Introduction and Speaker Background

Hello and welcome to a very special interview for the Reversing Alzheimer's Summit. I am your summit co-host, Doctor Kristine Burke. Over the last decade, I've helped many patients reverse their cognitive decline.

And that's why I co-founded True Neuro to help patients and practitioners be extraordinarily successful in this work. In this summit, I'm bringing you interviews with thought leaders who can help you understand the pillars of brain health and the root causes of cognitive decline, so you can learn what you need to know to prevent and reverse cognitive decline and Alzheimer's for yourself and your loved ones.

I am very excited to introduce you today to Doctor Myriah Hinchey, a naturopathic physician and fellow of the Medical Academy of Pediatrics Special Needs.

She is recognized expert in the field of Lyme disease and other complex chronic inflammatory conditions. With over 17 years of specialized experience as a physician and the Medical director at Tor and Integrative Center for healing, she has successfully guided thousands of patients towards recovery from their complex chronic inflammatory conditions.

Doctor Myriah is also the founder and owner of Lyme Core Botanicals and Herbal Medicine company, focused on providing effective solutions for healing vector borne diseases.

Doctor Hinchey is dedicated to treating patients of all ages with a specialty in pediatrics, and is also a sought after speaker, passionately educating health care professionals on the path of physiology of vector borne diseases, and how to successfully integrate functional, herbal and lifestyle medicine into their practices.

Thank you so much for being here, Doctor Myriah. Thank you so much for having me, Doctor Burke. It's an honor. I love it. So I think the first question our viewers might be thinking is, what does a pediatric specialist doing on a summit about reversing Alzheimer's disease?

But we have a title, the connection between Lyme disease and Alzheimer's. And I'm excited to help people make that connection with you today. So I'll say, you know, all joking aside, a lot of the brain affects that Lyme and these stealth co-infections have can actually bring out symptoms that are very, very similar to those that we see in dementia in the elderly.

Even elementary school aged kids, as well as as high school aged kids and young adults. So and I'm not just a pediatric specialist, that's like my subspecialty.

I do treat patients of all ages. Exactly, exactly. So why don't you get us started with some of what you see in Lyme disease? How do we identify it? What's walk us through that process? Sure.

So I think the most important point to make is that the diagnosis of Lyme or other vector borne diseases should be that of a clinical one. And most medical professionals have gotten very, very hung up on testing.

And if your tusk comes back with the word positive, you are positive. And if it comes back with the word negative, you are negative. So we should briefly, we could talk for the full time just about the testing flaws and how to test appropriately, but it's just very, very important to know that there are a lot of flaws and important things to consider when it comes to testing.

But back to a clinical diagnosis. Really, this means that your physician should be looking at all of your symptoms and signs and findings from doing like various physical exam or neurological exams.

They should be ruling out all of the other things that could explain away, you know, those symptoms and findings, and then they should use laboratory tests to factor into that clinical diagnosis.

And so that means tests beyond just looking for Borrelia burgdorferi, which is the tests that these conventional labs are using to diagnose lab. So we should be looking at immune markers.

We should be looking at inflammatory markers. Right. We should be looking at things beyond just testing for the organism. Yeah. That is such it's such a complicated area to try to wrap our heads around.

How Lyme Disease Is Diagnosed

And we know in the brains of Alzheimer's patients at autopsy that the bacteria that causes Lyme disease that you just mentioned, the breath, a bacteria that that has been found in some of the amyloid plaque in the brain.

So we know that it at least plays a role for some people. I think it's a little bit more complicated, at least in my own experience in working with patients with cognitive decline, because often we don't have a lot of the other symptoms that might lead us to suspect that Lyme disease or the bacteria that causes Lyme disease or some of the other related co-infections might be involved.

What are what are some of the other infections that we might see in these scenarios? Sure. So you can see an organism called Bartonella. There's another called the BCR.

There's or Loukia, there's an a plasma, there's Rickettsia, there's mycoplasma, there's and beyond that right. And so the thing that makes it even more difficult is that, you know, the names that I just gave you are the genus of the organism.

And so there are also other species to each of those. And if you're not testing for the particular species, you're not going to get, you know, a definitive answer with your testing.

So kind of like to break that down. If I were to say like if the species was the category fruit, right. There isn't a test that just looks at fruit. You have to then look at, okay, here's an apple.

And let's say that apple are the Borrelia species. And then it's like, okay, there's a Granny Smith, there's a Red delicious. There's a golden delicious.

There's a gala, there's a Honeycrisp, right. They're all different. I don't know this for sure, but let's call them species of apples, right? When it comes to Borrelia, if we're saying Borrelia is an apple, well, there's definite there's oppositely, there's Californian says there's pneumo tide. There's all of these other species.

And if you are testing through, let's say quest and you're just looking for Borrelia burgdorferi, you're only testing that one species. You're not looking at any of the others.

So you could be positive for Borrelia Miyamoto. But your test isn't going to tell you that because it didn't look for it. So then moving on, let's say Barbie's here are the oranges.

Now I'm going to be even worse with my knowledge on oranges, but I know there's like navel oranges, right? And like some other species, there are several species of bees here.

And then there are even more species of Bartonella, etc., etc.. And, you know, it's funny. I'm sure you've had this experience. A patient comes in and they're like, I saw the doctor, I've got a clean bill of health.

All my tests were were normal. And it's like, well, what tests? You know, all my tests. It's like, well, you only get the results back for what you were tested for, you know?

So your medical professional has to know what they're looking for and order these very, very specific tests. And

that's where really the beauty of using a lot of these specialty labs like Hygin X or vibrant or in fact Doe labs, etc., there's, you know, there's a handful of them where, you know, specifically what you're looking for and then how to interpret the test.

Yeah. And even with those specialty labs, it's still easy to miss it. We know the infections are stealth, meaning they hide from our immune system. And so sometimes we don't have an immune response when the organism is actually still present in the body.

And there's this whole range, the idea of infection versus versus the, the stealth concept where it's present, it's maybe not actively causing an infection in the conventional way that we think of that kind of like strep throat, where it's definitely apparent that you have an infection.

So all of the nuance around these vector borne diseases also, I think, complicates it and makes it more challenging for us to have conversations with our physician colleagues that maybe aren't as line literate or haven't spent as much time learning about the ways that these or our immune system.

Right. I agree, and I think that's why it's so important for, for our listeners to really find someone who's Lyme literate and who knows what they're doing.

And a big red flag. It's like, I have patients coming and they're like, I've been tested for Lyme disease seven times. I'm like, you don't say that tells you something.

That means that all of these various medical practitioners saw clinically in you so many symptoms of Lyme that they thought to order the test, but then they just took the simple positive or negative as the answer instead of digging deeper.

Yeah, and that's hard to it. It's also challenging, I think, in terms of digging deeper, because each of these tests are usually not covered by insurance and each has a cost associated with them.

And so sometimes there's some budgetary limitations and how deeply we can dig. How do you try to navigate around all of those challenges with your patients, like how would you describe your typical approach?

So a lot of times at this point, because I at this point only specialize in Lyme, and other vector borne diseases. So a lot of patients coming to me now already have their diagnosis, and they have failed multiple other treatment approaches.

You know, five, ten years ago where I was seeing everything and wasn't so specialized, I was actually giving the diagnosis for the first time. So I think if I focus more on that, it'll help to answer your question.

So really, I was looking at it as a clinical diagnosis and then going through it's like, okay, and let me explain that a little bit more. Lyme looks a lot different than most other diseases, even though it's the great imitator and it mimics all of these other diseases.

It's like pick a neuropsychiatric disease, pick a degenerative disease, pick a cardiac disease, and pick a musculoskeletal disease and kind of smash them all in together and then throw in a whole bunch of other symptoms.

And there's like Lyme in co-infections, right? So like with dementia and Alzheimer's, you know, it's like most of the impairment is cognitive, right? Yes. It also affects sleep. Yes.

It also affects mood. Yes. It can also affect motivation and energy levels and things like that. But like you're typically not going to be seeing intermittent flushing or night sweats or urinary incontinence or having chronic eyes or heart palpitations or, you know, migratory muscle pain or joint pain, right?

Like that. Those aren't common things that we see in a dementia patient.

Co-Infections and Testing Limitations

But I'm sure the first thing that would be said is, while you're aging, you're getting older, your body's breaking down. So, you know, all of those other symptoms sort of get explained away.

But sorry. So back to the question. You know, I look at patients as they present and then we make sure that we rule out all of the other scary things that could explain it.

And then if the patient has never tested before, I strongly encourage them to at least test for the species of Lyme disease. So that would be, the species that cause Lyme, but also the species that cause tick borne relapsing fever.

And I have them start there because unfortunately, this is like a medical, political, controversial disease diagnosis and treatment. It doesn't end with the diagnosis.

That's usually just kind of like the start of the battle. And so I do like patients to have that concrete evidence, to share with their other providers, but also almost like as their ammunition.

You know what I mean? That that this is what's going on and this is their diagnosis because it's unfortunate, but I've had so many patients, it's like all these other practitioners try to talk them out of the diagnosis that that's not actually what's really going on.

They'll order the terrible test again. And be like, see, you're negative. And so, to me, it's really always a clinical diagnosis. Now I'm lucky I treat with lifestyle nutrition and herbal medicine so I don't have to justify to an insurance company, you know, that I want to put someone on and you know, excessive long term antibiotics.

And I also don't have to fight, you know, with like an ethics committee or, you know, using things off label and outside of the normal course of action because Lyme doctors really get scrutinized.

So, you know, I'm using herbal medicine that doesn't have a lot of side effects. It has a lot of side benefits. And so if a patient says to me, look like I really can't afford to do those tests or I don't want to, and they want to try empirical treatment, then I will try empirical treatment, and I will go through and I will clean up their diet, clean up their lifestyle, you know, and that could be a whole day's talk.

So I won't get into it. And then I will put them on kind of like a standard protocol, even though I hate that word. But it's kind of like covering all the bases.

We need immune modulating herbs. We need herbs that are going to modulate the pro-inflammatory cytokines cascade. We need herbs that are going to act as antibacterials or antimicrobials.

We need to eliminate food sensitivities, heal the cut the gut, get the person detoxing, etc.. And so if we do all of that and in 90 days we see an improvement in symptoms, then I would say empirically that's telling me that what we're doing is working.

Now, can I tell them if it's Lyme or BRCA or Bartonella or Mycoplasma or a cat? No, I mean, it could be something that's not even vector borne. It could be some other sort of infection in the body.

Right. If we're doing empirical treatment, but usually the patient doesn't care. Yeah. It is really challenging to move away from that strong need to identify the what and shift towards focusing on the what we need to do to heal, which is everything that you just described really beautifully.

Why do you think there are so many misdiagnoses? Do you think it's just these challenges around the speciation, not looking at the right types of testing, looking for the ways that the body is responding.

So, I mean, this is going to sound really rude. So I want to put out there that like I say this with love, it's ignorance. But it's I don't think it's malicious ignorance.

At least not on the, on on the part of the medical practitioner. It's like we are all we do in medicine, what we're taught. And I wasn't taught anything different.

I mean, I remember the question like in my clinical diagnosis, it was like children were playing in the tall grass on the beach. And, you know, little Johnny came down with a swollen knee and arthritis.

And he had a fever. What is that? Oh, it's Lyme disease. How do you treat it? 14 to 21 days of doxy. Stay clean. Yeah. Question. Got the answer right, but wrong.

You know, so wrong. And you know medical practitioners are not being correctly trained. And so you come out of school you know that's what you have your training as a naturopathic doctor we are taught to identify the root cause.

So we don't treat symptoms. We figure out what is going on and we get rid of that. We heal it, we remove it, whatever the case may be. And so for me, when I started seeing Lyme over and over and over again is the underlying cause.

I had to figure out how to deal with it, right? And I had to figure out everything about it. I'm one of those people. I don't have asked anything. And so that's what led me, you know, down the whole rabbit hole of, of Lyme literacy and really, you know, even knowing that it's Lyme is the root cause.

Okay. Well, you can't just throw antibiotics at it. And I mean, even just verbal antibiotics, you'll never get it out of the body. It is smarter than any antimicrobial on this earth.

So if you don't fix the patient's body, an immune system and nervous system and the whole person, you're never getting it out of the body. I think that's such an important point because it it really comes down to the body's ability to heal.

It's not just what we as practitioners can give to people, but it's also the body's ability to heal. You have to have both sides of that equation. Don't you agree 100%?

Yeah, yeah. I think, you know, I think one of the other things that's been challenging in the line leprosy field is the you know, I alluded to it a little bit earlier, the idea that an infection always looks the same and that Lyme does not usually look the same at all.

I mean, it has common threads and there's certainly these things, like you pointed out, that we want to be on the lookout for the migratory joint pain and cognitive change and these types of things.

But I think that the concept that it can be in your body for a really long time, just creating a slow burn, if you will, that's been one that's been hard for conventional medicine to to kind of agree with.

And it's interesting because we have many other infections that are like that. Syphilis is like that. Tuberculosis is like that. Leprosy is like that.

Why Lyme Becomes Chronic

So I think it's odd that this has gotten so much pushback from being embraced, is just another one of the organisms that can linger for a long time in the body.

But it's really challenging and it's really challenging when you have people, like you said, getting the the quest or the lab caught tests and being told, nope, you don't have Lyme disease.

And then, you know, we come in as Lyme literate physicians and we try to educate them on why that testing is not necessarily the most accurate way to assess what's going on.

And then to your point that it really is a clinical diagnosis, because none of our tests are perfect, right? Yeah. So why why do you think these infections become chronic, unlike the other ones that we've talked about?

What do you think are some of the key factors? Well, there's a few things. They're they're very good. They have these mechanisms to evade the immune system, one of which, you know, most people have probably heard of a biofilm.

And I think the easiest example of a biofilm for people to understand is like when you go to the dentist, right? And they, they scrape the plaque off of your teeth, that's actually a biofilm that the various bacteria that live in the mouth use to wall themselves off from the immune system.

So the biofilm, think of it as a fort that adheres to a piece of the cell, and they're not always on a cell, but for this example. So it kind of it's like pitching a tent on the earth. Right.

So it's like the Earth is your cell. You pitch a tent over it, you have a scaffolding, which is like the tent poles, and then you have all of these other various materials that make it, which would be, you know, like the nylon or whatever your tent is made out of.

And what happens is, is just one particular bacteria hides in that biofilm. It's now there for all of these other bacteria. And they actually I mean, it sounds insane.

It sounds like a sci fi movie, but it's like these bacteria share information with each other about how to further evade the immune system. And so it's not just the fact that it's now walled itself off from the immune system.

And oh, by the way, from any other antibiotic or any other drug that you might be using to try to kill it, but now it's literally sharing information about the body and how to further work together synergistically to take the immune system down.

So that's number one. Number two is when it causes this pro-inflammatory cytokines cascade. And it's it's interesting, right. Because a lot of these pro-inflammatory cytokines like tumor necrosis factor alpha, interleukin one beta, interleukin six, which we see with dementia and Alzheimer's especially like with the development of the beta amyloid plaque and the tau proteins, those inflammatory cytokines kind of cause an imbalance in the immune system.

And the easiest way to explain it for me, and this is the visual I give my patients, is, let's say our immune system is supposed to act like a sniper where it has its, you know, it's gun and it puts the red dot right on the target, and it's able to eliminate that target, and it doesn't get anything else around it.

So it switches from that sort of immune response to an immune response where it's a plane flying over, you know, up above, and it's told its target is down there and it drops the bomb.

And like the bomb falls. And not only does the bomb hit the target, maybe because maybe the target ran away, but it is hitting everything else right in a in a huge radius.

And so that's kind of that's our cells. That's our tissues. Right. And so we just turn into this pro-inflammatory bomb throwing system that maybe isn't getting all of the target, but it's also wreaking havoc and causing massive damage inside of the body.

And then from that, usually like an increased intestinal permeability or leaky gut develops. Now we're letting toxins into the body. That should be excreted.

We are a lot of times developing food sensitivities. We're letting antigenic particles back into the body. That is causing a further sort of like autoimmune response, to where the body's attacking itself.

We end up with like molecular mimicry to different foods and things in the body and all of this sort of like toxicity in

the immune system going haywire from that and leads to increased oxidative stress, mast cell activation issues and further breakdown of the body.

So now we have mitochondria that's not functioning properly and it's just a whole mess. Yeah. That's such a great analogy and way, way to help people think about an understand the fallout of the chronic inflammatory response.

And like you and I have talked about before, the amyloid beta is actually an anti-microbial peptide. It's part of the body's defense mechanism. And so when you start to understand what the original intent of the targeting protein is, then you can start to understand what the body is trying to defend against.

And then more and more effort like the scatterplot, if you will, of the attempt to get rid of it, then that just creates more damage, more amyloid deposition or amyloid accumulation.

But I love your analogy about the targeted versus the the blanketed effect of the immune system, because that really is very descriptive of what's happening.

Yeah, I think, you know, these degenerative conditions are collateral damage conditions, don't you think? I agree 100%. You know, it's funny, I was talking with someone the other day and I was like, you know, I think these infections play a large role even in cardiovascular disease because they love the and ethereal so, so, you know, when they get in there and they cause inflammation and immune dysfunction and the body's attempt to like quell that is to actually lay cholesterol down.

You know, it's like your body's not trying to kill you. Your body is so smart. And it has all of these ways, you know, that it tries to fight for you.

And some of them. Yeah, you you end up with occluded arteries or with, you know, excessive amounts of of plaque and things like that. But yeah, it's it's the body's attempt to try to heal you.

Yeah. So many of the things that we look at as disease are really just the best lead efforts gone awry. The body trying to help. And then too much of a good thing becomes a bad thing, or it becomes an impediment or it becomes a blockage.

Like when we're talking about an artery. It's really fascinating when you start to see that whole thread of interaction. Yeah. It is.

Treatment Approach and Herbal Medicine

You mentioned that when you're approaching treatment that you that definitely setting the lifestyle, the diet so we can reduce the gut inflammation that you were just talking about as part of that whole inflammatory cascade, and then using the supportive and the antimicrobial herbs, is there a sequence that you find is helpful in terms of which of the infections or the co-infections that you think it's more helpful for the body to go after first, or does it really depend on the individual?

So if you're treating from a pharmaceutical perspective, there are numerous opinions on the order in which things need to happen, like if the bees yolks present abuse, you usually needs to be dealt with first and the same because bbca is a parasite.

The same prescription antimicrobials for the sorry for Lyme disease are not going to work for babies. Know because the Lyme is a bacteria. You would use antibiotics but be easy. As a parasite.

You need antiparasitic. Now in the herbal world, I look at all of this as one big ball of wax because really it is. And they're all working synergistically together, and there are a lot of herbs that not only have antibacterial or anti-spyware.

Ketel A Spy Rickey is the type of bacteria that Borrelia is, but they also have anti-parasitic properties too, like crypto

lapis or Artemisia annua. Those two herbs and there are others too.

Those are just two of my favorites that would actually be able to handle both Birbiglia and BCR. Now, I would never just use those two herbs. I would cover all of my treatment bases.

But just for an example, those two herbs would cover actually multiple different microbes. Yeah. And I think it's interesting, as you're talking about the combination of herbs, just how and of course, this is your field of expertise as a naturopathic physician.

But just how how beautifully synergistic the the components that Mother Nature creates, how they work together so well to avoid some of the problems that we see in conventional medical treatments like antibiotics, prescription antibiotics, for example, which, well, they worked really well for the super targeted infections and these types of things.

It creates more resistance or the organism has multiple ways of evading the way, the mechanism that that antibiotic uses to work. And when we combine herbs together, we're able to overcome those defense mechanisms.

And it's just really fascinating. It is. And one of my favorite herbs, crypto lupus that I've already mentioned, you know, it was studied and shown to, to be able to treat the persistence cells, which, you know, one of Lime's other defense mechanism is it will actually go into its dormant or cyst form, and it will hang out there until the threat, i.e.

the taking of antibiotics like so. Once the antibiotics are gone out of the system, then it will come out of that dormant form and go back into the active forms.

And so you know, using there there are some different, prescription out there like tendon dissolve that, you know, can go after the persistent Salah as well, but there isn't an antibiotic that actually can treat all three forms of Borrelia like crypto.

Lupus can. Yeah, that's really interesting. The ways that these microbes have learned over their thousands of years of existence. You know, we think they've only been around as long as we've known about them.

But that's our very human centric concept. Yeah. Of these how these things work. But just it's fascinating how some of the microbes have developed these very, very sophisticated ways.

Like you said at the beginning, communicating with each other. What are the tools that this immune system has and how can we evade them? And then the different forms, particularly that Borrelia can take in the spirit, keep form in the system and the biofilm form in the intracellular form, all of these different ways that it can evade our immune system from being able to identify it and have that very targeted, specific approach.

Right. You know, I it's funny, you made me think to like we've there's reference to Lyme and spirit kids, you know, thousands of years ago like they they even they've found it you know like mummified.

Right. And so I think the biggest difference is like we as humans unfortunately, like we're becoming so weak and so toxic that we are now no longer able to deal, I guess, for lack of a better word, you know, to deal with these infections that people have lived with, you know, all along.

And it's because of how toxic our food and our water and our air and genetically modified food and everything being sprayed with glyphosate and, you know, is just so great that the body doesn't have the resilience that it used to.

Yeah. What is that statistic from that one study on personal care products? Women put like 386 chemicals. On the average. Woman puts 386 chemicals on her body a day.

It's just, you know, an even if you want to believe that there is nothing harmful in those ingredients, they're still not biologic in they're not things that our body had to deal with, even if it's just as simple as it comes in and your body

has to deal with it to get rid of it, that takes system resources that maybe 200 years ago would have been used to control the Lyme disease really well.

That whole concept of burden and the expose on what our bodies are exposed to over time, I think is a really important concept in this healing methodology.

Well, and if you take into consideration that the average baby has over 200 different chemical toxicants when they come out of the mother, I mean, you're we're already starting, you know, in a, in a really bad place.

Yeah, we really are. We really are. But that doesn't mean your environment is an important and it doesn't mean that we shouldn't. Do you know our part to try to, you know, get the chemicals out of our self-care products and our cleaning products and out of the food that we eat and water we drink and, you know, all of that.

Yeah. And I think that that's a great way of thinking about it. The more we can reduce the burden, the better we have, the more we retain the system resources for the other things that we need it to do for us.

Yeah, including keeping our brain healthy. Right. Oh my gosh, this has been such a great discussion.

Inflammation, Neurodegeneration, and Takeaways

We could keep talking for a really long time, I'm sure, but I want to be respectful of your time and sharing this with everyone on the summit today. And you just hosted a really important summit as well, the Healing Lyme Summit 2.0, yes. Yes, that was just a couple weeks ago.

Exactly. Also available on Doctor Talk. So I would encourage people to check that out for sure. You know, I think my key takeaway is that we need to be aware that many of the microbes that we may have come in contact with over our lifetime can create chronic inflammation that leads to neurodegeneration.

And it isn't necessarily just the ones that have caused obvious infection, or the ones that we know that we've been exposed to. And so we really need to be aware of what to look for.

To find them. Is is really the take home message that I'm hearing from you today. Absolutely. And I think, you know, a really important point for the listeners is that, yes, there can be some misdiagnosis.

Right? So you could have one thing going on and you just you get the wrong diagnosis. And by the way, red flag, any time you get something that is atypical.

So like if someone says, oh you have atypical AMS, keep going because you probably don't have arms like we have diagnostic criteria for a reason. So that's number one.

Number two, you know, you can have more than one thing going on at once. And if you have Lyme or another vector borne disease, an infection that is accelerating the progression of your dementia or of your Alzheimer's, getting that infection taken care of can slow it down, slow down the progression and give you more quality years.

If not, perhaps reverse some of the symptoms right? Yes. And then the other thing that I want to say is typically and tell me if you agree. Typically the progression with dementia and Alzheimer's, it's it's a progression.

It's progressive. It's it's somewhat slow going. You know, you don't just wake up or within a month you've had behavioral changes, mood changes, cognitive changes, etc.

any sort of abrupt change in personality and cognitive ability in any thing is typically infectious by nature. Typically, Alzheimer's and dementia isn't going to come and go.

You know, you can have good days and bad days for sure. You can have sundowning, you can have all of those things, but you're not going to be pretty fine for like a week and then terrible for a few weeks or vice versa.

So you're really not going to see these intermittent cyclic coming and going patterns. Like you will see with a lot of these infections. So don't give up.

Don't lose hope. Get to the bottom of it. I think that is such excellent advice. It is always about getting to the bottom of it. So if people would like to know how to get in touch with you or how they might be able to work with you, where can they find you?

So my clinical practice is Tao vitality.com. So that's to o v is and Victor vitality.com. Or you can call us at (860) 228-1287. Or you can go to doctor HSN.com and start there.

And eventually going through the various links. You would make it to my practice. I'm sure many people could benefit from spending time with you. Thank you. That's kind.

Really great discussion today. So for those of you listening, if you've enjoyed this discussion today on the summit, please join some of our other sessions where we continue to dive into my passion, which is solving the root causes of cognitive decline.

Thanks for joining us today. Thanks for having me.