



**Dr. Ron Ehrlich:** Hello, and welcome to Unstress. I'm Doctor Ron Ehrlich. Now, if you've been following the podcast, in fact, if you just read the name, you'll know it's all about the various stressors in our modern world, and most importantly, what you can do about it. In order to solve a problem, you've got to know what that problem is.

Now, you may have heard the expression in health that our genes load the gun, and lifestyle pulls the trigger, but what do we mean by that? Well, the stress model that I've used professionally and personally for over 35 years says that anything that can compromise our health is a stress, and so I think it's useful to look at the stressors in your life, in terms of either nutritional, emotional, environmental, postural, and dental stressors, and see which of those are impacting in your life, and on your health.

Now, the subject of autoimmune conditions is a big one. There are over 80 autoimmune conditions. I mean, this is the body attacking itself because of various stressors, and your genes will determine how that manifests itself.

For example, if it's your thyroid, you'll have an underactive or an overactive thyroid, Hashimoto's or Graves disease, it's called. Very common, and rising. If it's your joints, you may have rheumatoid arthritis. If it's your skin, you may have psoriasis. If your genetic predisposition is your nerves, it could be Parkinson's disease or multiple sclerosis.

My guest today has an incredible story to share, and some important lessons for us all, whether you've got an autoimmune condition or not. [Doctor Terry Wahls](#) is a clinical professor of medicine at the University of Iowa, where she has taught, seen patients, and also conducts clinical trials. Now, importantly, she's also a patient, diagnosed over 18 years ago with an advanced form of multiple sclerosis, which got to the point where she was actually confined to a wheelchair for four years.

Being a clinical professor, she did just as you would expect, following the best that modern medicine had to offer, which, as it turned out, didn't work out too well. And then she did just what you would expect her not to do, and it worked out brilliantly. We're obviously going to be talking about that today.

Terry has written some fabulous books. [She has a YouTube clip which has been viewed by over two million people](#), and [in May 2018, she's coming out to Australia](#). I'm really looking forward to meeting her in person. I've been following her story for many years, and it's been such a treat to finally talk with her. I hope you enjoy my conversation with Doctor Terry Wahls.

Welcome to the show, Terry.

**Dr. Terry Wahls:** Hey, thank you for having me.

**Dr. Ron Ehrlich:** Terry, very excited about you coming to Australia, and I've been following your story since you published your book, and I think that was in around 2011, was that right?

**Dr. Terry Wahls:** My very first book, "[Minding My Mitochondria](#)," came out in 2010. Then my [next book came out in 2014](#). Then [my cookbook came out in 2017](#).

**Dr. Ron Ehrlich:** Wow. Okay, okay. But "[The Wahls Protocol](#)" was the one that I was really taken with. Now, tell us. This is such an incredible story for so many reasons, not the least of which is your own medical background. And so, you've got some really interesting perspectives on this, so can you just share with our listeners a little bit about your story?

**Dr. Terry Wahls:** Sure. I am an academic internal medicine physician. That means I work here at the University of Iowa. I was diagnosed with multiple sclerosis in 2000, and that was on the basis of a new problem with my left leg, a history of dim vision 13 years earlier, and abnormal lesions in my spinal cord, and abnormal spinal fluid.

Now, being an academic doctor, I believed in the newest drugs, the best technology, so I sought out one of the best MS centers here in the Midwestern part of the United States, which was the Cleveland Clinic, saw some of their best people, took the newest drugs, and I went steadily downhill anyway. Within three years, I needed a reclining wheelchair. The following year, I started on Tysabri, which is one of those new biologic drugs that I was very excited to start, and continued to decline.

Now, I'm going to step back just for a moment. [The Cleveland Clinic](#) doctors had told me about the paleo diet back in 2002 when I was still walking around, and after 20 years of being a vegetarian, I had decided to go back to eating meat. But I'd continued to decline, as I'd said. I'd needed the wheelchair the next year, was on Tysabri, and all in all, I had experienced seven years of steady decline.

As I was getting steadily worse and in the wheelchair, it was apparent to me that the best drugs, the best technology, the best doctors, were unlikely to stop my slide into a bedridden and quite possibly demented life. I was also having more and more difficulty controlling the MS-related pain. And so at that time, I decided to start reading the basic science myself, and I would go back to [PubMed.gov](#) and started reading papers about the animal models of MS, of Parkinson's, of Alzheimer's, of Lou Gehrig's disease, of ALS, of Plankton's disease.

I would ultimately begin experimenting using vitamins and supplements, and what I did figure out was that I could perhaps reduce my fatigue somewhat, and for that, I was really grateful. I was slowing the speed of my decline, but I was still declining. By the summer of 2007, I could not sit up in a regular chair anymore. I was either in a recliner, or I was in bed. I could walk very short distances, like ten feet, eight meters, maybe.

**Dr. Ron Ehrlich:** We can still work in the old currency.



**Dr. Terry Wahls:** And so, really not very far. And I was having a lot of trouble with severe fatigue, and I was beginning to have trouble with brain fog.

My chief of staff called in and told me that six months later, in the new year, I was going to be assigned to work in the traumatic brain injury clinic without residence, and this was a job that I knew I would be unable to do, and so I was finally going to have to come to terms with going out on medical disability. And of course, that was upsetting, but what else was there to do?

But I was continuing to read. I discovered the [Institute for Functional Medicine](#), and they had a course on neuroprotection from a functional medicine perspective, which I signed up for. There was a 40-hour video course, which I took. I'd now had a longer list of vitamins and supplements I was taking.

And then in November, I had another big "a-ha" moment, like what if I redesign my paleo diet according to the list of nutrients I was taking in pill form? So, that was more research, and thanks to the Linus Pauling Institute on Micronutrients, I had figured out how to restructure my diet, and really started this new, very structured way of eating at the end of December.

**Dr. Ron Ehrlich:** Using food as your medicine.

**Dr. Terry Wahls:** Using food as my medicine. In the middle of January, I started in the traumatic brain injury clinic.

**Dr. Ron Ehrlich:** In the which one, sorry?

**Dr. Terry Wahls:** In the traumatic brain injury clinic.

**Dr. Ron Ehrlich:** Oh, yeah.

**Dr. Terry Wahls:** And of course, this is the job that I knew I wasn't going to be strong enough to do, but in the first week, I'm just watching how the clinic runs, so I'm not really doing much other than watching. The second week, so now it's the third week of January, really about the third week of this new way of eating, I'm beginning to see some patients, and by the end of the week, I realized, actually, the week has gone okay.

At the end of the month, I'm thinking, maybe I'll be able to do this. And in three months, I'm beginning to walk around the hospital with a cane. In six months, I'm walking without a cane. In nine months, I get on my bike and I pedal around the block. My wife's crying, my kids are crying, I'm crying, we're all ...

**Dr. Ron Ehrlich:** Yeah, I can just imagine.

**Dr. Terry Wahls:** Stunned, and at a year, I'm able to do basically a 20-mile bike ride with my family.



**Dr. Ron Ehrlich:** Wow.

**Dr. Terry Wahls:** And so, this really transforms my thinking about disease and health. It would ultimately transform the way I practice medicine, and it would ultimately transform the type of research that I do, that would, of course, change everything.

**Dr. Ron Ehrlich:** Well, there's just so much there, and it's an amazing story, like I said. I just want to go back to MS, because people ... Tell us a little bit about MS. How common is it, what kind of a disease is it? I mean, your first symptoms, you said, were 13 years before, when you reflected back on it. Is that right?

**Dr. Terry Wahls:** You know, actually, my first symptoms were more like 20 years before, and that's very, very common that it takes 10-20 years to have enough symptoms, enough damage, to make a diagnosis.

**Dr. Ron Ehrlich:** A diagnosis of multiple sclerosis.

**Dr. Terry Wahls:** Correct. And that's probably true of many autoimmune conditions, that there's a lot of damage going on. People, for a long time, will have fatigue. They may have aches and pains, and depending on what part of the body is being attacked, the symptoms might be related to the joints, they might be related to the lungs. In my case, since the brain was being attacked, my initial symptoms were pain, and then the next batch of symptoms was related to vision, and then the next batch of symptoms were related to balance problems, and then the next batch of symptoms was related to weakness in my leg.

And what is being attacked is the insulation on the wiring between brain cells. That's called myelin. I'd say the vast majority of patients will have a variety of symptoms that could be either sensory or motor, that sort of come and go, come and go. Yeah, they'll see a physician, and have a normal exam, and be told, "We're not sure. We'll have to watch this." And so, this may go on for several years.

**Dr. Ron Ehrlich:** The overriding thing is, it's an autoimmune condition, which is basically the body attacking itself, and the manifestation, I guess, depends on your genetic predisposition. In your case, your genetic predisposition was your nervous system.

**Dr. Terry Wahls:** Correct, correct.

**Dr. Ron Ehrlich:** And other people's. Now, that manifests itself in lots of different ways, autoimmune. It's a pretty common condition, autoimmune conditions. How are we faring? How common is this?

**Dr. Terry Wahls:** Here in the US, we have, I think our population is around 350 million. We have about 25, 28 million people with an immune diagnosis. We have another 50 million that will have blood tests that show up auto-antibodies, antibodies that are attacking some human structure, and symptoms, but not enough damage yet to make a specific diagnosis. So, there are about 75 million that are in the process of developing or have an



autoimmune disease, 25 million with enough damage, and 50 million that are in the process of creating enough damage.

**Dr. Ron Ehrlich:** Now, the other thing ... It's becoming a big problem, obviously. The other thing you mentioned was you finding the functional medicine group. And people may not be familiar with functional medicine. How does that differ from medicine?

**Dr. Terry Wahls:** Well, think about this. Internal medicine doc, I'm a primary care doc taking care of adult patients for their acute and chronic medical needs, and then if I can't manage that problem, I may refer them to a subspecialist, such as a heart doctor, or a neurologist, or a psychiatrist. A functional medicine doc has been a number of health professions, be it physicians, chiropractors, nutrition professionals, who are trying to use an integrative approach that looks at what are the root causes of why we become unwell.

There's more appreciation that for most of our chronic disease states, obesity, diabetes, autoimmune problems, mental health problems, cancer, it's a complicated interaction between the genes we got from mom and dad, and how those genes interact with all these [environmental factors](#). And that might be our diet quality, physical activity, stress level, [hormone balance](#), the microbiome, our social network, our environmental exposures so that we have toxins stored in our fat.

Helping understand how all those things contribute to the biochemistry not working well, the organs not working well, the development of symptoms, they can help us identify what we could do to help the organs work better, in terms of diet, lifestyle, perhaps vitamins and supplements, and how to provide more specific suggestions on how to better optimize diet, better optimize hormonal balance, better optimize clearance of toxins.

**Dr. Ron Ehrlich:** I once heard it said, there's a famous quote, I think, that a good doctor treats disease, and great doctor treats the person with the disease, and I guess that's what functional medicine is all about.

**Dr. Terry Wahls:** And an even better doctor helps them figure out how to never become ill.

**Dr. Ron Ehrlich:** Well, that should become the gold standard, really, although we don't often listen. We don't often listen to that advice until we're faced with some kind of a crisis.

**Dr. Terry Wahls:** You know, that's probably true for nearly everything in life. We often don't appreciate what we have until we've lost it. It's all too true, that we don't appreciate it until it's gone.

**Dr. Ron Ehrlich:** Now, Terry, you mentioned you found [the IFM, the Institute of Functional Medicine](#), and your focus was on neural protection. Tell us about it, because this is the beginning of your journey to good health.

**Dr. Terry Wahls:** Yeah, the neuroprotection concepts, originally when I first started searching for neuroprotection strategies, there is a lot of research being done, and of course, from the research world, this is primarily done for drug development. What patentable compound can I identify and make billions and billions of dollars with? The functional medicine folks, again, very research-based, had a lot of research on what were the vitamins and supplements that were really very helpful. And so I had a long list of vitamins and supplements that I added, and I added that based on my reading for years, and I created this vitamin cocktail that was very, very helpful. And with that course, had a longer list of supplements and cocktails.

But what I have since learned over the years, from my collaborations with my nutrition scientist that I collaborate with, that we have the vitamins and minerals with the recommended daily allowances from our dietary guidelines committee, but there are over 8000 bioactive compounds that we know about, and there are probably hundreds of thousands more bioactive compounds in the foods that we eat, and that food is vastly more complex than just the known vitamins and minerals, and a few antioxidants that we study.

**Dr. Ron Ehrlich:** I mean, the taking of supplements almost fits into the model of pharmaceuticals that we've all grown up with, you know?

**Dr. Terry Wahls:** Correct.

**Dr. Ron Ehrlich:** We took an antibiotic, and so it seems like taking a supplement is just a different way of doing that. But foods, as you say, have so much to offer. Yeah, go on.

**Dr. Terry Wahls:** [The IFM](#), incredibly helpful in expanding my thinking about what were all the ways I could interact with the environmental factors that contribute to why the biochemical processes in our cells aren't working well. So, that was great understanding. But fortunately for me came that "a-ha" moment that what's the food that are rich sources for all these nutrients?

Of course, that would take several more months of research for me to begin to put that together, and that's really the area that I wrote about in my books. This was the area where I researched, where we're studying, where we're now trying to create animal models to study the complexity of food, and what are the mechanisms of the diets that I study when we are using animal models to recreate this diet?

**Dr. Ron Ehrlich:** And the other area that I find fascinating, as I said, I've been following you, is this focus on mitochondria. Tell us, firstly, a bit about mitochondria, and why you focused on them?

**Dr. Terry Wahls:** Yeah. This is a really fun part. If we go back when life began, about a billion and a half years ago, as the life became a bit more complex, we developed something called cyanobacteria, and the oxygen level in the atmosphere rose.

**Dr. Ron Ehrlich:** Now, hang on. Say that again. Sandal ...?



**Dr. Terry Wahls:** Cyano.

**Dr. Ron Ehrlich:** Oh, cyano. Okay. Cyano.

**Dr. Terry Wahls:** So, these are the bacteria that have photosynthesis, so they were making oxygen, and as a result, the oxygen content of the atmosphere rose, which led to oxidation and rusting of a lot of biology, and actually, I think, about 95 percent of all life forms went extinct. But fortunately, there was a mutation. It was a mutation that allowed for the creation of something called the Krebs cycle, which utilized the oxygen to more efficiently generate some of the molecules we need to run the chemistry of life.

These ancient bacteria that used oxygen really well were thriving. They got engulfed by bigger bacteria, and so this new organism became very efficient. It became multicellular. It would ultimately become animals. And those early ancient bacteria are forerunners of our mitochondria.

Because some of these multicellular organisms could now specialize, they could develop nervous cells, muscle cells, glandular cells, a digestive tract, a skeleton, brain, blood vessels, they would ultimately become animals, and they would ultimately emerge on the land. That was about 500 million years ago, and mammals would emerge about 200 million years ago.

And of course, these mitochondria, they're specializing in our brain, because our brain needs a tremendous amount of energy. And so, if I want my brain to work really well, I need my mitochondria to work really, really well.

**Dr. Ron Ehrlich:** Now, just to make the point that the mitochondria are present in every cell.

**Dr. Terry Wahls:** They're present in every cell, and they run the energy supply for that cell. And so the cells that need lots of energy ... Your brain, your retina, and your heart need the most energy.

**Dr. Ron Ehrlich:** Gee, Terry, I wish you were around when I was an undergraduate, and I was looking at the Krebs cycle, thinking, "Oh my god, why am I learning this?" That's a great explanation. Thank you so much. I'm going back to revise the Krebs cycle. So, mitochondria are critical.

**Dr. Terry Wahls:** Critical.

**Dr. Ron Ehrlich:** Critical.

**Dr. Terry Wahls:** So, any organ that's not working well, part of the problem is that the mitochondria aren't generating enough energy for that organ. In my case, I knew my brain wasn't working well, and when I'd been reading all those papers about all those brain diseases I talked about, Parkinson's, Alzheimer's, Lou Gehrig's disease, Heinz disease, MS, in all of them, the mitochondria weren't working well. And actually, nobody was saying that

mitochondria were a problem in MS yet, but I thought, if it's a problem in all these other brain diseases, it's going to be a problem for MS.

That's when I started reading and making vitamin cocktails for myself, and I could tell that if I took my vitamin cocktail, I had a little more energy, and when I didn't take my vitamin cocktail, I could not get up and go to work. So, it was very energizing. I was totally excited, and that gave me a lot more excited that I was figuring stuff out that my neurology doctors and my primary care doctors didn't know. I was willing to spend some time every day looking up another paper, reading through one more paper, trying to piece out everything that I could do.

**Dr. Ron Ehrlich:** Terry, tell me, here you were in 2007 in a wheelchair, and here you were in 2000 and, what, 8, starting to cycle and move on. So, clearly, huge, huge improvement. How did your medical ... You're right there in the thick of the medical fraternity. How did they respond to the success of your treatment? Surely they didn't say it was placebo.

**Dr. Terry Wahls:** Well, people were thrilled. My chair of medicine had watched my decline, watched my stunning recovery, and he called me in and gave me the job of getting a case report written up. I said, "That's sort of unusual, getting a case report written on yourself." He said, "Yes, but this is so remarkable." So, I worked with my treating medical team and physical therapist, and we got that written up.

Then he called me back and said, "Now I want you to write up a protocol, and we'll test to see, do a little safety trial, and see what happens in others."

**Dr. Ron Ehrlich:** Because of the dangers of eating nutrient-dense food, you never know what could happen.

**Dr. Terry Wahls:** Well, this was a complicated thing. I had done my vitamins, my supplements. I had a diet. I had also added a meditative program, and I had done a rigorous physical therapy program, so it was a complicated regimen, and it would take about a year and a half to get that through our research review committee because it was such a complicated regimen.

Now, at the same time that I was working on that, I had changed my practice. I was in the traumatic brain injury clinic. I was spending a lot of time talking to my patients in primary care and the traumatic brain injury, not about their drugs, but a lot more about their diet, their exposures, their stress levels, what they were doing physically, and I was putting a lot more effort into talking about diet and lifestyle factors.

And my physician partners were very uncomfortable with that, so I had to meet with my chief of staff, review what I was doing. Then I had to meet with him with all of my scientific papers to explain what I was doing and why, and he ultimately became a very big champion. He was quite supportive. But absolutely, there was a lot of resistance at first.

**Dr. Ron Ehrlich:** Yeah, I find that fascinating. I mean, to see something almost as miraculous as what has happened to you. I would have thought, for a healing profession, it would just be so exciting. I've got to learn about this! What is going on? I mean, what am I doing? Why aren't I helping my patients the way this is helping you? What's going on in medical practitioners' minds?

**Dr. Terry Wahls:** We're all really pressed for time, and just trying to get through our days, like every other busy professional. I'm very empathetic for the practicing physician. They're overworked and highly stressed. And in the research world, we are always very skeptical of findings, and we push back and argue, and were often rude to one another, and that's just the way physicians often are. That's how we behave, but we conduct our research, we present our research, and we have a vigorous debate.

Every year at the University of Iowa, the internal medicine has research week, and the college of medicine has research week. So, I would present the progress of our research and would show them our interim data and our progress, and people would watch and see our data, which was really very interesting, very compelling. Then we started having the videos of the gate changes at baseline, and as they were coming along, and we refine them over time.

And as I would have more of these videos from people with progressive MS, and in that state of MS, the conventional thinking is there is no return to function. There's no spontaneous recovery with progressive MS. And we were able to show, not everyone, but we had many of our people have the decline stop, and the quality of their walking steadily improve. And that was very ... The videos were just so compelling. And then we started getting our papers published.

**Dr. Ron Ehrlich:** Yeah. So, that was actually one of my questions you just answered, and that is how other MS sufferers have fared under this. I don't think any treatment claims 100 percent. If it does, I think you could probably walk away from it, like I wouldn't believe it. But what are the keys to the Wahls protocol, to what you've come up with now? What are the main points, or what should people be focusing on?

**Dr. Terry Wahls:** I think the first thing that I want people to realize is, the research is very clear that the genes ... There are right now about 300 genes that increase your risk for getting MS ever so slightly. For anyone gene, maybe one percent, two percent. For the vast majority of folks with any MS gene, the vast majority with that do not get MS. And so, it's this really complicated interaction with genes that probably make your enzymes somewhat less efficient, that interact with all these environmental factors.

And so, what I do in my book and in my works with private patients is to help people understand, what are their environmental factors they can do, that they can address? In terms of diet quality, in terms of physical activity level, in terms of stress management, social networks.

In our clinical trials, it will depend on the trial, which particular aspect of the various comprehensive program that I'll use in my clinical practice. Because in research, we're much

more precise. In my clinical practice, I can personalize things a little more specifically to the individual.

So, I think a very simple take-home message for everyone is, get rid of the sugar. Get rid of the flour-based products, and eat more vegetables. Now, depending on your genes, you may have issues with gluten sensitivity, and other food sensitivity issues, and so I talk a lot about that in my book, and we sort that out, when I'm seeing someone individually in my clinic.

And I say, whatever disease state you have, whether it's a mental health problem, an autoimmune problem, a heart disease problem, a cancer problem, sugar, in thousands of studies, or at least in hundreds of studies, increases mortality and disease risk. Vegetables, again in hundreds of studies, increases health risk, so it's more likely you're going to be healthier, and the fewer the vegetables you eat, the more likely you are to have cancer, mental health problems, autoimmune problems, heart disease, mental health issues.

So, a very simple measure is, stop the sugar, get rid of flour-based products, or replace them at least with vegetables, and that will have a favorable impact on your health. And we can get more precise beyond that, but I like to give people a very simple next step.

**Dr. Ron Ehrlich:** And really, there's also a whole story behind fat as well, isn't there?

**Dr. Terry Wahls:** Well, fat is a very interesting question. During World War II, many physicians and epidemiologists noticed that during World War II, there was an observation that heart attack rates went down during World War II, cancer rates went down, and a lot of neurological diseases went down, as well.

Roy Swank believed that this was because the intake of butter and eggs went down, and so he advocated to his patients that they follow a low-saturated fat diet, and he followed 144 patients until they died, or for 50 years. And he was able to show that people who had less than 15 grams of saturated fat per day were more likely to still be walking, particularly if they came to him still walking ... If they came early in their disease, while they were still walking. If they had already had some gait problem, that diet did not seem to be very beneficial.

Now, the problems with his studies are that he did not have MRIs, and people were not randomized. The strength of his study is that he was able to follow them for 50 years, and he was able to show that some people just couldn't follow the diet, and so they had a higher fat diet, and some people really could follow the diet.

There has been another study by a group, McDougall, that has shown that a vegan version of a very low-saturated fat diet ... People were randomized, so either a 10-day training on the diet and then be followed for a year, or to wait a year and then get their 10-day training on the diet. And they followed them with MRIs, they followed them with their physical exam scores, so they knew how disabled they became, and they followed with some fatigue severity scale scores, and they followed blood pressure and lipids.

They were able to show that weight improved, and the blood pressure and lipids improved. There was no difference in the MRI and no difference in disability levels between the two patients. At enrollment, there was a very different level of fatigue between the people who got the diet and the people who did not get the diet, and so there was a trend towards fatigue reduction, but because the two groups were not the same for their fatigue scores, that's a little harder to know what to make of that.

And it was a small group, a group of about 60 patients, so it's disappointing. Maybe it would have, if they'd had a larger group, they might have found something interesting. They also did not do a careful dietary analysis to know what people were eating at baseline, and what they were eating at the end of their year. And because it's a dietary study, that's another flaw with that study. But doing these dietary assessments are expensive, and so I could appreciate the challenge of that.

But it's very exciting that we now have some prospective studies, and of course, we've done several pilot studies, and we have a larger study now that is randomized, and we'll be comparing the Swank diet and the Wahls diet.

**Dr. Ron Ehrlich:** So, from your experience, both personally and professionally in your research, what is your recommendations for people's approach to fat?

**Dr. Terry Wahls:** Well, I think we need fat in our brain because the wiring is insulated by fat. It's insulated by something called myelin, and myelin is made of cholesterol, saturated fat, omega-3 fat, and omega-6 fat. And if your diet doesn't have enough fat, you cannot make enough myelin. In the heart disease literature, there is a lot of research now looking at the role of sugar and the role of fat, and so there's a considerable disagreement about whether or not eggs worsen heart disease, or worsens atherosclerosis.

**Dr. Ron Ehrlich:** There's still disagreement?

**Dr. Terry Wahls:** Well, yeah. There are more scientists now saying that eggs actually raise the protective cholesterol, HDL cholesterol and that dietary cholesterol is not the driver of blood cholesterol, not nearly as powerful a driver of blood cholesterol as we had originally thought. I think this cholesterol-fat hypothesis is continuing to evolve, continuing to be studied, but if you drive cholesterol down very, very low, you compromise the ability to make myelin in the brain, and you compromise the ability to repair myelin.

**Dr. Ron Ehrlich:** How is the effect of statins, because statins are such a commonly ... I mean, it's the blockbuster. How does that affect people?

**Dr. Terry Wahls:** Statins also have some effect on the immune function, in addition to having an effect on [cholesterol](#), and in addition to having an effect on coenzyme Q levels in the mitochondria. Now, interestingly, the epidemiology does show that in the studies that used statins to lower cholesterol, you could lower heart attack risk, but these studies also appear to be associated with a higher than expected risk for suicide, homicide, and mental health problems, and that's been repeatedly observed.

At first, people thought that was a ... They really had a hard time understanding this, and the full mechanism is still not fully understood, but as we begin to appreciate the makeup of myelin requiring cholesterol, saturated fat, omega-3 and omega-6 far, that our appreciation for the role of fat in the brain is continuing to get, I'd say, a little more sophisticated.

**Dr. Ron Ehrlich:** And it's not a long stretch to say that by reducing the amount of fats that our nerves need, that our brain is affected, and mental health problems emerge.

**Dr. Terry Wahls:** Yes.

**Dr. Ron Ehrlich:** But cholesterol is going down, and we can measure that, and that's one of the most appealing things about statins, isn't it, really?

**Dr. Terry Wahls:** Well, one of the appealing things about statins and the fat hypothesis was that this would be a target that could be used for drug development. Another way of interpreting the literature for the drop in heart disease and neurologic problems was the drop in the intake of sugar. We'll see. We'll see how this all plays itself out. I think it's a very interesting area of research. There's a lot more interest that sugar is the big driver for heart disease, stroke risk, cancer risk, mental health risk, as well.

**Dr. Ron Ehrlich:** Well, look. [I'm really looking forward to you coming to Australia](#) and meeting you in person. I'm going to be coming to the workshops.

**Dr. Terry Wahls:** Oh, excellent.

**Dr. Ron Ehrlich:** We'll be having links to your webpage and all of that information on our website, as well. Listen, I wanted to ask you before we finished, just generally and not within the MS world, what do you think people's greatest challenge is in this day and age, in the modern world, on their health journey through life? What do you think the greatest challenge is for people?

**Dr. Terry Wahls:** Well, [we are so addicted to sugar](#). We've also now become addicted to our smartphones, as well. So, we've become addicted to a high-sugar diet and addicted to a low-physical activity diet, and those two factors are very damaging to our health. So, moving more, and eating more vegetables, would be incredibly powerful strategies to improve your health, whatever health challenges that you may be experiencing.

**Dr. Ron Ehrlich:** Yep. Terry, thank you so much for joining us. I'm so looking forward to meeting you, and I also look forward to you coming to Australia.

**Dr. Terry Wahls:** Great. I look forward to seeing you as well, Ron.

**Dr. Ron Ehrlich:** Thank you.

Wow. So much there. You really should go back and read the transcripts. We keep coming back to sugar, don't we? Whether we're talking about cardiovascular disease, cancer, autoimmune now. Of course, diabetes as well. And of course, then there's technology.

Now, [we spoke with Lynn McLean a few episodes ago about the problems with electromagnetic radiation as an environmental stress](#), but the emotional challenges of our relationship with technology is going to be the subject of future episodes, and not surprisingly, Terry really identified that as one of our problems.

We will, of course, have links to [Terry Wahls' website](#), [the YouTube clip I mentioned in the intro](#), her books. Now, the titles of these books are lessons in themselves. The first one is "The Wahls Protocol: How I beat progressive MS using paleo principles and functional medicine." "[The Wahls Protocol: A radical new way to treat all chronic autoimmune conditions using paleo principles.](#)" [And of course, there's a cookbook.](#)

Now, here's a request: [If you've enjoyed the podcast, go and put a five-star rating, yes, five stars, on iTunes.](#) I mean, that would be great, and great to push it up the rankings, because it needs to be up higher. This is an important message. I hope you agree. And I love feedback, I love suggestions, so please let us know what you think, and what you'd like.

Until next time, this is Doctor Ron Ehrlich. Be well.

*This podcast provides general information and discussion about medicine, health, and related subjects. The content is not intended and should not be construed as medical advice, or as a substitute for care by a qualified medical practitioner. If you or any other person has a medical concern, he or she should consult with an appropriately qualified medical practitioner. Guests who speak in this podcast express their own opinions, experiences, and conclusions.*