Introduction and Episode Goals

This is Doctor Talks, real talk from real doctors on the issues that matter to you most. 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 Charlin. 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 BrainTuneUp 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 pact and action pact. 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, the publishing, the speaking, the seeing patients.

You do so much in this space, and I know you have so much to add and to share with people. So let's get into it. 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 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 has that experience been like? Because chances are that the neurologist you see is not certified, is 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 a nurse, neurologist comes in, takes a brief history.

Why Traditional Dementia Care Falls Short

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, the St.

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. I'm so sorry. Unfortunately, there's not much you can do about it. Come see 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 essentially told in the traditional system that there is nothing that you can do about it.

The reality is, as you know, that we look at sort of the pie, what is, this is gluten-free by the way, low sugar and all that, but the pie graph, right?

Where does disease actually come from? Because culturally we sort of go, well, it's in my family, it's in my genes, I'm not saying that I would 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. The majority of the influence and why these complex chronic diseases like Alzheimer's, like Lewy body dementia, Parkinson's, ALS, et cetera, MS happen, 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.

We 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, takes the wind out of their sails. 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 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 in 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 people 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'm, I can't wait. I like chopping at the bit.

Like how did you, okay. 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, Schrodinger's cat, whatever it is, you know, like, is the cat alive or dead until you look in the box, it's both alive and dead at the same time.

And all that, bottom line is this, 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.

Pillar 1: Identify the Problem

We're gonna make our care patient-centered, but until we're at a place where we're 100% sure in 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 the typical strategy that's applied? Is this out of the ordinary? Do we need to investigate further, et cetera?

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 if, hey, are we on the right course, we need to slightly change course. So in my office, you come in and having trouble remembering things and 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 had to 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. Are we going to diagnose Alzheimer's disease just doing a pencil and paper exam? No. We're going to get sort of a, oh, it's like putting a little slide 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 imaging so 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 Precivity test out of C2N 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 flow test, we can get darn close, like 99% accurate just simply by doing a blood test.

So I don't need to send you to see the neuropsychologist anymore. 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 the patient 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.

Pillar 2: Investigate Root Causes

I find absolutely, I absolutely agree with everything that you've said. It's, you know, it's lengthy, it's exhausting, it's

stressful. How much does that impact it?

And from sort of a neuroanatomical 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.

that someone in years past, when I'd send someone to the neuropsychologist, I'd want information to 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, I'm cognitive decline. could be Alzheimer's and go, yeah, well, I kind of knew that that's why I sent them to you.

So it's a waste of time, money, effort, energy, emotion, et cetera. Let's be precise. Okay. So that's pillar one. Thank you. I'm already learning a 10 pillar too.

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 gonna sit down and say, when did that problem start?

How did it progress? 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. Do your brothers and sisters? How is their health? Your parents alive? 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 were exposed to a lot of air pollution, right? Or Could you have been exposed to, say, agricultural poisons, pesticides, herbicides, et cetera, in a more rural upbringing?

Were you born by cesarean section? Were you bottle-fed or breast-fed? And then kind of tell me about your health growing up. Did you have any head injuries?

Were you treated with antibiotics? Did you have surgeries? Were you under 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 does your diet look like? What is your digestion like? Are you moving your body 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.

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 ourselves, what 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? What are you waking up for every day? Is it your grandchildren or whatever? The work that you're passionate about?

The book that you want to write? All of those things are important to understand. And then we take a deep dive into labs to look at things more at the cellular level and say, okay, what is your What are 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, what's going on? What's the diagnosis? Identify the problem. Identify the problem, number one. Number two, investigate. Number three.

So number three is OK. Think of this like the thousand piece jigsaw puzzle, right? You get the jigsaw puzzle. You're all excited. You're pretty good at them.

You dump the pieces on the table. OMG, right? That's a lot of pieces. So you got to figure out what's important. 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's an edge piece, right? So we got to put those pieces together.

So believe 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. 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.

Cause that's what you're really getting when you test. Then the information is not meaningful. It might make you feel good. Like, Hey, I took a step. That's okay.

That'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.

Pillar 3: Integrate the Puzzle Pieces

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 dietitian, 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 dietitian. 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. The other part of it, 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 of medicine. And as 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 has affected, who has come to the doctor and how that narrative is told.

And I would reference people like Dr. Arthur Kleinman, Harvard University, great psychiatrist who wrote a book called The Illness Narrative. There are other people out in the space doing similar work, but I would even point to people like the great Joseph Campbell, who died many years ago now, but the great mythologist of the 20th century that helped us understand the hero's journey and really is ultimately sort of co-responsible 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 there's some pretty interesting people like this Dr.

Sanderson 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.

I'm, you know, I'm kind of, you know, thinking about it. So I got the book. I got some recipes. I went and shopped at the organic markets. 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 pulled, 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, cause 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. Seven day course of antibiotics and you're better. This is not a 30 day course of antibiotics and you're better. Dr. Charlene, how long am I 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 subliminal or are you following that diet plan? If you're on the other hand, you have a make something up like 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 can develop pseudo hyperparathyroidism. 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, and 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 keeping them on the trajectory is really, really important because we also see that when people are able to do that, there's this sort of virtuous cycle where they keep getting better and better.

And now I don't want to give anyone the impression that we 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 community really comes in.

What is your provider offering you to create that community? You know, hopefully you really bond with that person.

Pillar 4: Restore with Hormones and Lifestyle

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 BrainTuneUp University where you can get on every other Tuesday and spend an hour to an hour and a half with our team, right? Everything that we can do on our end, it does ask you to engage, right?

It's not working for me. When's the last time you got a BrainTuneUp University? I haven't done it, right? They're like, okay, well, that's a little give and take, right?

You gotta 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, 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 cigarette and coffee.

No way is it gonna work, right? So, Community is, you know, probably the most important thing in the long run. Yep. We couldn't agree more. So identify the problem, investigate the problem, integrate the investigation.

Right? Restore. Restore. Restore. 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 bio-identical. We do a lot of pellets. I'll do some oral, 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, regenerate. 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.

I am a supporter of when there are pharmacological treatments that are appropriate. This is why I came from traditional neurology and I was kind of burned out and tired and all that stuff.

And, and then I had functional medicine and it was like the gates of heaven opening and found my meaning and purpose. And, you know, I want to be just like Dr.

David Perlmutter or whatever. And then I started saying, you know, that stuff I was doing before, there was 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 the aim of the practitioners to hurt someone by any means.

And there are of course peptides that are fully FDA approved, like semi-glutide, like insulin, by the way, or in my world as a neurologist, The drug Copaxone, gladomeracetate, 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 Pete, 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?

The guy on TV that talks a million miles an hour. Talk to your doctor. Where is it happening with peptides?

Pillar 5: Regenerate with Stem Cells and Research

So I cannot utilize peptides in my practice. I would not. The FDA has recently really cracked down on peptides. They've cracked down on exosomes. Has 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 that I don't do any of that stuff. I don't know if we're getting 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 or someone It could be a thing like an animal or a thing like, I'm sorry, like a 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 those cells normally do in your body.

They can't be mixed with anything. They can't be used systemically. that 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 want, hey, I have Parkinson's, I'm missing dopamine cells.

If you give me stem cells, will that replace my dopamine 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 it programmed 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 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?

Okay, here's something. I love how you put that in order. 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 if 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.

Has that 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 their 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 stem cell product called Neurone. 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 call neural elements.

But what's very interesting and what the literature tells us is that you know what causes those cells to express neural elements? spinal fluid. So that's well documented in the literature.

And part of our Western capitalism system of medicine is that everyone wants something that's 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.

For all I know, 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.

Medicine is expensive. Through a lumbar puncture. Yeah, through just harvesting yourselves a kit that, you know, we purchased from the manufacturer for that.

Where to Learn More and Closing

a thousand dollars. So we have the equipment that we need to harvest yourselves, 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 a hundred percent of my focus on keeping my lights on in my clinic, there's a cost to that, right?

So I'm not saying that super cheap, nothing is, But, you know, the drugs for ALS and multiple sclerosis, you know, for example, you're talking anywhere from 80 to $150,000 a year.

If I can offer you a treatment for $8,000, it's 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.

Such a great conversation. I want to make sure 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. I do have other websites and some of them link from functionalmedicine.doctor.

There's Charlin Regeneration, Charlin Research. We have our big research website, our imaging website. We do on-site imaging for MRI and PET scans and things like that.

But the main one you want to look at is functionalmedicine.doctor. Fantastic. Dr. Shailen, it's been such a privilege to have you here. Thank you for sharing your time and expertise with us.

My pleasure. Thank you for having me. Thank you for tuning into Dr. Talks. We hope today's episode has enlightened and inspired you on your path to optimal health.

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