The Root Cause: How Cell Function Impacts Brain Function (& How To Fortify Your Cells)? Transcript

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Introduction and Speaker Background

Welcome to the reverse Alzheimer's Summit. I'm your host, doctor, Heather Sanderson. I'm so excited. Thrilled to have Doctor David Hassey with us here today in 20 and 2003.

Doctor Hussey founded the Maxwell Clinic in Nashville, Tennessee, as a living laboratory to explore the question, what creates health? He and his remarkable team are dedicated to innovation in the fields of nutrition, genomics, systems biology, apheresis and brain assessment.

So that each patient can lead happier, healthier lives. Doctor Hussey is a Vanderbilt Mayo Clinic double board certified and very curious physician. Over the past ten years, Doctor Hussey has been pioneering a new approach to slow, halt and even reverse cognitive decline.

Exactly why I'm so excited to talk to him today. By combining an increasingly thorough system of medical assessment and plans with regenerative plasma exchange to induce multi tissue regeneration, he speaks and consults internationally on brain health promotion, functional medicine and integrative medicine, neurofeedback and regenerative plasma exchange.

He is the author of Curiosity Heals the Human Solving the Unsolvable with Better Questions and Advanced Technologies. Doctor Halsey, thank you so much for being here today.

Oh, Doctor Sandison, thank you very much for having me. So you and I share a passion for solving the unsolvable, because some of the hardest patients and dementia is certainly among them.

So many of us have been told that there's nothing you can do if your brain starts to falter, if you start to suffer with cognitive decline. What got you into treating dementia?

Well, I didn't want to. I really didn't want to. Because the traditional view of dementia, there's nothing you can do. I mean, they're the most depressing visits you can have as a primary care doctor because, you know, that person comes in and you have, like, these two medicines that maybe you can give that don't do a lot.

And, I really didn't want to do it, but, I really recognized that people could get better. I mean, I've been working with individuals with cognitive decline for over 15 years, and this has been, you know, taking a functional systems approach to this.

And the bottom line is people can get better. Now the challenge is neurodegeneration. As soon as we start to recognize that it's happening, you know, once we have symptoms, we got to recognize symptoms are actually a late stage manifestation.

And that's what people don't really get. They think, oh, like when I'm start to shake with Parkinson's. Oh that's when it started. No, it's that was like 20, 30 years ago.

And with Alzheimer's, if it's, you know, some short term memory loss. Oh, that's when it started. No, it happened a long time before that. And so I think with the recognition that that was really what was going on.

I, I, I, I said that the, a fundamental belief that kind of I came to while I was at Mayo is that the body heals. And that my job as a physician wasn't just to diagnose and treat disease, but rather to investigate what could create health.

Because the body heals and it happens every day.

Why Treat Dementia and Preserve Eldership

We cut our arm. It just knits itself back together without our understanding of exactly how it happens. But it just does. But we know if we give the body more of what it needs to do, its miraculous healing job, and we remove the barriers that are impairing that healing capacity, it just does its thing.

And yes, we're always fighting time. Friction, erosion. You know, those things keep going on. And the more birthdays we accumulate. The harder it is, there's no doubt about that.

But, I really, I think that we should be shooting for higher quality life. And I and I'll say one more thing. The thing that really caused me to dig in and put my effort and energy and focus to this domain is my love for wisdom.

I think wisdom is the most precious resource that exists in the world. And wisdom live. Wisdom, exists in elders, and we need to elevate eldership again to the rightful place that it is, which is really the the top of society.

And and when we start seeing our older humans start to lose their capacities that make them an elder, that is a terrible tragedy because we need the context and the wisdom and the perspective of those people who have had a huge amount of lived experience.

And and so for me, the fight against neurodegeneration is really the fight for elders. And so to, to elevate, the meaningfulness of those individuals of advanced years.

I have a similar perspective. It's like we're preserving that value. And right now it's a squandered resource, right? We we allow our elders at the height of their wisdom and experience to just go into these homes where they're put in front of TVs, they eat cake and ice cream and they're, they just basically fall out of society and they have so much value to give if we can, you and I, together, and all of the other doctors doing the work similar to us, and then the hard work of the caregivers at home to make sure they're getting the right lifestyle, the right diet, all of those things so, so essential.

Then we can we can preserve, we can protect, and then we can allow those, those elders to to give their wisdom to the generations that are coming after them.

So important. So tell us a little bit about how, you know, this can be a very complex, we're talking about decades in the making, disease and it's overwhelming.

So for a doctor who has 15 minutes to come in and out of a room and a couple of medications at their disposal, it's really challenging. But you've built some tools that can help guide a systems based approach so that more doctors can get this, out to their patients.

So it's great that. Yeah, absolutely. Yeah. I've been working for many years on something that could be economical, economically accessible, tool for what is a comprehensive assessment of cognitive decline?

You know, Medicare is really supporting this. You know, the federal government has stepped up and they said, yes, the comprehensive assessment of cognitive decline is something that is so important.

We're going to give it its own code, its own payment strategy, because, the data is clear. Lifestyle interventions absolutely do affect cognitive decline.

There's no question about this any longer. But it is complex. How do you, how do you step back and recognize what are all the pieces that are out of place for that particular individual?

Because it just like everybody's brain is different, everybody's dementia is different. And and so just because, hey, we start with a unique brain and then our pattern of degeneration and the and the forces that caused that degeneration are unique.

So you have to throw the net broadly. So, there's many reasons why I create a platform, but we call it Maxwell Brain and Maxwell brain is, is, increasingly available in the United States to Medicare, providing physicians so a patient can come in, the doctor, if they have the right diagnoses and issues, can order a cognitive test for them so they can get a baseline assessment of their information.

And then they go to, a standard lab and have a series of blood tests done. They're typically covered by Medicare, almost always. Ideally we'd have them do some genetic testing that's probably not covered by Medicare.

But then what happens is through no cost to the doctor and no cost to the patient, the physician gets a report about what is all going on with that patient.

You know, what are the most important things that should not be missed and are causing a potential worsening of cognitive decline? And and so, now we have a plan of action.

There's a plan of action for the doctor. There's a plan of action for a health coach that can work with that individual recommendations are made about what medications to consider stopping or switching, what kind of medication should be started, what lifestyle issues should be happening, you know, changing your diet, changing, your your stress.

How do you engage brain exercise and and then recommendations on supplementation about and in a prioritized manner like these would be most important to start and and even recommendation on additional testing because, you know, what we do is really specialized.

It's really, you know, this this is the this is the very first layer of what you and I would do when working with somebody. So it is not the end all, be all examination.

But we I really recognize there's a need for a large group of people, a large group of doctors and patients to have access to customized personalization.

And, and that's what Maxwell Brain is really about. And so, it's still new, you know, we're we've only allowed a few physicians into it for, for some beta testing, but, hopefully it'll be released soon. And, and, this is just, been a passion project of mine.

Certainly not anything that will create revenue. But it's definitely something that is going to, I think, make a big difference in the world. And so that's, very exciting.

Where can someone go to find out more and if maybe their doctor or a doctor near them is on the list of Maxwell brain providers? Yeah. Just go to Maxwell brain.

Maxwell Brain and Comprehensive Cognitive Assessment

com, and, there you can, you know, put in your information and get more information as a patient or hopefully as a physician, and, and be directed to resources that can help move this forward.

Every little bit counts. You know, Heather, with some of the work you're doing in your center, that's really making lifestyle easy for people with cognitive decline.

That's a great model for what has to happen as a culture. So the more people we have making small shifts, the more resources are going to become available on the easier living a life that promotes a great brain is going to become so.

So the more we do this, the better that gets one of the call to action, steps that I hope that many of our listeners and, and some of the attendees will take is ask your doctor, even if you're in a spot where there isn't a doctor who's doing this kind of work, ask them, have you heard of Maxwell Brain?

Have you heard of these things? Have you heard of this testing? Have you heard of a comprehensive approach? And if someone is calling to reach out, you know, they find themselves in need of a senior living facility like Marama.

If there isn't a marama near you, or if there isn't a place doing an approach like this and more individualized lifestyle approach, then ask you do you serve organic food?

Can you help with these dietary interventions? How much movement is someone getting at your facility? Just ask because it starts the conversation and it tells the people on the other end of the phone that you're interested, that you value that, and that's what's going to move the needle.

That's what's going to make them start offering those services. Absolutely. And and they will because they'll know there's interest. And and you know, people, people that work in these facilities and are dedicated to that work, have good hearts.

They want to do good for people. And and they're always wanting to do something else that's actually going to be a benefit. So that you're absolutely right.

Ask, ask you know and do a little pushing. Right. That's okay. And there are many of these kind of platform. Doctor Isaacson from Cornell has done doing some wonderful work.

You know, he's been such a great leader in pushing forward the lifestyle medicine approach to, cognitive decline. You know, there's so much good data out there to show that these things work.

And it's important to start somewhere. So I would just encourage, you know, whatever resources someone has, please engage those. I'm. I'm in favor of all of them.

We see, of course, that the more of them that you can do, right? When you can do diet and lifestyle and exercise and supplements and you can you know, shifting get off the cholesterol medications potentially, if that's safe for you.

If, when you can do all of these things, you can incorporate the stress reduction techniques and meditation and brain games. The more you can do it, the more confidence I certainly have in the outcomes.

But even a little bit shifts the trajectory in the long term. So if you can do part of it, start today. You yeah. You know, absolutely. One of the most exciting things that I'm like, thrilled to talk to you about right now is plasma exchange.

So there's some people call it young blood therapy. I want you to talk about the the words we use and why that's important, what they mean, and then dive in.

Tell me everything that you know about my faith change. I got I have to talk really fast. So I did a Ted talk about this almost three years ago when we were already in, in this process for a couple of years.

So you can happen to look at that and kind of how our approach to dementia and plasma exchange and where that plays a part there. It's such an exciting story.

You remember what I said at the beginning? You know, had I had this revelation that the body creates health and that just changed my entire view of health care.

Right. You know, giving, giving a medication that block something to the body does, you know, medications usually have names like anti this or blocker that or inhibitor there.

I like helping the body do what it, what it wants to do to heal. And and I've never I will have to say this is a monumental shift. We are going to look back and see regenerative plasma exchange as, as one of the great therapies.

And is something like this is going to be at the foundation of all longevity medicine in the future. And you know me well enough, I don't make grand statements very often.

Do I know? And actually, I was it took me a back. I was like, wow. You did. Yeah. This. You believe this? I'm. I'm good. I'm I'm typically a radical moderate.

Right. I, usually find a problem with every one of my good ideas. Right. And, that's that's just kind of how I am. But I am so excited about this because it follows the precepts of what creates health. How do you create health?

You remove something bad and you add in something good, and you allow the body to do its job of regeneration. So what is plasma exchange? Plasma exchange is a process by which we literally clean the blood of its impurities of the damaged molecules of, of of of accumulated oxidative stress.

And as a result, we change the environment of the body. And as we change the environment to the body, the stem cells and body wide believe that they're in a younger body.

And if they believe it there than a younger body, they start acting younger. And when stem cells start acting younger, you have this remarkable regenerative spurt that happens not just in the brain, but in as a multi tissue regeneration.

And so the the science on this is really beautiful. It started out with an idea of called para bioscience. And para bioscience took two little mice that were clones of each other, an old mouse and young mouse.

And they surgically attached them side by side. I know it sounds kind of gross, but but after about a week of running around the cage attached by a little flap of skin on their side, an amazing thing happened at about a week after that, the old mouse starts.

It started to turn young. You know, it was found later that there was neuro regeneration, that there was, changes to fatty liver, that the hair started growing and better that the muscles would repair more easily, that the sense of smell of the mouse return and that T cell and B cell function are immune.

The immune system started to work better. Amazing. So that old mouse started to turn young by getting exposed. But they thought what was getting exposed to the young blood of the young mouse and the.

But the other thing that happened is the young mouse was stunted. It was poisoned by old. So the young mouse is actually impaired by its exposure to the plasma or the blood stream of the old mouse.

So a lot of studies went on and went after this. And, you know, either taking old mice and injecting them with the plasma from young mice. And hey, that helped.

And then you took old mice and you actually cleaned their blood and hay. That helped. And all of the helping was really around. How does one turn on the body?

Wide stem cells and and, so as, as the, you know, excellent science would do you say, well, how do we do this in humans? You know, none of us have a small clone that we're going to sew on us, right?

That's kind of kind of creepy and gross and everything. And it makes me cringe and even just joking about it. But the but instead, how do we clean this old blood out of this old plasma out of us?

And that's a very standard medical procedure. I'm I'm a qualified a forensic specialist. Now, a forensic is the medical specialty, of removing blood from the body, doing something with it, and then replacing it back in the body.

And we do that to treat all kinds of serious disease. But if we focus on the plasma, the liquid part of the blood, we call that plasma exchange. And, so, a very large study was done, was in, you know, started 4 or 5 years ago, now called the Ambar study.

Plasma Exchange and Regenerative Medicine

And the Ember study blew my mind away. We are we're already well down the path of doing this work. And we were going to use the plasma from young, healthy donors.

And so we did take out the old plasm from old individuals or deceased individuals and put in plasma from young, healthy donors. But the machete instead used just albumin, use just the major protein that comes from the, from plasma collection centers as its replacement fluid, as well as use some antibodies, that also come from plasma donation centers.

And what they did is they took a look at about 500 patients. And over the course of 14 months, they were able to show that in comparison to placebo, in this multinational, multicenter, double blind, randomized, case controlled trial or sham controlled trial that in the individuals with moderate Alzheimer's disease.

And, you know, when I say moderate Alzheimer's disease, those are individuals who often can't remember the names of their family any longer because nothing moderate about moderate, they're usually institutionalized.

At that point, those individuals had a 60% decrease in the rate of progression over 14 months, 60%. But it was even more remarkable is that in individuals with mild Alzheimer's disease, there was a very strong trend towards improvement over those 14 months.

Now, that was a remarkable study. And and it took like two years for the data once it came out to get published, because there's nothing proprietary about that.

Right? These are generic materials, but it's also, but I give such great credit to the, company Griffins that, funded that study and has done that study.

I think they have done the world at great, a great service, and I see many more great things coming from them. So anyway, but, we've been we've been working with plasma Exchange for the treatment of not just reversing cognitive decline, for not just Alzheimer's disease, but for other forms of cognitive decline.

And we're also have been doing a lot with longevity promotion, as you know. You know, I don't do, you know, many docs we do more testing on them. I so I you know, I love all the data from genomics to transcriptomics, metabolomics connect building to whatever I can measure to see.

Are we actually making a difference? I'm all geeked out about that. Every time we get on the phone. You have a new lab that you're our, you know, and then I've got to call you back and say, hey, wait, how do I interpret this?

What does it mean? Well, because I don't really trust my own, I think cognitive bias is a big problem with humans, and data is something that can help us argue against our bias.

It can help us make sure we're not smoking our own dope. Right. And, and and so that's one of the reasons I love data is what I'm doing really making a difference for people.

And and that has been astounding. So there the NMR trial was a great proof of concept study. It's the largest FISA study ever completed. Then when you look at total number of treatments, remarkable study.

And so at that point we now know something works. Now it's not a drug that would get the same kind of FDA approval. So, I mean, here's the problem. You don't have an FDA approval for this because there's nothing to be approved.

This is a standard medical procedure with standard products and things like that. And so and there's also no big drug company that's going to plunk down the money to do this work.

And so here we have an ethical problem because we have something that can be really beneficial. We have our,

our center has been, you know, was really one of the leaders in doing this and, and providing this service.

We have people flying to us from all across the United States, you know, to engage in this process. And, and I think that it holds huge promise. But again, there's a lot of barriers.

It's very expensive. It's time consuming. And, you know, it really requires a letter, a level of commitment. But when you realize that, you know, living in an a memory care center will cost you something like 80 to $120,000 a year.

All of a sudden, maintaining your memory and being able to enjoy the years you have left with an intact brain, the investment of that starts to make more sense.

So it's, it's a very exciting time, but I don't see it in isolation of all the other components that need to take place. One of the reasons we need to still take a systems approach to seeing humans, you know, what are what are all those things that are causing problems.

Let's remove those. What are all the things that are missing? Let's make sure those are added in. And now plasma exchange gets to help the bodies hit a reset button.

It changes the behavior of the immune system. It changes the behavior of stem cells. And, and it has great potential. And we're, we're studying this. We're tracking our results.

Were continually modifying our approach. And we call what we do regenerative plasma exchange, because we really believe that, done properly, and we have good evidence to show that there are and we're seeing regeneration happening.

I have a patient of mine that you had to leave his business and was, you know, had a really remarkable, he had built a company, with many employees and, and had kind of started from scratch, and he had many people depending upon him, and he was no longer able to keep it together.

He had the exodus business, and the place was kind of in chaos because he didn't he didn't really have the ability to deal with what was happening. Anyway, we started our process of, of, of a, a functional and systems approach, and he had some improvement.

He had stabilization enough where he could listen in on some of the meetings that were happening again. But then we started a regenerative plasma exchange process.

And and not only did his memory come back, he had, his skin looks frickin amazing. I mean, his he looks like he's, you know, unaged ten years and and and I just wish we had enough funding and such to measure all the things that would have that changed because we asked his wife.

Well, how is he doing? You know, and my usual standard is like, all right, since we're in a degenerative process, how is he now compared to X number of years ago?

Right. How far have we turn back the clock? Is he is he functioning like he was a year ago? Two years ago. Four years ago? You know, I think that's one of our most important measurements.

She said, well, first of all, he's happy. I've never known him happy. He has. He doesn't stress doesn't bother him anymore. And he is a he is just a can-do guy.

Number two, he's completely gone back to work. He's now running his whole company again, doing everything. And she's, frankly, he's as good as I've known him in the 12 years we've been together. Wow.

And so what the heck? What the heck? Everyone needs them. What the heck? But. But I think it's, And the hard part is, these are individual results. You know? Why?

Why did he why was he such a great responder, you know, and when in others where we're able to help prevent progression, I believe. But you know how and so that is where all this data comes in.

How do we figure out what works for whom when that's the super important. But the time to start all of this is now neurodegeneration. If you know it's going on, you know, the worst comorbidity for neurodegeneration is denial.

Right. People say oh I'm just getting a little older. Oh it's just a little bit where, you know, I'm just not able to think quite as much as good as I should.

It's really not a problem. Oh it's not a big deal. Those are those are the worst things that can happen to people. And, I have a big I have a question that I haven't asked a doctor about you yet, but I ask people, some who are very, quite progressed in complete denial.

And then I see others who are, you know, early in their disease process earlier, I guess, and they really understand that their memory is going. Others quite progressed.

They get that their memory is going, the difference there. I don't think that the ones in denial are really in denial. I think it's a different part of their brain that's being affected.

Do you is that possible? So it's a great question. And I think the answer is going to be an all of the above answer. So yes, I think, you know, there are neurodegenerative processes that decrease the amount of insight and judgment people have.

But I'll tell you, you know, a woman near and dear in my life, I would love to be treating her. And there's no way in earth it's ever going to happen because, she is in complete denial that there is ever a problem.

You could. You are not allowed to talk about memory loss because her mom had died from Alzheimer's disease, and her grandmother had died from all that.

And the last thing, she was not going to have it. So you are not allowed to talk about it. So in her case, it was very much, already a cognitive decision that if I have memory loss, there's I cannot accept having memory loss because it would be the worst thing possible to occur.

And so that was a psychological reason, not, not a neurocognitive reason. Then I also think just in general, as people age, we, we lose neurons, and the neurons that we keep are the ones we exercise the most.

So an individual, as they get older, gets more and more biased. I mean, they become a more extreme version of whoever they used to be. We see this all the time, right?

That nice lady becomes just to read is, you know, sweet as candy, right? And, you know, that kind of crotchety dude becomes that horrible, you know, horrible, dirty old man. Right.

And and we get that happens. It just happens. And so I think it's a magnet, you can look back in people's life and say, is this some individual that actually deals with reality in a way that says, yeah, life is hard, and I'm going to be honest and real about it and deal with it.

Those people, I have not witnessed them having much denial. So when we really ask about what is their kind of psychological set point, and is it is it okay to, to to have a problem like this?

So I don't know, Heather. I think it's, I, it's been the hardest problem. But again, the only people I see are the people who have really have this growth mindset that say, yes, I am going to do something about it.

The people who want to be in denial. Well, I never get to see them, except if they're family. Right? Right, right, right. It is the way my brain works.

I want to create a table here with you and be like, okay. Avery says that versus plasmapheresis versus Ambar, which was just albumin versus stem cells, which you've mentioned.

So I know we can't create a table right here, an Excel spreadsheet for everyone. But can you just break it down? I want to understand what's what. How are they different?

Who might one serve? Where are we in the process of understanding the science? Are they all? I know this is a lot. Do what you can. Okay. Well, I'm going to come back to fundamentals, okay.

That, you know, like, for instance, what it why did you create your lifestyle facility for the treatment of cognitive decline? Because the more things you do, the more likely the sum total is going to have a positive effect.

Fehr. Exactly. Right. Okay. And so that's no different here the more frequently. So for instance, Ambar even saw that the more complex.

Evidence, Patient Outcomes, and Denial in Cognitive Decline

So the Ambar study they did one plasma exchange a week for six weeks, and then a mini plasma exchange once a month and for 14 months. And, it was very clear the first six weeks, that was where a lot of the improvement happened.

So frequency matters. I think volume matters. How much plasma are you removing from the body that matters? And how about the the underlying function of the body and, you know, are you supporting immune function or not?

That matters. I believe there's a huge role for, stem cell products, exosomes. I think things that turn on the body's regenerative processes. Those, those need to be studied and, and added in when they can be, you know, I think that but there's so much that we don't know.

Oh, in the particulars because we don't have a lot of experience there. We're probably the we probably have more experience than any other center in the United States.

And even so, it is a, it's a challenge to sort out from many, many different patients, you know, with all the different comorbidities and problems that they have, which work more.

So I think the principle is really that, you have to look at this as an investment in brain health and say, how am I going to let's be really honest about resource allocation.

You know, I mean, the we're not at a place where this is covered by insurance or Medicare yet, you know, let's be let's recognize that, you know, everything in health care, there are always unlimited desires that are met with limited resources, limited resources of time, money, energy, effort.

And we I think each of us have to decide what we can do with the limited resources of time, money, energy and effort that we have and what is important to us.

Why are we doing this? We spend a lot of time asking, you know, what do you want from your health? Why are you doing, you know, you know, what is it? What is your health for?

And how do you want to contribute in the world? I think elders have this massive need to contribute in society. And and the ones who recognize that, they're like, yeah, I'm in.

Why would I not invest in this way? For the people who are going like, well, I'm just here to pass money on to my kids. Well, you know what? This is not for you.

You know, if you've already cashed your chips in with regard to your your level of contribution being just, you know, what is left in your inheritance, then you don't have a mindset to go after this.

And you even resent people that want to push you there. And, you know, kids who go like, oh my gosh, mom, I want you around. I want to be able to talk to my mom. It's like that.

Yeah, these are hard. These are hard discussions. And when and when we meet friction points like this, sometimes people feel angry. Sometimes you, you know, it's like, this should be easy.

I resent getting old. I resent having cognitive decline. I resent, you know, this being available, some people and not others I resent, you know, those are real emotions, and they're hard.

But but those emotions, I think are, you know, just show us how precious our brain is and how and how precious the experience of life is. And and if we can be honest about that, then there's all kinds of things.

It's one of the reasons Maxwell Brain was put together. I want everybody to have access to the best that they can have. And so that's a platform that, you know, is, you know, it's it's again, it's covered by Medicare.

You know, it's a and the doctor even gets paid for submitting, you know, running the report and sending it in. And there's a special code to get paid for.

The doctors spend the time to go over the results with people, you know. So we we have to always do what we can, where we are with what we have. And and that's that is our integrity.

That is actually what we're here for on earth. Maxwell Clinic is, you know, is our clinic here in Nashville and and it's it's amazing to see the, the self-discovery that goes on in the process of a family engaging in cognitive decline.

Right. The self-discovery that happens. Wow. They they actually have to figure out what matters in their life and in what and and and and kids. Oh my gosh.

You know, the relationship that actually improves so many times with with a child and their parents because now all of a sudden the child is is taking care of mom and dad and they feel like, wow, I'm, I'm giving back.

And and there are, there's so much healing that can take place even in the realm of neurodegeneration. We have to recognize that it's not just the brain that matters, it's it's our humanity that matters.

And that's what we're really treating. And and as we engage that and we're open to the discovery process in this space, you know, people can have levels of healing that are far beyond, seeing the brain regenerate.

So, you know, it's such a privilege to get to be in this space. It's just amazing to see the healing that can happen. And, and, the possibility is that it's there.

So. Yeah, I'm so glad you're speaking to this, because the dynamic can feel really challenging, right? When you have an elderly parent who's struggling with cognitive decline and if the spouse is still around, plus multiple kids, you've got siblings, those those siblings that are adults, you know, they're managing sometimes their full time workload, plus their teenage kids or their kids in college.

And they're very challenging, very, very challenging. Lots of tension, lots of different interests, lots of fears, lots of dynamics from childhood, childhood traumas that come up.

And I love how you're presenting it as this opportunity for healing and for discovering more of our humanity and the people we love most. And that Maxwell becomes this, this place, this sort of reservoir, this, this container where that can happen.

As Marama has become and that, that there is, that there's some challenge there, right? That it's not always easy, but it's worth it. Yeah. This is what life is, right? We're living.

And I think, you know, medical care is all about this militaristic model of, oh, we're going to kill disease. You know,

we're going to fight disease. We're going to.

But really, health care should be all about how do we create health, how do we discover, enable and enjoy the fullest sense of who we are? No matter what our age is, no matter what's the challenges going on our family?

How do how do we discover what an amazing advocate we can be for our parents? You know, in in a challenging time and as a result, go like, yeah, I did something really hard and I'm really proud of it and how and how I've done that.

You know, we're at at Maxwell Clinic, we're continuing to grow. We're seeking out new doctors that want to work with us. We are going to be training more doctors.

And, because the need for this is massive. And but to find those, find those to find those physicians that have a great heart and a great head, you know, that that want to be humbled by how challenging this is, you know, that want to, you know, wrestle with the the individualities of challenging patient care.

But get to get to do so in a way that they are doing what they went to medical school to do. Yeah. So I see I see huge beautiful things happening in health care.

And it happens. One doctor patient relationship at that time, it has it has to happen in the, in the sanctity and the relationship of of those of healing, healing relationships.

How beautiful. Just beautiful. So I want to go back to another dynamic that you mentioned was just the financial situation. Right. And I would imagine every single person who comes into your clinic and has the financial capacity to do some realm of their, some piece of this, the individual individualized workup, you know, the shifts in and diet, lifestyle supplements and then eventually hopefully plasma exchange.

And when they're doing that, they are contributing to the data, even if they're not in a clinical trial that informs you, which you then go teach doctors. Right.

So there is this really important contribution. And that's kind of just where we are in the steps of collecting the data is that they are they're they're each in and of one, but they contribute to the numbers that you were collecting in your brain, in your clinical brain, IT database.

And I'm curious as well, what if you if you could just put aside all the financial components and you had someone I know this is a little challenging, but say you have someone with a Moca of like 1920, right?

So kind of mild but present cognitive decline and measurable. And they show up to you and they say money doesn't matter. What do I do? What is it plan look like for them?

What is the next two, three, four years working with you look like. Yeah. Well, so, you know, did you see my little tensegrity back here? Show it to me again.

You know, I love my tensegrity. So its integrity structure is something that was coined by Buckminster Fuller.

Personalized Workup, Systems Biology, and Long-Term Care

And and I think this is the most beautiful, the simplest way to see what a complex system is, right? A complex system is something that is greater than the sum of its parts.

And here we got a bunch of dowel rods and rubber bands. It's an adaptive system, right? You get a stressor, it changes. And and this is the way I see the human physiology.

This is the way I see the human experience that we have. We're incredibly connected inside all of your cells. Connect, talk to every other and and in our experience, we're connected each other as humans.

And so I bring that up because I see every person walking in the door as a sacred patient. I think that this is an eat and and I know this. It's I don't have a list here for you. Okay?

So I'm I'm going to give you some highlights, but but the most important thing is to have an intense curiosity about what's going on. First of all, and help that individual understand why they're doing this and what matters to them.

I actually have a few patient consultations that happen, and we dig into this and they go like, yeah, you know, this is amazing. This is great. But I actually want my husband to go through this rather than me.

Right. And, you know, so we've had because it's actually more important that they are taken care of, etc.. You know, it's it's interesting. I will tell you that, everybody that comes through, needs to be heard, because the story matters.

We need to understand how did this process occur? So we everybody will get an extensive history, you know, we're going to go through and really understand when were you last.

Well, and we're going to dig deep into that because those are clues. Because then the number of things that can possibly throw off cognitive decline, we have numbered up in around 600 that we've identified thus far.

And and so that's a huge number of potential burdens to kind of go through and check everything. So we kind of, target how we evaluate based upon the history that comes in.

We do. I, I recommend, genetics for everybody. We do whole genome analysis and home might, analysis usually because your genetics, you know, it's the cost has come down and you should look at your genetics as a resource and have it be the last genetic test you ever do, as opposed to always doing another genetic panel.

You know, this is now your resource that you can keep diving into and seeing what's there. We, I'm big into assessing the transcriptome. You know what happened?

How is what are actually be which genes are actually being expressed. And then we do markers of looking at genetic age. I use a platform called True Age, and that looks at 850,000, CPG methylation sites.

And it gives us a, an idea of that individual's biologic age. Look at telomere testing. And then everybody gets neurocognitive testing to understand how is their brain performing.

We do a quantitative EEG that's measuring the brain waves and what goes on. And so and that gets compared against an FDA database. We do an MRI to see what parts of the brain are shrinking in a comprehensive evaluation of gut immune toxicity.

And then we decide, right then we decide now that we have a good data set. Now, what are the most important things that we need to focus on now? There are some things that don't need any data, right.

This is lifestyle approaches. Everybody needs more. Almost everybody needs more movement. You know, healthy levels of sunshine, deep sleep. Oh, we spend so much time improving sleep patterns, light exposure.

We, you know, diet is a huge part. And diet can be modifying a lot by one's, genetic panels. So, but, you know, carbohydrate, you know, simple carbohydrates don't do the brain any good. They just don't.

And you want a plate that's a loaded with beautiful plant matter. And, and I, I kind of think of, meat as a condiment. And so and it depends upon so that the details of diet depend upon genetics and depend upon that person's manifestation.

And then we also do we're pioneering work with the micro circulation. So we have a test called the, glycogen. And this is a, micro camera that goes under the tongue and it measures red blood cells shooting through the capillaries.

We end up measuring about 100,000 capillaries, taking about a thousand measurements of each one. It takes like a nine core computer, a good half hour to create a report.

And, but what that does is it helps us understand what's the health of the microvascular system. That's the business end of the that's the business end of the circulatory system.

You know, we we pay attention to the heart and the arteries and veins because they're big and we can see them. But actually what matters are the capillaries.

And and especially since Covid, we've seen such just ravaging of the capillaries and this, Teflon like, coating in the inside of the capillaries called the glycol calyx.

And Covid will just damage that, incredibly. So oxidative stress and infection. And we've been doing plasma mixing. And we're recognizing that we're drastically improving the function of the micro circulation.

And that's why we've been surprised sometimes with people having, you know, almost immediate improvement after plasma exchange. And and that was very confusing to me because all of my mechanisms had to do with like genetic behavior and stem cell function and things like that.

I was like, well, wait a second, they're getting better too quickly. What's happening? So we we got this technology where one of only like, you know, 60 centers in the US that has this to try to understand and quantify, and hopefully that's going to become more available.

But so I guess, you know, it's so hard. This is hard work is the reason that there's not a lot of doctors doing it, because it's a very multifactorial problem.

Dementia is a final common systems failure. It's when multiple systems have failed, too much and they can't compensate anymore. And then you get this cascading forward of one system after the other after the other kind of crashing.

And then finally it's it feels like it is a unrelenting slippage into ongoing degeneration. The only way you can deal with that is to pursue the individual systems and start augmenting care in each one of those systems.

So, yeah. And I think I'm really glad you said, you know what would you a 3 or 4 year like experience, because that's actually the way we frame it, because these are not short term fixes.

The, the it did not nothing. None of this came on in a short term. And to think that it's going to go away in the flash of pan, you know, that's that's just crazy.

Crazy thought and it's, it's wishful thinking, but man, the body heals and and if ever there is a worth a work worth engaging, this is worth engaging, because as an individual who has cognitive decline digs into it.

What you see is this week that happens behind them. And the wake that happens behind them is, wow, their kids start making some of these changes, you know, a generation sooner and their grandkids go like, wow, look at what grandma is doing.

Grandma is she can make changes. She's getting better. And she did that by the sweat of her brow. And, you know, the choices that she made, it creates this opportunity of an example of self-efficacy.

And self-efficacy is everything when it comes to creating health. Knowing you can do it is the biggest challenge. You know, my practice, you know, I, I was very proud to have an only insurance practice for like 15 years.

I did everything I could to stay inside insurance because I really want this kind of care to be available to everybody. And the challenge and there's just no way to make it happen.

But but what happens is that, when you see people that. So the people who had come to me, there weren't often barriers of, of revenue of, of cost. But but the people came to me were the people who had a sense of self-efficacy, the people who had in somehow in their life had made a choice and had followed through with challenging things and had made a difference in their life.

And that because they saw me, they would, hey, there's a doctor that's interested in the cause. I want to get to the cause. I don't I know I'm going to have to work to reverse whatever cause there is and, and and they want to.

And that was the defining characteristic of who saw us out, as a clinic, you know, gosh, I've been doing this for over 20 years now, you know, and it's so encouraging to see so many kind of people starting up in longevity medicine and functional medicine, since it's so great to see that happen.

But, you know, I've gotten to see a lot of fads come and go, right? And, and, and a lot of them keep recycling and like, oh, boy, here's another person who's hawking some kind of simple solution, you know, because it's easy to frickin market.

And I have no patience for that. I think that we have to be honest, that this work is challenging to do. But but it's worthwhile to do. You said it's not just the brain that matters.

It's our humanity. And that's what we treat. Yeah. I think just speaks volumes about who you are, how you do take on tough things. But the ones that matter and that you're not going to oversimplify, right?

You're not you're not going to sugarcoat things. You're going to do the hard work with the patients doing the hard work, and you're going to get results.

And that doctor healthy, I, I just say that getting the opportunity to see patients with you and to, you know, get to know how you work is such an inspiration to me.

It's such a privilege. And you were an inspiration to me as a provider to my patients. And I often think, what would doctor to do in this situation? And so I'm just so privileged to get to spend this time with you, to download your wisdom and share it with our attendees or some of the attendees here.

And I just hope everyone realizes how honored and privileged we are to to get this wisdom from you. I'm just listen, I'm just doing my thing, you know, I couldn't I couldn't not do this, okay?

I could not do this. And everybody is is, we're all miracles. We're all walking miracles, you know? And, but it has been an incredible honor, to to be with you.

And thank you for doing the summit. Thank you for bringing education out to people and giving them hope, because I think hope is the most important thing.

And to start where you start, where you are with what you have, don't don't hold out some idea that cash since I don't have since I can't do that thing out there then.

Oh, there's no hope. No. Good gracious. The body is designed to heal, the body is designed to heal. And. And that should be a hopeful message. So, thank you.

Thank you, Doctor Jamison. Thank you. Thank you.