## Introduction and Guest Background

Welcome back to this episode of the Reverse Alzheimer's Summit. I'm your host, Dr. Heather Sandison, and I'm excited to dive deep into the neurology and the integration of medicine and the research around dimension Alzheimer's with my friend Dr.

Ken Sharlin He's a board certified neurologist. He's a consultant, a functional medicine practitioner, an assistant clinical professor, researcher, author and speaker.

This guy stays busy. He practices general neurology and directs his functional medicine program, Brain Tune Up in Ozark, Missouri. So there's lots more to learn about you, Dr.

Sharlin, but I want our listeners to just get a super informational packed and like action packed. I want them to walk away with things that they can start doing today.

Based on what you've learned with all of the things that you do, both the research published in the speaking that seeing patients, that you do so much in this space and I know you have so much to to add and to share with people.

So let's get into it. And let's do it. Thank you for having me. It's such a pleasure. So you talk about the five pillars of integrative neurology in your work.

Will you take us through those five pillars? Absolutely. Love to. And I'm sure this is going to take the majority of the interview today. So we'll kind of break it up and have a conversation as as we go.

I want to sort of set the stage with a couple of ideas. First, what is your experience when if you have to see a neurologist? What is that experience been like?

Because chances are that the neurologist you see is not certified. It's not trained in functional medicine, natural medicine, lifestyle medicine. Right.

So typically what happens is you come in, there's a little intake maybe with the nurse. Neurologist comes in, takes a brief history. And when it comes to cognitive decline, unfortunately, a lot of what happens is what I call 20th century medicine, and that's the 21st century folks.

So if you're practicing 20th century medicine, something is a little off. And what I mean by that is very often patients does maybe a little pencil, paper memory test like what we call a Montreal cognitive assessment, a mini mental state exam at Saint Louis University, mental status exam.

Maybe they get some blood tests, an MRI, maybe they get sent for what's called neuropsychological testing. But that's about the extent of it. Much of the time, not all the time.

Much of the time person's told, looks like you have Alzheimer's disease.

## Pillar 1: Identify the Problem

I'm sorry. And fortunately, there's not much you can do about it. Haven't seen me in six months. I'll check you out and see how much you have declined, which is a very depressing, very.

You know, it strips a person of all of their humanity, so to speak. We are sexually told in the traditional system that there is nothing you can do about it.

But the reality is, is, you know, that if we look at sort of the pie, what is this is gluten free, by the way, low sugar and all that. But the pie graphs, right.

Where does disease actually come from? Because culturally we sort of go, well, it's in my family and my genes and the sooner we get it because they got it, that kind of thing.

But the reality is that we know that lifestyle and environment play a massive role, right? The majority of the influence and why these complex chronic diseases like Alzheimer's, like Lewy body, dementia, Parkinson's, ALS, etc.

MS happened. The majority is environment and lifestyle. And the reason that's so important to understand is because these are things that we have influence over, which puts you as a patient, as a caregiver, as part of a team.

Back in the driver's seat may not be able to fix it all, but there are things that can be done that can definitely change the trajectory. Would you agree with that?

Absolutely. That has been my clinical experience. I mean, it's heartbreaking. Every time I have a patient come into my office and say, we saw the neurologist, they said there isn't much we can do.

They took away his driver's license. Now he can't drive, so he's more socially isolated. And they said, come back in six months and try these drugs. They don't work very well.

And it is so depressing. It's so demoralizing and takes the wind out of their sales. And when they come into my office and I think when they stumble upon your work, Dr.

Bredesen's work, so many of the functional medicine oriented people who are supporting those with dementia and Alzheimer's, there's hope again. And I think that I'm sure you were trained just the similar to the way I was to suggest there's hope with Alzheimer's was to give people false hope.

Right. It was to do harm. And yet over and over again, I see in my practice, just as you do and yours, that there is hope. There's an overwhelming amount of things that we can do.

You know, you have it narrowed down to the five pillars, and I can't wait to hear what they are. But, you know, often we think of like, oh, my gosh, there's there's hundreds of things that you could do.

Like, if you break it down, there are different types of exercise that you can get. There's different meditations you could do. So I like to think of it like you're at a restaurant and you get to order from the menu of the things that look good for you.

And so, yeah, I can't wait. I'm chomping at the bit like, how. Did you I. Okay. So now when I do a lot of public speaking, I teach other doctors how to do the type of work that I do.

And I show a slide that makes reference to sort of quantum physics. You know, it's like, what is it, Schrödinger's cat, whatever it is, you know, like it's a cat, alive or dead.

And they look in the box. It's both alive or dead at the same time and all that. Bottom line is this. We I believe, as you know, a three decade practitioner, that we have to understand the person with the disease.

But we also do still have to understand the disease as best as we can because there's sort of a quantum physics about it. We're going to focus, we're going to make our care patient centered.

But until we're at a place where we're 100% during these conditions, we have to sort of stay a step ahead of the game and understand what are the things that can at least happen so we can understand if things do happen.

Is that typical? Is that normal? What's typical strategy that's applied? Is this out of the ordinary? Do we need to investigate further, etc.? So we have to understand the diagnosis.

So Pillar one is to essentially correctly identify the problem. And I mentioned 20th century medicine, implying that there's 21st century medicine. So 21st century medicine is precision medicine, it's biomarkers, it's metabolomics and proteomics and all of those things that have big, fancy words behind them.

But it boils down to precisely understanding what is going on and then potentially what are the things that we can do about it. And then even beyond that, being able to track how we're doing.

So we know, hey, are we on the right course? Do we need to slightly change course? So in my office, when you come in and having trouble remembering things, I'm repeating myself, you know, I'm putting things down and losing them.

I can't remember people's names. I've gotten lost driving to my friend's house, my daughter's house, whatever, when I've been there a million times, and I just stop and think about where I was driving.

And of course, all of those are red flags. Does that always mean this is Alzheimer's disease? Absolutely not. But are we going to diagnose Alzheimer's disease just doing a pencil and paper exam?

No, we're going to get sort of the. Oh, it's like putting you know, a little saliva on your finger and testing the direction of the wind. Okay. There's a problem here.

We're going to acknowledge that. Then what are the next steps? So in the neurologist's office, like mine, yes, you do get some imaging. Maybe you also get 3D volumetric images.

We can actually accurately measure the volume of different parts of the brain. We can measure the characteristic proteins associated with Alzheimer's disease in the spinal fluid through a lumbar puncture.

And now with the advancements made in blood chemistry, we can use tests like the passivity test out of C2 and diagnostics and actually get a very accurate measure of the likelihood that if we put you in a PET scanner and measured the amyloid in your brain using that scan, or similarly did a spinal fluid test, we could get darn close.

99% accurate just simply by doing a blood test. So I don't need to send you to see the neuropsychologist any more. I need to use precise information to correctly make the diagnosis.

Pillar one Identify the problem, right? I have a question for you there because you talked about referring to neuropsych and I always struggle with that because it's such a stressful experience for patients.

I mean, they come out of there and they're like, it didn't change anything. I still have Alzheimer's. They still took my driver's license. And now I guess there's more data, there's more detail about how my brain isn't working.

But it didn't change the treatment plan. And I went through so much stress and so much time somebody had to drive me. And so I typically recommend that patients skip it.

Is that am I doing them a disservice? Well, first of all, I certainly have a lot of respect for neuropsychologists, and there are situations where having testing is very appropriate.

But I do not use the neuropsychologist at all when it comes to looking at cognitive decline and making the diagnosis of Alzheimer's. I find absolutely I absolutely agree with everything that you've said.

You know, it's lengthy, it's exhausting, it's stressful.

## Pillar 2: Investigate Root Causes

How much does that impact it? And from sort of a neuro anatomical perspective, although ultimately Alzheimer's disease affects all of the brain, we think of it primarily, especially affecting the temporal and parietal lobes in general.

There are exceptions. So when in years past, when I'd send someone to the neuropsychologist, I'd one information say, is this more temporal parietal? Is this more frontotemporal?

Is this more parietal occipital? Because those can imply different dementias. Those could imply Lewy body dementia, those could imply frontotemporal dementia versus Alzheimer's disease.

But I never got that information back. They had exhaustively test the patient and then say, well, you know, cognitive decline could be Alzheimer's. And I go, Yeah, well, I kind of knew that.

That's why I sent them to you. So it's a waste of time, money, energy, emotion, etc.. Let's be precise. Okay, so that's killer one. Thank you, Marty. Learning the ten pillar two.

So pillar two then is how did this happen? Right. We've already said that environment, lifestyle play major roles. Right? So we're going to then investigate those root causes and that starts out with sitting down and taking a different type of history.

As you know, in traditional medicine, still an important tool. We're going to sit down and say, when did that problem start? How did it progressed? Does anything make it better? Does anything make it worse?

Things like that. That's called the history of present illness. In functional medicine. We take what's called a timeline, right? We want to know tell me where you were born to your brothers and sisters.

How is their health, your parents lives? How was their health? What did they do for a living? Where did you grow up? Was it rural? Was it, you know, suburban?

Was it urban where maybe you exposed to a lot of air pollution? Right. Or could you been exposed to, say, agricultural poisons, pesticides, herbicides, etc.

in a in a more rural upbringing? You know, were you born by caesarean section where you bottle fed or breast fed and, you know, kind of. Tell me about your health growing up.

Did you have any head injuries where you treated with antibiotics? You know, you have surgeries where you're general anesthesia. So we're looking for what we call those triggers and they lead up, of course, to the moment of, hey, something's not right with my brain.

That's the tipping point. And then what are the mediators? What are the things that are keeping you on that trajectory? And they can include lifestyle factors, very importantly, the quality of your sleep.

What is your diet look like? What is your digestion like? Are you moving your body in a in a mindful, meaningful way that enhances not just your strength, but maybe your balance and your cognitive function and your flexibility and your mobility and your endurance and all those other things.

How what is your stress, resilience, practice? How do you know we all life is the fast lane, right? 99% of the time we live in the United States. Thank goodness we're in a pretty safe place compared to some parts of the world.

But we still have things on our plate. Right. And so as important as it is to eat a nourishing meal, to deliver to our cells, when our cells need to thrive, we have to deliver to our bodies and to our minds.

And that limbic system, a practice of calming and balancing the brain and the body. And a lot of folks, you know, it's very easy to take that for granted and not have that piece of the puzzle.

Are you socializing? Do you feel connected? Are you purpose driven? You're there, you know, what are you waking up for every day? Is it your grandchildren or whatever you the work that you're passionate about, the book that you want to write and all of those things are important to understand.

And then we take a deep dove into labs to look at things more from this at the cellular level and say, okay, you know, what is your where things that drive inflammation, what are the things that drive oxidative stress?

Have you been exposed to toxins, things like that? So all of that gets thrown in the pot together and that's what we call investigate. All right. So pillar one is what's going on?

What's the diagnosis? Pillar of. The problem. Identify the problem, number one. Number two, investigate number three. So number three is okay, think of this like the thousand piece jigsaw puzzle, right?

You get the jigsaw puzzle, you're all excited. You're even. You're pretty good at them. You dump the pieces on the table, O-M-G, right? That's a lot of pieces.

So you got to figure out what's important. How don't you got to turn some of them over? You got to move them around. Those colors look like they go together.

That looks like that part of the picture here is an edge piece. Right? So we got it. We got to put those pieces together. So let me folks, I mean, there are a lot of companies out there in the community health space that are really gunning for your money.

And they want to test and test and test and test and you know, testing is important. I do testing, but I never saw an MRI that made anyone better. Right. Right.

You're not curing yourself in an MRI and even a blood test that might be revealing until there's actually until there's an action step associated with that information, because that's what you're really getting when you test.

And then the information is not meaningful and may make you feel good, like, hey, I took a step, that's okay, it's good. But ultimately being able to put those puzzle pieces together, that's the integrate pillar and that's the third pillar.

Amazing. Yeah. And that takes skill. That takes experience and skill. And so for people who are this, I guess this is probably why you train doctors is so that people can get access to this because that is not widely available.

That's not what you're going to get if you go see a primary care provider or a conventional neurologist. It's not so and there are different dimensions to this.

I have a pretty large practice, so we're able to use a team based approach. You have a dietician, you have a coach, you have a movement person, right?

You have me. I kind of keep an eye on the big picture of everything that's going on. I'm kind of captain of the ship, but because I'm also a neurologist, I can focus on the sleep component of the lifestyle medicine piece where I have a movement person, I have a dietician, I have the person who does kind of the mind body type work that is absolutely critical as well as the social aspect that's also extremely critical.

So we use a team based approach. And the other part of that, I would say, Heather, is that, you know, kind of goes back to that timeline. And this has been a very big issue for me and one that I don't I don't pretend to have made this up by any means, but I think that it's one that we don't spend enough time on in the practice and medicine, and that is to understand the power of narrative, because all of that information that you got has to be pieced together into a story about you, the person who is a fat dude who has come to the doctor and how that narrative is told.

And I would reference people like Dr.

## Pillar 3: Integrate the Puzzle Pieces

Arthur Kleinman, Harvard University, the great psychiatrist who wrote a book called The Illness Narrative. There are other people out in the States doing similar work, but I would even point to people like the great Joseph Campbell is, you know, died many years ago now.

But, you know, the great mythologist in the 20th century that helped us understand the hero's journey and really is ultimately sort of co response symbol for some of our great movies like Star Wars.

Of course, he worked closely with George Lucas, but these are our stories. We want our stories, first of all, to be heard. That is very important. And we want our stories to be understood.

And we want to understand our stories. And what I'm getting at ultimately is that to integrate is not just to have a team, but to integrate is to ultimately be able to take action steps.

And this has a lot to do with us as human beings and behavior and how we change and how we go from it's not even in my reality that you can do anything about Alzheimer's disease.

TO Wait a minute I heard this some pretty interesting people like this, Dr. Sandison and this Dr. Bredesen that are doing some really interesting stuff.

But I don't know too much about it, but I heard about it right to I bought the book and, you know, I'm kind of, you know, thinking about it like a book.

I got some recipes is I went and shopped at the organic market, so I got the stuff in the fridge. I don't know quite what to do with it yet, but I'm kind of gunning, right.

I'm ready. And then there's boom, right? Action, trigger pull, doing it. How do you get through those steps and how do you ultimately maintain that trajectory?

And a lot of it has to do with the narrative. A lot of it has to because you you don't it's not just about up here, right? It's about here. You have to feel it. You have to believe it.

You have to know it. Right. And you know through your heart and through your emotions, it's so important because this is hard work. This is not a seven day course of antibiotics and you're better.

That's not a 30 day course of antibiotics. And that's just showing how long you're not going to have to take this supplement. Well, we'll do some follow up testing.

When we do that testing, we're going to look at your levels, if your levels are really right where they need to be. And that tells me that the combination of food, which is where most of your nutrition needs to come from, plus this supplement is getting you where you need to be if your levels are still low.

We've got to figure out why are you taking the supplement? Are you following that diet plan? If you're on the other hand, you have a make something up like I saw a patient yesterday, vitamin D level is 135.

So it's good that you have a robust vitamin D level, but probably higher than it needs to be. And there's some data suggesting that, you know, you could develop pseudo hypoparathyroidism, you could have, you know, hip fractures.

Let's maybe bring it a little down. I'd be happy with 60, you know, so there are situations where, yes, we back down, of course. But the idea is that this is a lifelong process.

This is for the rest of your life. The rest of your life. Got you here right up to this point. Now, the rest of your life moving forward is what's going to help you change that trajectory and maintain that in the long run.

Yeah, that's challenging, right? You have health coaches on your team, a lot of support for people because we see that commonly as people are excited and motivated at the beginning and they get better, they get results and then they burn out and it's keeping them on.

The trajectory is really, really important because we also see that when people are able to do that, there's a sort of virtuous cycle where they keep getting better and better.

And now I don't want to give anyone the impression that we, you know, stop people from dying and other things happen, falls happen. And as people age, other things happen and it can get even more challenging to maintain this lifestyle.

But having that great support makes it a lot easier. Absolutely. So, you know, that's where a community really comes in. What is your provider offering you to create that community?

You know, hopefully you really bond with that person. That's probably the most important thing. But in the in the long run, you know, do they have, you know, like we have free yoga every Thursday morning.

We have our Facebook group that we monitor all the time and post and interact with people. We have our brain tune up university, get on every other Tuesday and spend an hour, an hour and a half with our team.

Right. Everything that we can do on our end, it does ask you to engage, right? So now working for me, when's the last time you got to engage in a you see you have done it right. Okay.

Well it's a little give and take, right, but you got to create community one way or another and you have to have community not just in a medical facility like mine or yours.

You have to have community at home or wherever you happen to live.

## Pillar 4: Restore with Hormones and Supportive Therapies

Right. You have to create your spouse. Your partner has to be supportive of this, right? It's like trying to quit smoking when somebody else sitting across the table having their cigaret and coffee, no way is it going to work.

Right? So community is probably the most important thing in the long run. Yeah, we couldn't agree more. So identify the problem, investigate the. Problem.

Head into integrate the investigation. Right, restore. Restore the store. So restore. You know, one of my associates says you're the best version of yourself you're restoring.

That's true. Another piece of it for me is going from functional medicine and then bringing in some of the toolbox of regenerative medicine and realizing that hormones are really, really critical for, well, for our whole body.

But I'm a neurologist. I'm going to focus on the brain and talk about all of the incredible things that maintaining optimal hormone levels do for us. And that, of course, includes things like estradiol and progesterone for women and for the men testosterone and for the women testosterone as well.

DHEA When I say optimal cortisol levels, that can mean, hey, you don't want to be bottomed out and exhausted, but you also don't want to be in that constant fight or flight either.

There's a balance. So recognizing where you are on that normal cortisol, circadian rhythm, that's an important piece of the puzzle, you know. So I look at hormones.

I do treat people with hormones. We do. It's all bioidentical. We do a lot of pellets. I'll do some orals, some creams, some, but mainly utilizing pellet therapy.

And that's a big game changer for people. Yeah, often. And what about peptides or stem cells or exosomes? Are you doing regenerative medicine at that level?

So fifth pillar to generate. Okay, now I don't do peptides and I'll be very honest and transparent with you about that. First of all, I am a researcher.

I have over 45 clinical trials. These are all institutional review board approved, these are multi-center trials. FDA is involved, things like that. You know, I, I am a supporter of when, when there are pharmacological treatments that are appropriate.

This is why, you know, I came from traditional neurology and I was kind of burned out and tired and all that stuff. And and then I functional medicine it was like the gates and have an open egg and found my meaning and purpose.

And, you know, I want to be just like Dr. David Perlmutter or whatever. And then it started to, you know, that stuff I was doing before. There's value there.

There's still value there, right? So at any rate, I do a lot of trials and we brought several important products to market. We're still, you know, involved in bringing other new things that are just around the bend.

But the point here is that part of the reason why there are regulations is that it protects us as human beings. Right. There's a long history of very a dark history of experimenting on human beings from the Tuskegee experiments to the experiments on human beings in Nazi Germany.

And don't get me wrong, I'm not suggesting that peptides or exosomes are, you know, you know, there's not I'm not suggesting that that the aim of the practitioners to hurt someone by any means.

And there are of course peptides that are fully FDA approved, like semaglutide, like insulin by the way, or in my world as a neurologist, the drug Copaxone, Vladimir Acetate, is a peptide that treats multiple sclerosis, but a lot of the peptides are completely unregulated.

The vast majority are they have not been through the rigors of clinical trials and I am personally very against that because I want these peptides to be helpful, I want them to be effective.

But we have a litmus test and there's many folks out there, I'm willing to bet many folks watching this summit who are very, very leery of the pharmaceutical companies and the drugs.

And again, for full transparency, you know, there are issues, of course, there definitely are. That's another interview. But there are many good things that these drugs have done.

Right. And the point is that the same companies, they have spent billions of dollars to put their products through clinical trials, to show dosing, safety, efficacy, all that stuff.

They have to have a package insert, right? And the guy on TV that talks a million miles an hour rather than to make my dad go talk to your doctor, you know, where is that happening with peptides?

So I, I cannot utilize peptides in my practice. I would not. The FDA has recently really cracked down on peptide. They've cracked down on Exosomes and that stopped some practitioners from using them. No, in my opinion.

Does that take advantage of people who don't otherwise know? Yes. They shouldn't be doing that. Could they be helpful? Maybe. Let's really study them.

Let's really study them. So I don't do any of that stuff now.

## Pillar 5: Regenerate with Stem Cells and Research

I don't know if we get in late, but I do offer some treatment in the arena of stem cells and there's a little bit of federal regulatory language, but there's a difference between what's called a 351 product and a 361 product and what that all means is 351 products are basically drugs.

Even if they're tissue therapy, they have to have been manipulated in some way or they come from something where someone could be a thing like an animal or a thing like and say like, you know, placental tissue or umbilical cord, but it's not you, right?

We call it allogeneic. 361 products have to meet very specific criteria that have to do with, you know, they're basically your cells that and they're being used to do what their cells normally do in your body.

They can't be mixed with anything. They can't be used systemically. They can't be manipulated in any way. And if those guidelines are followed, you have in your body, in your bone marrow, for example, what are called mesenchymal stem cells or what is sometimes called medicinal signaling cells.

And what these cells do is not really what many people associate with the word stem cells because they went, hey, I have Parkinson's. And this thing dopamine cells that you can these stem cells, will that replace my brain cells in my brain and make me whole again?

No, that's not what they do. They're anti-inflammatory. They're involved in tissue repair. This is the normal function in the body. They help to slow or curb or turn off that process we call programed cell death.

And so there is a anti inflammatory reparative role for these cells that we can deliver by harvesting them out of your bone marrow. Using an FDA cleared system to separate all the red blood cells and other things out.

So we only have your stem cells and then deliver them directly, not systemically directly into the spinal fluid to help support the overall treatment of the patient. Right.

Not not making disease treatment claims, focusing on what is the role in the body and could that be like the next level for me? I got the food down, I got my meditation, I got my sleep, I'm taking my supplements.

What else can I do? Right. Okay, here's something. Right? I love how you put that in order, right? That there is this I was talking to someone else earlier today and it was like, you can do the right things, but you can do them in the wrong order and not get the benefit.

And stem cells, I think, are in that category where you still have all the toxins and infections and your nutrient deplete, you're not going to get the same benefit of those stem cells as if you waited a little bit and put the work in, got many of the systems balanced and then added those cells as is.

That has not been your experience and certainly the cost as well is something to consider. There is a cost and not only that, this is not a once and done.

There are companies out there in the commercial space in the United States doing the research, doing the clinical trials, because there are three states there.

STEM cell products are 351. They're manipulating them, but ultimately mechanistically, very similar to what we're doing. And I would even argue in most respects identical.

The one that immediately comes to mind is called Brainstorm Cell Therapeutics. And they have a a stem cell product called Nurown And they got all the way through phase three four, which is the most essentially that's the just before FDA approval phase, trial phase for ALS.

And they're in phase two for Parkinson's disease, I'm sorry, for multiple sclerosis, progressive multiple sclerosis. The interesting thing is those are your cells very similar to what we do.

But once they're harvested, they do get sent off for processing to cause or induce those cells to express what they called neural elements. But what's very interesting and what the literature tells us is that, you know, it causes those cells to express neural elements, spinal fluid, urine.

So that's well documented in the literature. And, you know, part of our Western, you know, capital, unless, you know, capitalism and system of medicine is that everyone wants and they have sort of trademark copyright, patent protected, what have you.

So we don't know what is the system that they're using to cause these cells to express neural elements? Right now, it's a tube of spinal fluid sitting in a lab somewhere, and then they just harvest those cells right back and give them to people.

I'm not saying that definitely is what it is, but it is very interesting that the literature definitely supports the role that spinal fluid plays in inducing these cells and gives us a huge opportunity as practitioners to really do this in a fairly affordable way in medicine.

The lumbar puncture. Yeah, through just harvesting your cells. A kit that we purchased from the manufacturer for that $1,000. So we have the equipment that we need to harvest your cells to separate them and everything.

And then, you know, a lumbar puncture tray and the cost of my professional time and the cost of, you know, not just me personally as a professional, but, you know, if you have 100% of my focus on keeping my lights on in my clinic, there is a cost to that, right?

So I'm not saying that super cheap. Nothing is, but no drugs for ALS and multiple sclerosis. As you know, for example, you're talking in anywhere from 80 to $150000 a year.

If I can offer you a treatment for $8,000, a relative bargain, but you do have to plan on repeating it. It's not a once and done. Right. Right. This is fantastic and fascinating and such a great conversation.

And I want to make sure our our listeners know how to find out more about you and your practice and if they're looking to train with you. We've got many providers here joining us, so please tell us where we can find it more.

Our main website is functionalmedicine.doctor functionalmedicine.doctor I do have other websites and some of them link from functionalmedicine.doctor, there's sharlinregeneration.com sharlinresearch.com We have our big research website, our imaging website, we do onsite imaging for MRI and PET scans and things like that.

But the main one you want to look at is functionalmedicine.doctor And fantastic Dr. Sharlin It's been such a privilege to have you here. Thank you for sharing your time and expertize with us.

My pleasure. Thank you for having me.