



**Episode 418: Brain Wash: Detox Your Mind for
Clearer Thinking, Deeper Relationships, and
Lasting Happiness With Dr. Perlmutter**

Child: Welcome to my Mommy's podcast.

This episode is brought to you by Wellnesse. That's Wellnesse with an E on the end. We make personal care products that go above and beyond just non-toxic to actually be beneficial for you from the outside in. I realized years ago that even some of my most naturally minded friends and family members who made an effort to eat organic food and be really cognizant of what they brought into their homes were still using certain personal care products, mainly hair care and oral care. And the reason was, they weren't willing to sacrifice how they looked and felt just to use natural products. And none of the natural products they were finding really lived up to the conventional products as far as how effective they were. So, I resolved to change this and realized I had things that I've been making in my kitchen for years that worked just as well and that I could share with other families, and thus Wellnesse was born. You've probably heard that what goes on our body gets into our body and that many of the chemicals we encounter end up in our bloodstream. To me, this means non-toxic and safe should be the absolute bare minimum baseline for any products that are in our lives. But I wanted to take it a step further. I wanted it to use this to our advantage to actually put beneficial ingredients in our hair care, toothpaste, personal care products so that we could benefit our body from the outside in. Why not use that wonderful skin barrier to our advantage? Our hair care is packed with ingredients like nettle, which helps hair get thicker over time. Our dry shampoo has scalp promoting products that really help follicles stay strong. And our toothpaste, for instance, has a naturally occurring mineral called hydroxyapatite, which is the exact formulation or exact mineral that's on our teeth that's present in strong enamel. So they're all designed to work with the body, not against it to help you have stronger, healthier hair and teeth. We now have a hand sanitizer that doesn't dry out your hands like many hand sanitizers do. I would be honored if you would check it out and I would love to hear your feedback. You can find all of our products at wellnesse.com.

This podcast is sponsored by BluBlox glasses. Did you know that Blue light damages our eyes and leads to digital eye strain when it comes from artificial sources? Symptoms of digital eye strain are blurred vision, headaches and dry watery eyes. For some this could even cause heightened anxiety, depression, and low energy. I personally noticed that when I was exposed to blue light after dark, I didn't sleep as well and felt more fatigued the next day. BLUBlox are the evidenced backed solution to this problem and are made under optics laboratory conditions in Australia. They have over 40 styles and come in prescription and non-prescription so there is truly a pair for everyone. I also love that BLUBlox is also giving back by working in partnership with Restoring Vision in their buy one gift one campaign. For each pair of BLUBlox glasses purchased they donate a pair of reading glasses to someone in need. Really awesome company and really awesome mission. Get free shipping worldwide and 20% off by going to blublox.com/wellnessmama or enter code wellnessmama at check out.

Katie: Hello, and welcome to the "Wellness Mama Podcast." I'm Katie from wellnessmama.com and wellnesse.com. That's my new line of personal care products, Wellnesse with an E on the end. You can check them all out there. This episode is all about something called brain wash, which is a new concept about the gap between knowledge and action and how to actually improve our decision-making to reclaim our brain and make better choices without having to fight ourselves to be less emotionally reactive and less impulsive.

I'm here with someone whose name you've probably heard before. Dr. Perlmutter is a board-certified neurologist and a five-times "New York Times" bestselling author. He's on the board of directors and a fellow of the American College of Nutrition. He's the author of the book "Grain Brain," which many of you probably have heard of. And he's a widely recognized expert in a lot of topics, including things like Alzheimer's disease and brain health, and someone I personally very much respect. I like his work very, very much. And I think that this episode you will learn a lot from.

His most recent book is called "Brain Wash," which he co-authored with his son, who's also a physician. And we go in-depth on this today about reclaiming your brain and rewiring it for success. And I think the episode speaks for itself, tons of practical advice here. So, without further ado, let's jump in and learn from Dr. Perlmutter. Dr. Perlmutter, welcome.

Dr. Perlmutter: Well, this is just the best. Thanks for having me.

Katie: I am really excited to chat with you today because I think this is a really important topic. I know you've written already on so many important topics and I think people are probably familiar with your work. But I think you're addressing a really important key that often people still struggle with or gets overlooked. And that's this idea of, kind of, the gap between knowledge and action. And I think this is a really poignant point for right now because there's so much now information about health and wellness. And thankfully, so much of this is now mainstream, and thanks to your work, and others, people understand a lot more of what we should be doing but yet people are still having trouble actually doing the things that they know they should be doing. And especially this time of year, it can be hard. So, walk us through that. Let's start with there. Why are we seeing this gap between knowledge and action?

Dr. Perlmutter: You know, it's an interesting question and I should have a really snappy answer for you right now but it's something that I keep thinking about all the time. And interestingly, that answer keeps being molded in my mind. And I would say that it's really kind of a push and pull between what we want on a visceral level and what we think we should do on more of an intellectual level. In other words, our bodies tell us, for example, that we should eat sugar. Why? Because it's a very powerful survival mechanism. Sugar allowed our ancestors to store body fat and therefore survive during times of caloric scarcity, as an example. And yet, we know intellectually, that eating a lot of sugar in our diets is not the right thing to do, and yet, it's hard to resist. You know, when somebody comes to your house and has baked something especially for you, and you know it's full of sugar, you know it's bad, but there's so many things that are playing with your emotional responses that it's difficult to do the right thing, keep the adults in the room and say no.

So, why does that happen? Well, you know, the dichotomy here is between areas of our brain that deal with impulsivity, basically giving in to what you want to do right now, versus other areas of your brain that look at our decision-making, in terms of not just our current desires, but also in terms of how this decision is going to affect my health, my well-being, my financial stability, whatever it may be down the line. In other words,

future-looking, being able to take a deep breath, weigh other factors aside from just a desire to have the sweet taste, and make a decision based upon that. In other words, again, the analogy is keeping the adults in the room to kind of temper our childlike impulsivity and, you know, quick desire to satisfy ourselves.

And I will say one other thing parenthetically, and that is that the other aspect of this more sophisticated thought through response is it goes beyond what might be good for me in the longer term and also embraces what might be good for other people, what might be good for other entities around me, like my community and even the planet upon which I live. We call that empathy. And so, there are actually brain substrates for these activities. The more impulsive decision-making that says, "Screw it, I'm gonna stay in bed today, watch TV, and eat a dozen glazed doughnuts" or whatever it may be. We all know...We have plenty of examples of wrong decision-making, like spending too much time on the internet, you name it, and not going to sleep on time.

But nonetheless, a lot of this decision-making impulsivity is derived from a fairly primitive part of the brain called the amygdala. There are two, so it's amygdalae in plural, that live in the temporal lobes, in other words, the side of the head right inside from maybe where the ear lives. These are the, you know, primitive areas of impulsive reptilian cause and effect kind of activity, X goes directly to Y. As opposed to making decisions that kind of bypass this impulsivity center, this self-centered, narcissistic, quick response center, which does have its upsides I might add, and leverage the ability of another area of the brain called the prefrontal cortex behind your forehead that says, "Wait a minute, why might I not want to eat this food, stay up late, spend a lot of time on the internet, go out with these people, drink too much, etc., spend my money at the racetrack, invest in stocks that I know are...whatever it may be. Decisions that we know may, and probably will, not necessarily have a good outcome.

So this is this gift that we have. It's one-third of the brain's cortex, which is, you know, percentage-wise, larger than any other animal. Where the chimpanzee might have 13% or 14%, we're up to a third of our neocortex is this prefrontal cortex. It's a gift that we have as humans that allows us to take a step back and make our decision-making based upon past experience, based upon current knowledge, based upon a variety of factors and kind of bypassing that, "Gotta eat it. Gotta do it. Gotta do all the things that I know aren't necessarily good for me," kind of impulsive activity that, frankly, we're seeing a lot of these days in our society.

Katie: Gotcha. So it seems like an important first step here is understanding and being able to work with some of our natural tendencies or at least recognize when we need to fight them versus necessarily just thinking they're immediately wrong. So, for instance, it's widely understood that we don't need a lot of refined sugar or that this something we should limit. I think I hear very few people trying to make a case that refined sugar is a good thing that we should be consuming a lot of. That said, statistically, we are still as a population consuming a tremendous amount of refined sugar. And I think it's important to highlight what you said, which is that this is a survival mechanism, that throughout history, this is actually an important part of our evolution and that we needed that for survival. The problem is now living in a world where we have constant access to it, we have to learn how to be much more in control of that. I guess that's kind of what you call keeping the adult in the room. But is that kind of the first step is recognizing that these are, in some ways, a human trait, rather than thinking that we're inherently wrong for having them in the first place?

Dr. Perlmutter: Yeah, exactly right. And I think that, you know, part of what we really wanted to get across in "Brain Wash" is to kind of offload the blame, the self-blame that is so pervasive where, you know, people wake up the next morning and say, "Why did I do that?" Or eat a big meal and ask themselves...you know, with the wrong foods, for example, like sugar, knowing full well that it's not going to pave the way towards health and then feeling guilty, "Why can't I control myself?" You know, you have to understand that sugar hacks into our primitive brain to fuel these desires and basically to fulfill these desires to give us that sense of transient fulfillment.

And that said, when we recognize that, you know, there is such an effort to utilize this hack into our primitive brain to make us behave in certain ways, brought about by industry, by adding, you know, sugar to the foods that we eat so that they will eat more of them and buy more of those products, you know, our calling it out is to, kind of, offload the blame, self-blame, and allow people to realize that, you know, this is being done aggressively, not necessarily even in the background. It's pretty much in the foreground now that, you know, when the 70% of the around 2.2 million foods sold in America's grocery stores have added sweetener of one form or another, that this is an active attempt to subvert our ability to remain in control. That is what characterizes the so-called Western diet, which is now becoming the global diet.

As, you know, people are in these international food manufacturing companies, what I just said, the notion of food manufacturing, that whole notion should give us the willies. Food shouldn't be manufactured. It should be picked from the ground or wherever it comes from and then consumed. But nonetheless, the alteration, the adulteration of foods to make them not just more palatable, but more desirable, more able to elicit this perceived need that we have to consume them and, you know, really working to undermine our ability to make better decisions. This is an active process on the part of these multinational corporations.

Everybody knows it. You know, it's what food science is all about. How can we sweeten, increase the fat content, and add more salt to foods? In fact, there was a book that had a similar title that looked at how this is happening to sell more product. Once people understand that this is directly tapping into our ability to make the right food decisions, as it were, in this case, it begins to let them gain an understanding that they can perhaps realize that they've been manipulated. And this isn't all their fault. So, you know, we're trying to offload the guilt that people feel when their decision-making is inappropriate, in terms of their perception by, you know, recognizing that this has been actively pursued by corporate interest. Similarly, on the internet that, you know, the pervasive pop-up ads, the directing of your feed to places where you have visited before. And then with targeted advertisements based upon what your online experience has been in the past directly hacks into areas where you have shown interest and therefore will have less ability to make good decisions because this is an area that lit your brain up in the past.

Now, let me tell you, as I say that this is an area that has lit your brain up, companies are now using technology called functional MRI, where they are able to determine exactly how to tweak their advertising so that it lights up the pleasure centers of the brain the most. In days gone by, people who wanted to put an ad on television, or wherever it may go, used what was called a focus group. They would get a bunch of people in

a room and say, "Well, which color do you like to the background of our logo? Which message is best to sell XYZ product as far as you're concerned?" Now, they're putting people in brain scanners and companies are, in fact, hiring companies to come to their corporate offices with these functional MRI scanners to determine how exactly they can refine their messages so as best to hack into your brain so that you will continue to buy their products, products that you may not necessarily need or even want.

Katie: So, it seems like the cause and the solution here is multifaceted in that, over time, there's a physical and the mental aspects of this. So from a physical perspective, the more we consume these hyper-palatable foods, the more our body and brain are wired to want these hyper-palatable foods. But also the more we mentally are, kind of, conditioned to want those things, the more we perpetually want them over time. Whereas it seems from a solution perspective, when we can break that cycle and get back to eating actual food versus science experiments to disguise this food, that it kind of breaks that chemical-physical cycle within the body. And also over time, we form new habits and new brain patterns that help us avoid those things. Is that...? Am I kind of getting the gist of it right?

Dr. Perlmutter: Very, very, very well done. Yes. The more we make, for example, the bad food decisions, the more refined carbohydrates, the more highly processed foods we consume, we all know now that through a variety of mechanisms, not the least of which include changes in our gut bacteria and increased gut permeability, through a variety of mechanisms, we increase a process called inflammation. And as it turns out, inflammation damages the communication between the prefrontal cortex and the more primitive amygdala. We have a superhighway connection between the prefrontal cortex that keeps the amygdala response, the impulsivity area of the brain, in check. The prefrontal cortex is, in fact, the adult in the room.

And generally, as we mature, the prefrontal cortex matures and gains more and more control over our less developed behaviors. You know, as we see, for example, the decision-making of teenagers is not always appropriate because that connection between the prefrontal cortex, this top-down control, is less well developed. But we can threaten that top-down control, the ability of this prefrontal cortex to exercise control over this more impulsive part of our brain when there are higher levels of inflammation-type chemicals in the body, so that when we eat inappropriately, eat a diet as I just described, or in addition, don't get a good night's sleep or repeatedly don't get enough restorative sleep, or deprive our bodies of exercise, or deprive ourselves of exposure to nature or constantly engage ourselves in stressful situations, we directly threaten that connection from the prefrontal cortex to the amygdala.

There are multiple pathways involved. One of them is called the anterior cingulate. But nonetheless, what we're creating then is a feed-forward cycle, whereby making bad decisions creates brain wiring that further enhances the likelihood of worse decisions moving forward, such that, for example, not getting enough sleep threatens that connection. Therefore, what do we do the very next day? We downregulate the...we turn off, if you will, the ability of the amygdala to...rather we turn off our regulation of the amygdala by as much as 60%. What I'm saying is just one night of nonrestorative sleep is associated with an upregulation, increased activity of the impulsivity center of the brain, bad decisions by 60% with just one night of not getting enough restorative sleep.

When this continues night after night, not getting enough good sleep, as we look at food choices and dietary choices, it translates in the research to an approximately 300 increased calorie consumption on a daily basis. And, you know, after 10 days, that's a pound of body fat. And it doesn't take long to you to realize that that's going to accumulate body fat. And what does body fat do? It inhibits our ability to get a good night's sleep. Body fat is profoundly pro-inflammatory. So, now that we're not sleeping, we're not making good decisions that relates to our food, that relates to our exercise, as it relates getting back to even getting a good night's sleep because we'll stay up later, we'll expose ourselves to digital media, getting blue light, etc., inhibiting melatonin, no good sleep.

So, what we offer in "Brain Wash" are off-ramps to these very, very dangerous feed-forward cycles. What might that off-ramp look like? Well, you know, we offer a whole attended program, but it might be that, you know, the whole 10 days of exercise, nature exposure, meditation, stress reduction, gratitude journal, dietary change, etc. is a lot to think about on the front end. So, what we offer are the small steps, the off-ramps that might work for you as an individual. Maybe for you, it's just looking at the environment in which you fall asleep at night. Is it dark enough? Is it cool enough? Does your partner have sleep apnea or does he or she move his or her legs around at night and awaken you?

So, you know, even sleep is a great way of entering into better decision-making. It might be a dietary change. It might be nurturing your gut bacteria with prebiotic and probiotic foods. It might be getting out and taking a walk around the block if that's the first step in getting you to, you know, resume exercise. It might be as simple as nature exposure, which is profoundly influential in re-engaging ourselves in terms of the prefrontal cortex. We know that meditation is a powerful way, as we've seen in multiple techniques of brain imaging, a powerful way to light up that prefrontal cortex and that's the adult in the room. So there are a lot of ways to reestablish this control.

Katie: Gotcha. Yeah, one thing I love to do as a thought exercise in my own life that's been helpful for me is using the principle of inversion. Meaning like, often it's easier to figure out the things related to what we don't want than what we do want. So rather than trying to figure out all the intricacies of how can I be healthy or how can I reduce inflammation, I'll sometimes turn that on its head and say like, "Okay, well, if I wanted to, how would I create inflammation?" Or for my case, it was, if I wanted to create autoimmune disease, how would I do that? And that's easier to define, oh, I would not get enough sleep. I would eat really crappy food. I would be stressed all the time. And hey, that's actually what I did and how I got autoimmune disease. And so then you can from there go, "Well, if that's how you do that, then how do I...? Can I do the opposite to get closer to what I do want? And from there, kind of, creating systems that create habits.

But walk us through some of these off-ramps? How can we build these systems into our lives to start doing things like reducing inflammation? Because certainly, it seems like all the data right now is pointing more and more toward inflammation being a common uniting factor in all forms of chronic disease and also in metabolic dysfunction, which we now know is a big factor in kind of long-term results with this virus and with any kind of

health condition. So, what are some of those tangible ways? I know you have a whole program on this, which I'll link to, but what are some of these tangible ways we can start implementing?

Dr. Perlmutter: Well, again, I can say that it should be looked upon from the individual in terms of what's gonna be the first step? You know, I think one of the most powerful leverage point levers to pull is diet. But that's probably one of the most difficult, though maybe the most powerful, for people because they've known this for a long time and it's probably their weakest point. So, you know, in dealing, for example, with diabetics, it seems appropriate that we're gonna talk about your diet. And I have found that that's really not the way to go because, you know, people with diabetes have seen multiple physicians and other types of healthcare providers. And that's exactly where they go and they follow that with exercise.

And I think it may be surprising, for example, for a type 2 diabetic, that you would begin by saying, "Hey, let's put the diet and exercise on the back burner for the next couple of weeks. Let's look at sleep. Or let's look at nature exposure or even the idea of meditation." Because now, once that person comes back in a few weeks, they're in a better position then to embrace other modalities like dietary change, like maybe we give them some exercise because we've offloaded, you know, one very important straw from the camel's back that's inhibiting good decision-making.

And then you move to food and you look at other aspects of their lifestyle. You say, for example, that maybe we need to talk about how much time you're spending in front of a screen. We know that 42% of the time that Americans are awake, they have their eyes fixed on a screen or another, whether that's their smartphone, their pad of one form or another, even the television. That's 42% of their waking time. And, you know, there's not a lot of time that we're awake. Let's say, you know, maybe if we sleep 8 hours, then it's 16 hours in the day. So, you know, it's a time when people are running on programs that are controlled by others. That's what screen time is all about. It's relinquishing your decision-making. It's relinquishing your control.

So, again, we learn from others. And that's hardwired into our genome that we...and we should. That allows us to progress. But that is a survival adaptation, like, the desire to eat sweets. But what we're seeing is that these adaptations for our survival are points of exploitation from others, from media, from food manufacturers, etc. So, I think that, again, you know, to hone in on your question, I would say, it's really important to see what's going to work for the individual. And I would say, to come at this tangentially is a good thing. And rather, you know, if somebody's got a crappy diet, the best place to start is not to address the diet because you can be sure that that person has had countless diets, has countless books on his or her shelf, from A to Z, from the Atkins to the Zone diet. So that's A to Z, you name it, and these diets have failed.

Why have they failed? It's not that they're not necessarily good diets, it's that what has failed is the decision-making part to implement whatever that diet may be, whether it's keto, or paleo, or vegan, or whatever it may be. It's not that it's a good or bad diet in terms of lowering blood sugar, weight loss, etc., it's because the decision-making, the commitment part is lacking. That's what needs the attention. And the moment that people begin to realize that that's what's been taken from them and it's not my fault, boy, that's an epiphany, that's a very empowering moment.

Katie: Yeah, and it gives you a totally different focus. And I think it's a different approach, like you said, to a lot of the approaches out there, and also, hopefully, reduces decision fatigue as well. I know that's something that's been talked about in psychology is that we have a limited amount of decision-making and willpower capability. And so when we're constantly depleting that, trying to focus on one system or something, I think people have a tendency to fatigue and then have trouble following through. And certainly, what we see is at the beginning of the year, often, people will jump into a new plan and be very able to comply for a certain number of days or even a couple of weeks, and then they hit that willpower and decision-making fatigue and then because it was all built up in that, when they fall off the wagon, they kind of just revert completely to old ways versus at least keeping part of that.

So I think that's such a good strategy to have a different focus, rather than trying to just hone in on the diet, even if diet is the part that's gonna make the biggest difference, do things that help us to have more impulse control, and to reduce inflammation makes that easier over time. And I think people are familiar probably with your past work on the brain, in general, and how we can support it both from that physical perspective and through the mental and thought side as well. I think this is a really, really important topic. I'm so glad that you're addressing it that way. And over time, so basically, like, by doing that, we're able to, sort of, rewire the brain to make these changes easier and more lasting. Is that kind of the approach?

Dr. Perlmutter: Exactly. And as we've talked about, you know, over the years, what an amazing process that is. We call that neuroplasticity, where the brain is actually able to enhance the connectiveness, if you will of, you know, in various factors, one part to another. And that's, you know, what learning is all about. And the more you do something, it's been said that neurons that fire together, wire together, meaning the more you do something, ultimately, these pathways become more and more indelible. It's the process of learning how to swing a golf club, if you will.

You know, but in just getting back to our previous discussion a moment ago, and that is that the idea of addressing a person who needs to correct his or her diet by addressing their diet is extremely, with all due respect, myopic. It's one punch, as opposed to the one-two punch of diet and exercise. You know, that's pretty well accepted. Okay. We're gonna talk about diet and exercise. But I'm saying not a one, or one-two punch, a one, two, three, four, five, six, seven-punch, bring as many things to bear, not on the decision that's made, but on the mechanism that underlies decision-making.

So, you know, when I speak to groups of physicians, of doctors, often, you know, I have slides that show Mr. Jones, who comes into the office and he's overweight, he's, let's say, type 2 diabetic and he's making bad decisions. And, you know, I try to make the point that we're not trying here to labor over what are the decisions? Should a diabetic be on a ketogenic diet, a low-carb diet over a long period of time, etc., what the decisions are, but let's take a step back and focus on the decision-making because the biggest problem in these individuals is their ability to make the decision in the first place, not figuring out what the decision should be, not figuring out the number of calories derived from fat carbohydrates and protein and micronutrients. That's really, with all due respect, not the hard part. That's not where they fail.

The hard part, as any healthcare provider will tell you, is called compliance. And when patients don't have that ability to follow through, they get labeled as being non-compliant. In the doctor's notes, it says, "Well, Mrs. Jones has been non-compliant with our recommendations." You know, basically pointing the finger, you know, at her, and she goes home, or he goes home and feels awful because it's, again, this pattern repeating itself of self-blame, and that is so destructive.

We've got to recognize that our ability to make good decisions is actively being taken away from ourselves by others. And I mentioned earlier how our survival adaptations are, again, these entry points for our own exploitation by others. And step one is to recognize that that's being done every single day. So, once that happens, you realize that you can, kind of, you know, offset the self-blame.

Katie: Yeah, I think you're right. that's such a part of that vicious cycle. And probably what leads to, like, the impulse thing. I think that's another big key of this is getting to a point, putting systems in place to have better impulse control and, like you said, to use our prefrontal cortex to our advantage versus being trapped in that more impulsive side.

This episode is brought to you by Wellnesse. That's Wellnesse with an E on the end. We make personal care products that go above and beyond just non-toxic to actually be beneficial for you from the outside in. I realized years ago that even some of my most naturally minded friends and family members who made an effort to eat organic food and be really cognizant of what they brought into their homes were still using certain personal care products, mainly hair care and oral care. And the reason was, they weren't willing to sacrifice how they looked and felt just to use natural products. And none of the natural products they were finding really lived up to the conventional products as far as how effective they were. So, I resolved to change this and realized I had things that I've been making in my kitchen for years that worked just as well and that I could share with other families, and thus Wellnesse was born. You've probably heard that what goes on our body gets into our body and that many of the chemicals we encounter end up in our bloodstream. To me, this means non-toxic and safe should be the absolute bare minimum baseline for any products that are in our lives. But I wanted to take it a step further. I wanted it to use this to our advantage to actually put beneficial ingredients in our hair care, toothpaste, personal care products so that we could benefit our body from the outside in. Why not use that wonderful skin barrier to our advantage? Our hair care is packed with ingredients like nettle, which helps hair get thicker over time. Our dry shampoo has scalp promoting products that really help follicles stay strong. And our toothpaste, for instance, has a naturally occurring mineral called hydroxyapatite, which is the exact formulation or exact mineral that's on our teeth that's present in strong enamel. So they're all designed to work with the body, not against it to help you have stronger, healthier hair and teeth. We now have a hand sanitizer that doesn't dry out your hands like many hand sanitizers do. I would be honored if you would check it out and I would love to hear your feedback. You can find all of our products at wellnesse.com.

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headaches and dry watery eyes. For some this could even cause heightened anxiety, depression, and low energy. I personally noticed that when I was exposed to blue light after dark, I didn't sleep as well and felt more fatigued the next day. BLUblox are the evidenced backed solution to this problem and are made under optics laboratory conditions in Australia. They have over 40 styles and come in prescription and non-prescription so there is truly a pair for everyone. I also love that BLUblox is also giving back by working in partnership with Restoring Vision in their buy one gift one campaign. For each pair of BLUblox glasses purchased they donate a pair of reading glasses to someone in need. Really awesome company and really awesome mission. Get free shipping worldwide and 20% off by going to blublox.com/wellnessmama or enter code wellnessmama at check out.

Talk a little bit more about the program that you guys have and how people can find that to start rewiring their brain.

Dr. Perlmutter: I will, but before I get there, I wanna just, I think, pick up on where you may have been going a moment ago, and that is the idea of rewiring. So, we do whatever it is we wanna do, whatever activity we want to become more and more indelible in the brain, we do. Whether it's learning to eat right, getting more exercise, learning how to swing a tennis racquet, you name it, learning how to play the piano. We then do the activity but we also, at the same time, have to do what we can to enhance the biochemical pathways, the genetic pathways that allow them this connection of one brain cell to the next, this neuroplasticity that I mentioned earlier, or synaptic plasticity, which is the formation of the synapses between brain cells that becomes more indelible the more we do something.

And I just would mention that we can enhance that process by increasing in our bodies the presence of a particular chemical called BDNF, which stands for brain-derived neurotrophic factor. It comes from the brain, that's where it's derived, neurotrophic, good for neurons, factor. This is a chemical that enhances this growth of connections in the brain when we're engaged in an activity. I will mention, it also enhances the growth of new brain cells, which we call neurogenesis. So, the question that people would want answered would be, what can I do today to increase neurogenesis and neuroplasticity, paving the way, priming the soil then for my ability to rewire my brain? The best thing that anyone can do to increase BDNF is to get more exercise. Aerobic exercise dramatically increases BDNF. It's increased on the ketogenic diet. It's increased with consuming DHA, which is an omega 3 found in fish oil. There's an algae form as well. It's increased with consuming turmeric. So there are a lot of ways that people can nurture the soil, such that now when I'm ready to increase my connection to the prefrontal cortex, it's going to happen more appropriately and more indelibly.

So then we engage in the activities. And as we describe in the "Brain Wash," we have a 10-day plan that looks at and describes how we can start looking at our reconnection with nature, our reconnection with other people, we are social beings. Dietary changes that are so important to lower inflammation. Why? Because inflammation threatens the connection. Looking at our sleep in a, you know, very in-depth way. We explore that extensively. And, you know, truthfully, we clearly came out in favor of wearable devices that can look at

your sleep in terms of the dynamics of your sleep, the characterization, not just the time that you are asleep, but the various parts of sleep that we know are important. Deep sleep, for example, is the time that our brains clean house, if you will, activation of what has been called the glymphatic system. REM sleep for consolidation and contextualization of memory. How long does it take to go to sleep? What is your total length of sleep?

I happen to wear a device called an Oura Ring, which gives me a great sense as to, you know, not just how was my sleep last night, but also allows me to tinker with it a little bit to see if eating later is gonna affect my sleep, which in my case, it dramatically does. And if have a bigger lunch or a bigger dinner. How late I work on the computer. Do I wear blue-light-blocking glasses? How cold do we set the room? All the various factors allows you to see what works for you and how to individualize your approach because, you know, one thing is for sure, in this age of personalized medicine, we're all different. There are some broad-stroke recommendations, that's for sure. But the subtle nuances of, for example, why you may not be getting enough restorative sleep and therefore disconnecting from your prefrontal cortex are different from the next person. So, I think, ultimately, you know, the decision has to be about doing the things that allow us to reconnect.

So we describe in the book what's called "disconnection syndrome" on multiple levels, that this disconnection syndrome is what we've been talking about, this disconnection of the amygdala, the impulsivity center from the prefrontal cortex, the more adult long-term thinking center. That's disconnected when that pathway is threatened. Our disconnection from our microbiome, the disconnection that we have from our genome. We know that our day-to-day lifestyle choices affect our gene expression, our disconnection from each other, and even our disconnection from the planet upon which we live. So it's all about reconnecting.

And most importantly, I would say that, you know, the two areas where we need the most reconnection are reconnecting to the prefrontal cortex. That's, you know, really, kind of, a neurophysiological reconnection. And I would say, also reconnecting to our DNA. You know, the foundation of the so-called paleo movement was first predicated on this notion that here we have our genome that really hasn't undergone any significant change in 50,000 years, 70,000 years, and it has evolved over hundreds of thousands, if not millions of years to allow us to survive. That's what our genome does. It allows us to reproduce and continue on as a species. It is an intimate relationship with our environment. And our environment includes not just, you know, the climate, but the food that we eat, the activity we get, the sleep that we...the stress that we're under, the interaction with others. Our social interactions all influence, day in and day out, the expression of our DNA for better or for worse.

Now, the relationship to a particular environment is one that has remained static for hundreds of thousands of years. Suddenly, just now, in the last second of our time on Earth, this relationship has been powerfully threatened by challenging our DNA with signals coming from foods, the likes of which our DNA has never seen, by challenging our DNA from signals from our gut bacteria, which have been altered in ways that have never been described. We know what our ancestors' microbiomes' gut bacteria looked like. We have the ability through technology to evaluate fossilized teeth and fossilized stool that is found in caves with fossils of our distant ancestors to determine what their microbiome bacteria must have looked like because we're able to collect the DNA from these fossils. And what we find when we do that are two things. Number one, that the makeup of the gut bacteria remain very static for thousands and thousands of years and that the makeup of

those bacteria is similar to what we see in cultures that haven't really been westernized. They're a few of those that still remain on the planet.

So, the point that I'm making is that this sacred relationship that we have with our DNA is unlike anything that was part of my education. We were told that DNA, what we get from our ancestors, is locked in a glass case and determines everything about us. And we now know that that is absolutely not true. We know that the science of epigenetics tells us that moment to moment, we influence the expression of our DNA in a good way or a bad way. We can get back to what you mentioned earlier. We can enhance inflammation. We can enhance autoimmunity. We can basically shorten our lives just by tinkering with the expression of our DNA. At the same time, we know that we can cause our DNA to express things that are good for us. We can activate biochemical pathways that code for disease resistance and longevity just by making better choices. So, we've come full circle. We've come back to decision-making and how we can make better decisions.

Katie: Yeah, and just to weigh in on that I think you're right, I'd like to highlight, we are all different. That's been one of the big lessons for me in the last couple of years is just how individualized and personalized we each are. But at the same time, like you said, there are some universal things that are largely generally applicable. And I'm with you that I think sleep is a huge one of those. And I'm yet to find any expert who is making a case that we can be much healthier with less sleep or poor quality sleep. But the specifics of how to get great sleep do seem to vary somewhat from person to person. Like you, I also find I do better when I don't eat after dark, when I'm careful with my light exposure. I found for instance, things like jumping in my cold plunge at night before bed actually really improves deep sleep, although that's not gonna maybe be the same for everyone. I also use a chiliPAD for that same reason, like you mentioned, with the temperature.

And then some things I found over time, like getting enough protein early in the day seems to improve sleep quality. At night, I think there's a lot of experimentation for each of us when it comes to what are gonna be those factors that really move the needle on sleep for us? But I think we've probably all also experienced, to your point, that how much different we feel on a night of great sleep versus a night of poor sleep and how much easier it is to make those good decisions when we have our tank full from a really good night of sleep. So I love that you brought it back to that and tied it into decision-making, such an important point. I'm a big fan of the Oura Ring as well. But like you said, you've made a case for all of the different factors that go into this. And I know you do have a program that helps people go even deeper on this. So, I would be remiss if we didn't at least mention that before we wrap up. So, how can people find that?

Dr. Perlmutter: That program is available in "Brain Wash." That's a book that is available everywhere. Whatever online or bookstore you wanna go to, that's where you'll find it. It's in 15 languages now. So that's a good thing. And yeah, again, the message there is that we first have to set up the platform for better decision-making, and then making those decisions is going to be facilitated. And also, as I mentioned at the beginning of our time together, that it's really important to reveal that there's great value for others in manipulating our decision-making. Once you get that, once you recognize that that is happening, my goodness, a light goes on and you realize that, "Hey, that's not gonna continue in my life. I'm gonna grab the reins of control here and really begin to control my destiny as opposed to, you know, having other people manipulate my choices and my destiny for their own good."

And I would say to do that lovingly, not aggressively, not in a castigating way but do it with a deep breath and, you know, a smile on your face and make the decision that you're going to move on for better things in your life. I mean, you know, that's what you're doing. You know, it's why you have this social outreach is to give people tools to have a better outcome. And, you know, what we're trying to do is really focus on that ability that they have to use the tools that people like yourself are giving them. That's the big stumbling point. So, again, the program and everything we're talking about is, of course, in the book "Brain Wash," and available everywhere.

Katie: Awesome. Yeah, like you said, available everywhere. I'll also link to it at wellnessmama.fm. For any of you guys who are driving or exercising, all of the links to everything we talked about will be there. Another somewhat related but a little bit unrelated question I love to ask at the end of interviews is if there is a book or a number of books, besides your own, that have had a profound impact on your life that you would recommend and if so, what they are and why?

Dr. Perlmutter: Geez, that's hard to say. So in my position, people ask for blurbs or, I guess, supportive comments on their books. So I get four or five books a week to read. I'm actually reading a new book by Dr. Robert Lustig that isn't out yet. And so I'm probably not gonna tell you the name but I found that book to be incredibly inspiring. I think one of the most inspiring books is a book called "The Disease Delusion" by Dr. Jeffrey Bland. And it really challenges us to think about the whole model that we engage in terms of health and wellness and even the practice of medicine, that we focus on this, sort of, artificial notion that, you know, we're good until a disease happens.

And really, you know, our entire health structure and our health and wellness structure seems to be geared at targeting disease. You know, we talk about the various healthcare plans that are offered to people. You know, whether it's Obamacare or the next iteration, it's all about healthcare. And, you know, what Dr. Bland calls to our attention is, no, it's about disease care. And if you think about it, he's right, that, you know, really what health insurance and Medicare, etc. are all about is taking care of you when you get sick. And Dr. Bland submits, as do many of us, that our focus really needs to be on extending the healthspan and reducing the time in our lives when we are in that disease span part. So, really focusing on keeping people healthy, I think is profound.

So I recently read "The Telomere Effect" by Dr. Epel, similar kind of discussion there, that, you know, we need to...As in her case, she talks about how it's reflected by the length of our telomeres. But her recommendations, lifestyle recommendations, I think are very important. So, those are two very important books in my life. I would say that perhaps on a more spiritual level, "Siddhartha" was always and remains a meaningful book for me because I've, sort of, seen myself as seeking and learning along the way and, hopefully, that will continue.

Katie: Wonderful. I will link to all those in the show notes as well for people for continued reading. I'm always looking for book recommendations myself and I'm gonna order several of those. Dr. Perlmutter, it's always a pleasure. You're such a wealth of knowledge. Thank you, as always, for sharing your time today. And I hope that we have the chance to have more conversations here in the future.

Dr. Perlmutter: Well, I'm looking forward to it as well. And let me, again, thank you for having me on your show today.

Katie: And thank you guys, as always, for listening, for sharing your most valuable resource, your time, with both of us today. We're so grateful that you did, and I hope that you will join me again on the next episode of the "Wellness Mama Podcast."

If you're enjoying these interviews, would you please take two minutes to leave a rating or review on iTunes for me? Doing this helps more people to find the podcast, which means even more moms and families could benefit from the information. I really appreciate your time, and thanks as always for listening.