

[#128: Dr. Jill interviews Dr. Terry Wahls on Recovery from Multiple Sclerosis & Wahls Protocol](#)

Text:

Dr. Jill 0:13

Hey everybody! I am so excited today on another episode of Dr. Jill Live to have my friend and colleague, Dr. Terry Wahls. Many of you have heard her story, and if you haven't, today you are in for an incredible treat. She has a story of recovery—similar to mine—from an illness that we always say [is] "irreversible," and yet both she and I have evidence that autoimmunity can be reversible in the right circumstances. I am so excited for her to tell you her story today.

Dr. Jill 0:41

Just a little background: If you want to hear other episodes, you can find me on YouTube, on my channel, on iTunes, or anywhere you listen to podcasts under the name "Dr. Jill Live." Dr. Terry Wahls, welcome today. I'm so excited to have you here with me!

Dr. Wahls 0:52

Oh, thank you for having me!

Dr. Jill 0:54

You're welcome. So just a brief introduction: Dr. Terry Wahls is at the Institute of Functional Medicine. [She is] a certified practitioner and clinical professor of medicine at the University of Iowa, where she conducts clinical trials in the setting of MS (multiple sclerosis). In 2018, she was awarded the Institute of Functional Medicine's Linus Pauling Award for her contributions to research, clinical care, and patient advocacy. She is the author of The Wahls Protocol, a radical new way to treat all chronic autoimmune conditions using paleo principles, and the new cookbook, The Wahls Protocol Cooking for Life.

Dr. Jill 1:32

If you're listening to this on iTunes, YouTube, or Facebook, I will be sure and include those links there [so you can] learn more about the current study. We're going to be talking about this: The efficacy of diet and quality of life in MS. I will leave that link; it's wahls.lab.uiowa.edu. And pick up the one-page handout for the Wahls Protocol on her website, terrywahls.com/diet. Again, I will be including these links wherever you're listening, so don't worry if you're missing them; you'll find them in the show notes and everything else. Dr. Terry Wahls, welcome! I'd love to start with your story. Before you got diagnosed, how did you get into medicine? And then we'll go into the journey of what happened after that.

Dr. Wahls 2:17

Well, I'm a farm kid, so I grew up on a farm. I was outside. I thought I wanted to be an artist, so I did art school. A lot of oil painting—metallurgy. Then I decided I didn't want to starve, so I was going to go be a vet. Along the way, I ended up deciding to go to medical school. I was so thrilled to be in gross anatomy. I probably have three times the formaldehyde exposure [than] my classmates because I'd go back to the gross lab, unwrap the cadavers, and I'd draw them, and draw them, and draw them, and draw them, so I have these beautiful notebooks. And then, during medical school, I started getting trigeminal neuralgia. That's where my symptoms first began.

Dr. Jill 3:10

I had no idea. I grew up on a farm as well, and I did not want to go into medicine; I thought [I'd do] some other healing profession. But it's very interesting how we're drawn to this. Then, in medical school, I got cancer. This isn't about me today, but I can relate to your story and how that weaved in. Interestingly, I just wonder too; I think that there were things on the farm [such as] exposure—

Dr. Wahls 3:33

Atrazine.

Dr. Jill 3:34

Right. I knew you were going to say that because me too.

Dr. Wahls 3:35

Atrazine in the farm world, yes.

Dr. Jill 3:39

I'll tell you what, I remember that 10 years after my breast cancer diagnosis, I looked at the map of atrazine, and Iowa and Illinois are [where it's] most heavily used. It's banned in the EU. It's still used in the US today and is a massive endocrine disruptor and toxic. It's interesting that we have that similarity too.

Dr. Wahls 3:57

So we have atrazine. I'm an artist, so I did oil painting. I started in high school. Cadmium-orange, mercury-red, lead-red—so I'm getting heavy metals and solvents. And then I do metallurgy, so more lead [exposure]. And then I get formaldehyde [exposure], so I'm diffusely toxic. And then I decided to be a rebellious teenager, and I quit eating meat and became a vegetarian. I went to medical school. [I was on] a very low-fat diet because, you know, that's what I "should" do. I was taught to be afraid of the sun, so I put on sunscreen. And of course, instead of being outside getting a dark tan, I was inside, and I wasn't getting as much vitamin D. I did manage to maintain my exercise, and I was jump roping and doing push-ups, doing a lot of exercise during medical school, so at least I kept that up. But certainly, my vitamin D [levels] plummeted, my stress level went through the roof, and my toxic exposure was continuing to climb.

Dr. Jill 5:23

Again, [there are] so many similarities. When I was 14, I was like, "I don't want to eat meat anymore." [I was a] teenager—a rebellious teenager, on a farm—the same thing. I always joke because, at [age] 25, when I got cancer, it almost killed me, being a vegetarian, because I was severely B12 deficient. I was [dealing with] Celiac. I was eating all these gluten, grain-filled [foods], [and] processed soy. There are so many similarities. So when were you formally diagnosed?

Dr. Wahls 5:47

In 2000. That's when I developed leg weakness. I go to see the neurologist, who says: "You know, Terry, this could be bad or really, really bad. I'm going to send you down to get an MRI tonight to decide if you need to be admitted." So I called Jackie to say, "You've got to pick up the kids because I'm going to get an MRI, and I think I may be getting admitted." So I was laying in the scanner thinking about "bad" and "really, really bad," and I was thinking that I've already had 20 years of worsening electrical face pain. I also thought about my father's worsening pain in his legs. He had this intense electrical pain. Then he developed a weakness, which was diagnosed as mononeuritis multiplex. So I'm like, "Okay, I clearly have a progressive

problem, and I don't want to be disabled." I was actually praying for a rapidly fatal diagnosis as opposed to a disabling one.

Dr. Jill 6:58

Wow, what a perspective. Were you post-medical school when this started, when you went to get the MRI? Or where were you at?

Dr. Wahls 7:04

That was 20 years ago, so it's 20 years after medical school. I was 45 [years old at the time]. I had young kids; my kids were five and eight. I had just resigned from the Marshfield Clinic. I was starting at the University of Iowa, and I was like: "Oh my God. At least I was in a university setting, so I should probably get the very best people." And I got the diagnosis. Like many physicians, I immediately went to the internet, reading all that I can. Jackie sat me down and said: "Terry, you're just getting yourself upset. You've got to promise me you're going to stop reading. We'll find the best MS center in the country. We'll have you go there. Let them take care of you, and quit trying to take care of yourself." So I agreed, and I did that; I started the newest drugs.

Dr. Wahls 8:02

It's interesting that two years into this, my physicians talked to me about Ashton Embry. He's a geologist whose son has MS and who had remarkable improvement after he adopted the paleo diet. So I was introduced to the work of Loren Cordain. I was reading his papers [and] his books. After a lot of prayer and meditation, I decided to go back to eating meat. Now, what's interesting, Jill, is that my father died when my son was two; my mother had died about three months earlier. So as I'm reintroducing meat into my diet, I had all these conversations in my head, apologizing to my parents, like: "You had told me for years that I was really wrecking my health by being a vegetarian. Now apparently you were right." I was wrecking my health by being a vegetarian—at least for me. My version of being a vegetarian, for me, turned out to be part of why I think I became so ill.

Dr. Wahls 9:08

In 2002, I was still walking, although not as well. I went back to eating meat, and that was a big deal. I kept declining. The next year, I needed a reclining wheelchair. My physician said, "Terry, you're in a secondary progressive phase of the illness." She asked me to take mitoxantrone, a form of chemotherapy that you may know well. It didn't help, so we did several cycles. She said, "Now, Terry, we're making you neutropenic. We're not going to keep doing this because it's not helping you." And

then Tysabri was released, so she said, "Let's have you start Tysabri." So I took Tysabri, which, by the way, gave me a horrible headache every time I take it. But I figured that's really good because it's going to my brain, doing whatever it's supposed to be doing. But that didn't help, so my doctor said: "Okay, we can't keep giving this to you because it's not helping you. You're continuing to rapidly go downhill." So, they put me on Cellcept.

Dr. Wahls 10:16

Then I was like, "Am I really doing everything? I know how bad it's going to be. I'm clearly on track to become bedridden. I think I'm going to go back to reading the literature; it can't get any worse than I'm already looking." At first, I was looking for more drug studies, and I was like, "Well, I can't get these drugs anyway." So then I was looking for off-label use of drugs, and I finally decided: "Maybe I should be looking for things I could access. I'll look for supplements." Then I started looking for supplement studies for the animal models of MS. Then I realized: "These are all relapsing-remitting forms of MS, and I'm in the progressive phase. I've not had a relapse. I've had two relapses in my entire disease course. I should be looking for progressive neurologic diseases."

Dr. Wahls 11:20

So then I switch over, and I start reading [about] Parkinson's, Alzheimer's, Huntington's, and ALS, and my conclusion is that it's the mitochondria—it's the mitochondria that are not giving enough energy to the neurons, and that's causing the progressive decline. So my thinking was, "Okay, what can I do to help out my mitochondria?" So again, I was doing PubMed searches, and I had creatine, carnitine, coenzyme Q, and some B vitamins. Not a lot was happening. I was doing this for about six months, and the professor of medicine was like, "You're wasting your money. Quit them!"

Dr. Wahls 12:12

So I stopped everything. In 24 hours, nothing happened; 36 hours [later], I really couldn't function as well; 48 hours [later] I couldn't get out of bed; 72 hours [later], Jackie came in and said, "You know, honey, why don't you take these again?" So I took the supplements. Not much happened. The next morning, I could get up and go back to work. Now, mind you, yes, I still had severe fatigue. It was hard to walk around. I needed my two walking sticks to walk around the house. I needed the reclining wheelchair. But I was back to my usual level of disability, and I thought, "Wow, that's really interesting." So I told Jackie, "I want to try again," and she was intrigued, like, "Okay, let's wait two weeks." So I stop everything—

Dr. Jill 13:07

The scientist—ever the scientist, right? "Let's experiment!"

Dr. Wahls 13:10

So again, it took 36 hours, and I wasn't feeling very well. At 48 hours, I really couldn't get out of bed. We waited 72 hours, I took my supplements, and the next morning I could get up and go to work. I was back to my usual level of fatigue. I was like, "I'm figuring stuff out that my neurologist doesn't know, that my primary care doctor doesn't know." And I was excited. Mind you, I had severe fatigue, and I'm not a neuroscientist; I'm not a neurologist, but I was like, "I'm going to be reading more of this basic science stuff, slogging through it."

Dr. Wahls 13:58

I gradually added a few more supplements. At first, I went to my primary care doctor and said, "I want to add this." She added it to my medication list and said it was okay. After a while, I didn't check in first; I just added stuff. Then, when I scheduled my next visit, I said, "Okay, this is what I've added." She went, "Okay!" and then she added it and said, "Well, I guess it's not hurting you."

Dr. Jill 14:21

Let's just explain this really quickly because many people know this [while others] don't. We're trained in allopathic, conventional schools. It's excellent training [for treating] stroke, trauma, or whatever. We're not taught a lot about nutrition or nutritional supplements. Many times, [a doctor might say], "Don't take any of those" just because they don't know. I just want to clarify because what you were coming against is what we all come against. Even our education lent itself to [one of two things]: These either "don't work" or "we don't know enough science." The problem is they're not reading; there are studies, and there is science. I mean, granted, it's coming out. But what we're coming up against is two worlds that are colliding. In the allopathic medical world, [where] you and I were trained, we don't get education in nutritional supplements or even dietary or nutritional advice. Correct?

Dr. Wahls 15:05

Well, the education that I got was: Follow the low-fat diet—lots of grain, low-fat, and moderate your meat intake. So the diet that I had been following [was] a very, very low-fat, vegetarian diet [which] would have been very heart-healthy and would have been viewed as the absolute best diet to follow. I was trying hard. The Swank

diet, which is a low-fat diet, and the Pritikin diet were advocated as a way to manage MS, so I had been trying them. And then I did the paleo diet, and it was like, "Well, I don't know how long it would take to repair my brain." I knew clearly that there was a lot wrong with my brain and my spinal cord. Science would say it takes about seven years to rebuild your brain. So like: "Okay, maybe it takes seven years before I see any changes, so I've got to be patient about this."

Dr. Jill 16:11

I loved your story [of what you said] to your parents because it's so similar. At 14, I was like, "I'm going to do my own thing. I'm going to become a vegetarian." But again, both of us didn't know what we were doing. At least for me, it was more of a carbotarian, processed diet. It wasn't super healthy. And, just like you—at 25, with my genetics, my Celiac proneness, my issues with grains, and all of that inflammation and autoimmunity—that diet almost killed me. And then I did, [like] you, put the meat back in.

Dr. Wahls 16:41

Unfortunately, I waited until I was 45, so I had a really deep hole.

Dr. Jill 16:47

It probably took a while to get used to making stomach acid again, right? Was there a little transition getting back to making it?

Dr. Wahls 16:51

Oh yes. It was not easy to reintroduce meat.

Dr. Jill 16:55

I love what you're saying because it's not like there's one diet that fits all. For a severe cardiac person, that might [work]. What you and I are talking about is this autoimmune realm, this inflammatory realm, and this neurological realm. And clearly, there is good evidence for what you're presenting. One other thing I want to mention is that you mentioned Cellcept. I happen to know this, and you know this too: Cellcept is [made] from mycophenolic acid, which is not a bad thing for someone who needs to suppress the immune system. But what your doctor was doing was trying to suppress the inflammation the immune system was causing to create damage in your nervous system. But Cellcept is literally [made] from one of the mycotoxins that I treat every day in my office and that causes immune suppression—mycophenolic acid.

Dr. Jill 17:33

It's so interesting to me that we use drugs that are actually toxins because we want to suppress the immune system when we could actually reverse that inflammatory response. So go on; I interrupted you. But those are fascinating little tidbits. So you changed [your] diet, you started to see the change with the supplements, and you experimented and saw—

Dr. Wahls 17:50

So I changed my diet. I was adding supplements, and what is exciting is that I slowed down the speed of my decline. I had seen neurologists at the world-famous MS Center, [but] traveling was too difficult on the plane with the wheelchair. So I was at the University of Iowa, seeing a variety of neurologists here. Everyone says that when you're in the secondary progressive phase, functions will not come back and that the whole name of the game is to slow the decline. So I accepted that. I was doing all that I can to slow my decline. I could see that I was slowing it down. It wasn't getting worse at such a fast pace, so I was very, very grateful. I was slowly adding a few more supplements, and the paleo diet that I was following is the AIP diet. [It's a] great diet! Of course, at that point, they were really [talking] about what not to eat, not about what to eat yet—it was about what not to eat.

Dr. Wahls 18:58

And then, by 2007, my trigeminal neuralgia was more frequent, more severe, and much more difficult to turn off. I was on the maximum dose of Gabapentin every day. I was making frequent trips to the pain clinic when it turns on to get injections—trigeminal nerve—ooh! That's difficult to think about. And I was going to the infusion center to get a gram of Solu-Medrol every day. The first time I did this, it took only three doses of Solu-Medrol to get the pain turned off—that's not too bad. In 2007, I was up to five doses before the pain was turned off, and I visited the pain clinic every day for five days [before] it was finally turned off.

Dr. Wahls 19:47

And I was thinking about the natural history where my dad's pain was continuous and horrific. When my pain was turned on, to give people a sense of that—you're a farm kid; you know what I'm about to describe—[it was like] a cattle prod stuck right here. So [it was like] 10,000 jolts across my face for just an instant. When that pain was turned on, all my sensory input was obliterated. All I saw was white; I couldn't hear, I was deaf [and] blind for an instant. My motor nerves were impaired, so my knees buckled. I was not falling to the ground yet, so I could maintain enough

tone that I didn't fall. I had this involuntary grimace and grunt, so when the pain turned on, I couldn't see patients. Early in my life, I could see patients, but eventually, I was no longer able to control it enough. So when it turned on, I went to the pain clinic, got my injections, [and] waited for things to turn off. I understood that it was eventually going to turn permanently on and that Solu-Medrol was not going to turn it off.

Dr. Jill 21:05

I need to stop here because you know what your father went through, and you're in the midst of this. Again, the difficulty of [being] a physician is that you know a lot, but sometimes you know too much. How did that feel, knowing what you knew could be the next thing coming?

Dr. Wahls 21:23

When this is on, light triggers the pain; sound triggers the pain; a breeze triggers the pain; talking triggers the electricity; chewing triggers the electricity; swallowing triggers the electricity. My wife and I had very big conversations, and I changed my durable medical power of attorney. I changed my living will such that if my pain turns on and I stop swallowing and I'm just drooling and I stop talking—and I knew that would happen because when all of your sensory input is transmuted to this intense electrical, horrific level of pain, you're not going to talk [or] swallow—there'd be no feeding tube, there'd be no IV fluids. So I was like: "Okay, eventually the pain will stop. It might take 7–14 days for dehydration to cause renal failure enough that I would die, maybe 20 [days] at the most, but it would eventually stop." That gave me tremendous comfort.

Dr. Wahls 22:42

When the pain would turn on, in this agony of pain... We had sent the kids and the dogs to another home because of the sound. I just couldn't deal with anyone talking to me, [and] I couldn't deal with the dog barking. I'd be in a dark room. Jackie would take me in for my injections and bring me back. I'd be in a dark, quiet room, and we'd do that—the last time we did it, [it was] five days before I finally had relief.

Dr. Jill 23:23

Wow, that suffering is unbelievable, Terry. I've known your story, but I've not realized [how severe it was]. What you're talking about—the nerve types of pain—I don't think there's anything worse that a human could experience, honestly.

Dr. Wahls 23:40

Trigeminal neuralgia is described as the worst pain known. Debbie, my daughter, was telling me that she was reading and said: "Oh, yes. That checks out. That clearly is the worst pain that a human can endure because I've watched you endure that."

Dr. Jill 23:55

Wow. So where did you go from there with this? Obviously, we were starting to see little glimpses, but you were in a pretty severe cycle.

Dr. Wahls 24:03

That was in July of 2007. I was beginning to have some brain fog. I was like, "Oh, God! So now I'm going to become bedridden, I'm going to become demented, [and] I'm going to have intractable pain that I'll die by. This is a pretty terrible future that I'm looking at." My chief of staff pulled me into the office to say: "I'm going to assign you to the traumatic brain injury clinic starting in six months because you have to finish up what you're doing, so you'll start in January." He described the job: I'd be part of a multidisciplinary team; I'd be examining these vets and doing the primary care. I came home and told Jackie, and she said, "There's no way you can do that job!" I said, "Yes, I know."

Dr. Wahls 24:53

So come January, "I'm going to go, and either I can do the job or I have to come home and apply for medical disability." That was distressing to us both. But two weeks later, I went because I had been assigned to the institutional review board. I was part of the committee that reviews clinical trials for the University of Iowa. I told them, "Give me all of your brain and psychiatry stuff." The study that I was asked to review was on traumatic spinal cord injury. They were using electrical stimulation of muscles. I thought, "Well, this sounds interesting," So I did a quick search. There are only 212 studies, so it didn't take me long to look through the 2012 abstracts. I convinced my physical therapist to have a test session. It hurt like hell, but when it was over, I felt great. He said, "It's the endorphins."

Dr. Wahls 26:00

So we added an ESTIM to my physical therapy, and I was doing 10 minutes of exercise every day with my little ESTIM. I really appreciated [the progress], [and] it was doing great things for my mood. Then I discovered the Institute for Functional Medicine, and they had this interesting course on neuroprotection. So I got that

course, and there was a lot of biochemistry, but they were talking [about] mitochondria. I was so thrilled.

Dr. Jill 26:32

You're like, "I know this; I've been doing this!"

Dr. Wahls 26:34

It's a long list of supplements; I was like, "I can do this." So I was up to 18. "But you know, hey, I'm good." Not a lot was happening yet. Then I had this really interesting 'Aha!' moment. And, Jill, it's embarrassing to think how long it took me to have this 'Aha!' "What if I redesign my paleo diet based on the supplements I'm taking?" I said, "What are these nutrients in the food supply?" So instead of being focused on what not to eat, I was focused on what to eat. So that's more research.

Dr. Wahls 27:15

On December 26th, I started this new way of eating. I should say that at my [inaudible] in July, I could not sit up in a regular chair. I had a zero-gravity chair, laying back with my knees higher than my nose. I was having brain fog. I was having progressively severe trigeminal neuralgia. So, in December, I was eating but from my zero gravity chair, sort of leaning back. My family was always nervous that I was going to aspirate because I was leaning back so far. Then January came, and I had to go to this new clinic, and I was sort of bummed, [thinking], "I'm going to have to take retirement."

Dr. Wahls 28:04

The first two weeks I was just watching, like, "Okay, I should be able to watch." So the first day [of] the third week, I did my exams, got out of the wheelchair, and wrote my notes. At the end of the day, it was like, "Well, that wasn't too bad." At the end of the week, Jackie and I were having this conversation like, "Maybe I can do this." At the end of the month, I told Jackie, "I want to try sitting in a regular chair," and I had supper sitting at the table, sitting upright in a regular chair. I was like, "Wow, that's pretty wild!"

Dr. Wahls 28:54

And then in February, [I was like], "I think my energy is a little bit better, and I think my mental clarity is definitely better." And then at the end of February, my physical therapist said, "You're definitely stronger, Terry. I'm advancing your exercises." So we were advancing my exercises. I could do ESTIM twice a day. And then, in March,

I was walking with walking sticks. My partner was at the hospital, like: "Oh my God, Dr. Wahls, you are walking! What's happening?"

Dr. Jill 29:35

Because in medicine, this is not something we're typically taught is possible—seeing what you're describing.

Dr. Wahls 29:40

Yes. So I was walking around the VA Hospital—first with my walking sticks, then without [them]. And then, in April, it was time for me to have my every-two-year visit with the chair of medicine at the university. But I thought, "No, that's too far," so I decided I was going to take my scooter over. But my scooter died on the way over, so I disengaged the flywheel, and I pushed it up the hill. I left it by the entrance, and I walked to my chairman's office, then I came in. The secretary explained that my scooter died. He [said], "She had to wait for the patient mobile [service]." I said, "Well, no, actually I pushed it up the hill and I walked over." He [said], "What?" So I explained my story. I showed him my electrical therapy device. He's a rheumatologist, so he really gets autoimmunity. [He was like], "This is really interesting, Terry. We need you to write a case report." I [said], "On myself?" He [said], 'Yes.'

Dr. Wahls 30:54

So he gave me some guidance on how to get that to happen. Then he called me back—because I had been doing a different type of research program, [which was] diagnostic error—and now he wanted me to do a safety and feasibility study to see if others with progressive MS can implement what I did.

Dr. Jill 31:14

[In order] to see if it would be safe to eat good food, right? Basically, is it safe to eat really good food? [laughing]

Dr. Wahls 31:18

Radical. Sort of radical. So it took about a year to really write the protocol that I'd use for my own recovery—write it in the IRB. Then it turned out I would have to get approval. I would have to do exactly what I did: A big list of supplements and natural therapy devices, and then we had a bunch of safety labs. This had suddenly become fairly expensive. I would have to raise about \$100,000. But Ashton Embry and his non-profit in Canada raised that money for me. And the electrical therapy company,

the device manufacturer that I used, gave us devices and electrical supplies that we could use. In 2010—it took me a couple of years to get all the approvals—we finally were able to start doing our study. We enrolled our first patient in 2010.

Dr. Jill 32:29

Wow! What an amazing journey! And what I love is that you bring the medical background and the researcher's brain. What you've done in our community, in our world, and in this type of medicine and this new way of thinking that autoimmunity may be reversible—surprise, surprise—is actually bring studies and the science, which is so important for us as practitioners. If we really want to shift medicine, we need the science.

Dr. Wahls 32:57

We have to have clinical trials. The sequence is: You write a case report, then you write a case series, then you do a single-arm safety and feasibility study based on what you observed in the case studies in the case series, which we did. Then you start doing small, randomized, pilot-controlled studies, which we did. We did a larger study. We keep getting larger studies. I tell you, Jill, it was really interesting. That first study, which was basically things that I did for myself and for 20 [other] people now, was very radical—diet, supplements, meditation, exercise, electrical stimulation of muscles—five things. If you count all the supplements, it's really like, "Oh, my God, way too complicated!"

Dr. Wahls 33:56

Getting it published—we got it done in 2011. We wrote up our first ten. It was not until 2014 that I could find someone to publish it because it was such a radical concept. I tell my postdocs and my other junior scientists that if you're doing something really new, they'll think you're nuts, they'll think you're crazy, and they'll vilify you. You will not be able to get published. You will have to go into an incredibly low-impact journal because what you're doing is so new and innovative, and you've got to be okay with that.

Dr. Wahls 34:40

I love that you say that because, if you look back historically, this is the way with any new concept or turning things on its head. But this is also the way we shape medicine. You are a leader in that.

Dr. Wahls 34:52

You have to be okay [with that]. I think part of the reason I have been successful—well, there are several things. One [reason] is that I'm sort of introverted, so the outside noise is [just] noise, I don't really notice it, so that's helpful. The other is that I'm gay. I grew up in a small town, knowing that I was different from all the other girls. It took me a long time to finally come to terms with that. I finally was okay, like, "I have to lead my life." I didn't get comfortable with that until I was like 28. So it took me a long time to be okay with being comfortable and being able to acknowledge who I really am, which meant that I was okay with people thinking I'm a little odd and eccentric and being berated, being called a quack and a nut, and being condemned in the neurology community for a long time.

Dr. Wahls 35:52

I was like: "You know what? I got my life back." I'm willing to tell others with progressive MS that you could get your life back too. If you think that vegetables are pretty safe, that meditation is pretty safe, that exercise is pretty safe, that working with a physical therapist is pretty safe, and [that working with] electricity [is pretty safe]—if you decide to add that—that will be uncomfortable, and depending on how much current you give yourself, it could be quite painful. And you could start now if you want, or you can wait for the randomized double-blind trials, and that's okay too.

Dr. Jill 36:26

I love how you framed that because what happens, and I've done this in my career too, [is that] often [it's] like, "Okay, we add a little bit of vitamin C"; [we consider] the benefit/risk ratio. The risk is very, very minimal unless you have a G6PD deficiency issue or whatever. But generally, these things we're talking about are considered very safe and very low risk. And I'm always like, "Well, what if there is even a 10% potential benefit?" Always, in my mind, it's that weighing of that. And when we're talking about diet and lifestyle, some of these things that we know are quite safe compared to a brand-new drug that has potentially massive adverse effects, this is a whole different realm. It doesn't mean that we can't have the same scientific rigor, but it is different in clinical practice. I do the same thing. I talk to my patients and say: "Hey, I don't have a lot of evidence for this, but it's very safe. There's very low risk. Are you willing?" And then they get to decide with me. We make a decision together. But that's how medicine should be because some of these things that we're talking about are extremely low risk, even if they're radical in their minds.

Dr. Wahls 37:27

I make it clear that you can make a clinical decision. Do you need to take disease-modifying drugs? And I make it clear that I was thrilled to take incredibly toxic drugs because I did not want to become even more disabled, I wanted to slow my decline, and I had a profound disability. So I was okay taking those drugs. Now, eventually, as I began to recover and I was reading the side effects, I talked to my neurologist and said, "I'd really like to get off these drugs." He took me off. I've been off them ever since, again, with my neurologist's blessing. It's a clinical decision.

Dr. Wahls 38:09

Yes. Let's talk just briefly because I have people all the time that come in with severe Crohn's, severe MS and they are on the meds, they're on immune-modulating drugs or whatever. I don't take them off those medications, but what I do is start to do the structural-foundational work. As they get better, they can decide with their neurologist or their rheumatologist. Many of them do get off the medications, right? That's what we both see.

Dr. Wahls 38:32

Correct. That's what we see.

Dr. Jill 38:33

Neither one of us is saying that...

Dr. Wahls 38:35

I want to be very clear: You don't come off radically. If you stop abruptly, you will have a severe flare.

Dr. Jill 38:43

What's happening is that if you haven't dealt with underlying issues like, for example, Crohn's or any of these things we're talking about, if they are on any of the modulating drugs, that's the structural foundation that's stabilizing them. I need to go underneath the framework and fix that problem, and it could take 6 months, 12 months, [or] 18 months. Eventually, that framework will be stronger, and they may be able to get off the medication. But it's actually a disservice if we think that it's going to change like that anyway because, like you said, with the diet and nutrition, you saw some pretty dramatic changes, but often it does take many months.

Dr. Wahls 39:15

It takes a long time. The other thing that I've learned, and I'm sure you're doing this as well, Jill, is that I make it very clear that diet and lifestyle are now your disease-modifying drug treatment. If you abandon that, you're going to have a severe rebound and a severe flare.

Dr. Jill 39:33

This is so critical because people are like: "How long do I have to do this? How long?" This is critical for me, and I know [it is] for you too. Twenty years ago, after breast cancer, I started eating meat again. I started eating lots of plant-based [foods, [which are] very similar to what you use. People ask me, "Well, how long?" That's forever for us, right? I have no problem. I love my diet; I don't feel restricted. But that is not something that I ever mess with because I feel so good and so vibrant that it's not worth it.

Dr. Wahls 39:59

I have to stress to people that when you recover and you're feeling really great, you're off your disease-modifying drugs, and you're feeling like, "I think I'm normal again," and you're at your brother's son's wedding, and he offers you a wedding cake, some wine, and beer, and you have it and you think, "I'm fine," then you have a severe flare of your Crohn's, your ulcerative colitis, your MS, or your rheumatoid arthritis. You go see your specialist, and your specialist says: "See, I told you the Wahls [protocol]. She's full of shit. You should never have stopped your DMTs." And what I want them to remember is that I'm in your ear, saying, "See, I told you. You can never go off your disease-modifying lifestyle treatment." This is what's now keeping you healthy, with your immune cells taking care of you instead of attacking you.

Dr. Wahls 41:08

If I have gluten, dairy, or eggs, accidentally—if I came to your house and you accidentally contaminated me with those foods—in six to eight hours my trigeminal neuralgia would turn on. What's interesting, Jill, is that I now see my trigeminal neuralgia—and I've had 27 years of progressively more severe levels of horrific pain—as this amazing gift because I have this amazing biosensor of the happiness of my cranial nerves and the happiness of my cervical cord in my brain that if my sensation in my face is normal and there are no electrical twinges, I know that my microglia are very happy. If I begin to have abnormal sensations in my face, either on my right side or my left side, I'm like: "Okay, what was the trigger?" "What food might have been contaminated?" "Was I in a moldy environment?" "Was there some

air pollution release?" "Did I do too many 8 a.m. podcasts, so my schedule is too intense?"

Dr. Wahls 42:28

I have this little checklist. I'm going through my head like: "Okay, what's the trigger? How's my self-care?" And then, when Jackie gets home, I say, "Okay, honey, I'm having a little flare. What do you think is going on?" and we have a little conversation. Always, I can identify that there was a trigger or that my self-care routine was slipping up.

Dr. Jill 42:51

I love that you're sharing this because if we could teach all of our patients... I am the exact same way—the same thing. Sometimes it's my skin, sometimes it's my gut, and sometimes it's my brain. But I always know, the same way you know, "Oh, something's not right." And I do the same thing: "Did I not get enough sleep? I had a crazy schedule. Did I get gluten, dairy, egg, or soy?"—those are my big ones. So I love that you're saying this because if we can teach our patients to be in tune with themselves and what their body needs... Really, I came from this workaholic farm girl background like you, where we just push ourselves and suppress all emotions and sensations. What we're actually describing is getting re-in touch with yourself: What do I need? What does my body need? What do my cells need? At least for me, on the farm, we did not think about that. We suppressed that, and we just pushed and worked. And the medical training is even more like that because it teaches you to basically deny your needs, deny yourself, and push through, and you can suppress anything, right? But now, you and I are talking about how part of the way to true health is getting back in touch with yourself, trying to check in with your body, and listening to the signals that it gives us.

Dr. Wahls 43:57

We teach our clinicians to use these biosensors, and we teach our patients to use these biosensors [to explain] that pain is an amazing gift. Pain is so helpful because most of us don't want more pain; we would rather have less pain. When the pain signal comes through, you're like, "Hmm, what should I do about that?" Skin changes can be helpful. But pain is really the most instructive.

Dr. Jill 44:26

We can think of it as a teacher, then we can embrace it more and [be] like, "Okay, how do we stop or change this?" But let's talk in our last few minutes about your

new study and enrollment. Tell me about what you're doing now. I want to make sure everybody hears about this.

Dr. Wahls 44:40

We have a new study: Efficacy of diet on the quality of life. It is a two-year study. We're comparing a ketogenic diet to the Wahls Elimination Diet that I follow with usual care. People will come in at baseline again at 3 months, and again at 24 months. We'll have measures of walking function, hand function, [and] vision function. We'll have an MRI with a research magnet, so there's no gadolinium—no contrast. I'm really excited about this, Jill, because one of the things we'll look at is enhancing lesions [versus] non-enhancing lesions—so active inflammation or not. But we will also be looking at brain volume. One of my hypotheses is that if we improve diet quality, we can get the rate of brain volume loss back to [that of] healthy aging because if you have MS, your rate of brain volume loss is three times that of healthy aging, which is why cognitive decline is such a big issue for people with MS. The primary outcome is a change in quality of life. I'm very hopeful that we'll see a significant improvement in quality of life as people improve their diet.

Dr. Jill 45:53

Are you using NeuroQuant or another technology to do the volumetrics?

Dr. Wahls 45:58

We're doing something [with the] software here that we have at the University of Iowa, AutoWorkup, that measures brain volume at an even more precise level than NeuroQuant.

Dr. Jill 46:11

I've heard there are better technologies.

Dr. Wahls 46:14

Correct. We'll also be looking at serum neurofilaments, so some blood biomarkers. We're freezing blood and saliva so we can look at the microbiome, and we'll look at the metabolome—metabolomics—as well. It will be an amazing study, and we're able to do this because we have a gift from a grateful patient whose life I've transformed and who said, "I want to make this real." They gave us the funding to do this. We will be working on this for the next four and a half years. We've enrolled 50 people; we will enroll 156. So, everyone who's listening, we're looking for people with relapsing

and remitting MS. Tell your friends, tell your physicians, and spread the word. Help us get the next hundred folks in.

Dr, Jill 47:08

I love this, Dr. Wahls. If you're listening here on Facebook or on YouTube, you will see the links below. If you are on the podcast, you can go to my transcription page and find the links. But I have included those wherever you're listening; you will find those links to check out. A description of the study is one link, and the other is actually to get enrolled. I love this. I want to help you get those 156 people. I'm so excited for this to come out. Dr. Wahls, what's one last takeaway? I mean, we've talked about so many things. Maybe someone out there is listening, and either they have a loved one with MS, they have MS, or they know someone they care about. What kind of takeaway would you leave us with?

Dr. Wahls 47:46

If I can come back from a profound disability due to secondary-progressive MS [so that] I can hike, bike, and jog in my neighborhood, then there's hope for them as well. To help us change the standard of care, I need to do these randomized controlled trials where I can compare the ketogenic diet, the paleo diet, and the usual diet. And helping to spread the word is one of the most important gifts that you can give everyone with MS and everyone with autoimmunity.

Dr. Jill 48:25

I love that! Where can people find you if they want to know more? Again, we'll include the links.

Dr. Wahls 48:31

Come to terrywahls.com. If you're a physician or a healthcare provider, think about getting certified. We train physicians on how to use these concepts, and I train them on how to use the concepts I used in my VA clinics, where we did this with people who were living on food stamps, using VA kinds of primary care labs, and using VA basic kinds of supplements, which would be vitamins, fish oil, and just a smidge of vitamin D. We were able to have really remarkable results within the VA using these kinds of concepts.

Dr. Jill 49:14

I love this. Dr. Wahls, thank you so much for your time and energy today. It was a priceless gift. I sure appreciate you [and] love what you're doing. Thank you again for taking the time [to be] with us.

Dr. Wahls 49:26

Thank you.