice among humans going back many, many, many thousands of years. And the Wim Hof practice itself comes from the ancient Rabat and Tibetan Buddhist tradition.

It's a practice called Tomo Breathing, where the Buddhist monks would sit out in the snow with wet blankets on them and practice being able to stay warm in those conditions.

And basically it's cyclic hyperventilation, followed by exhaling and then holding your breath in the exhaled state. There's there's two key dimensions of this that are important.

The hyperventilation is designed to lower your CO2 levels and your blood carbon dioxide levels. And the reason that that's important is this is very counterintuitive for people.

But when people hold their breath and then they have the urge to breathe, people think, oh, it's because I ran out of oxygen and my body needed more oxygen.

In fact, most people will feel the urge to breathe while they're still at close to 100% blood oxygen saturation. What's what's really going on is actually we have chemo receptors in the brain that are sensing the patch of the blood and specifically carbon dioxide levels.

And it's responding to elevations in carbon dioxide. When you hold your breath. And when carbon dioxide gets elevated to a certain level, your your brain is screaming at you to take a breath.

It feels like suffocation. It feels like you're running out of air or running out of oxygen subjectively. But really, all that's happening is you are increasing your CO2 levels in your blood beyond your personal CO2 threshold.

That in itself is dynamic and is actually a really important concept because it relates to how our autonomic nervous system functions. Erin It relates very strongly to our tendency towards anxiety and our resilience in the face of stress, and we can adjust that.

It turns out we can adjust our CO2 threshold at the level of the brain through doing breath hold practices. But so the going back to what I was saying, so CO2 levels are rising and that's what gives you the urge to breathe.

So the the cyclic hyperventilation part of it is to rapidly lower your blood CO2 levels prior to the breath hold, which basically allows you to hold your breath longer than you would without the hyperventilation preceding it, without lowering your carbon dioxide level.

And that gives you more time to drop into a true hypoxic state, a true low blood oxygen level state before your CO2

levels rise to the point where you have that irresistible urge to to take a breath.

So that's basically how that works. Also, holding the breath after the exhale as opposed to the inhale allows you to enter into hypoxic states faster than you would if you were holding after an inhale.

Breath-Holding, Hypoxia, and Recovery Benefits

And this practice of transiently going into hypoxic states has many, many hundreds of studies on it at this point in both humans and many studies in animal models, a lot of the research was done for decades in the former U. S.

are especially on Olympic athletes and and in the context of many diseases, treatment of many different diseases. And we know that this engages many different mechanisms that create profoundly beneficial adaptations.

Number one, it strengthens the internal antioxidant system at the mitochondrial level. So it makes your mitochondria more resistant to oxidative stress from a wide variety of stressors.

It stimulates mitochondrial growth and biogenesis says it stimulates adaptations at the level of the lungs and the lung blood interface so that gas exchange occurs more efficiently.

Believe it or not, it actually stimulates the spleen to release red blood cells within a matter of minutes so that you increase oxygen carrying capacity of your blood by having more blood cells.

You literally it causes its secretion of EPO, but eaten literally. You know, normally we associate this with adaptations to altitude that occur over days and weeks, but this actually happens within minutes of breath holding practices and entering hypoxic states.

We also, as I said, increase our CO2 tolerance at the level of the brain which actually trains our brain to be calmer in the face of stress. And there's many, many studies now that have shown that have linked CO2 tolerance with anxiety and shown that if you increase your CO2 tolerance via breath holding practices, it can dramatically lower anxiety levels.

And that this is something that we all tend to talk about anxiety as a sort of purely psychological phenomenon. And we tend to think about treating it through psychological methods, whether CBT or meditation or mindfulness.

But the truth is that it also has a physiological basis and we can affect it by using very physical methods as well, by retraining the brain and the body.

Wow. This is profound, profound, profound. So we're talking. There's one more I want to mention. As I was I was digging into the research on this this morning, and that is stem cell mobilization.

It's it's interestingly enough, intermittent hypoxia seems to be a profound mobilizer of our internal supply of stem cells. And these stem cells basically go and help repair damaged cells.

When we accumulate damage, we accumulate aging and damaged cells. Part of the body's internal repair mechanisms are to go and replace those damaged cells with healthy cells using their own the body's own internal supply of stem cells.

And it's been shown that within minutes of entering hypoxic states using breath hold practices, that we powerfully mobilize 50% plus mobilization of our internal stem cells.

Huge, huge, huge. So breath holding and being trained on this hyperventilation followed by the breath hold sounds like such a powerful, powerful way to boost my mitochondria and now also my stem cells.

Yes, absolutely. Yeah. So, you know, there's one other benefit that I love with this kind of training. Cold exposure, like cold plunging as well as breath holding practices I find are uniquely beneficial for also training the mental side

of stress, tolerance and resilience and there's a unique opportunity for retraining your neural patterns in relationship to stress.

So what we're doing when we engage in these types of romantic stressors, whether it's exercise or sauna or cold exposure or hyperventilating and breath holding, we actually stimulate a physiological stress response by doing this.

Now, some people will immediately say, Oh, well, that sounds like it's bad. Well, okay, just consider that exercise is we have thousands of studies linking exercise with disease prevention and longevity, same persona.

We don't have as big of bodies as evidence for things like cold, plunging or breath holding practices, as we have for exercise, certainly. But the physiological mechanisms at play are very similar and overlapping.

So what what I want to suggest to people is this creates a unique opportunity for you, because what you can do is recondition your brain to relate to stress in a different way.

You have you have these minutes of practicing something where there's an opportunity present for you to learn how to for you to train yourself, to dissociate the physiological stress response.

You know, that the secretion of adrenaline and cortisol and all these stress hormones going and sympathetic activation of your autonomic nervous system.

And in that state of the physiological stress response to be mentally calm and serene. And this this is different from something like mindfulness meditation or mindfulness meditation practice, where you're physiologically relaxed and you're mentally relaxed.

In this case, you're physiologically aroused. You're creating a sympathetic nervous system arousal and an adrenaline, physiological stress response. And with that strong activation of the stress response, you're pairing serenity and calmness at the psychological, at the mental level and what what you're training yourself to do is to learn how to be calm and serene in the face of the stress response.

Stress Resilience, Takeaways, and Where to Find Ari

You're dissociating that so that now in the future, when you have things that trigger sympathetic arousal or adrenaline or cortisol secretion, you get that physiological stress response instead of your whole system.

In your brain reflexively entering into a mental stress response, you are training your ability to disconnect those circuits and stay calm in the face of stress.

And I have found personally through not only not only me personally, but through my experimentation with many, many hundreds of people, that it is absolutely profound and life changing when you train that consistently.

You know, I love this in everyone who's listening. I do a lot of what air is talking about. I do saunas, do cold showers. I do, I suppose if you follow me Instagram, you know that I eat every day.

Occasionally I will go days without eating and I go out in the most extreme weather. My family negotiates that when it's really extreme, it's only for a very short time.

So yes, the somatic stuff that he's talking about, incredibly powerful. Start small and gradually introduce this now. All right. You and I could talk for hours because I feel like, you know, we are so closely aligned.

But what is the one thing you want our listeners here at the Mars and Near Immune Summit to take from our conversation? Change your relationship with stress.

Stress is a has become a bad word and everybody is afraid of stress. And what I hope that you take away from this

conversation and you know, I have a book right next to me.

This is a clinical textbook for researchers and physicians. This is the science of promises in health and longevity. And it's got hundreds and hundreds of studies, especially in animal models, where they subject them to various kinds of automatic stressors and show low can vary consistently across the board lower rates of many different diseases and lifespan and health span extension.

These there is a type of stress that not only isn't bad for you, but is profoundly beneficial for your health and for extending your lifespan and increasing your energy levels by literally growing your cellular engine bigger and stronger and increasing your your resilience.

The way you become resilient to stress is through stress, through systematic exposure to training in these were medic stressors. So that's what I would like people to take away from this conversation.

That is wonderful. All right. Thank you so much for everything that you were doing. Now, could you tell all the listeners where they can find you? Sure.

My website is the energy blueprint econ. One more time. The Energy Blueprint Dotcom. Okay, this has been wonderful. Thank you, Ari. And thank you for all the wonderful work that you were doing.

Thank you so much.