Introduction to Dr. Heather Sanderson

Hello. You're listening to the advanced Anti-Aging and Technology Summit, and today I'm gonna interview doctor Heather Sanderson. Doctor Heather Sanderson is the founder and medical director of North County Natural Medicine and the founder of Maremma, a radically new type of residential care for seniors experiencing cognitive decline.

Doctor Sanderson specializes in neurocognitive medicine and neuro hacking. She's been trained to specifically address imbalances that affect the brain, including Alzheimer's, autism, A. D. D., depression, and anxiety.

She has trained with doctor Dale Brotherton, MD, Doctor Neil Nathan, MD, doctor Bill Walsh, PhD, and Doctor Richie Shumaker, M. D. in addition to regularly attending and speaking at integrative medicine conferences throughout the year.

Her healing philosophy centers around treating the causes causes of imbalance in the body, including toxins, nutrients, stress, structure, and infections.

She believes in the power of the body to heal itself. Doctor Sanderson's guide is to is to. Passion is to guide and support patients as they co-create strong foundations for optimal health through sustainable life changes.

And the best medical interventions to support balance in the body. Doctor Sanderson is dedicated to learning all there is to know about brain health, and considers her amazing patients and CNM and residents at Marama some of her very best teachers.

She has been awarded a research grant to study the effects of individualized interventions on patients struggling with cognitive decline. She earned her naturopathic doctorate at Baxter University in Seattle, Washington.

She currently serves as the medical advisory board of Neuro Hacker Collective, and is a regular host of the Collective Insights Podcast. I hope you enjoyed today's episode.

Hi everyone, I'm Doctor Sanjeev Goyal. You're listening to advanced Anti-Aging and Technology Summit, and today my guest is doctor Heather Sanderson. How are you Heather?

I am so good. Thanks for having me.

From Naturopathic Medicine to Brain Health

So I understand you're in sunny San Diego. We are lucky to be. Thank you so much for joining me for this hour. I'm just so excited to hear about, how you, are looking at, at aging and and and the brain and how and what we can do to to kind of slow down that process.

So first, I'd like to get a little understanding of your background for the listeners. If you could just tell us about, how you got into this journey of, really helping clients with aging.

So of course. Yeah. So I've always been interested in medicine. I actually I grew up in Hawaii, and I saw around me that the people who are most engaged in their communities and creating solutions to the problems that come up, the challenges that any community, any place faces, they were healthy and people who weren't healthy.

They really didn't have the capacity to engage. Right? They're running the doctor's appointments or they're, you know, being pushed around in wheelchairs.

They can't always get where they want to go to show up for community meetings or whatever it is. And so I saw that the people and as I traveled in my college years, I saw the same thing kind of repeating itself across the world.

And I realized that to have an impact, you need to be healthy. And God knows the world needs solutions these days. So my purpose, became very clear that my job was to make sure that there were more healthy people in the world.

And I had been interested in conventional medicine and considered that path. But when I found naturopathic medicine, it made so much more sense because the emphasis was on health.

And and that, again, is where we have the capacity to make impact. So then I went to natural Catholic school at Baxter. I had some of my own health challenges and got a ton of benefit from naturopathy interventions, structural interventions like osteopathic manipulation, cranio sacral therapy.

And then as I started in my practice, I was more interested in the complex system science and how that applied to the human body into medicine. So how can we take and that's empathic medicine and even, AFM in functional medicine perspective, it can get really overwhelming really quickly.

It's like, where do we start? Some people say to start in the gut. Some people say to start by treating infections. Other people say to start, you know, by treating stressors and the adrenals.

And I, I was confused when when patients would come in, I didn't know where to start. And so looking back at a complex system science model, it's like, all right, how can we how can we create a structure, a formula, so to speak, even though it's individualized?

Where where do we get our our priorities and how do we decide what to do first, what the correct order of operations is and so that complex system science model essentially says that what we're treating is imbalance and imbalance.

The definition of that is going to be too much, too little in the wrong place or at the wrong time. And so if we have imbalance in in our system, in our body, in our human body or the brain, then we're going to end up with disease and what we want to do to to reverse that, to prevent it is create more balance.

And I would argue that there are really only five areas that you need to focus on to get really fundamental, foundational change and create more balanced, more health in the system.

And that would be toxic burden, right? Again, too much, too little in the wrong place at the wrong time, too many toxins creating toxins, the natural process in our bodies.

Right. We have we have great ways to get rid of them through our organs. And yet we're inundated these days. Unfortunately, we live in a toxic world, and so we really have to make that a priority.

So toxins imbalances and toxins imbalances, it's nutrients, right? Of course, we all know that if you eat too much sugar, you get diabetes. If you don't have enough vitamin C, you get scurvy.

Well, there's lots in between that. Right. And so we can optimize nutritional balance to get the best benefit for the, for that complex system. So toxins, nutrients, structure, structure can be from a genetic perspective, like at a molecular level or from an orthopedics perspective, maybe how you know, how your hip bone is connected to your leg bone kind of a thing, but also like a chiropractors perspective, are you getting blood flow from your brain down to your toes?

Are you getting blood flow out of your brain, up into your brain? Is that cervical spine in the right place because that vertebral artery goes right through there.

So really important. And of course not just with blood flow but with nervous system, with with nerve innovation and

all of the communication and signaling that's happening all day, every day.

So again, toxins, nutrients, structure, stress, which I think most of us can relate to at some level. We need some stress. That's exercise, right? A little bit of stress helps us build muscle.

We need some stress to get us out of bed in the morning. But if we have too much and it's chronic or we relate to it in an unhealthy way, that can lead to disease, and then I always say infections last, right?

So we have toxins, nutrients, structure stressors and then infections. And the reason I put infections last is because I would argue that the majority of the time, if we balance the nutrients, the stressors, the toxins and and the structure, then we end up with a really good functional immune system that keeps most of those infections under control.

So that's that's my approach to medicine. And I got there by seeing patients and getting a little frustrated. And then finding a solution for myself that was like, how do I organize this?

How do I get something that feels really solid and then present that to my patients? And sure enough, now we see it work over and over. It's really satisfying. And I love my job more than ever.

Wow. So that's that's very interesting about the philosophy. I've never seen it put down like quite that, but it seems very simple so that it's actually easy to understand for sure.

For patients. So, maybe let's talk a little bit about, the brain in particular the these and how these, these, various, factors impact the brain, and aging.

Like, in your practice, I know you looked like you trained with Doctor Bredesen, who's, you know, so famous for the Alzheimer's protocol. I'd love to hear your thoughts.

And on, On what?

The Five Drivers of Imbalance

You know, how that's impacted your practice and and what you're doing. Yeah. Really profoundly impacted my my wife. I would say so I heard Doctor Bateson speak at a conference, and his model fits very neatly with my model of complex chronic disease, and that he's been very comprehensive. Right.

If you leave out a key, a key player, a key piece, if there's a big toxic burden and we never look for it, then it's less likely that that patient is going to fully recover. It's going to get better.

And so he brings to the table this this approach that's very comprehensive. And his his my list of five things very much overlaps with his. So I was intrigued.

And then I wanted to do his training, but I showed up to his training a bit skeptical. Right. This is Alzheimer's. And I had of course, very well-meaning, very accomplished instructors when I was in school say, don't give anyone false hope.

We really can't reverse Alzheimer's. We can't reverse dementia. And, you know, now my clinical practice, and moreover, the residential care facility, I can tell you with absolute certainty that that is factually inaccurate.

We absolutely can reverse dementia. Does it happen every single time? No. Does it take a lot of work? Yes. Does everyone get full recovery? No, but absolutely.

Without a doubt, the vast majority of the people that I interact with who have dementia get somewhat better relatively quickly to. So I went to Doctor reticence, training and, you know, took it all in, absorbed it all, felt very grateful because I had been trained in toxins and hormones and, and gi, issues and, you know, all of these kind of I

think of them like verticals, right?

All of these, these chunks that he was talking about. I had trained in. And so I was able to apply it pretty quickly. I got listed on his website. So I had patients calling and asking about it, and they came in with even a little bit more confidence than I had.

And Linda was my first patient. I saw, I saw her just within a month or two after I took the training, and she came in with the Moca of two and, you know, she.

Yeah, her handwriting had been affected. I would start to ask her a question and she would forget the question before I could answer. Her her relationship with her husband, although he was amazingly supported, supportive, and she had this great, positive, wonderful spirit.

She just giggled easily and wore these big, bright clothes. And they were just. She's a doll. You could tell that their relationship, of course, had changed because they couldn't carry on a conversation.

And so we, did all the testing. We sent her home, she got amalgams out, we got her on hormones. She moved out of a moldy, bedroom. She started exercising and dancing.

They completely switched to a ketogenic diet. I saw her three weeks later, and her Moca was an eight. Like this? An eight? She went from a two to an 8 in 3 weeks.

So, you know, this is one of the I get, like, chicken skin just talking about her case because it was one of my first cases. And when something like that happens in your office where something you've been told is impossible happens, right in front of you, and you watch how different now her relationship is with her husband, that she can remember a question, that she can engage.

She can speak in full sentences. When I saw that that was possible for Linda, who had a moca of two in my mind, I go, oh my God, what is possible for everyone else who's maybe at a Moca?

You know, they have a lot more cognitive capacity. For listeners who aren't familiar with the Moca. A perfect is 30 out of 30. So a two is extreme cognitive decline anything above 24.

So it's pretty normal, pretty functional. When you start to get into the teens, you're repeating yourself. You're struggling. It manifests for different people in different ways.

But a two out of 30 on the Moca is extreme dementia, and to see her recover some capacity was. I mean, I shed tears, I was very emotional. I was in disbelief.

And then as a provider, I mean, how do you not dedicate your life to making to letting everyone know and making that available to more people? So it sounds like, like you said, your, founder of this, residential care place for seniors experiencing cognitive decline.

So it sounds like it's a big part of your practice taking care of, you know, patients with dementia and. Yes. Correct. That's correct. Yeah. And we're about to have three week code, so trained by Doctor Peterson, three recode providers at my clinical practice.

And then Marama, I created out of a need I had after I started seeing more and more dementia patients, their families, their friends were calling and asking the question.

I think a lot of doctors, like myself and Doctor Peterson get, which is and where do I send my loved one? I have to work. I've got kids of my own, but my parent needs support and I just don't have the ability to, like, switch their diet, put them on keto, get the sugar out of the house, get all the, you know, make it organic.

I don't have the ability to do that. So where can they go where they can get that support? And I looked and looked

and there wasn't anything, that was really doing a good job.

So I thought, of course, how how can this be? It's a it's harder than I thought, but it is, again, just amazingly satisfying. And my, you know, kind of full circle thinking the way I was in high school, kind of still having that idea that, you know, healthy people are the ones who engage in society, people with dementia, not only can they not engage in society, they can't show up to PTA meetings, they can't show up to community association meetings.

They can't show up in church. I guess they could, but they don't remember much. They don't engage much. They're not great. They're not organizing the potlucks.

But it's, not only do those seniors not engage, but they take a caregiver with them. So they're taking two people out of society right now. Now, the grown, the 40 or 50 year old daughter can't show up to T-ball practice or, you know, for her child, whatever it is, you know, they're that middle generation is stuck needing to care for their parent and work and care for their child.

And often it's so challenging to juggle it all that it just doesn't happen. And so the creation of Marama was really an answer to that, to that, that question, where can I send my loved one, where I know they'll be well taken care of?

So we started, we opened and started taking patient excuse me, residents in March of 2020, and a week later the world shut down. So we kept it was actually this, you know, beautiful divine intervention at some level because we kept our census low.

So we just had about six residents out of a capacity of 12. Because my concern, of course, was, you know, double the residents, double the staff, double the risk of Covid.

And so we although we had employees who got Covid, we had not a single resident contracted Covid and everyone was safe and their cognitive function improved.

Yeah it was it's been a wild and wild ride, but so satisfying to watch. People really, they it's almost like a plant that hasn't been watered. They just sort of like perk back up and engage more.

They start licking each other, the eye, engaging with each other, of course, cheering each other on. And then just their interactions with family, with their caregivers.

It's just beautiful to watch. So maybe just let's go into like a little, let's pick like, I mean, nutrients. And people always want to ask about how they should be eating and what supplements they should be taking. I guess.

I know you can't maybe create a customized recommendation plan, but what are we, the categories that people should be thinking about to if they were to look at their diet and and supplements for their brain health and to prevent aging?

Great question. So with the diet, the ketogenic diet really has the most literature that supports its benefits for cognitive function.

Bredesen Protocol and Dementia Reversal

And typically I think of the the dietary intervention in sort of like three phases. So the first phase is commit to keto and when Doctor Bateson and I are kind of troubleshooting, like why isn't someone getting better?

That's the first question he asked, are you sure they're in ketosis? So we check either with blood. Urine works for a little while, but keeps on breath meters.

I haven't found one that reliably works every time, so we stick to blood even though it takes a finger prick and it hurts. But, it is the best way to get that feedback.

And keto, the ketogenic diet, a lot of people are like, okay, what do I eat? Well that depends. Are you really being in ketosis? The metabolic state where you're burning fat instead of sugar for fuel?

And for some people they can eat zucchini and stay in ketosis. For other people they can't. I had a patient who could eat white rice and thank you ptosis, which is makes zero sense at all.

So, you know, you get that on both ends where some person will have a, you know, some cheese that seems a hard cheese, that seems like it should keep you in ketosis, but they fall out.

So some of it has to be individualized. And this is where, you know, one of the best technologies in anti-aging is a health coach. Really the best one of the best bang for your buck when it comes to this is the lifestyle pieces.

And although I, you know, I love to nerd out on like the latest testing and the latest interventions, I love like the red light therapy, but really foundationally the most benefit you're going to get is changing your diet away for especially if you've had a standard American diet, getting into ketosis on organic diet.

So you get those toxins out of the food that you're consuming and then exercise, exercise, exercise. Sleep. Good sleep, breathwork, meditation those are the things that are really going to get you the most benefit.

And guess what? They cost the least. So this keto the ketosis part, are you recommended clients be beyond keep in ketosis like seven days a week or they can amp like are you recommending they be in and out during the daytime?

Thanks for clarifying. Yeah. So I say to say there's three. I got excited and lost track. There's three kind of phases that I want my patients to go through.

And the first is that real heavy hitting brain detox, the brain healing diet, which is ketosis. After that, we are switching to more of like a paleo Mediterranean and keto flax.

And so, that looks like, you know, maybe 4 or 5 days in ketosis and a couple days where you're adding something like sweet potatoes, where we know your blood sugar is going to go up, but you're not adding Skittles, right?

Like you're not getting high fructose corn sirup, but you're getting some good, nutrient dense carbohydrates. So that's typically high carb veggies like carrots, beets, sweet potatoes, that kind of thing. And then, depending on the person, you know, we'll change the diet as needed, would I?

My general dietary advice for someone without dementia is there is no one right diet. Right. That, for each of us, there may be different seasons in our lives and certainly different seasons in the year where different things are appropriate and and we feel healthier and better with a different diet.

So, you know, of course, in the summertime, maybe eating more fruits, more raw in the wintertime, eating more, more kind of heavier, warmer foods makes a lot of sense when we look at, you know, these these ancestral diets, things like paleo, even keto to some degree.

When we look at those diets, the consistent thing about them is inconsistency, right? That we didn't have sugar available 365 days a year. You know, our entire life for what we do now, our ancestors did not have that available.

And so our our body, this concept, complex system that we're engaging with here, that trying to optimize it really is designed to have inconsistency in the diet.

And that's part of what a ketogenic diet is. It's taking away that sugar, but maintaining nutrients and fuel in the form of ketones, in the form of fat.

Okay. And so the you mentioned some some nutrients like what about fats. Are you, are you recommending a supplements with omega threes and. Absolutely, absolutely.

So traumatic brain injuries are a very big factor in terms of putting someone at risk for dementia. And if anyone has a history of TBI, there's essentially the formula I follow.

And we and we get as much as we can out of it and of course, tweak it as an individual needs. But methyl B12, fosterville serine phosphate, choline. So you know, these functional groups are a big part that, you know, they've they've got fat, a fatty in them.

And then, lots and lots and lots of omega threes. I would even say for anyone who's experience a TBI, if we're hitting it hard and really trying to heal it, and soon after as well, like ten grams of EPA and DHA, not just the omega threes, but read the numbers in them.

Yeah, per day of EPA. And that would be like about 4 or 5 tablespoons or something. Or how much, how much is that. Yeah exactly. So it depends which, which supplement you have in front of you.

We use when that's a there's about 1100 milligrams of EPA in each capsule. So we're talking about ten capsules. Yeah, it's a lot and it's expensive. But you don't do it forever right.

We do it during this healing period hopefully 3 to 6 months. And then you get a lot of regeneration. The other thing that we do for TBIs is of course, brain exercises.

But I've Nadp+ and then contrast oxygen therapy. And these things seem to really, really help, with, with healing the brain. So the any d plus is intravenous, right.

You're giving intravenous energy. Yeah. We usually follow up with or oral or sublingual. The there's really no comparison to the benefits of, an, a sublingual nad, even that there's a bunch of them and everybody feels like there's is the best, of course.

Right. But there's nothing compared to the iPad in terms of the effects that we've seen. So how much dosage are we talking about? Like when people go for IVs, how much nad, would they be taking it one time?

Yeah. Great question. We start with it's a three grant three grams over three days. And we typically do 500mg the first day, a gram the next day, and then 1.5g the third day.

You shoot biggish doses. These are big. Well, it depends. You know, when you're talking to somebody who does a lot of IV nad for for addiction, they're doing like ten grams over eight days or something.

You know, they're doing a big dose and I have had patients who are getting benefit after three days, but it doesn't feel like they've plateaued, like they could still get more benefit or the benefit starts to wear off.

And so then we'll do another three grams or another six grams, kind of get as much into them as possible. What you want to do is super saturate, right?

Because that NAD is a cofactor for so many biological reactions that are happening in the system. And any sort of stress, whether it's psychosocial, excuse me, a psychosocial stress or a stress like an injury, like a traumatic brain injury.

You you deplete that nad pretty quickly. And so when we super saturate the system, if that is the limiting factor, you turn on a lot of those reactions.

So then it has to begin I guess over some hours. So people get this flushing. They feel this funny reaction with the NAD. So given over a number of hours, I assume you're absolutely correct. Yes.

So we we tell our patients to plan for eight eight hour days, and sometimes they're ten hour days. And sometimes, you know, some people blow through it in a couple of hours.

But we do recommend that they set aside a certain significant amount of time to get through it. Does it get easier, like once you've taken in and and you're a certain dose to the body, get used to it.

Well, that's why we start with a half gram and then go to one gram and then go to one and a half. Typically it's a little easier to take and the higher doses the second and third day.

Yeah. And for dementia, the same, same thing would apply if you're not using it in dementia.

Maremma Residential Care for Cognitive Decline

Well, I use it in dementia cases where there's a history of traumatic brain injury. Absolutely. And then also stroke post stroke rate, which is essentially a type of brain injury.

So I would I would use it in, in post stroke patients. And we've seen some really good results with that. And, and then TBIs and sometimes if there's a long history of really high stress, then I thinking Nadia's on the, on the menu of options that could potentially benefit you were mentioned the first potato choline phosphate.

Serine. Are these, capsules liquid. Could you, recommend like for viewers. Like what companies they can go to. So I usually use the body biopsy. This is pictures. Haynes.

The PCA protocol is one thing. It's referred to as. So Patricia Kane is the one who really popularized and teaches around using fast food for a choline.

And you can use that IV or, orally. You're getting pretty different benefits. So oral, PC, you're it helps with the bile. And so it's actually very helpful for detox.

It, it makes it a little bit more viscous or maybe a little less discussed area. I'm not sure if I'm saying that right, but anyways, makes it easier to get rid of bile and flesh it through, the biliary tree and, and out of the gallbladder so that you can be getting rid of that toxic sludge that our liver is creating every day.

That can happen a little more easily. And then at a cellular level, PC, and I think you get more of this benefit when you do it by IV, but of course, that faster calling is replacing those, if you think back to high school biochemistry that you know, that fast little bilayer, that creates our cell membrane, also the nuclear membrane inside the cell that, that houses our genetic information.

A lot of toxins are stored in that layer, in that membrane layer. And we we can add really good fast cooling. It can kind of kick out the stuff that's not quite as as good from before.

And when it when it starts to make, when the body's making new cells, it can incorporate that high quality fossil fuel clean and get rid of a lot of those toxins.

So when we think about toxicity there's kind of two phases, right. Elimination is what I always am coaching to think about first. This is every time we urinate, every time we have a bowel movement, every time we sweat, every time we exhale, we're getting rid of we're eliminating toxins from the body.

They're no longer in us. They're outside of us. The other place that that needs to happen is at the cellular level. We need to push them out of the cells into circulation so they can go to the liver.

So they can go to the the GI tract or the, you know, be processed through the kidneys or out through the skin or out through a breath. So those two phases, phosphate or choline is particularly helpful with kicking the toxins out of the cell.

And but first, of course, you want to make sure you have your we call them among arteries or organs of elimination. Have those open, optimized, really working.

Otherwise, patients will experience something often called a climate reaction, where you feel worse before you feel better because you've got a bunch of toxins.

Now in circulation. So that's that happens more with the glutathione is another one that will do that. Even sweating will sometimes do that initially early on.

And some of the binders can do that. So you just want to go slow and, know that if you get a little bit of rejection, you're going in the right direction.

And we just have to change the timing, go a little slower. And the first multiple series that's similar, is that a similar function. Yeah. So it has the fact that little groups a little less.

So I use a lot of surgical serine actually for it helps with cortisol and calming the brain. So it, it helps you to metabolize cortisol. And and yeah.

Again generally helpful for, for brain function. This versatile groups are good for all kinds of biochemical reactions. But in the Syrian in particular is that calming for the brain?

Okay. And let's let's talk a bit about like B vitamins. Most people are supplementing with those. And I know you mentioned methyl metal B12. Yeah. I love to hear what what is how do you attach how do you attack that issue?

And what recommendations do give? Well, for aging in particular for an aging population, B12 is really important for because where our stomach is not maybe firing on all cylinders the way it was in your 20s and 30s.

And so the stomach is one of the places that B12 is made, and supplementing with it can make a really big impact on, on, red blood cells, on energy levels, directly on a lot of different things.

B12 is, you know, very conserved, right? Every every cell in our body is using B12 at some level. In fact, it's important for, for, the creation of new cells.

It's important for all kinds of things. This is why it can create you can have anemia because you're not creating enough red blood cells if you don't have enough B12 in fully so B vitamins are used everywhere for everything.

You have to have enough of them. And if you don't, it's a big problem very quickly. They also, as we mentioned with under stress I have physical or mental emotional stress.

Ketogenic Diet and Nutritional Foundations

They get depleted very quickly. Toxic stress as well will deplete B vitamins because they are necessary for, for, you know, getting rid of toxins for eliminating toxins.

So the B vitamins, you know, I think of them you need all of them. All right. We can't yes, we can pick and choose and we can focus on they each have their role to play.

But you really need a B complex. They play well together. They, they really help most if you have all of them. So B12 event folate and of course B6 very B6 and zinc are really important in the brain for the metabolism of neurotransmitters.

So just a simple example of glutamate very excitatory helps us of course to focus and remember. And and helps us engage. But if you can't turn your glutamate and together, then it's really hard to get that to get to sleep. Really?

You want that 5:00 Friday feeling right? Nothing's as big of a deal when you have plenty of Gaba in your system. This is alcohol is a receptor agonist or, you know, out of an and an Ambien.

The benzodiazepines are Gabor receptor agonist. And if you don't have enough of that going on, if you're kind of

stuck with a lot of glutamate, it's really hard to relax.

So that's going to be stressful for the brain. That reaction that that glutamate to Gaba step requires enough zinc B6 and magnesium. So really, really important to have enough of these nutrients.

Otherwise we're not going to feel very good. We're going to feel anxious or depressed. Methylation. You mentioned the methylation helps us to, you know, serotonin, dopamine I mean, the list is very, very long.

That carbon and three hydrogen groups, if you can remember that from chemistry class that is it makes the world go round right like that. That methyl group is so important to turning things on, even genetically turning on the right genes.

We have so much potential in us. But that epigenetic effect of methyl status is is supremely important in terms of creating balance in the system and using that potential.

Well, yeah, in the mix. That makes a lot of sense. Did you want to chat a little bit? You did mention about the red light therapy that, you're involved in, and maybe I would love to hear a little bit of your thoughts on on that.

Yeah. So I love the red light therapy. What we're talking about here are, some people get confused with infrared, like we would use for a sauna. And infrared is fabulous.

Wonderful. Really great. Creates heat. Whatever is in front of it can help us with sweating, getting that detox happening. And the other piece of this is that I really think there's where there's a lot of potential underused potential is in the kind of six, 86, 60 to 850, those two nanometers of red light and that some of that is visible and some of it is not visible.

This is our near infrared is not visible. And then the red light, red light at six 6680 that is visible. So those two are really, really helpful for a lot of things.

And the reason why is because they affect mitochondria. So mitochondria create ATP, which is the fuel that our cells run on. And as we age, if we don't have enough ATP, we're going to feel that that's going to feel like organs that don't work quite as well.

It's going to feel like low energy. It's going to feel like not remembering. And so we need to make sure each of our cells has plenty of ATP to be working with, to be running on, and the mitochondria or where that happens.

So we often, you know, the functional medicine perspective. We're often thinking about mitochondrial nutrients, CoQ10 and carnitine and all of these minerals that are necessary to ribose all of B2, all of these things that are really necessary to to make the mitochondrial function.

Well, I have some patients whose guts don't work. Right. So giving them a big supplement with all of all of these nutrients and, and although it's well intended to end up in diarrhea or something.

So we have to have multiple ways that we can get to the same, the same outcome. And the red light therapy is phenomenal because there's so little risk.

There's like no risk. It's it's very calming and it feels good. And you just put red light in front of your, you know, your face wherever you want it to work your face if you have something going on, a cut or something that's healing, you can put it in front of that.

But this red light changes how the, the cyclooxygenase there, there's an enzyme in there. So it helps to get the mitochondria structurally against structure.

We've got plenty of nutrients. But if we add a structural component, we can get those mitochondria optimized even further. So really exciting. And what you see, you get esthetic benefits.

You get energy benefits. And over time the violet is where they did a lot of this research by light. Right. You're using by light. Yeah. We're using the one that's inside the nose.

Yeah. Exactly. Yeah, yeah, it can go up through the offering plate and you're getting above the nose and up into the brain. So and we've seen with some of our more severe residents that Marama, we've seen, you know, profound changes in 20 minutes.

They're not always sustained. But we are seeing big changes, just putting it on. And then when they take it off, it's they're engaging in a totally different way.

Oh, wow. Very interesting. And about, tell us about contrast oxygen therapy. Yeah, this is an exciting, kind of, again, underutilized hack, is, you know, the Olympic athletes often train it elevation.

Right. And they're looking for that increase and or throw point. And so we start to create more red blood cells. And that's when you train, at elevation over a sustained period of time.

So you are a low oxygen.

NAD, Phosphatidylcholine, and B Vitamins

What we do with contrast oxygen therapy is similar, but we do it in a shorter amount of time. So what we have the setup is the contraption is an oxygen concentrator.

And then there's an oxygen reservoir a bag of oxygen. And you put a mask on that connects you to that reservoir of oxygen. And then you start working out.

So you get on a bike or on a treadmill, and you breathe positive oxygen for a little while, and then you flip it to negative oxygen. And when you go to negative oxygen, what happens is that CO2 will accumulate, carbon dioxide accumulates, and it makes your blood vessels really big.

So they they start feeling starved of oxygen and so they want to be ready to ready to get it whenever it's coming. And so you have this visa dilatory effect.

And then you flip the switch and you go into positive oxygen. And that tissue that the vascular system that has been primed to take as much oxygen from the system as possible gets a flood of it.

And so there's a again, a handful of things that are going on here. But when it increases circulation improves detoxification. There's also pressure changes in the micro vasculature.

So at the capillary beds where you can get new circulation to things that maybe weren't fully ischemic, they weren't fully dead, but they were kind of in that area where in between death and life, you know, not fully optimized because they weren't getting great blood flow, maybe because of inflammation and injury toxicity that had built up something like that was in the way.

And so there's pressure changes when you're flipping back and forth from positive to negative. Oxygen helps to reboot that system. You also, it's a yeah go ahead is negative oxygen just means less than 21%.

What is negative oxygen mean. Yeah. So there's areas the as you mentioned about 21% oxygen and then positive oxygen. What we're seeing there in the concentrator made by the concentrator is stored in the reservoir you're attached to by the mask is about 80%.

And then negative is not zero but less than 20. And so you feel you feel like you're missing it, especially if you're if you're sprinting on the bike or on a treadmill like that would be at an altitude.

One would have similar experience when they're climbing a mountain or something like that. So. Right. Exactly,

exactly. It's like you're at altitude. Wow. Okay.

That's that's exciting. So all can be done the whole time you're doing it while you're on a treadmill or on a bike or something. Yeah. And it really only takes about 20 minutes.

So it's a quick workout. And and it is you can increase your VO2 max, your lung capacity I mean it really profound amazing impressive results in low, low risk.

You know, we go slow with our residents. We have elderly residents and we use the setting aroma. So we put them on positive oxygen for the first couple weeks that we're working with us.

Really, they're the goal is just movement and comfort, right? We want them to feel comfortable on the on the bike, comfortable with the mask. And you do get benefits from just exercising with oxygen.

There you are. You'll hear it called you do get benefit just from exercising with oxygen. But in my opinion, the magic really happens when you start doing the contrast.

And this is, the the concept here is the horn effect or horn misses. So if you're familiar with that you're basically creating a stressor. And then as you add a stressor to this complex system, it increases its ability to respond to stressors in the environment.

Right. We can think of this with temperature. If we go from our 73 degree house to the car that's got air conditioning, to the office that has air conditioning, and we never spend a summer in the desert or a winter in the Arctic.

Right. Or or some whatever reasonable in between there is, then our body forgets how to respond. Similar thing with with food, right? If we always have calories available, our body forgets what it what it means to fast.

This is why you see these things pretty consistently around the world, especially in indigenous cultures, right? Fasting is part of part of the process every year, that you that hot and cold contrast therapies.

We see this in sauna like in Finland, in Russia, in Korea. You see this all over the world. The, the asking the body to respond to a stressor actually increases the health of the system.

And that's what we're doing with contrast. So you can do with calories, you know, with oxygen, with with temperature, with all kinds of things are using.

Yeah. Are using cold or hot, types of treatments as well. Yeah. Yep. We are. So we have saunas available and then we'll do a cold rinse after that. And yeah we'd love to grow that certainly specifically like for injury if somebody is that, you know, stubbed a toe or done anything twisted an ankle, then guess we'll use contrast therapies, hydrotherapy very specifically to that injury.

And that also it gets you great results. So, I guess our, our viewers might be asking, so the, what you kind of put that this these are, these are the, these are the, the, the elements, the toxins, the nutrients, the stress, the structure and infections that we need to look at to, to be in harmony or balance.

And so what is the evidence regard that this actually slows aging? I guess there's some is there some type of, evidence on that? Yeah. So there thank you for asking.

There's actually a recent paper that was published by, some colleagues of mine, Doctor Kerry Fitzgerald published, a just in 2021, just very recently, in aging, the journal aging the reversal of epigenetic age using diet and lifestyle interventions.

And so this was a randomized clinical trial. And she measured it using the, Horvath DNA image clock, which Doctor Horvath, what I believe is that UCLA, he created that.

Red Light Therapy and Contrast Oxygen Training

And as you and I discussed, he has a test available through True Diagnostics where you can test, you know, how quickly you are aging and biological age rate one year per year is one way of thinking about aging, right?

I'm 38 and somebody else is 78, and somebody else is 2 or 3 because they've been on the planet for that long. Now, when we think about that's chronological age, excuse me.

When we think about biological age, that is how, you know, maybe even though I've been on the planet for 38 years, do I are my cells showing up as if they're 30 or if they're 50?

And this really makes an impact at as we age. Right. That's you've we've all had family members maybe, or someone we know who's in their 80s and they look like they're 60 and you're going, wait, what what did you do? Right.

Where do how where do I start taking notes? And then someone else who's in their 60s and maybe they've been through a lot of stressors or, you know, a great example.

It's been, you know, someone who doesn't have a home. Like if you pass homeless people, they often look much, much older than they are, probably because of a lack of nutrients, a lack of and a very high stress situation.

And so when, when we look, when we can see these differences across the spectrum of society, it was like, okay, well what's changing that? And the Horvath method is a great way to test it.

And then these diet and lifestyle interventions, sure enough, stress management, lots of phytonutrients, a lot of the similar methylation, and of course, Doctor Horvath, that test is testing methylation as a marker.

Telomeres are another way that aging gets tested. That relative aging, the biological aging versus chronological aging. And there, doctor, Fitzgerald's intervention was a diet and lifestyle intervention.

And what was a diet like? What was what is the secret diet? So a great question. And, you know, she would be a better person to ask about the absolute specifics.

I will say again that there was a health coach who was, involved with making sure that there was that, the participants were really eating this great diet.

It oh, so here it is. The diet restricted carbohydrates and included mild intermittent fasting to lower glycemic index. And then it's supplemented daily with fruit and vegetable powder polyphenol modulators.

So, probiotics and lots of vitamin C, vitamin A, methyl methyl donors, curcumin, EGCg a lot of the things that we are using for brain health, dense animal protein.

So liver and eggs, so very, very nutrient dense diet. And I think there's meditation as well. And there was some regular exercise as well. Yep. Absolutely. Yep. Yeah.

So this again right. The technology really comes back to the things that humans have been doing for millennia. It sounds like we're starting to understand we're starting to unravel what a little bit more was science.

Now what does this agent look like and how we can reverse it? I think that's what that's why I think that some it's so interesting because we're just on the cusp of understanding this, this piece, which has kind of been just about, okay, live healthy.

But we didn't really we couldn't really define what that was or light, why that had that impact. But we're starting to understand why it's so important to it's really, I believe, because we probably, as you said, are on the cusp of understanding, you know, humans right now, maybe 125 years is about the max, but there are already, right?

If you listen to him or talk to him ever. Right? He believes that we're just probably a decade or two away from being in our lifetime. We will have we have the opportunity, the choice to live much, much longer than that.

Evidence for Slowing Biological Aging

And so if that's the case, if we want to live healthy lives, we don't want to live to 150 or 175 and spend them in bed debilitated or demented, we want to spend them, you know, traveling and engaging and enjoying time with family and again, engaging in our communities.

Yeah, exactly. Okay. So, is there anything else you want to tell our listeners, our viewers like the what's the main message they should get from from today's talk?

You know, I think that there's a healthy skepticism around anti-aging, maybe, and also around brain. The reversal of cognitive decline. And that makes a lot of people feel afraid to tell someone that they're experiencing.

They're noticing cognitive decline. And the main message from me that I want everyone to know is that there's hope and that there are very clear, very predictable, testable.

And, and, reproducible results around reversing cognitive decline. And so please find a record, doctor, learn more about doctor reticence work. He's got several great books about this.

And, be on the lookout for lots more science that's coming out. We're doing a clinical trial in my office. Doctor, read a sentence. About to publish one himself.

A clinical trial looking at 25 participants. Dean Ornish has a trial going right now, so there's a lot of them happening. And I suspect that just in the next few years, it this will be neurologists will be saying the same thing.

Now there's more you can do than just Amanda know, I think you really provide a lot of hope to to our viewers, including myself. I was worried about Alzheimer's, and I'm so grateful for the work you're doing.

Thank you so much. Thank you so much for having me. It's really been a pleasure.