Introduction to Dr. Haase and the Summit

Welcome to the Parkinson's Solutions Summit. I'm your host, Dr. Ken. Sharlin and I am very excited today to introduce Dr. David Haase Dr. Haase and I have known each other for quite a few years.

He was my instructor at the Institute for Functional Medicine. So I learned a tremendous amount from him about energy and the mitochondria and really how to provide some very sophisticated testing that's done in functional medicine.

Today, we're going to talk about a subject that I know is near and dear to Dr. Haase, and I think you're going to be absolutely thrilled. This is so unique.

It's called therapeutic plasma exchange. And we're going to really get into the nitty gritty of what exactly that is. But let's just say that while Parkinson's affects people of all ages, we still can say that the major risk factor for developing Parkinson's disease is getting older.

And that's something that we're all doing. And as we think about what we can do to slow that process or even potentially reverse that process through things like food and exercise and getting restorative sleep and having important emotional and spiritual connections to our friends and our family, There is additional technology at our fingertips.

So, Dr. Haase, without further do, welcome to the Parkinson's Solutions Summit. I am so glad you're here. And tell us a little bit about your background.

Thank you very much for having me. And and to I have learned very much from you over the years as well. And it's it's a great delight to get to be here and spend this time together.

Yeah. So I operate the Maxwell Clinic in Nashville, Tennessee. We're actually celebrating our 20th year this year, providing functional integrative systems medicine.

And it's just pretty big deal. We have nine clinicians and a large center here that does some very innovative and deep work for people. Oftentimes, people are really have big problems or big goals.

Find their way here. I have I grew up as a dairy farm boy in South Dakota, and it was that background. When I encountered the field of medicine, I realized that, wait a second, medicine was kind of the medicine I was being taught at Vanderbilt.

The Mayo Clinic was really a medicine of soldiers.

Functional Medicine and Brain Health Background

It was a medicine of let's fight disease. So let's, you know, wage a war on something. And, you know, we use drugs that are anti this inhibitor or that blocker there.

It's a very aggressive kind of way. And my farmer tendencies just recognized that, you know, wait a second. I came I came to medical school to learn how to create health, how to grow health, kind of like a farmer would tend the land and I guess it paid put patients do get better on their own if you don't mess them up right as the most important things as not engaged in something that can harm you.

But that just took me down a path of of health coaching and, you know, early days and functional medicine, integrative medicine, holistic medicine. And and then really focusing last 15 years on brain health because it's

where it's at.

You know, you don't have a healthy brain, you don't have quality of life. And brain is so important and you actually doing the lifestyle behaviors and making the changes that are necessary to change the trajectory of your life.

So I got very interested in quantitate of EEG and neurofeedback, which we do a lot of here at the clinic as well. And and then that led into my patients getting older and more and more patients with neurodegenerative diseases.

And so having to wrestle with that. We're actually one of the study sites for the Evan Thea trial that is starting up, which is the landmark clinical trial, randomized controlled trial on the precision medicine approach to reverse cognitive decline.

And so we have a I have a great emphasis on I really want to help us understand these complex cognitive diseases as things that are treatable by understanding what are the underpinning problems that are causing them to occur and to progress.

So and then that led me to plasma exchange, interestingly enough, because I was trying to figure out exactly what I could do to impact aging. But that's I think we'll get to that later.

So let's start out with that big question, which is can you explain a little bit about what is aging? How do we understand aging? Because I think that's as I you know, from what I get, that's really at the center of what therapeutic plasma changes all about.

Yeah, you have it. You have it correct. You have to correct. A lot of people don't get that that it is fundamentally about how do we reverse the process we call aging.

And, you know, when could people go like, well, you know, you can't stop aging? Well, just think of all your 60 year olds that, you know, some six year olds look like they're 80.

Some look like they're 40. Right. And that right there you so there's a huge variation in how we age. And I define aging as more degeneration than regeneration in any given time period.

Right. And so what you can do to affect aging is have more repair or less breakdown. And and since Parkinson's and Alzheimer's disease and you know, gosh, every major chronic degenerative disease has as its major risk factor aging, it makes a lot of sense to try to understand and it as a process and how can we start to address it from a holistic basis, not treating treating just one organ, but what are the things that are going to make a difference?

And I had a patient of mine, a deep dive patient with a sea level employee at a big Silicon Valley company that has invented things all of us know. And so I asked her, what do you what do you want to accomplish by working together?

And he said, Well, I want to live forever. And I was like, I was really taken aback. I was like, Oh, my God, somebody actually said it. And because I kind of who the who this person was, I was going like, you know, maybe I should just suspend my disbelief for a little bit and dig in to the longevity science.

And that's when I came upon a pair of biases. And pair of biases is some really interesting science. It's very solid that in many institutions, basically showing that if you take an old mouse and a young mouse that are clones of each other, so them together by on their side, put them back in the cage and let them run around, connected.

Amazing things start to happen. After about seven days, that old mouse starts to turn young. Their liver starts to regenerate.

Aging, Longevity, and Parabiosis Science

You know, the fatty liver reverses, osteoporosis starts to reverse, the skin becomes healthier, the sense of smell

returns, the muscles ability to repair after injury, which reverses the T cell and B cell.

The immune cells all start to function as if that mouse is young and you get new neurogenesis. And then it's just a ridiculous list, right? It's literally all the year.

That means you're reversing aging by being exposed by an old cells, being exposed to a young environment. And and so then then if you let those mice continue to run around for a while, separate them out after about a month or two, separate them out, the young mouse lives to its normal lifespan and the older mouse has lived closer to the lifespan of the young mouse.

So you actually get eight age extension and it's this is like a mind blower. And so and there's in the realm of longevity, science, this is something that is you we can mimic that by this process.

We believe we can mimic it by this process of therapy of plasma exchange. And because we're certainly not going to I don't know if anybody has a young clone that we can sell on or anything like that, that's pretty much out of the question.

So that's science fiction, right? Was that Robin Cook almost I mean, the coma where they have the bodies and then they harvest Oregon's from these people are put into sort of therapeutic, you know, animated suspend suspension or whatever.

I mean, that's crazy is a crazy thought. But so much of science fiction sort of predicts the actual future. And here we are with Chat, CPT and all these other things and talking to our computers, getting more intellectual answers than what we would get from a list of, you know, responses from a Google search box.

So it is happening. Hopefully it's not happening because we're creating, you know, clones of ourselves and harvesting their organs. But no, no, no. We do things that are much more on the ethical and acceptable line, like therapeutic plasma exchange.

Yeah. Yeah. It's absolutely nothing like that yet. Therapeutic plasma exchange is a very conventional therapy, actually. It's been around for a very long time.

It is the standard of care in a hospital and somebody has a very severe and progressive autoimmune disease. You need to stop myasthenia gravis or neuro myelitis optica or a host of other neurologic and kidney and bloodborne problems with what plasma exchange is simply is removing the liquid part of the blood that contains antibody is and albumin and and potentially a lot of other toxins and things like that and replacing that fluid with a replace amount fluid of some type usually that replacement fluid is pharmaceutical albumin which is is a standard product that we get that's been cleaned.

It is the major protein in the liquid part of the blood and or, you know, plasma itself can be a replacement fluid. And it comes from donors who donated blood in seen a plasma donation center and then they separate out, they take the cells away.

Is that correct? And then you can get a therapeutic albumin product. We all have albumin in our blood. It's it's a carrier protein. Right? Right. Yeah.

So is it like the plasma donation centers? You know, what those companies are most interested in the plasma for is are the antibodies that are in the plasma that's used in many other conditions.

And and it happens to be much, much, much more expensive. So whose albumin is the the other parts, the protein that is in the blood and it's cleaned extensively and kind of regenerated in the process of being prepared for distribution.

So yeah, so think of it like a blood oil change, right? You're getting an oil change for your blood stream. So when somebody comes in, has a plasma exchange done, which I may be jumping ahead of us ourselves a little bit here,

but you can imagine it's like that mouse in some ways.

But we put an I. V. in each arm. The blood comes out of one side, it goes into a centrifuge. It's continuously running those the the red cells, all the cells of the blood are separated from the liquid part of the blood, the plasma.

And then the red blood cells are kept and mixed with this clean replacement fluid. And then all of that goes right back into the body. And when we run that, it takes about two and a half hours and ends up being about three and a half liters of plasma that comes out.

That's what we call a total plasma exchange. And and that is mimicking what happens with that young mouse being attached to the old mouse. And it turns out that the basic science of this is very good and that when you do a plasma exchange, it changes the behavior of stem cells body wide.

So here what's very interesting is that stem cells, which are remember I said aging is more regeneration than degeneration. Well, your stem cells that live in your tissue, your stem cells, when you cut your hand, open it just knits itself back together because the stem cells in that area, the progenitor cells activate and they do the job of making new tissue.

Well, that's those stem cells that are already in your body. Your stem cells are the most important cells to keep healthy, and they are dependent upon your envi immense.

This is a breakthrough understanding that old stem cells will behave young if they have a clean environment or a young environment. So young and clean are pretty synonymous.

It turns out the So when you do a plasma exchange, it's not only removing toxins and misfolded proteins and and degenerative substances and autoantibodies, it's removing all those things out of the body, but it's creating a clean environment.

And that clean environment changes the behavior of stem cells body wide, which fact improvements in cellular healing. So it's that's that is what is really quite remarkable here.

And if you can heal the blood vessels. So I think every neurologic disease has a vascular component to it I believe, you know, and people with great blood vessel and blood vessel flow, they're they're going to be more resistant against progression or they can even have better improvements if their blood vessels are healthy.

And we know that plasma exchange does a big number and has a lot of benefit in improving vascular health, which then I think trickles out into the rest of the system as well.

Yeah, we're actually getting ready to start a clinical trial with a compound that's already approved in South Korea.

What Therapeutic Plasma Exchange Is

It's not approved in the United States yet, which is the reason for this phase. It's a phase three trial. So if it is successful, the company will apply for FDA approval and then it will be a commercially available product.

Well, folks may just chuckle a little bit, and I know you'll be quite familiar with this when I tell you, but the mechanism is what's called a phosphodiesterase inhibitor, which we know under the commercial name of Viagra.

Now, this is not Viagra that we're testing. And I'm not encouraging folks to go talk to their doctors about Viagra unless they need it for what it is appropriate for.

And that's obviously a personal decision. But what is what do drugs like Viagra actually do? Well, they dilate blood vessels. Right. And in this case, if we have a compound that can cross the blood brain barrier and can improve blood flow all the way down to the microcirculation, then it can essentially provide an exchange, if you will, to borrow from your technology of materials, whatever they are.

In other words, bring in the good stuff and take out the bad stuff. Then we may have something that we can potentially apply to in this case, treat Alzheimer's disease.

And in phase two trials. Indeed, it was found to not only lower levels of so-called insoluble amyloid protein that starts at least play a downstream role in the genesis of Alzheimer's disease.

But folks actually had improvement in their cognitive function, whereas the monoclonal antibodies that we going to see over the next 6 to 12 months become commercially available, they only slow the progression.

They don't clearly improve cognitive function. So we're pretty excited about that. But I was just sharing that because again, it's about blood flow, it's about metabolism, right?

It's about signaling molecules. Yeah, Yeah, absolutely. And I love what you said. You know, it is always about, you know, I always say there's only four things we ever really do to create health.

We either remove something bad, we replenish something good, we retrain something that's dysfunctional, or we repair something that's been injured. And and that is really the fundamentals and and good blood vessel flow is at the center of all of those being able to occur.

So that's now. So let's talk about the therapeutic plasmids change and how it could treat Parkinson's disease. You know, you know what's so very interesting and when I first started doing plasma exchange, I had a patient of mine who had been seen for many, many years and his Parkinson's had been really stable.

You know, he came to us. He had a large degree of improvement. And then he had been stable and and I and he had been a long you know, I love my patients.

You know, I love the practice of medicine. And and he you know, so I involved him in what we were doing and why we were doing it. I was really getting ready to really address Alzheimer's as my major focus because there's a while.

But that time Ambar had not yet been published. But there's really good data around plasma exchange and the and the treatment of Alzheimer's disease. And so I discussed that.

He said, Listen, I want to do that plasma exchange. I want to get my stem cells healthy, I want to do this. And oh great, well, that's reasonable. But I said, okay, now this is we're trying to help cellular health.

We're trying to improve your cellular health. But let's you know, I don't want you to have any big expectations of what's going to occur. And and, you know, Parkinson's is a challenging condition to study.

You know, that better than anybody, because, you know, it has a large placebo effect with regard to new therapy is kind of our you key to seem to have a big effect.

Well, what was so I said, you know, we'll see what happens. And we did our first plasma exchange and and he he calls back the next day and he said, wow, I had the best night sleep I've had in a long time.

And then his wife calls back the next week and said, you know, he he went out and he started gardening again. He had garden for three years. He went out and he started playing the piano that week again.

Hadn't been playing the piano for some time. He went back to the board room, got re involved in his company, and they took his wife out on a date and they hadn't done that for many years.

And, and, and he he said, I just feel a lot better. And what was very interesting about him, it just as a side note is that his blood was quite thick.

Right. He I think he had more of a hyper viscosity issue as part of what was going on with him. And so I actually got

into I have a a test, a device in our clinic to measure capillary function and glycol, calyx thickness and things like that to better understand that.

So we're we're studying that. But what was very interesting, I did not expect to see acute improvements and those improvements stayed you know, this was somebody who didn't have you know, I tried a lot of things and he would he would never get very excited about anything.

And he didn't have much change. We were very happy with how stable initial improvement and stability. And and so he was like, wow, I had this big functional improvement.

And then and he did he maintained that until COVID hit and he wasn't able to do exchanges for a period of time. And then after about six months, started to decline again and it was very interesting to to go to see this in a person I knew so well and had had tracked for so long this real improvement in function as a result of plasma exchange.

And I continue to, you know, you know, this is not this is not something with some fancy proprietary drug. So there's not a pharmaceutical company that's going to fund the research here.

Plasma Exchange for Parkinson's and Clinical Experience

So we continue we like I said, we have four IRB approved trials going on right now and different things in the clinic. And, you know, we're looking for grants, but in the meantime, we're continuing to treat patients with Parkinson's.

And because we know that plasma exchange may have benefit, there, we really believe it does. But we know that what plasma exchange is, is like the best proof, I think we have of how important the functional integrative medicine approach is.

Because what happens when people have a plasma exchange, we basically give them clean blood. And and so you you give a clean environment for the stem cells and therefore the body starts to create health.

Well, that's the same thing that we do in our in the everyday work of cleaning up the diet. You know, making sure you bring in good things, don't bring in bad things, have community exercise, sleep well, you know, the fundamentals that need to take place regardless. But we're really we're very excited about the potential here for making a difference in both quality of life and slowing progression further.

And I think we just need to let folks know that what we're talking about, this therapeutic plasma exchange is a treatment that, as Dr. Hassi has said, has been around for a very long time.

I've used it many times myself just as a general neurologist in treating conditions like Guillain-Barre syndrome, you know, in the emergency room and then in the neuro ICU.

And people come in during the winter and they've had the flu and then they suddenly realize that they're getting very weak very quickly. So it is a definitely it is definitely a standard of care in a number of situations.

He mentioned myasthenia gravis, another condition called CDP. What we're talking about is a little more investigational. We can certainly utilize approved treatments for things that are not necessarily the mainstream use of them.

Physicians write prescriptions all the time for off label use of the drug, but what Dr. Hassi has done is gone the extra mile and worked through what's called an institutional review board or IRP, because there is such a huge commitment in our country to practice ethical medicine.

And we have to follow something called good clinical practice or GCP. I'm sure he's been through all that important training himself because unfortunately there is a history of less than ethical training in our distant, you know, history.

But just so folks know that this is not something you're probably going to go to your regular neurologist for. This is still investigational, but it is very promising and is extremely science based as he's shared with us.

And there is quite a bit of literature on both the young plasma infusions as well as therapeutic plasma exchange. You know, I think it would be useful to add into here that the the data in Alzheimer's disease is really quite remarkable.

You know, an individual's that had this was called the Amber trial, and that was a multinational, multicenter, placebo controlled randomized study looking at can what's the effect of doing plasma exchange on individuals with Alzheimer's disease?

And since there's so much crossover over among the neurodegenerative conditions right now, so much crossover with regard to that, there is very few pure cases that exist out there.

And what was shown is that over 14 months, individuals with moderate Alzheimer's disease had a 60% decrease in the rate of progression of their condition, 60%.

That's a very meaningful, very meaningful change. But it was very interesting in why. Is the benefit twice the benefit of the currently poised to be approved drugs.

Correct. And with with almost with with very little with with drastically less risk for side effects. But what was really interesting is that in the subgroup with mild Alzheimer's disease and there wasn't you know, again, the study power still needed to be higher in these individuals.

But in mild Alzheimer's disease, they had improvement over those 14 months compared to their baseline and certainly improvement compared to placebo. So it's a the earlier we can address again, this going back to a principle, the earlier that we can address cognitive disease, earlier we can address neurodegenerative disease, the more likelihood we can have improvement.

So denial, denial that there's a problem is one of the worst co-morbidities that exist. Right? It's one of the things that makes a disease worse is denying that there's a problem.

So the Amber trial that, you know, had a barely static, you know, in the the bean counters and the statistical significance, it's missed one factor. It was needed to have 0.05 and it was 0.06.

Otherwise, I think everybody would have heard of this everywhere. But every primary factor, every primary endpoint, every secondary endpoint was met except one by a hair breath.

And I don't think we're going to get to see this trial done again because it was so expensive. It took so long. And there's really not a a special interest group that's going to drive this forward.

I actually dove into doing plasma exchange, realizing this data, feeling like I don't believe this is investigational any longer. Can I mean, I think from an Alzheimer's standpoint, this is good clinical practice.

And one of my goals is that we relook at Amber. I think it's a terrible thing that we didn't give that study that the the attention it deserved, because in plasma exchanges, very when done in the right hands and and appropriate safeguards are made is incredibly safe therapy and and it's you know, it really feels like a moral obligation to make sure this is available.

So so we have heard from Dr. Hassi the importance of early identification of the problem and whether that is Alzheimer's disease. And to borrow from Dale Bredesen, getting your card and asked to be or that's Parkinson's disease, where if you're seeing some change in your posture and you're seeing some change in your mobility, if you have a change in your sleep quality where maybe you're acting out your dreams or suffering from gastro intestinal symptoms, chronic constipation being a very common premonitory symptom of Parkinson's, if you're seeing a tremor at rest, it is absolutely time to get to the doctor, because at that point it said that you may have

already lost 50 and 80% of your dopamine producing cells.

But folks, it is possible to make this diagnosis. There are tests that can be done. A lot of people come to me saying the doctor just looked at me and said, you have Parkinson's.

And, you know, I just didn't really get much of an explanation as to why aren't you going to do any tests. I saw one of those patients today who said absolutely we are and we do scan, punch, biopsy.

If you guys are going to get to hear from Dr. Todd Levine from CND LifeSciences, talking about that new technology. But at any rate, we get the diagnosis and then the next step is I'm going to come see Dr. Haase.

So what does it look like if I come to your clinic? Can you take me through that experience of, you know, evaluation? And then you say, I think the treatment for you is therapeutic plasma exchange and what can I expect?

Evidence from Alzheimer's Research and Early Intervention

Sure, sure. I mean, we typically actually start out with individuals with doing a consult via Zoom to to as an educational consult with regard to is this a good fit?

Because a lot of our patients come from a great distance and you know, and we we don't want to inconvenience anybody or have them have additional expense, you know, if it would not be a good fit.

So we actually start that direction. But when you and when you walk into our clinic, the one of the first things you'll see is a massive wallpaper of the entire metabolic map of the human body.

So it can you'd love it. You come in. It's a true nerds, it's a true nerds hospitality area. I have to tell you this. And then and then we have photos of the Kinect dome with various brains on the wall as well.

So it's true when people when they walk in to get this feeling that the metabolic map is all that all the chemicals that are in the body and it's wonderful it at once puts one in a state of awe of, wow, how fearfully and wonderfully and complexly were made and, you know, and how many things it puts on but a lot of all about how many things how many things must be going right, how many backup systems we have, how complex biology is.

You know, it's just it's just a wonderful thing. But sorry, when you ask that question, I was just imagining somebody walking into our lobby because they always stand and look at the wall and they're like, What is this? Oh, so but you know it when somebody wants to was trying to think, okay, I'm having memory issues or I had some identified disease and I want to investigate plasma exchange.

We're really thinking about what is their likelihood of benefit and and because the evaluation is you to understand a how old are you individuals who are very early in their aging process.

They say 40 to 50 are probably not going to get as much benefit, we believe. So let me let me take you back here. Can because some of the research that we're doing, I'm I'm actually investigating the effect of plasma exchange on longevity itself.

I'm working with a silicon based biotech company. And we're doing we have just completed our data acquisition and we ran a study of individuals that got different amount of plasma exchange at different frequencies.

And and we did more incredible amount of studies on these people looking at all them, their metabolome, their proteome, their transcriptome, you know, their methylation, all of these, you know, millions and millions of markers.

And we're tracking exactly what happens over the course of time in these individuals with regard to their biology. And we'll be can't say a lot about the information coming out of that thus far but in general, we definitely know that the sicker an individual is with other conditions, how much the individual has more vascular disease if they have more autoimmune disease, they're more likely to benefit from plasma exchange, we believe, because we're and

that is if they are having more degeneration than regeneration.

I actually think one of the useful tests to do to say how much benefit may there be is that the true diagnostics has a test that measures a biologic cycle age.

And and so it's called the true age test. And they take a look at about 900,000 different pieces of DNA and is there a single carbon added on a methyl group added on to those areas and through a very large database can assess like, you know, how how biologically old is this individual?

We think people that are have more of an accelerated biological age have more likelihood of benefit from plasma exchange. Because when we do this test on individuals, we can see as much of a six year drop in their biologic age from one plasma exchange now, and that we're and so one of my really deep fascinations with this whole field is why does this work?

And so that's the reason for this very large study. What are the markers that are moving when we're doing plasma exchange? Who could both benefit? But right now, I'll tell you, if you have an excess of birth days, you're you have the potential for benefit.

So we have if we start looking at aging as a disease, right.

Clinic Visit, Patient Selection, and How to Connect

If we're really taking this seriously and we're thinking, okay, I get it now, aging is probably the most important disease for us to look at because all these other diseases are co-morbid to it, Then if we have an intervention that is effective to change the course of aging itself, then those would be indications, the challenge.

So anyway, that's that's a that's a basic thought pattern there. Well, you've got me pretty excited about it and I know the other listeners are very excited as well, which brings us toward the end of our interview and we want to know how can we connect with you?

How do we get access to this wonderful therapy and all the services that your clinic has to offer? Oh, well, just go to maxwellclinic.com. That's just maxwellclinic.com and there's all kinds of information on there, things you can learn more about what we do and if you're interested in plasma exchange and if that's something that is important to you, we can set up a consult and speak with one of our clinicians and go from there.

But it's I said this in our our time before we were on the film. I don't understand how doctors can get proud or because there's always something to humble us in medicine.

And sometimes it's it's the and it is such a privilege to get to walk with people through their challenges and to listen and get to learn. It is it's really an amazing thing.

And one of the things we try to do well here at an actual clinic is to listen because know, we're not just treating diseases where we're walking with humans on their on their life journey, right?

Nobody gets out alive, right? Nobody gets out alive. But we do want to have the very best, the very best days that we possibly can while we're here. So while I won't tell that Silicon Valley executive who came to see you and said, I want to live forever, that we haven't quite solved that one.

Yeah. Oh, yeah. No, we're no close to no, no, we're not there. But it's a much. That can be done, much that can be done right now. You know, And wow, so many things are on the horizon here that we're going to better understand aging and we're going to start to recognize it as a mechanism.

It as a mechanism. I think that's really a useful thing as a like an infection. We should think of aging almost like carrying an infectious disease or a toxin.

All right. How can we have less of a burden of the mechanism of aging? So and what we do as functional medicine doctors, sometimes I tell my patients, you know, the operative word here is function.

It's not that we're necessarily necessarily going to live forever, but we want to make every day, every week, every month, every year the best that it can possibly be.

And too often we go to the regular doctor. You know, they're really not changing the trajectory, right? Not not very much at all. They give us a pill.

And yet, how many times do you show up in emergency room with a stroke already on aspirin? Are you on blood pressure medicine already on your diabetes pill and things like that.

So if you really want to see a change, if you really want to be the best version of yourself, then maybe a visit to the MaxWell Clinic to have treatment with Dr. Haase and his team, potentially including therapeutic plasma exchange, would be a great direction to go.

Thanks Dr. Sharlin, Thanks for having me on. And pleasure to visit with you. It's been all too long. So has been again. Bye bye.