Introduction and Dr. Terry Wahls' Background

People with MS, our brains shrink about 1% per year, which is why people with MS have much higher rates of growing frail, of having depression, irritability, and early dementia.

I'm gonna test, and I'm very hopeful that by improving your diet, we can get you to healthy rates of brain aging, which I think will be the most important thing that we could find in the studies.

This is Dr. Talks. Welcome everyone to this episode of the Lime Summit. And I'm really happy to have my friend and colleague, Dr. Terry Walls, joining me today.

And let me just tell you a little bit about Dr. Walls. If you don't know her, she's an amazing doctor, individual researcher. She's a clinical professor at the University of Iowa.

She teaches internal medicine residents. does clinical research, has published over 60 papers, abstracts, scientific documents. And it's just really one of the, I think, thought leaders in our community on using diet and therapeutic lifestyle, all these natural things that, you know, we've been talking about during the summit to really help you heal.

So Dr. Walz, I'm just so happy to have you join us. Hey, thanks for having me. You know, I know you've told your story a million times, but I think for people who aren't aware, it's important to have the background of why you do what you do.

So can you just share a little bit about kind of how your, your career progressed and how you came to do what you do today? So I'm going to tell it in real time.

Uh, 20 years ago, out walking with my wife, Jackie, I half mile from home, my left leg grows weak, dragging it, a horrible home. When I see the neurologist, he says, Terry, this could be bad or really, really bad.

And while I go through the workup for the next three weeks, I think about my 20 years of relentless electrical face pain that have been getting relentlessly worse.

And I'm praying secretly for a fatal diagnosis. Three weeks later, I hear multiple sclerosis. I see the best people take the newest drugs. Three years later, I hear tilt reclined wheelchair.

My face pains continue to worsen. My 10-year-old daughter, hugs me as tears stream down my face. But I am a physician. I go to PubMed and I begin reading the basic science.

And I decide mitochondria are what drives disability. And I begin creating a supplement cocktail to support my mitochondria. I discover a study using electrical stimulation of muscles.

I ask my physical therapist, can I try that? He calls it eSTEM. He says it's for athletes and that it's painful. But he gives me a test session. It does hurt a lot, a whole lot.

But when it's over, I feel great. He says it's because of the endorphins. We add eSTIM to my physical therapy. And then I discover the Institute for Functional Medicine.

I take their course on neuroprotection. I have a longer list of supplements. And then I have a really big aha. I've already been doing the paleo diet for five years.

If I redesign my paleo diet based on all these things I'm taking in supplement form, that's more research. But I figure out this new way of eating. I start December 26th, 2007. Now at that time, I cannot sit up in a regular chair for

more than 10 minutes.

I can walk just a few steps using two walking sticks. I begin to have brain fog. My electrical face pain is far more severe. But I start this new way of eating.

One month later, my fatigue is remarkably better. My mental clarity, markedly improved. My physical therapist says, Terry, you're getting stronger. I'm going to advance your exercises.

Three months later, I am walking with walking sticks and then without walking sticks. And then on Mother's Day, I went to try riding my bike for the first time in six years.

And we have an emergency family meeting. Jackie has my big 16-year-old boy, Zach jog alongside on the left, my 13-year-old daughter Zeb jog alongside on the right, and Jack will follow.

I push off, the bike wobbles, but I catch my balance, and I bike around the block. You know that big 16-year-old boy? He's crying. That 13-year-old girl, she's crying.

Jackie's crying. And I cry even now talking about that moment because that's when I understood that the current understanding of secondary progressive multiple sclerosis is incomplete.

MS Diagnosis and Personal Recovery Story

And who knew how much recovery might be possible? After that, I rode my bike a little every day, a little bit farther. And then in October, Jackie signed me up for the courage ride, 18.5 miles.

And once again, when I cross that finish line. We're all crying, my kids, Jackie, and I'm crying. And that fundamentally changes how I think about disease and health, the way I practice medicine, and the research that I do.

And that's why I am so passionate about teaching clinicians like yourself, Darren, and the public that there is so much that we can do that even if you have profound recovery, there's so much under your control.

And forgive me for getting a little teary-eyed there. But you know, I can't tell that story without crying. It's just not possible. It's such an amazing story.

And the first time I heard about it, and of course, the first time I met you and you've told it to me in person, you know, it's also, you know, very near and dear to my heart.

I mean, for those of you who don't know, I mean, I also have MS. So, you know, Terry's been a huge inspiration to me. I follow a lot of her guidelines, you know, for someone, again, who's come from being wheelchair bound to being very physically active and, you know, doing everything that we teach, certainly in naturopathic medicine.

You know it shows that recovery is possible and you know i know this is a lime someone you're thinking well okay what does that have to do with lime well you know my story is that i had lime disease first.

Add lime disease in two thousand two and it took me three years to recover. And if you look at the symptoms of Lyme disease and you look at symptoms of MS and really a lot of other neurodegenerative diseases, there's so much clinical overlap, it really confuses the picture as a patient and sometimes as a doctor.

You know, we're trying to sort out, you know, what is causing, you know, this, these collection of symptoms. And so, you know, I had Lyme disease and I recovered and I really went almost a decade with zero symptoms.

I can still remember I used to, I got numbness on like my, my thumb on my left hand and that was it. And I'm like, Oh, that's kind of weird. And then not long later, I woke up one morning and my left eye looked dim.

I could see, but it was dim. And I went to my eye doctor and he looked at my eyes and everything's you know, looks fine. And then in my mind, I kept thinking, Oh, this is just a weird Lyme symptom.

I must be having a relapse. And of course, many years later, in talking to my neurologist, they said, oh, yeah, well, that dim vision is one of the first signs of MS.

I'm a doctor, and it didn't even cross my mind because having to have that history of Lyme disease. So I think it's important for people who've been dealing with Lyme, when you've been having these other collection of symptoms, You know, I think the core element that we really want to talk about today is neuroinflammation and everything that we're trying to do is we're trying to improve that function of the brain, get the inflammation under control and all the work, Terry, that you've done in your research is really about controlling that, right?

Correct. Correct. You know, and now what's really interesting, I've been a champion of diet lifestyle and that we have to teach people to improve their diet.

meditate, improve their sleep. And when I first started having these conversations in 2008, it was so radical. People thought I was so dangerous for telling people that, you know, you've got to improve your diet, ask for physical therapy, consult, meditate.

That was very, very dangerous. But, you know, I studied my research, publishing our papers, and more and more papers were up to our eighth clinical trial.

And we have hundreds of citations now for our papers. And my concept, the idea that diet matters for us is being much more accepted. In fact, my postdoc did a wonderful analysis of all the dietary studies that have been conducted in the study of MS, and it was published in Neurology, the highest impact journal of all.

And there was an accompanying editorial saying, yes, we have evidence. There's lots of evidence now that diet really does matter, and we should be sending all of our patients to a nutrition professional to help the patient improve their diet in that, yes, you could do a paleo diet, you could do a Mediterranean diet, you could do dietary guidelines, you could do a ketogenic diet.

We need to have you stop doing the standard American diet because we know that one is really terrible. I think that's an understatement. Correct. Well, talk a little bit about the dietary approach that you've developed.

I mean, I know it's kind of a variance of the paleo diet, but can you kind of talk us through what that involves? So I had adopted the paleo diet, giving up all grains, all legumes and dairy.

2002, 2003, I'm in the decline wheelchair and I'm going relentlessly downhill. Then I had this idea that mitochondria is the problem. I had supplements that slows my decline.

I feel definitely way worse without the supplements. I get a longer list of supplements from the IFM, but it was when I had this, and of course I'm embarrassed there and like how long it took me to have this a high, like, you know, if I figure out where they are in the food supply, these nutrients probably have other nutrients that are really important and I bet it's going to be really good for my brain.

So in the first year when I was doing this, I had a little notebook of, here are the foods I got to be sure that I'm eating every week. And then, you know, when in October, and you know, I biked 18 miles, I started talking to my patients at the VA like, okay, we got to fix your diet.

And I couldn't give them this long list. So I really was having to think deeply, what are the sort of simple, easy to remember food rules that will help people do that?

And over time, and then I would do some checks to see like, okay, if I use these food groups, will that get the key nutrients that I care so much about?

That basically is how the Wallace diet is born. And it's easier to add than to subtract. So the first thing I have my vets do is we have an aim of nine cups of vegetables in that stuff measured raw.

So if you have your dinner plate, a standard dinner plate, and you keep it with your vegetables so you can't see the bottom of the plate at all. That's three cups.

And so it's three platefuls of vegetables, raw. And if you cook it, they'll shrink by half.

Diet, Neuroinflammation, and the Wahls Protocol

And I put it in three categories, green leafy vegetables, sulfur-rich in the cabbage, onion, mushroom family vegetables, and then things that are deeply pigmented.

And here I'm thinking of color should be all the way through. So if you look at your beautiful red apple, red on the outside, white on the inside, and apples are good for you.

But it's not going to hit all that pigment, which is a great marker for polyphenols and antioxidants. But a peach is colored all the way through. A black grape colored all the way through.

Plums colored through. Strawberries colored through. Beets, carrots, peppers colored through. And then I want to be sure that we have enough protein. And I'm mindful that there are some folks who are vegetarian for their spiritual beliefs.

They're going to need to eat legumes. in grains, preferably gluten-free grains, to have enough protein. If they're a meat eater, we'll have them eat meat.

And then, so that's the stuff to add. The stuff to remove, we want you to reduce the added sugar, reduce the processed foods, eliminate gluten-containing grains, so that's wheat, rye, barley, many ancient grains in dairy.

You can have clarified butter, so there's less of the dairy protein in that casein. And we also remove eggs. Eggs are the third most common inflammation producing food.

And part of the reason that I'm so particular about that, one is if I eat gluten, dairy or eggs, it will trigger my electrical face pains. So in about six occasional, you know, eight hours, very occasionally 24 hours, I have incapacitating trigeminal neurology.

So when we did our very first clinical trial, the IRB required me to use the same supplements. the same routine that I used for my self-care. And so that meant no gluten, dairy, or eggs.

And the way research works is you have your preliminary data, then use that for your next study, your next study, your next study. And so all of my clinical trials have basically used this kind of dietary plan.

In my clinical practice, and actually in my clinics at the VA, I would encourage people to take the eggs out, preferably for three to six months. And then because If you tolerate eggs, they really are a great food.

The yolk has really great nutrition for your brain. The white is a good source of protein. So after three to six months, have the yolks, see how they do.

If you do well with the yolks, then add the white. So have the whole egg. If you do well, go ahead and enjoy eggs again. Well, I mean, the one thing that I have to kind of laugh, I was at your conference in 2019, right before the pandemic in Iowa, and you were lucky enough to have the hotel that hosted the conference feed everybody, you know, the diet as you recommend.

And I can remember sitting down with Deanna Minnick and Medea Seed, and we were all looking at the plane like, oh my gosh, this is a lot of food. I think, you know, people don't necessarily think about, you know, the quantity of

food that you're eating, but there's a purpose behind it, right?

Because, you know, you've got to put all that nutrition in the body to give it what it needs to heal. And when you're already dealing with particularly a neurodegenerative disorder, You know, your body desperately needs that fuel to do what it's designed to do.

And I think so many people out there, you know, when they're in a state of not feeling well, of course, A, they tend to eat crappy food because, you know, they feel bad about themselves.

They feel depressed. It's easy just to go for junk food, which of course doesn't really serve your higher purpose. Or the thought of just sitting down and preparing a full meal seems so incredibly overwhelming.

So convenience foods are much easier. So, you know, it does take a little forethought and planning, but it's also really quite easy because the foods themselves are quite simple to cook.

You know, if you think about construction, when you're building a new site, a new construction, a new house, you bring all the equipment and you put it up.

Now, if a windstorm comes through, damages my house, and I have to repair it. requires more resource than building it fresh from new. And the same is true for our bodies.

If we are repairing damaged tissues, it requires more resources to clear out the damaged tissue and then rebuild the new tissue. So the nutritional needs are much greater following surgery, following injury, and for anyone who hopes to recover from a kind of chronic illness.

And if you want to recover from a brain related issue or a peripheral nerve related issue, your nutritional needs for neural tissue are much greater than someone who is in great health.

Well, an important point I think to bring up here, you know, we know from the research on Lyme disease that there is a potential autoimmune event that Lyme can create.

And we know that it can target the gray matter of your brain, the white matter of your brain, your peripheral nerves, your joints. But in terms of all the neurological tissue, I mean, what's that going to look like clinically?

You know, you're going to have neuropathy, you're going to have brain fog, you're going to have fatigue and go, well, gosh, this sounds a lot like MS.

And again, this is where it gets to be a little bit clinically confusing because of that, that clinical overlap. you And both can occur at the same time.

Absolutely. So, you know, everything that you're doing in an effort really to help folks with MS, it so applies to Lyme disease because, foundationally, we're dealing with the same fundamental problems.

It may manifest in different ways, but, you know, I think we know about how important diet is. And along those lines, the importance of our gut microbiome, I mean, there's so much research on how important our gut bugs are for You know, I think pretty much any chronic illness nowadays has got some research, and certainly with MS, we know that there are certain bacteria that tend to be higher or the bacteria that tend to be lower.

You know, what are your thoughts on the gut microbiome? And you know, is diet really the best way to help feed that and repair what may have been lost earlier in life?

Well, the food we eat are going to be then consumed by the bacteria in our gut. And depending on what you're eating, you're going to fertilize different species of bacteria.

So if you have a diet that is rich in sugar, processed foods, you have a different mix of bacteria than if you have a

diet that, say, is a ketogenic diet, low in carbs, high in fat, or if you have a carnivore diet with no carbs and only animal products, or a paleo-Mediterranean diet that is high in vegetables and more moderate in meat.

We know that the ultra processed, so a lot of processed foods, high in added sugar, has a mix of bacteria that is associated with worse disease course for MS, worse disease course for diabetes, pre-diabetes, metabolic syndrome, which if you have that, you have a worse outcome for multiple sclerosis and a worse outcome for Lyme disease, by the way.

So the food that you eat really drives the risk of comorbid problems obesity, diabetes, metabolic syndrome, high blood pressure, and we have increasing recognition that the food you eat drives what microbes are going to flourish, what microbes will starve, and likely the severity of symptoms, whether you have a autoimmune disease or you have a chronic infectious problem related to Lyme disease.

Yeah, I worry for all of the people who've been dealing with Lyme and other tick-borne illness, because it's not an uncommon practice that people are on long-term antibiotics as part of their Lyme treatment.

Now, my approach is different. I rarely use antibiotics. I prefer to use herbs for a lot of reasons. But again, it's not uncommon that people have been on antibiotics anywhere from weeks to months, and in some cases, many, many years.

So I worry about that damage to the gut microbiome, because again, how much of these beneficial bacteria I mean, we know there's going to be collateral damage.

I think that's unavoidable when you're on antibiotics. But to the extent under, do we lose certain species that at that point we can't really recover?

It's much harder to get back. It's much harder to recover. So, you know, if you've been one of those people who have been on long-term antibiotics, I mean, again, diet is going to be critical.

And there's some interesting studies that have come out during that looked at people who have either a high fiber diet or a high fermented foods diet.

And that's six servings. So it was a cup and a half of sauerkraut kimchi or a cup and a half of yogurt. I think it was two cups of yogurt was the equivalent for the six servings.

Gut Microbiome, Fermented Foods, and Sleep

And they measured the change in the microbiome. And so while you're on the fermented foods or the high fiber, the microbiome changed quite considerably.

And then people stopped their fiber and stopped their fermented foods. So if you stop the fiber, the diet goes immediately back to the baseline diet. Now what was really interesting was the fermented foods, the change in the microbiome was sustained.

They did not go back to the previous baseline. I find that remarkably encouraging that if you have a high fermented foods diet, you are changing your microbiome populations in ways that stay.

So, and I know there are some people who have histamine intolerance and they can't tolerate a high fermented foods diet, but if you can and start small and work your way gradually up, this is so, so good for having more diversity for your microbiome.

And for those who follow me on Instagram, you'll see that I have lots and lots of fermented food. It's a rare day that I don't have fermented food and it's not uncommon for me to have a couple cups.

occasionally even three cups of sauerkraut or kimchi in my meals. And I love making things like beet kvass, which

are fermented beets, not fermented beets, but, and so I'll have a pint of that.

That is like so, so delicious. No alcohol, but still, you have to really like beets, but it's super wonderful. I'm glad you mentioned the fermented foods thing.

I was going to ask you about that because I know it's something you talk about in your book and I know you're a big advocate of adding fermented foods.

And again, I follow you on Instagram. I see your videos all the time. It seems like when you're showing your meals, almost every dinner meal, there's some fermented vegetables on there.

But again, you know, I think most people, you know, even if you're not crazy on kimchi, for me, kimchi can be a little spicy, but sauerkraut is super easy and you can find it everywhere.

Where I live in California, we have a lot of places that can make their fermented food. So if you don't want to do it yourself, you can probably find good quality fermented sauerkraut without being the commercial stuff with sugar and other things added to it.

You know, a great way to begin adding some fermented food is to, if you have a soup that you're having. So I have my bowl of soup and then I'll add a big spoon of sauerkraut or kimchi into the soup and stir it in.

It adds another flavor to the soup. It could sort of dilute it. And this is a very lovely way to sneak a little ferment into your family's diet and gradually increase it so they have no idea that you've just upped the quality of the microbiome.

Super easy. I like things that are cheap and easy and don't take a lot of effort. I know that again, diet can be very overwhelming for people, but in my practice, and I think your experience has been the same, is that it makes such a big difference.

It moves the needle better, I think, than so many other things we try and do. Again, you can take a lot of supplements, which can definitely help, but I think the one factor, again, if I have one thing that I want people to do, when they're dealing with lime or any of these other things we're talking about is make those diet changes.

And, you know, even with like gluten and dairy, I mean, I'm sure you've heard this as well. It's like, well, you know, I've eaten it. I've never noticed any difference.

I don't feel the difference. But if you've been feeling bad for a long time, how would you tell? And, you know, we know from the research on gluten that once you stop eating it, it takes months to get all that protein out of your gastrointestinal tract.

You know, I also make the observation that some people go gluten free. and start buying gluten-free pastas, bread, gluten-free cookies. And so I'm still having seventh servings of gluten, of breads, cereals, pastas every day.

And I've switched to gluten-free. So now it's higher, high glycemic index, still ultra-processed. And so I've not really improved the quality of my diet.

If you take out the gluten-containing products and you replace them with these radical things known as vegetables, whether there are potatoes or yams and squashes, I predict you would discover that one, you're saving a lot of money and you feel a lot better.

We talk a lot about using things like soups, stews, meals in your slow cooker. And then what I do, I like to cook once and have the same meal again so that I can cook today, can the soups, stews that I've made, and then have it four days later.

That way it's very efficient time-wise. And so, you know, I'm working all day. All I have to do is open up my jar of

soup, add my spoon of sauerkraut, and I've got a great meal in five minutes.

Super easy. Super easy. What are some other ways that you recommend to help people get their inflammation under control? If people are following your diet, they're managing what they put in their mouth.

What are some other strategies that people can start to do to help get that inflammation under control? Improve your sleep. One of the things that has certainly been very helpful for me is to wear one of the wearable technologies that gives me feedback on how active I've been in the day in the quality of my sleep.

Uh, you know, for so many years in my life, I thought it was fine to have just four hours of sleep at night that that was, you know, sleep was wasted time that, you know, I have a lot to do.

I'm ambitious. I want, you know, I got stuff to do. And eventually I came to understand that sleep is very restorative. It's when we remove toxins, it's when we make hormones, it's when we do our structural repairs.

And so if you're not sleeping. You aren't doing that work. Then I started paying attention to having a consistent bedtime, a consistent time that I'm getting up.

If I wake up during the night to stay in bed and close my eyes and meditate so that over time, that improves the quality of my sleep. Another thing that you can do is practice gratitude.

And you could, again, you could take your little journal and write even one sentence of gratitude. You could as a morning practice, when you first wake up, have a sense of gratitude.

You could have as an evening going to bed practice. It is something that I do that I really, really enjoy. I'll pick a period in my life when either as an infant, a preschooler in school, medical school, sometime in my career, and I am thanking someone.

Sometimes it's my horse, sometimes it's my tree farm, sometimes it's my mom, my dad, my research mentors, and I thank them for how they have supported me.

It changes the inflammation molecules that are being produced in your brain. They help calm the inflammation-producing cells, the microglia in your brain as well.

And there's no cost to that. The only cost to that is that I just have to take a few moments I could do this in 30 seconds to formulate these thoughts.

I could say them out loud with my family as part of my prelude to the meal. I could have these thoughts as I drift off to sleep. Yeah, I invested in an Aura Ring.

I like it. It's a very low EMF device. You can even set it so that it's basically not talking to your phone during the day, but it's still collecting the data.

So again, I found it an invaluable resource for me. Same thing, I didn't really realize how poorly I was sleeping until I started looking at data. And I realized I was getting 20, 30 minutes of deep sleep a night.

And then again, after making some of these changes, now I get fairly consistently an hour and a half to two hours of deep sleep a night. But again, it makes a huge difference.

And I was always wondering why I'm so tired during the day. It's like, well, duh, you're not sleeping. At least you're not sleeping well. But like you mentioned, you know, it's when your body repairs itself, all that good detox happens when you're getting that deep restorative sleep.

So I like these wearable devices as well. I think, again, data is important. It helps us give an idea about whatever we're doing. Is it doing what we want it to do?

And again, it can also give us information on what we need to change in your regimen to make sure that we're doing everything to get you to feel better.

Absolutely. Absolutely. Well, I want to talk a little bit about your research because I know this is your wheelhouse and you've published so many great studies.

Can you talk a little bit about some of the research you've already published and then maybe give us a little preview on what's coming? So the first study we did was in secondary primary progressive MS.

Research Findings and Ongoing MS Study

We used essentially the same protocol that I had for my own recovery, wrote a very precise protocol that we could use for everyone else, exercise, electrical stimulation of muscles, meditation, the paleo diet.

And we wanted to show, could other people with progressive MS implement them? Was it safe? And then what happened? So yes, they could implement it. If they were overweight, they lost weight, got back to a healthy body weight.

Fatigue went down, quality of life went up. anxiety went down, depression went down, and half of these folks had meaningful improvement in their walking function, which is quite remarkable since in the progressive phase of your illness, you expect a 10 to 15% worsening every year.

So after that, then we started doing dietary studies in the setting of relapsing-remitting multiple sclerosis, and we did a 12-week weightless control.

So people either got the paleo diet immediately or they got it at 12 weeks. And again, we're able to show that fatigue went down, quality of life went up, walking function improved, and hand function improved.

Then we did a ketogenic diet versus paleo diet versus usual control. Very small study. Keto diet did better, pardon me, the paleo diet did better than the keto diet.

And of course, both diets were better than usual control. Then we did a, it's called a parallel study where people came in, had initial assessments at run-in.

We observed them on their usual diet for 12 weeks. Then they came in, repeated all the assessments. Then we randomized them to get either the low-fat swank diet or the walls diet and train them on the diet.

They came back at 12 weeks. We repeated all the assessments and then came back again in another 24 weeks. So we had six months of intervention. What we saw is that compared to the observation period, Both diets had reduced fatigue, improved quality of life, and for some of the measures, the Walls diet did better than the Swank diet.

The other thing that was really super interesting was that walking endurance improved remarkably for the Walls diet, not quite statistically significant, but clinically significant.

And now we have another study that we just did, which is called a network meta-analysis that took the 12 dietary intervention studies that have been done, analyzed them, and there are eight different diets, anti-inflammation, fasting strategies, calorie restriction, ketogenic, low-fat, swank, and a paleo diet.

And we're able to show that there were three diets that improved reduced fatigue, that was the low-fat, Mediterranean, and paleo, and two diets that improved quality of life, that was Mediterranean and paleo.

The paleo, having the largest effect size of all, followed by Mediterranean, and followed by the swank diet. Now what is really exciting is we got that published in Neurology, the highest impact journal that has MS research, and it was accompanied by an editorial that said there is evidence that diet really does matter.

And everyone who's newly diagnosed with MS should be sent to a dietician, a nutrition professional who can help them improve the quality of their diet.

In that, you could follow a Mediterranean diet, a paleo diet, dietary guidelines, ketogenic diet, but you got to follow a diet that you and your family are willing to follow that follow your culinary preferences, your cultural preferences, and your religious preferences.

So super exciting. Then we have a intervention study where we are recruiting and we're recruiting right now. So I'm hoping some of your folks who are listening to the summit will screen and will be part of this study for people with relapsing remitting multiple sclerosis between the ages of 18 and 70. You'll come to Iowa three times at month zero, month three and month 24. We'll look at vision, hand function.

walking function, and the measure of thinking. We will look at fatigue, quality of life, and mood. And we're also going to get brain MRIs using a research magnet, so no contrast.

And one of the big questions we're going to ask Darren is, because you and I have MS, and this really matters to me, I'm sure it matters to you a lot, that people with MS, our brains shrink about 1% per year, which is why people with MS have much higher rates of growing frail, of having depression, irritability, and early dementia.

I'm going to test, and I'm very hopeful that by improving your diet, we can get you to healthy rates of brain aging, which I think will be the most important thing that we could find in the studies.

Can fixing your diet get you back to healthy rates of aging, which is less than 0.3% per year? And based on how great my brain MRIs are, I'm thinking, you know, that's definitely really possible.

Well, that's incredibly exciting because, again, showing that, you know how it is with the neurologist. No knock against neurologists. I know they do the best they can.

But, you know, as somebody with MS, you know, in dealing with my own neurologist, at least initially, I have a great neurologist now who's much more open-minded, but initially, You know, they're a little bit gloom and doom, you know, their experience is often people, like you said, they decline 10, 15% of a year.

The expectation is you'll eventually end up in a wheelchair and the meds out there are just really designed to slow the trade down with offering really no hope of.

Certainly reversing the situation and improving the situation. So what's so exciting about everything that you're publishing is that you're showing that this is.

Things can improve. You can improve your quality of life. You can improve your function. You can improve your brain. I'll dare even use the word reverse the situation.

Well, we have some really exciting data. I can't wait until we can publish that. My team was showing it to me. I'm like, oh my gosh, we have exciting data.

We've had 24 scientific papers that we've published on our seven studies. We have more that are being developed in peer-reviewed publications because it takes, you know, doing the data, doing the analysis, publishing in a peer-reviewed publication if we're going to change clinical standard.

You know, and Darren, I do want to give people the website to go look to screen for the study. If you go to terrywalls.com, T-E-R-R-Y. There'll be a gold bar across the top.

Click there to complete the screening form that gets a little demographics and tells us how to reach you so that we can begin the process of telling you more about the study and getting you enrolled.

I think this is really exciting. And again, for people who are tuning in, who've been struggling with Lyme and tick-

borne illness, I hope you're hearing that all this work that Terry's doing in her team to improve the function of MS patients, it's so applicable to Lyme disease.

Absolutely. You're going to get the same benefits, you know, better quality of life, better mood, better brain function, better energy, better sleep. you know, by making some of these changes.

If you don't have a copy of Dr. Wall's book, The Wall's Protocol, please pick up a copy. It's just, it's just a great resource. Here it is. Go. It's an easy read.

She's got, she's got another book, which is recipe. Thank you. So, you know, it's all laid out for you. It's really, I said, you know, easy to follow.

It takes a little bit of time to do the homework, get yourself, you know, comfortable with the dietary recommendations. But, you know, this is doable.

I mean, I've done it myself. And again, initially, it was really, again, and I know a lot about nutrition. It was a little bit of a struggle for me, too.

And I've had times where I fall off the wagon. And every time I do, my function changes. I can feel the difference. I mean, I was using a continuous glucose monitor for a while, and I was shocked at things that I thought I was doing that were actually quite healthy were not.

And it actually was causing the spikes in my blood sugar. I'm like, this is not good when you have MS. Again, data is really helpful. It tells you that you're on the right track, that you're doing the right things, that you and your doctor can make good decisions about the best way forward.

Closing Remarks and Resources

So before we close, Terry, is there anything else you'd like to share with the audience? Definitely go check out to her website, get on her list, get the information, but anything else you'd like to share?

Okay. So we're recruiting 156 people. We are halfway there. So Darren, I hope that there'll be some of your folks who are attending your summit who have MS.

or have friends who have MS that you'll encourage to screen to get enrolled. We'd love to get you in our setting. Fantastic. Well, Terry, it's always a pleasure talking with you.

I appreciate you, the work you're doing. What a huge contribution you're making to not just the MS community, but really anyone living with chronic illness.

So again, thank you so much for being part of the summit. Thank you. You know, one more thing we should mention is my Instagram, which is drterrywalls.com.

Sign up for that. So Dr. Terry Walls, That way you can see what I'm eating and see all those great meals that we have. And by the way, if you haven't tuned in, be aware that she often travels with raw cabbage and it took me a while to get used to the raw purple and green cabbage, raw.

That is so much fun. All right, Jerry, thank you again so much. Thanks, Darren. Thank you for tuning into Doctor Talks. We hope today's episode has enlightened and inspired you on your path to optimal health.

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