Introduction to Stroke Recovery

Hello everyone. Welcome back to another fantastic episode of the Heart Attack and Stroke Prevention Summit, where our goal here is to give you the best information from the worldwide experts in heart attack and stroke prevention and recovery.

And throughout this summit, we've paid a lot of attention to the prevention aspect preventing first episode, second episode. But I brought on an absolute, again worldwide expert as it relates to Rick Overy and certainly, Doctor Sergio, as you know, and I can talk about prevention all day long, first and second event, but we're going to hit really some focus here on the recovery aspect, but especially one, you know, people, again, flying in from all over the world to see doctor as you know, for a stroke recovery.

Let me tell you a little bit about Doctor Sergio. As you know, he is an internationally renowned clinician treating patients worldwide and serving health care professionals since 1995.

He's one of the pioneers of integrating functional neurology. Along with, again, functional medicine and chiropractic. Doctor, as Linda started off as a is a chiropractic physician and then again was one of the kind of, you know, preliminary people found in what's called chiropractic neurology.

And I first learned about chiropractic neurologists from my wife, who actually spent some time training under the doctor as l'anno, and how she just kind of waxed poetically about doctor, as I know he also happened to have graduated, you know, number two in his chiropractic class.

And then again, he's also going on now for his master's degree to become what do they do? I mean, you know, how how do you evaluate a person after a stroke?

And because, you know, strokes can be a big deal, obviously, some of them extremely debilitating. What's the best strategy after a stroke? Well, you and I have been around long enough.

I've been in practice 30 years. So we remember that the the landscape was a lot different back then. If someone had a stroke, there wasn't much that was offered to them.

In regards to remediation, you know, people had some weakness or paresis and it was thought, oh, you lost that part of your brain. And that's just the way it's going to be.

Well, we've come a long way. We've come a long way in our understanding of the brain. We've come a long, a long way on how to, formulate these things.

I want to just give kudos to doctor. Ted Carrick, who is the one that really put together a lot of this stuff. Early on in his early years in chiropractic neurology, and I had the good fortune of studying and, you know, mentoring, being mentored by him, way back when.

So in the late 80s and, early 90s. So nonetheless, what we've learned about the brain in the last many decades is that it's a very dynamic plastic structure that can change.

And so when we identify strokes and we identify the area of the brain that is not functioning well, then we can implement various different strategies to improve some function in those parts of the brain.

And we have, you know, an entire program and an entire training based around this. We know neurons need oxygen. One of the main reasons why they have stroke is they either had a, you know, a vascular event where they had a clot or they had a hemorrhage, as you know.

And so when they lose that oxygen, we want to restore oxygen to those neurons.

How Functional Neurology Differs from Mainstream Rehab

And hyperbaric oxygen has been one thing that's been very implemented, you know, very, beneficial for moving people along and getting some recovery in those neurons.

You know, quite well, with your background, all the different nutrients that are necessary to help make that recovery. But the biggest issue is really providing the appropriate amount of stimulation.

When I say the appropriate amount, I can't stress that enough, because this is not a game of just bombarding one's brain with stimulation following a stroke.

It's really finding out which areas of their brain are not working and how and what stimulation is going to be appropriate in the appropriate amount to start to get some recovery.

And we could explore that more in depth, as you wish. Yeah, most certainly. Maybe touch on what is wrong with conventional or mainstream stroke recovery.

I feel like my patients who, who have had strokes or people who have come to see me after a stroke, that their rehabilitation was just kind of more of like these, you know, developing the motor skills again.

But I think you're going to say that is, you know, 30 year old, information and that we're much more up to date. So when someone comes to see you, what are you doing over and above and, and kind of like, again, what is the problem with mainstream stroke rehab, if you will?

Well, let's put it this way. What they're doing in the hospital is great. They're keeping people alive. And that's what their focus should be, and they're excellent at that.

But once you get beyond that, the question is how are we going to restore function? And I wouldn't say it's wrong, but what physical therapists are doing is very beneficial to people.

It's helping them a great deal. It's focused on muscle, recovery. And so we're the functional neurologist, where the chiropractic neurologist are expert at is being able to assess one's brain, being able to assess all the different functions of one's brain.

We can measure things right down, for instance, with the eyes right down to the millisecond, we can measure their eye movements, to the millisecond in regards to their speed.

We can measure their accuracy to the degree we can measure their reaction time to the millisecond. We could measure their vestibular system, which deals with balance and coordination.

We could measure the reaction time with every stimulus system. We measure hand-eye coordination. We measure a lot of these various things that we call brain vitals.

And the focus, the main focus is to restore the neurologic function. So it's very important for people to understand that when you have a stroke and you see somebody that has weakness, it's because they lost a certain area in their brain.

And commonly we see people that have a spasm, for instance, their arm is pulled up. And so that part of the brain that inhibits these muscles is not working.

And so rather than trying to stretch a muscle or do something directly to the muscle, we will in turn figure out which pathways are still viable. And we could do that through measuring all these various, neurologic functions and brain vitals.

And we'll also, once we determine which pathways are still viable, then we can implement some various strategies to stimulate right into those parts of the brain.

And, you know, the world is, at our fingertips as far as how we're going to get stimulation. And there we may do things with the eyes. We may do things with the vestibular system.

We may do things, through stimulation on various peripheral nerves, from the tongue to a variety of different things. Chiropractic manipulations and adjustments are very powerful for improving stimulation into these pathways.

So the key is and I think we're we could distinguish what is happening in mainstream stroke recovery. And what we're doing is the detail and the attention and the focus primarily to the neurologic structures that have been affected versus the consequence, which are the muscles.

Now, when someone has had a stroke and of any significant degree, certainly the sooner they're able to see you or maybe a chiropractic neurologist who is local to them, the people.

And again, I know this from my wife who took some of the modules, and she talked about the difficulty in passing that examination to become a diplomat of the American, you know, chiropractic neurology board, of which you are, if you're not the president of I know you're the past president, something like that. But obviously.

The president. Currently the president. So it's extremely difficult. So but there are people that tend to be local, from what I understand. And my interactions with you, of course, is that you are top notch and you would be my choice.

But how fast do we have to get in to see you? And is there always improvement to be gained? I don't know, two months after the fact, six months after the fact, six years after the fact?

Sure. It's never too late. First of all, never too late. And, you know, we have people. I just finished seeing a patient that was 96 years old and another one earlier that was 94 years old.

And it's a great pleasure to see people at that age that are still walking this earth, that are still making some meaningful changes. And so it's never too late.

How soon should they get in? Well, once they're released from the hospital, once they're stable, there's things that can be done, for people looking for, practitioners locally, they can go to the American Chiropractic Neurology Board website.

Assessment and Treatment at the Clinic

It's AC and Borg, and we have a list of board certified chiropractic neurologist on there. And certainly they could always reach out and I could tell them who's best in their area.

But nonetheless, the sooner the better. And the more skilled the practitioner is. The better methodology, the better flow they may have. And and commencing treatment.

And so it's not a race. It's more a, a evaluation is the most important thing. And then we need to formulate the best plan that's going to slowly bring them along.

You know, as a cardiologist, Jack, that the most important thing is to stabilize blood flow. And so what happens with many people that have had, whether it's a head injury, whether they have many of these toxins that you and I know so well and treat from mold to, to infections or whatnot, as they developed this autonomia, they develop, you know, postural orthostatic tachycardia where they're not regulating their blood flow correctly.

And so fortunately, our people are well trained in how to assess if they're getting appropriate blood flow to these areas. Much of what's happening in medicine is looking at gross imaging, which is appropriate, to specifically see if there's gross blood flow.

But we want to look at the fatigue ability of those neurons. And much of what happens in our examination is looking at which pathways are viable, but also how fatigued they are.

And so there's a variety of different means, you know, in doing so, from looking at objective measures of the pupillary light response to looking at, fatigue ability, just with, doing ordinary tasks and whatnot.

So someone who's had a stroke and now they come out for the first visit, at, as no clinic. What what is their experience like on that first visit? And then what would be the follow up?

Well, we're an integrative clinic. We have physicians, we have natural paths. And, you know, functional neurologists here. And so the initial visit is we're taking them through, obviously, a full history, as any good physician should do, but a head to toe examination, we're testing all their sensory nerves, all their motor nerves, their balance and coordination.

We're doing a lot of this on objective platforms that will tell us exactly what their sway pattern is, right down to the degree per second. It'll tell us what their limit of stability is, which means how far they can move before they lose their balance.

And, we'll get their hand-eye reaction time, their visual reaction time, their vestibular reaction time. We'll do a mini neurocognitive assessment. Will have their processing speed.

So there's a a plethora of testing that we do if this individual can tolerate those things, it gives us these nice objective metrics, these brain vitals.

And once we have those, then we have a good groundwork on how to move forward. We certainly were equipped in the, in the clinic for, all the different types of neurologic rehabilitation from gyrus stem to, ocular motor retraining to a full, suite of neurologic treatment.

And then also we're, you know, we have an IV suite, were equipped with things to address any of the underlying functions. We're all, if not board certified, close to the board, certified in, anti-aging medicine and functional medicine also. So we're not biased to one thing.

We'll use medicine to chiropractic, to peptides, to nutrition on whatever is going to give the greatest outcome for the patient. We're very patient centric.

We're not we're not, you know, isolated to one modality or one set of parameters that we'd like to work with. It's really what's going to be always the best outcome for the patient and the safest.

And now you know from your background that quite often things that we're doing in natural medicine are safer and more effective. But there are times when you need to cross over that line.

Also. And like you said, you've been doing this for 30 years. My wife was, you know, again, a student, in your clinic over 20 years ago. So I can only imagine how much you've grown and how just, advanced, you know, the specialization has become.

So if someone comes out to see you, they, you presumably some people stay locally. Maybe for a while, maybe for a week or two, maybe longer. Maybe somebody could come out and then go back to wherever they came from.

And you can assist in finding good support there. I would assume you could also do virtual with some of your staff members as far as some of the exercises and recovery modalities, right?

Yes, absolutely. So, now I think you and I could talk about stroke recovery and some of the nuances on that, but there's a lot of people here listening to with other brain concerns.

Right. So maybe it's, you know, some form of traumatic brain injury, movement disorders are extremely common,

whether it's, Parkinson's, you know, told you the story about my father with progressive or super nuclear palsy, other movement disorders, dementias kind of walk us through, that process.

So maybe it's kind of similar to what you're doing. Although different in some ways, but, kind of like that generalized approach about, hey, we're going to use all these holistic modalities to the best of our abilities to help you recover.

Yeah. I think the key with any, any brain health and this is my passion, this is my life's work, and this is what I want to really bring forward to the world and continue to do so is, first of all, the brain is a a structure is an organ that can improve.

And I think there's been this mystique that, oh no, I have a problem. So I don't want to look any further. My family member had Alzheimer's or had Parkinson's.

I'm scared. I'm just waiting for the other shoe to drop. So first of all, there's no need to do that. We can't change genes, but we can certainly turn on ones and we can turn off ones.

And there's so many modifiable factors in our environment that can help us move towards a healthier or a more decrepit state, as you know. So whether it's a stroke, whether it's somebody has a movement disorder or Parkinson's, we want to develop a much better understanding of how their brain is functioning.

You get a lot of people that are talking about brain function, esoteric. Lee. I'm talking about very hard structures that we can test. We just submitted for publication.

First study of its kind I was very fortunate to be involved with. This is Doctor Carrick's original work on looking at eye movements and the difference between men and women.

They're markedly different. Okay, so we have metrics on all this. We have these numbers. And so once we evaluated individual and we see where all of their function is from a neurologic perspective, then we could always implement some strategies, some rehab some therapy to improve their function.

Everybody will improve. None of us are dead. And and even till the last nail goes in the coffin, there is room for improvements in our brain. And if we understand where our weaknesses are, then we could do things that are very specific. So, you know, I'll, I'll be, shameless here and just plug a little of, what I'm writing about right now in this book should be finished this year on brain vitals, because everybody knows their cholesterol.

They know their glucose levels. They know all of these various functions that are important to know, but most people don't know how their brain is functioning.

And so, this book will be out very shortly where we're measuring all these various brain functions and in turn can give you some hard structural and, physiological data that shows where your weakness is so that you know exactly what to do to improve things.

So we have that from a functional neurology perspective. You know, that that we have it from a physiological perspective and functional medicine.

Recovery Timing and Brain Vitals

And we have it via blood work, and we have it through all these other metrics. And so it's just a very integral part of health that unfortunately has been dismissed because I think too many people think there's nothing that can be done to change it.

And so there always is and there always is some level of improvement that can be had with any one of these conditions. And, you know, the results are remarkable.

If you target those areas of the brain where one had a stroke, you know, you can make very, significant

improvements. And the same goes for Parkinson's.

If you're targeting those parts of the brain, you will get significant improvement. And this is why we're so busy with people coming from around the world, as most of our specialists are.

Yeah, I love that point too, is that it's it's almost kind of like you're never too far gone or like you said, you know, until the final nail in the coffin that we have this ability to at least give a chance, you know, for improvement.

Whereas a lot of times people are told by their mainstream medical doctor, with all due respect to them, that, you know, there is nothing that can be done.

As you're saying, there's always something that can be done or something that should be attempted. I like also how you are talking about these objective measures that you would measure at, you know, time zero, right.

Maybe their first or second or third visit at your clinic and then you do these different modalities and then you measure the results down the road. You repeat the tests.

And when you see those improvements there and obviously clinical improvement, symptomatic improvement that that's a really the game changer right there to be able to measure that data, you know, quantitatively and qualitatively.

So as you know, with most people that have had a stroke, right, they're a little older. If they survived that stroke. Now, the challenge is there's a high probability they're going to have another one if they don't change things.

And, you know, all the things that we need to change physiologic play. Right. But one other factor that commonly occurs is that their balance is usually quite poor after.

And that is one of the greatest risk factors you know, it's something that I see every day when people have this very limited limit of stability, meaning they can't move too far before they lose their balance.

If we don't change that and we don't change it quickly, there's a high probability they're going to be dying from a fall than they are from anything else, and certainly was if they've had the stroke, they've already had poor cardio regulatory control over their blood pressure.

And as you know, orthostatic changes for those the lay people getting up and down, having your blood pressure shift very quickly is a high risk for a fall, you know, standard in medicine.

And start looking at orthostatic changes in blood pressures and in people 60s, we're finding that most people, especially following whether it's Covid or whether it's the Covid vaccine, we're seeing these orthostatic problems down into people's 20s.

And so we check orthostatic blood pressures and pulse on every single patient from their teens all the way up, because we're just seeing an astronomical amount of this autonomic and postural orthostatic tachycardia.

And those things lead to falls and they lead to head injuries and they lead to, bigger problems that are 100% preventable. So going right back to what the average physician is saying, you know, they just don't know.

The ones that do know are very good. I mean, my practice is full of physicians that I treat and full of referrals from physicians. And I'm very grateful and blessed for that.

But they've been enlightened and they've been enlightened that there is data out there. You and I once again, have been around long enough that there was no such thing as an alternative doctor.

You know, when I went to school or when you did that. So kudos for you for paving the way. It's just different nowadays. And people do. There are very meaningful science based interventions that can make a world of

difference in people's lives.

And just because the average cardiologists in the average neurologists don't know about that doesn't mean they don't exist. No, definitely. Well said there.

Real quick, I mean, there's a lot of people who are listening who may be suffering with Pots, postural orthostatic tachycardia syndrome disorder. Naomi.

That are not stroke related. Obviously, as you said, these are people who are in their 20s and 30s and whatever kind of toxic injury or injuries, that they've had.

So, I assume you're seeing a lot of those people as well who are coming there with those primary diagnoses? Yeah, we've seen a lot of it over the years, just from traumatic brain injuries and and, you know, mold toxins, which I've been treating since 1998 very aggressively and then also other co-infections from Lyme disease and Bartonella.

But, we see an astronomical level of those infections causing, you know, autoimmune encephalitis. You know, I've seen my early pans cases back in the early 2000s.

Doctor RF is Donnie from Immuno Science had, antibodies back then and we had cases back in I think it was 2001 or so that, I have many of these documented Pans cases.

So we are recommending treatment for that stuff back then, and people are looking at us like we had horns coming out of our head, because, they didn't know where it was coming from and didn't believe it.

But the majority of cases we see nowadays are secondary to traumatic brain injuries, mold, toxins, infections, Lyme, Bartonella, bobcat, nose infections at the top of the list.

And certainly we're seeing a tremendous amount with this whole Covid pandemic. And, probably just as many coming from some, the ill effects of the vaccine versus, the, Covid itself.

So it doesn't make a difference to us where it's coming from. We want to treat the underlying causes, but we need to do things to get appropriate regulation on the cardiovascular system.

And so I think that's one thing where a lot of people miss the fact in that Lyme mold toxins may have caused the dis autonomy, but the problem is now in the nervous system not regulating the cardiovascular system.

So you could address those things, but you still need to do things to rehab those parts of the cardiovascular system. And so vagal nerve stimulation has been, you know, the the treatment of, popularity in the last year, we've been using vagal nerve stimulation for over 20 years now.

There's a variety of different vagus nerve stimulators.

POTS, Toxins, and Autonomic Dysfunction

But the key is not to just stimulate one's vagus nerve. It's really to determine what area of weakness they have. If somebody has a lesion in their pons, which is a little higher up from the medulla, where the vagus nerve originates, they may need some direct stimulation through the tongue that goes into the pons, or through the ear, or through some eyes with some lateral eye movements that stimulate the pons.

If they have a problem in their medulla, well, then sticking a vagal nerve stimulator may be the greatest thing ever. But you know, once again, it's something that's good.

Turns into everybody's doing it thinking it's great. You know, we use lasers and people are just sticking lasers all over everybody's head, like it's going to solve someone's problem.

It's a matter of knowing where their weaknesses and then targeting those pathways very specifically. And the good news is Pots can be, cured. And we see it all the time.

We see it every day. A day doesn't go by that we don't see somebody with pots or just autonomia and, we have great success, as most of our specialists do, because if you're treating those areas of the brain where the dysregulation is and you're treating the underlying infections or toxins, you can't lose.

Oh, that's incredible. That's incredible. How about someone who's got maybe a family history of, of Parkinson's? Certainly family history of of Alzheimer's, and other dimensions.

That's very concerning. I myself, you know, I, I've not seen you personally, although you and I have talked about me coming out there, but I've seen, other chiropractic neurologists in Arizona, for example.

And my concern always with them was a loss. And am I developing any early signs of progressive super nuclear palsy? So maybe is there a benefit, obviously, in seeing you even in a preventive fashion to say, okay, these are some areas of weakness.

We you can improve on these things, whether or not they're going to prevent any neurologic illness down the road. I would say that that may be difficult.

You may say otherwise. No. We actually have some data or, you know, you can make the case that it's going to be preventive down the road. But yeah, let's just say I'm a, you know, 50 year old guy who doesn't want to develop dementia.

Sure. Well, let me tell you, you know, I've had people that I've been treating for 30 years now, periodically. And so what we have this data on somebody and then I see them five, ten years later and we recheck things and we can see that they're slowing down.

I've unfortunately been able to call Parkinson's and super nuclear palsy and these types of things much earlier than the average neurologist is going to see it, and that's not taking anything away from them.

It's just we have some metrics. And so when I could say their latencies on their eye movements or their hand eye coordination was at this speed and now it's at this speed and we're seeing this decline in function.

Not only does that empower us to treat these people long before they develop the full blown clinical syndrome, and who knows if we're treating these people, we see their improvements.

Does that mean we put off their Parkinson's for five, ten years or 15 years? We don't know. We don't know. But certainly why let anything decline? So it's getting, an appropriate evaluation is not only diagnostic, it's preventative.

It's really empowering. And that's the one thing I want to stress. It's empowering for people to just get a better understanding of where their strengths and weaknesses are, and then focus on that.

None of us are where we need to be. We could all improve and it would be foolish. It would be like saying, we're not going to look at your bloodwork. We're not going to look at your A1 sea level. We're not going to look at any of that stuff until you have full blown diabetes, you know, why not be monitoring these things on a regular basis like we are now in medicine?

All right. So what I'm thinking right now is that, I come to see you, I get the diagnosis, we go like, hey, listen, Jack, you know, you got signs of this, this and this.

I'm thinking I got my life insurance. You know, I got a, get more prepared from that angle because you'll pick it up before somebody else. What about, Okay, let's, obviously, a lot of people here, they're tuned in after a heart attack.

Heart attack, recovery. Take us through that, process again. I will I will assume it's, fairly similar. I know that,

maybe a lot of people are not necessary.

Coming to see you for, neurology rehab after a heart attack. But tell us why that may be worthwhile. Well, you know, the reality is, and we and we have studies to this effect to know that some of these had a heart attack.

And, you know, we have a busy practice. We see people have had heart attacks all the time. And unfortunately they've had a heart attack. If we test their brain function, they oftentimes have had some ischemia to the brain also.

And so yes, we need to address the neurologic component. But most importantly, we need to look at the entire cardiovascular brain circuits that regulate, the heart rate, regulate the rhythm, regulate, you know, the pace and whatnot, because unfortunately, it's been neglected.

We have different circuitry in the brain from the insular, cortex to different aspects of the nucleus tract, the solitaires, different parts of the brain that we could get into at another date that regulate heart rate and rhythm and studies have shown also are regulating the blood vessels.

And it's a two way street.

Preventing Decline in Parkinson's and Dementia

So if one has been under stress, have had unfavorable things causing neuro inflammation or had head injuries or something, and they start to lose this regulation, now they start to become more prone to this, ischemia.

They start to become more prone to arrhythmias and whatnot. If they have atherosclerosis in their arteries. They're also, with this blocking, also sending signals right back into the nervous system that's going to cause some neuro immune, modulation effects also.

So it's a two way street here that I think there's, you know, there's a plethora of information coming out right now about that that we need to be looking at.

Both the cardiologist have done a great job of looking at a couple parameters. You've done a spectacular job of looking at all these other inflammatory components that come into play for cardiovascular health.

But we got to look at what's the brain's role in regulating the heart also. And how does the heart, in turn play back into the brain? You do heart transplants.

You're going to have changes in blood flow to the brain. You have arrhythmias. You're going to have changes in blood flow to the brain. You have a, a myocardial event.

You're having a change in blood flow to not only the heart but to the brain. And so we see effects of that. And so with most of our people, the main thing that I'm looking at when we deal with a cardiac event is looking very specifically at the cardio regulatory centers, and we want to look at orthostatic changes.

We want to look at their heart rate under stress. We want to look at how their stimulus system is playing into their heart rate. We see people that have nystagmus or have imbalances and their vestibular system start to develop tachycardia or some Brady cardiac events, you know, depending on what's taking place.

So it's really a, a whole world of, you know, information that needs to be looked at very closely. That hasn't been today, unfortunately. We have some very well trained people to, ensure that that is just another component that, people are looking at.

All right. Final question. And you kind of just alluded to it right there that when you have people with irregular heart rhythms, most commonly atrial fibrillation, a lot of people listening to this likely have atria fibrillation or maybe their spouse does someone who they're looking after does.

And that irregularity, that beat to beat variation leads to these circulatory, irregularities as well as far as, cerebral circulation is concerned. So let's just say there is nothing that can be done maybe for somebody with permanent atrial fibrillation, what techniques do you think can be used, to preserve brain function?

Because not only AFib obviously can lead to, ischemic stroke, or embolic stroke because of the hyper coagulate ability, that occurs in the left atrium, but also that, that, you know, vascular those vascular changes in that B2B variation.

What do you guys do with that? Well, most importantly, once again, it's the cardiac regulatory control, right? If I mean, many people have these arrhythmias not only due to an internal mechanism in the heart, as you know, but as these, you know, secondary external mechanisms.

So we work with many of the top cardiologists around that deal with, you know, you know, electrophysiological events in the heart.

Heart Attack Recovery and Brain-Heart Connections

And they're going to do their work internally, but they're not doing anything on the circuitry outside the heart. And so this is once again, just having assessments to determine exactly what is their regulatory control.

Is it appropriate or is it not. Because quite often it's not. Everybody thinks it is until they actually check it. When you check, it's nice and objective.

There's not something that we need to convince anybody about. And then once we identify those, those poor regulatory pathways, we can target them very specifically.

We use electric stimulation, we use eye exercises. There's a host of different vestibular, inputs that we can use to increase stimulation of those pathways.

There's stuff people can do at home. Most or most of those things we're seeing in the office, because we could fix many of these distorted nahmias and these arrhythmias.

If it's from, you know, circuit circuitry that's not firing correctly fairly quickly if we target those areas. So not to be elusive in that regard, but each person's an individual.

And as you know, no cardiologist is just going to say, oh, you have an arrhythmia and, and prescribe just a beta blocker without taking a better look at the heart to determine if there is something there that needs some, some further work.

And the brain works exactly the same. The brain has a complex network of pathways from all different aspects of the brain that fire into the brainstem, that can, in turn, regulate the heart, regulate all the autonomic system.

And so it's a matter of getting a better understanding, determining that exercise is key. As you know, exercise for everybody is key for any of these disorders.

It's a matter of doing it safely. And if somebody had a cardiac event, they need to be looked at to make sure they're getting appropriate blood delivery and control before they start pushing too hard.

But we can certainly help them be very instrumental in that. All right. So Doctor Sergio, now where can people find you and tell us more about your book.

And again where can people find you if they want to come see you in person online? And tell us about the book. Yeah, I'm in San Francisco. We're right in the heart of the beast here in San Francisco.

And, as a Leno clinic is the name of the clinic. Our website is as Cellino A-Z online. No, dot com. We have a

landing page for the book for those that are interested.

It's brain vitals, dot com brain vitals with the Askham. And we'll be able to get you a copy, fairly quickly here.

Atrial Fibrillation and Preserving Brain Function

And so the book is really just looking at a host of different things in the world of brain vitals that people can assess on themselves, that we can assess, that will give them a better understanding of where they're at, regardless of their age.

From a third of our practice, our children with autism and, learning disability and neuro developmental delays that we could assess and do some very meaningful things.

Another third are, you know, athletes, professional athletes, healthy people, executives. I want to maximize their brain function. Another third here, you know, the neurodegenerative disorders and whatnot.

So the book is going to talk about things throughout all those different stages of life that can be very meaningful, to get assessed and to measure and track.

And with some things that you can do for yourself to really help yourself. So that'll be brain vitals. Dot com. Super excited when that, book is available.

Can't wait. All right. Well, listen, thank you so much, Doctor Sergio as Cellino for a wonderful episode inside of the Heart Attack and Stroke Prevention and Recovery Summit.

We'll see you all next time for another spectacular guest. Be well. Thank you.