



Episode 523: Dr. Will Cole on How Thoughts & Emotions Affect Physiology + Functional Medicine Tips

Child: Welcome to my Mommy's podcast.

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Katie: Hello and welcome to the "Wellness Mama" podcast. I'm Katie from wellnessmama.com and wellnesse.com, that's wellness with an E on the end. And I'm here with Dr. Will Cole to talk about a lot related to functional medicine, and also how our thoughts and emotions directly affect our physiology. It's a fascinating conversation. He's extremely well researched and has a wealth of knowledge.

We go into a lot of different things on things like the interpretation of labs being as important as the labs themselves. How in most cases the route to autoimmunity start 4 to 10 years before diagnosis, and how to recognize it early. What the inflammation spectrum is and how you can use it to your advantage. The labs he

recommends as a general baseline. How to use at-home wearable devices to monitor important health metrics. His inflammatory core four things to avoid and also positive things to add in. And then, how negative thoughts affect our physiology just as much or more as poor food and lifestyle choices, and the way that the body affects mental health, and then also the way mental health directly affects physiology and what to do with it.

We talk a lot about how to shift into parasympathetic, how to address those core mental and emotional sources of stress, and so much more. And we end by talking about light and sunlight and adaptogens and other tips that can be really, really pivotal. Very wide-ranging conversation, I enjoyed it a lot. And let's join Dr. Cole. Dr. Will, welcome. Thanks for being here.

Dr. Will: Thank you so much for having me. I've been wanting to talk to you for a long time. And I'm excited it's finally happening.

Katie: Me too. You're a much-requested guest. I've had several people reach out and ask for me to have you on. And I'm excited that we're going to get to switch off and I'll get to chat with you as well.

Dr. Will: Yeah.

Katie: But I know you have expertise in a whole wide range of areas. But I think to start kind of broad, and I know we'll go in a lot of sub directions from here, maybe for anyone who's not familiar. I would guess everyone listening has heard the term functional medicine and maybe at least has a passing understanding of what that is. But can you give us kind of a more clear definition and maybe especially highlight how it differs from more conventional health care?

Dr. Will: Sure. So to give people a little bit of a background, I started one of the first functional medicine telehealth centers in the world over a decade ago. Basically, I've been in this room for the past decade-plus 10 hours a day and they let me out to feed me and see my kids and my wife. But for the most part, this is where I'm at. And I love it. I'm immersed in it. And it's a passion of mine. So what functional medicine is, first thing is we interpret labs using a thinner reference range. So anybody that's listening to this right now will know, "Hey, when I get my labs, there's my number and then there's this X to Y interval. There's this reference range." Well, we get that reference range largely from a statistical bell curve average of people who go to labs. And people that typically are going to labs predominantly are people, sadly, with health issues.

So there's a lot of people out there, and I've seen thousands over the past 12 years, that know intuitively something's not right here. I mean, and it could be that weight loss resistance, or the fatigue, or the brain fog, or these hormonal symptoms, or these different digestive symptoms, hormonal. It could be anything, right?

These different inflammatory problems that they know something's off, the check engine lights on here, but they go to their standard doctor and the doctor does, with the best of intentions, runs these basic labs. They're just scraping the surface, and they say, "Everything's fine. You're just depressed. Here's an antidepressant. See you in six months," or, "You're just a new mom. You're just stressed out," or, "You just need to lose weight," all these sort of well-intentioned "reasons" why you're not feeling well. But what they're unintentionally telling you is you're a lot like the other people with health problems that we're comparing you to. Comparing yourself to people with health problems is no way for you to find out why the heck you feel the way that you do.

So in functional medicine, we're looking at optimal, not average. And we realized just because something is common doesn't necessarily mean it's normal. Ubiquity doesn't necessarily equate with normalcy. And that's really the difference here is the interpretation of the labs that are ran. And then we run more comprehensive labs on top of that so we're not just diagnosing a disease and matching it with a medication, which is all the labs they're running for in the standard model of care. So they just need the basic TSH to give us Synthroid. They need the total cholesterol to give a statin drug. They needed these basic biomarkers just to do this for a medicinal matching game. But in functional medicine, it's kind of superfluous to just look at these basic things because you cannot reduce the complexity of your physiology to one number on a lab. So we want to look at a lot more comprehensive data to get the comprehensive pieces of the puzzle, the confluence of factors that give rise to chronic health problems, especially with the patient base that I'm dealing with. With autoimmunity, you could definitely cannot reduce that to a few biomarkers.

So we're running more comprehensive labs. And then we realize we're all created differently. There's not going to be these cookie-cutters, one-size-fits-all approach to getting healthy. So that's bio-individuality. Like, to use fatigue as an example. First of all, labeling somebody with a diagnosis of chronic fatigue syndrome is kind of...they already know they're chronically fatigued. But why is the question that we're asking in functional medicine. Or fibromyalgia is another good example or irritable bowel syndrome. These are just a description of what they already know. But why is my bowel irritable? Why are my muscles sore? These aren't telling us why. They're just saying what. So in functional medicine, we want to go upstream to say, "Okay, what is at play here?" because for one person, it's going to be this set of factors, and for the next person with the same diagnosis, it can be a completely different set of factors.

So instead of just looking at the check engine light and then covering up the check engine light and say, "See you in six months," just like a mechanic does this with a car. He hooks your car up to diagnostics, and that's exactly what we do in functional medicine. We want to see what's going on under that proverbial hood that's causing that check engine light, whether that be fatigue, or brain fog, or any symptom, right? Anxiety, depression. Why is it on in the first place? So that's my long-winded dissertation on functional medicine. But, you know, it's important.

Katie: Yeah. I definitely, in the past, have had that experience of being the patient who knew something was wrong and got the very basic thyroid testing and was told, "This is normal. You just feel like this as a new mom." And even I remember having my doctor of my first baby tell me, "Oh, you just need to lose weight."

And the doctor himself was like 400 pounds and on like 9 different medicines. And even when I would ask, "Well, what about these other thyroid markers? You're not testing my antibodies. You're not testing these." They'd be like, "Oh, well, if your TSH is normal, you don't need to test that," which ended up being blatantly not the case for me.

But I think a lot of people have maybe run into that. And I know a lot of people listening from my audience, I hear of a lot of people with autoimmunity. And this seems to be on the rise right now, even in children, which is a little bit alarming. I know everyone, like you said, I think bio-individuality is a huge key. And I'm so glad that there are people like you who are really addressing this. But when it comes to things like autoimmunity, when you start delving into those root causes, are there any kind of commonly occurring ones or ones that you see a lot that can be maybe like warning signs for people?

Dr. Will: Yeah. Well, autoimmunity, I mean, the commonality between just about, if not every autoimmune issue, is inflammation. And to be clear there, you know, as many more people that have chronic inflammatory problems, they aren't necessarily autoimmune in nature. Inflammation doesn't equate with autoimmunity, but in the sense of not everybody with inflammation has autoimmunity but everyone with autoimmunity has some sort of inflammation. So it's a subtype of a behavior of what the immune system is doing, which that's...the seminal event and it's known as a molecular mimicry, where the immune system is thinking that the thyroid in the case of Hashimoto's or Graves' disease, or the myelin sheath with MS, or the gut with ulcerative colitis or Crohn's disease. And there's over a hundred different autoimmune diseases that science, at least today, recognizes as autoimmunity. And I don't think there's anybody out there that in another 10 years, 20 years, we're going to know so many other things that we don't classify as autoimmune that we're going to find autoimmune components to more and more issues because it happens every few years.

So it's a far-reaching classification of different health issues. So Sjogren's, lupus, ulcerative colitis, I mentioned Crohn's, rheumatoid arthritis, MS, these are all autoimmune issues. And it exists on a spectrum. And by the time somebody is diagnosed with an autoimmune disease, researchers estimate it's about 4 to 10 years prior to that diagnosis when things are brewing on that inflammation spectrum. So on one end, it's silent autoimmunity, your silent inflammation, meaning if I ran labs on somebody, I could see high inflammation markers. And that person may feel fine, and that's what would be classified as silent autoimmunity or silent inflammation. The next stage is inflammation reactivity or autoimmune reactivity. That is the person is symptomatic, they don't feel well, their labs are off, but they're not going to check all of conventional medicines criteria to be labeled with an ICD-10, the diagnosis code, and they're labeled with something. So that stage three is the diagnoseable state. And in most cases, you have to have significant destruction of certain parts of the body before it will fit mainstream medicine's criteria to be labeled.

So for example, the conventional data for Addison's disease or autoimmune adrenal disease is 90% destruction of the adrenal glands. That didn't happen overnight, 90% destruction. Similar numbers for MS and similar numbers for other GI issues, where you have to have 70%, 90% destruction to show up on an imaging study, to check all the boxes, to get enough rheumatologists to agree that this is what it is. For most people, it took 4 to 10 years prior to that diagnosis. So it's a lot of different symptoms.

But the reality is, what I would just tell people is to just check in with their body. Be curious. Don't settle for things just because it's your every day. Many people push through these things because they have to or because they're delegitimized systemically and told they are just stressed out, and it's not good. So I would just say, more than anything, be curious, advocate for yourself, ask questions, and run labs to get data. And when you start seeing stuff on labs, that really...first of all, for my patients, it's like this bittersweet moment because they already know intuitively something's off, but they've been told there's nothing going on here. But when you see on labs, "Okay, I wasn't crazy. Thank you," it's very validating. But more than that, it's not just looking at problems. We have to know what we're dealing with to do something about it. We have measurable data to quantifiably see improve as we start dealing with what we find on the labs.

So I don't know if that answered your question specifically. But it's a lot of things. But I would just check in all the systems of your body. In "The Inflammation Spectrum," which is the title of my second book that came out a few years ago, I started that book with a quiz that I just adapted from questions that I asked patients. So I think the best way to answer your question is just to check in with different systems of your body, to kind of see are these pointers that something may be going on? And it doesn't mean that's going to be horrible. It's not meant to put fear into anybody. But it's just to advocate for yourself to say, "Should I be looking into this more?" because so many people just settle for suboptimal living because these things are chronic.

Katie: Yeah, I remember very clearly the day I finally actually got a Hashimoto's diagnosis. And I did feel that. I felt that relief of at least, A, I'm not crazy, and B, now we know what it is, which means we can start doing something about it. And I like to encourage people and give hope there because conventional medicine will tell you things like that are not fixable. You're going to have it the rest of your life. And I understand that idea of being in remission or something like that, but I currently am on no medication for it. My labs are all normal, even the extended labs. So there is hope. And you absolutely can. I'm a very big believer that the body's natural state is health, and if we support it, then you can often recover much of that.

I love that you brought up things brewing early, often years in advance of an actual diagnosis, especially a conventional medicine diagnosis. So I'd love to talk a little bit more about maybe what to do and especially what we can do at home and/or working with a practitioner like you to monitor ahead of time if we want to have a good baseline or be more even preventative than wait until something kind of breaks down. Like, are there less common labs that people can check that are good, just markers to keep an eye on? I know your book. I'm going to make sure we link it in the show notes. It has a great quiz for that. But from a lab perspective or any other kind of perspective, what can we watch?

Dr. Will: Sure. See, a lot of the labs that we run in functional medicine, you can run any...I mean, you don't need a functional medicine doctor to run it. So high-sensitivity C-reactive protein is one marker, hs-CRP. We want that to be under one in functional medicine. And that's also the guidelines that the American Heart Association, the CDC give as well. So like that's their optimal low-risk factor for different inflammatory problems. And they're typically running that marker for heart attack and stroke risks. But C-reactive protein is

a good surrogate marker for a lot of different interleukins, which are just different inflammatory proteins. But it's an accessible way to get it. It's a pretty inexpensive test for most people. And it's covered by insurance for most people too. Number two, homocysteine. Homocysteine is another inflammatory marker. It's an amino acid. And the body is supposed to recycle that down into something called methionine. It's part of methylation. And if proper methylation pathways are happening optimally, then you will get healthy optimal homocysteine levels because it's going to be recycled down.

The problem is with a lot of different autoimmune and inflammatory problems, even if it's not autoimmune, different metabolic issues, you're going to see an accumulation of homocysteine levels in the body in part because methylation, it's not as optimal as we would like it to be, which you need methylation for healthy hormones, detox pathways, gut health, lowered inflammation levels, etc. So above seven homocysteine specifically has been shown to act as a neurotoxin. And it's associated with increased blood-brain barrier permeability, or what they call leaky brain syndrome, which is similar to leaky gut syndrome, where there's basically been a loss of integrity of the protective blood-brain barrier. So we have to look at that whole realm of neuroinflammation with people that have different autoimmune issues, but also the non-autoimmune issues like anxiety, depression, brain fog, fatigue that may have autoimmune components, let me say that. I mean, there are certainly people that I've seen that do have autoimmune components to those things that are generally not classified as autoimmunity. So again, that check engine light, for one person it's this, for the next person it's this completely different set of factors. But homocysteine is a good metric there.

Ferritin is another interesting conventional lab. It's a good biomarker for stored iron. So definitely, I want to put that in context with the rest of the iron markers like serum iron, or total iron-binding capacity, and iron saturation, what we call the MC series, just different red blood cell measurements. But ferritin is a biomarker not only for stored iron, but it's also considered an acute phase reactant. So basically, in states of inflammation, you can see ferritin spike. And I will see it spiked for many people where they could have iron deficiency but ferritin will be spiked, in part because they're in a state of inflammation levels, and it looks like high iron but it's really not. So those are some conventional labs.

And then in functional medicine, we get a lot more granular and specific with different things based off of somebody's health history. So not everybody has to run all of the labs. But a health history will inform me, or anybody in functional medicine, what labs are the most pertinent to you. So there's a whole classification of people that will have normal C-reactive protein, maybe even normal homocysteine, and have a whole slew of other inflammatory markers being elevated. So looking at things like TGF beta-1, C4a, C3a, MSH, these more what I would call like biotoxin chronic infection patterns, CD57, if I didn't say that, chronic Lyme markers, mold toxins, mycotoxins. This is one of the biggest missed components to inflammatory problems out there.

Because look, I mean, I've just labeled a lot of different inflammation markers. But then ultimately, in functional medicine, I have to ask the question, "Why is the inflammation off in the first place?" Because inflammation is the commonality, but it's not the causation. It could be the causation of some symptoms, but what's causing the dysregulation of inflammation in the first place? So at that point, I want to look at these toxins, biotoxins, or people that have underlying gut problems, or people that have chronic infections, people

that have heavy metal issues, or other environmental pollutants that are at play here. So that's a whole other set of labs that are typically not run in conventional medicine but are important, because what you can do is look at the inflammation on the conventional labs. But then ultimately, you have to ask, why is it high in the first place, and that's where we come in.

Katie: That's a great list. Thank you. And I also think we've seen such amazing jumps in the last decade, both with, like you said, access to labs, even for people without a doctor, which is great. I think, then that's a great point to work with a practitioner who knows what they're doing. I'm a huge proponent that the best outcomes happen when you have practitioners who are invested in the patient, but also a patient who's invested in their own health or that idea that we are each our own primary health care provider and we can't outsource the responsibility for our health and like the best outcomes are in partnership.

And I also know we've seen a huge increase in availability of things that let us track our own health data at home easily. Like, right now, currently, I'm wearing an Oura ring. I'm also wearing a glucose monitor just because I enjoy the data. I'm curious if or how you use data or encourage your patients to use that kind of data just kind of to keep a good baseline. I know, for me, personally, I just kind of watch deep sleep and HRV and resting heart rate, and things like that, and my fasting glucose, which seems to be a good indicator just to keep an eye on. But I would love to get your take on that.

Dr. Will: I think that these wearables, these devices are very helpful. And I have almost all of our patients use some of them, at least for a time, to learn because I see the bigger labs that I'm running as the bigger report cards. But then we have to use real life as a lab too. And part of that is just subjectively quantifying how they're feeling and having them gain intuition and confidence in their body and me navigating these variables for them to be more conscious about how things, whether that'd be food, or stress, or sleep or anything else, how do these things influence how they feel.

But to gain confidence sometimes, those wearables can be helpful, because it really just is an educational tool and a mindfulness tool for you to know, "Oh, when I do this, it creates this," and there's no ambiguity on you second-guessing your body because you're going to see that on a device. So I have an Oura ring. I have Levels. I recommend it to patients when it's clinically appropriate. And honestly, it's appropriate for most people as they're learning about their body and getting curious about how things and life itself influences their biochemistry. So I look at all those same thing, HRV, REM sleep, deep sleep. It's very important. And then the way that stress, and sleep, and food impacts your blood sugar is very fascinating as well because there's no hard and fast rules when it comes to that because some person maybe have that bowl of fruit, whatever you're talking about, and that's going to spike your blood sugar up quite a bit, and the next person, it's completely fine.

So we can dial in and really tailor recommendations on that and make sense of that data. So it's really cool. And then I would say too, what serves you today and what are the best tools for you in your toolbox today won't always be the same. So it's good to check in months down the line as well, where you can really say,

"Oh, look, my health has evolved. I really can tolerate a lot more carbohydrates," as an example, right, or, "I really can do this, and I used to not be able to do this." So it's ever-evolving.

So it's important to not make it your thing and indict, like, your physiology as being the static thing because it's ever-evolving. And there's so many confluence of factors too. And maybe what you're going through in the future isn't what you're going through now. And there's a lot of things to consider. But it's a good checking in point.

And then from there, I would say, for most people... There's two classes of people like generally. There's like the...they can handle that data longer term. They really like it. They're the biohacker sort of spectrum of people, and then maybe they will use those data, wearables, etc, longer-term because it really does keep them on track. And then there's a bigger group of people that I would say, you know, it's good for a time to check-in, but it can then stress them out because they become overly obsessed with this stuff. So for them, I would say just drop it. Use it as an educational tool, then drop it because maybe they just want to keep things simple. And they learned about their body, but they don't have to check in every day, but maybe intermittently and then dropping it because ultimately, we have to keep our eye on the why. And it's easy to get in the weeds with these things and get super myopic and then you're stressing about not stressing, or stressing about not sleeping, and then it's counterproductive. So sometimes, it's just good to drop it, keep it simple, check-in with your body, and gain intuition in different ways.

Katie: I think that's such an important point that you just made. And I think it's really helpful to look at them in terms of like short term experiments and maybe you do them a couple of times a year to recheck-in and that lets it be fun versus, like you said, this kind of obsessive data all the time, especially things like glucose monitoring. Like, it's helpful to have for a couple weeks and to be able to watch, "Okay, I respond great to these foods. My body maybe doesn't like this food right now. And like, how can I use this as an experiment? What's my fasting and morning glucose and how can I optimize that?" and then let me focus on those things and not obsess and then come back to it later.

And it's been helpful for me just to notice big patterns versus getting obsessive too of like, "Oh, I know for sure. Now, for my own data, if I drink alcohol, my sleep is not as good, my HRV is not as good. If I get up with the sun and go outside and get sunlight and get some gentle movement, those things improve." And I just was able to find those patterns and now know, like, how to intuitively listen to my body. I don't need the data to tell me that anymore. But it was helpful to find the patterns early on.

I also am curious from a nutrition perspective, and there's a whole another realm I want to delve into after this, but if you have any generalities. I know nutrition especially, it's so personalized, and to your point, the only commonalities in this seem to be that we're all very individual and we're constantly changing. So I know it's hard to draw generalities. But I also know for instance, like I say, I would make a case, no one really needs to eat processed vegetable oils, things like that. But I'm wondering if there are any generalities that you kind of give your patients as starting points?

Dr. Will: Yeah, so what I call the inflammatory core four are definitely...I would say, if you had to boil it down to those foods or food additives, let's start there if you haven't, right? And even within those four things, some people can tolerate some of them. I'm not saying it's all or nothing. Even someone's response exists on a spectrum. But I wouldn't say they're healthy foods for most humans. So number one would be industrial seed oil. So looking at vegetable oil, soybean oil, canola oil, these things are not good for any human. Some people can have some of them in packaged foods, and they're going to be all right. They're not going to notice anything in their day-to-day life. Some people have bigger reactions to these things. Number two would be gluten-containing grains. Again, you can get better versions of gluten through fermentation, things like sourdough, or ancient grains that could have gluten in them. So it's definitely a nuanced conversation about, is it the gluten or is that what we've done to the gluten, because I know people that many patients over the years when they go to Europe, they're fine with it, and then you think, "Well, maybe it's the stress around the food," not the food. Maybe when they're on vacation, they feel a little bit...they can handle more stress.

So I mean, there's a lot of things to consider. But there's enough data to show that gluten is going to increase intestinal permeability in a lot of people. It's going to be a contributing factor for a lot of things. Part of it is the hybridization of wheat, probably part of it is the spraying of glyphosate on the crops. So it's a very complex conversation, but for the sake of simplicity, looking at those.

Third would be added sugar, which most of you listeners know that already. But I would say even implore people to be mindful of reading labels and look at the pretty sounding, even natural-sounding euphemisms for sugar that are still sugar. So look at the grams of sugar, even the more natural ones. If you're looking at how much you're having in a day, it may just be too much. And then four would be conventional dairy. Again, you can get better versions of A2, fermented, grass-fed, organic, all that stuff. But for the sake of adding to the core four, inflammatory core four, would be dairy. So start there if you haven't.

But then from there, I would lean into, at certain points in their health journey, really looking at the healthy foods that could be inflammatory, so nightshades, alkaloids, nightshades, peppers, tomatoes, eggplants, goji berries, white potatoes. Are they a problem for everybody? No, but they are a problem for some people at some points in their journey. Looking at nuts and seeds, looking at eggs, the egg white, the albumin in the egg white can be problematic. The lectins of phytic acid, even just the roughage of the nuts, and the amount of some people consume can just be too much, and then legumes. Again, better ways to preparing all those things with pressure cooking and sprouting and having better versions of them that's not filled with vegetable oils that definitely...we can be pragmatic, but those are things to consider. And those are different protocols that I put together in "The Inflammation Spectrum," which I think is a good resource around this conversation for people to experiment for themselves.

But you know what, I mean, most of my patients have done all of that stuff and they're still spinning their wheels. So at that point, we have to figure out what's perpetuating these food sensitivities, what's perpetuating these reactions. And sometimes, it's less to do about the foods and more to do with the immune

system's overreaction to those foods. So yeah, maybe cleaning up your diet and looking at those foods for a season makes sense because it quells the inflammation. But ultimately, these food reactions don't happen in a vacuum. And we have to look at chronic infections that are perpetuating a food sensitivity, stress and trauma that's perpetuating food reactions. And we have to realize that sometimes those things need to be looked at.

Katie: Yeah, I think that's an important point. And I want to delve deeper on that in just a second. But before we do, I'd also love to hear a little on the like positive. So those are a great list of things to avoid. Are there any generalities of positive things to add in or kind of go-to tips that you suggest for people to add into their routine?

Dr. Will: Sure. So basically, fruits are well tolerated by most people. Some people with SIBO have to be mindful of the FODMAP content. They're fermentable sugars in some fruits. But fruits, be mindful of that. Vegetables, having them more cooked soft in soups and stews if you're having digestive problems. And clean protein, healthy fats like wild-caught fish, grass-fed beef, organic chicken, healthy fats like avocados, olives. Again, some people have to be mindful of FODMAP content. For the most part, these healthy fats are well tolerated. And have them to tolerance too, because especially if your body's not used to healthy fats, sometimes they'll have too much too soon because they're hearing all of us pontificate on the benefits of healthy fats. And then they feel bad when they're having healthy fats.

You have to give your gut and your gallbladder, and your whole system time to adapt to these things. So start off low and slow with something like healthy fats, and even a lot of plant matter if you're not used to having plant foods. Sometimes, it's really starting with pureed soups and stews, something that's gentle to really allow your microbiome time to adjust. And I think that's a bigger point too is that, you know, what's can be seen as a food reaction or food sensitivity or food intolerance isn't always that. Sometimes, it's the microbiome adjusting. And I find that people's resilience to even these healthy foods takes some adaptation for the gut microbiome and the digestive system to adapt. So I would say start off low and slow with even the healthy stuff to allow their microbiome to adjust because it may just be like an adjustment period. And then over time, you'll be fine with it. So those are some foods to focus on. And there's many other ones too. But, you know, that's the top of the list.

Katie: And I think I know I've read that you've said before, you can't heal a body that you hate. And we've touched a little bit on how the thoughts and emotions really can affect physiology. And I know firsthand, that was a big part of my journey, the part I ignored for a long time, while I did all the dietary stuff, and the exercise, and the supplements, and the spreadsheets, and the data. And it wasn't until I really addressed that side that I saw firsthand how profoundly that really does affect your biology. And ironically, when I was able to deal with that part, I had so much more leeway in all those other areas and I was able to eat a wider range of foods and weight loss became easy. So I'd love to now shift gears and kind of delve into that because I think often that part isn't talked about enough. And for people who are in an acute phase, it's hard to understand and really believe how big of an impact that piece can have.

Dr. Will: Well, the science is compelling around this. I mean, we know stress isn't good for us, but we don't really think about what is it doing to your physiology. And the reality is that stress, and trauma, and negative emotions, and external stressors impacts your physiology just as much as that food that's inflammatory. So you could be eating the best breakfast, lunch, and dinner, but you're serving your body a big slice of stress every day and then you realize why you're not getting better. And it's a lot more insidious, right, because it's easy for me to say, "Well, these foods have been shown to increase inflammation. Don't have those foods." I'm aware of the gravity of what I say when I say, "Don't stress," because you can't really do that, right? Because going back to my earlier statement, then you stress about not stressing, and you're, "I'm not doing all the things. What am I supposed to do?" because what you're serving your head and your heart is a lot harder to determine because so much of it's reactive and unconscious and just in our neural pathways for years. And people are like trained to be ruminating in negative thoughts.

So it's definitely a bigger project, but it's one that's just paramount to healing on a physical level because mental health is physical health. Our brain is part of our body. And we cannot relegate mental health to some sort of, like, ethereal thing. The reality is it's very much physiological. We have to look at this bidirectional relationship between our thoughts and emotions and our physiology. Because look, I mean, you know this, but for people that are newer to this, underlying gut problems, inflammation, chronic infections will impact your mood, for sure, right? We know that. It's called the cytokine model of cognitive function. Inflammation impacts how our brain works. But conversely, an unhealthy relationship, a toxic work environment, past traumas impact inflammation levels all the same. So it's both sides of the same coin that we have to really understand.

So a part of the work that I do with patients is really looking at that and going there because I really can't have a conversation about somebody's labs without looking at that because you cannot reduce their health to just their breakfast, lunch and dinner. As much as we'd like it to be, it's just not, because what is the headspace and the heart space in which they're even eating that meal? Because they're going to digest that and their body's going to respond to that food in a completely different way. Because what is this? I mean, mainly, we're talking about an over-regulation of a sympathetic fight or flight stressed inflamed state versus the parasympathetic, the resting, the digesting, the hormone balance, the rejuvenating state. Both are important, but the balance is really the clinical objective here. And most people are just over up-regulating their sympathetic response for many different reasons.

So sometimes, that involves simply me giving them, almost like I'm prescribing acts of stillness in their life. And I'm telling them to be consistent with these things, whether that's getting out in nature, the science around shinrin-yoku, or forest bathing, and using nature as a meditation, which is just so simple. But it's so simple that people don't give it the respect it deserves. And they think, "Well, it's just a hike, you know. You guys in wellness are just weird. You're just telling me to go hike." "No, I'm saying calm your mind and allow nature to actually be therapeutic to you and take it in with all of your senses, which we know in science has been really beneficial to lower the stress hormones, help balance the immune system, and start supporting the parasympathetic in the body.

And there's many other ones that are really compelling in the research. I mean, yoga, tai chi, different mindfulness practice, breath work, so many things that I prescribe patients to really work on that. And then sometimes, it's referring them to a trauma specialist and working in conjunction with that trauma specialist to start to train the body to be more in a parasympathetic and retraining the brain. There's so many great tools that are out of the box. Some are really conventional, some aren't, to really deal with that side of things. And I see the food reactions, and the gut problems, and the inflammation markers just so much more effortlessly calm down when you deal with both sides of the coin. And then I get some patients that have already dealt with the spiritual stuff and the mental-emotional stuff, they just need the physical stuff to meet the mental-emotional so they can be in alignment. And for some people, they need to deal with both. For some people, they haven't dealt with the spiritual, mental, emotional at all, and have dealt with the physical. And they need to raise that up because both sides of that coin are important.

Katie: Yeah, I think you just made so many great points and the idea that there's two things have to happen. And some people will have already addressed one or the other, but you need both. And I think in my case, I had addressed a lot of the physical side, because that was nutrition and I understood that world. And really my key was addressing that mental-spiritual side and then all the physical stuff got so much easier. And I don't want to oversimplify it either because I know, like, in perspective, that was some of the hardest work I ever did was addressing the mental-spiritual side. It's not just like an easy thing that you make a decision that you're going to be in parasympathetic and everything gets better. I did a lot of hard work on that. I had to simplify and take a step back and address sleep, and get a meditation practice, and do Qigong, and, like, all-in therapy, and all these things.

But when that shift happened, all the physical stuff resolved. And I went from, at times in the past, being on a very restrictive AIP-type diet and thinking I couldn't eat almost anything, to now I'm at a point where even though I choose not to eat most foods all the time, there's nothing I put in my body that causes an acute negative reaction. And I feel like the goal there is well-being. I want to be adaptable, both mentally, spiritually, and physically metabolically. I want my body and my mental health to be able to handle whatever they have to in an adaptable way without getting stressed about it. And I think that's very much a long journey. It's not an easy shift. But I think it's together one of the most worthwhile shifts we can make.

Dr. Will: Yeah, well said. And at that point, I think that's the goal for most of my patients too. It's like that wiggle room, where, like you said, you wouldn't go back and have all the foods that made you feel lousy anyways. But you don't want to have to live so tight at such a narrow amount of things to keep the bucket from overflowing. But when you empty the bucket significantly, and that's dealing with the physical stuff, and dealing with the mental, emotional, spiritual stuff, there's some resilience capacity there where you can pivot from the center. And maybe you're traveling, maybe you're just going out with friends and you're eating things you normally wouldn't, but you're not going to pay for it the next day with a flare-up. That's the goal really. It's so that you can live your life with as much flexibility as your body will allow and what your body's capable of, which most people's body, they're capable of so much if we start dealing with both of these sides.

Katie: Yeah, and I think it's helpful to realize too, for anyone who's in that acute phase, because I've been there too, that it's not forever. A lot of these things you have to do are for a time and it's part of the journey. But it was, to me, very helpful to understand that this is not the rest of my life. I'm not committing to having to do this for the rest of my life. There's a goal, and I can watch my body heal and improve.

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And another thing I think that's also not talked about but very, very important is the subtlety of our language around these things, especially when we're talking about the mental health side, especially our inner talk. I don't think often we pay attention to that enough. But I realized, in hindsight, I was spending so much mental energy being mad at myself, and self-critical, and hating my body, and asking questions like, "Why can't I lose weight? Why is this so hard?" And when you do that, your subconscious answers those questions because you're asking it to. And when you shift and start asking it, like, "How is it so fun to do this?" and, "Why is it so easy to lose weight?" or whatever the case is, your subconscious starts putting your energy toward that. And I

caught myself learning to say things instead of like, "I have Hashimoto's," which is an identity statement, saying, "My body is recovering from Hashimoto's currently." And those things seem so subtle, but they're not. And I say often now, like be very cautious of the words you put after the words "I am" because your physiology will respond to that. And so rather than, "I am sick," or "I am tired," or "I am whatever," give yourself positive "I am's" to focus on.

Dr. Will: So powerful. It's so true. And you're right, people think, "Oh, what's this do? Like, why does this matter?" They don't even catch themselves because they're so caught up in the incessant thoughts. But that's really one of the benefits, I think, of mindfulness practice and meditation is you start realizing you aren't your thoughts or emotions. You just like you're not your health diagnosis. You are this beautiful, observing presence of them. Your cells are listening intently. And whether you're saying it out loud or you're thinking it in your mind, the reality is that influences your biochemistry, so much so. So, like, integrating gratitude practice, self-compassion, and giving your body grace and lightness through this journey, like you said, it's not easy work, but it's important work. And when you are consistent with these practices, gratitude, compassion for yourself and other people, kindness, showing kindness to yourself, you will start to retrain your thoughts and emotions. You will start to be aware of them and not be controlled by them, even in a flare-up.

I see people go through really heavy flare-ups and still have this grace that is just beautiful to see through it because they're not caught up in this storm of negativity. But you have to train that mindfulness muscle. And they had to show up to that best practices just like they'd show up to the gym. And the people that say to me, like, "Oh, meditation is not for me," you know, those are typically the people that need to do it the most because they're so caught up in the reactive mind that it's very uncomfortable to observe these things. It's very uncomfortable to create some stillness. But that's why you need to be doing it. That's like the person that doesn't work out and has never done it. This gym can be scary at first, like, "Why do I even start?" But that's why you need to be doing it. So show yourself grace through the process. But ultimately, it is paramount for healing.

Katie: I love that. I'm so glad we got to touch on all of that. And also with the caveat that of course, here as well, there's going to be a huge element of bio-individuality and adaptability. But I'm curious if there's any things you've noticed over time with all of your patients that are very often helpful. As an example for me, I've noticed magnesium seems almost universally helpful to people in today's world because we just aren't getting very much from food. And personally, when I took a bunch of that, it changed how I felt. It changed my energy levels. On a personal level, I noticed I have a lot of genes that are choline-dependent, and I avoided eggs for a long time. So a choline supplement was super helpful. Are there any like common things like that, that of course, with the caveat of bio-individuality you seem to see are generally helpful?

Dr. Will: Yeah, I mean, magnesium, you're absolutely right. I see it on an hourly basis being deficient. And running an RBC magnesium, most people are deficient. And it's responsible for hundreds of different pathways, regulating your gut-brain axis really, and your nervous system. So it's a raw material for so many different important pathways that regulate your mood, and energy levels and sleep as well, and digestion. So I would recommend magnesium supplement for most people. We have a blend that has magnesium, threonate,

and different compounds, different types of magnesium that all work synergistically, which I find if some people hang their hat on one type of magnesium, it may not be the one that's being the biggest needle mover for them, but a combination of magnesium is something to consider.

Just like with meditation, like finding the one that works for you. Like, there's many different types of meditation, there's many different types of forms of these nutrients as well. So find the one that works for you and stay consistent with it. Another thing to think about when it comes to mood, adaptogens can be very helpful and most people tolerate them very well. So things like ashwagandha, and holy basil, or tulsi, and Maca, and even the different medicinal mushrooms like lion's mane, and Chaga, and reishi can be helpful for supporting the mood and brain function. So, yeah, these are really good brain mood-centric things to consider. Vitamin D, the brain is rich with vitamin D receptor sites. And as you know, I mean, a lot of people are deficient in that as well, so really getting your vitamin D around 60 to 80 for most people. You can really go a little bit higher for people with autoimmunity, 60 to 100 maybe, and looking at a good quality vitamin D3 with K2. Both are really important fat-soluble vitamins that help regulating the immune system, regulating the brain, regulating inflammation levels. And I see a lot of people that are in that state of sympathetic stressed inflamed response is that they are magnesium deficient and vitamin D deficient. And if they're vitamin D deficient, they're probably vitamin K2 deficient too or more, even more so. So, yeah, those are some things that comes to mind. But going back to food first, right. I mean, food has the raw material for a lot of these things to really give your body the support that it needs.

Katie: Yeah, and on the note of vitamin D, I want to touch briefly on what probably is a little bit of a controversial topic, but I feel like it very much shouldn't be, which is the role of sun exposure. And obviously, here with the caveat of never getting burned and doing this responsibly, this is an area I've noticed that I think there's so much misinformation out there. And we've unfairly demonized the sun. Like, a signaling mechanism we haven't talked about yet is light. And we're very light-dependent beings. And light is a big factor in regulating our circadian biology and our sleep cycles. And even like food impulse and control changes in relation to light. And I feel like in the fear of skin cancer, we have thrown the baby out with the bathwater and now often completely avoid the sun. Feel free to disagree with me on this, but my take is that...what I see in my life is getting morning sunlight even for 15 minutes when I first get up really changes my sleep and my circadian biology, and getting a little bit of bright light exposure when it's possible during the year has a great impact on my vitamin D but also my mood. So I'd love to hear your take on sunlight.

Dr. Will: Yeah, I completely agree with you. I think we swung so far in the other direction and lost all context to the conversation. I recommend part of getting out in nature...I think the benefits of forest bathing involves just real light, not artificial light and the blue light that people are getting all day long. And there is definitely something extra therapeutic about that morning light and resetting your circadian rhythm. The hypothalamic, pituitary-adrenal axis, and your body's gut-brain communication lines, the enteric nervous system, and the vagus nerve are really profoundly helped and served with healthy amounts of sunlight. And that's tough for some people, right? Maybe they are working inside most of the day, or they live in certain climates where it's cloudy a lot. I live in Pittsburgh, which is not the sunniest place in the world. So getting light therapy whenever possible inside, red-light therapy, full-spectrum light therapy, and being consistent with that too because that's another tool that really to be supportive of that parasympathetic, which we're trying to, like, bring

about a rebalancing of those two systems in the body. So, yeah, it's needed. Vitamin D deficiency is very common. And just to be clear on this, you really can't get optimal vitamin D through foods alone. You're not going to get it. So sunlight is the really only important natural way for you to get vitamin D up and then supplementing on top of that.

Katie: Perfect. Well, our time is flying by. You're so fun to talk to. But before we wrap up, I have a couple of just rapid-fire questions I'd love to ask. The first being, if there is a book or a number of books that have had a profound impact on you or your life personally, and if so what those books are and why.

Dr. Will: Yeah, I normally will not re-read a book, right? I will read a book and gain the information and move on. I'm an Enneagram Five, if that tells you anything about me. Like, I'm just like a consumer of knowledge and information. So I'd normally don't like read for pleasure per se, but, like, the pleasure is learning and then moving on to something else. But the exception to that is Eckhart Tolle's books, which maybe not resonate with everybody, but they really do resonate with me and is sort of just practical guides for logical living because he's pointing out the madness of modern society and allowing the reader to grow in awareness of, "Whoa, I catch myself doing that." It is a great book, both "A New Earth" and "The Power of Now." And they're just simple mindfulness practices, basically. And I think his voice is very calming as well, so do listen to his audiobooks. And pick up what you can pick up from him. Maybe not everything you're gonna resonate with it. But there's going to be something for everybody within those books.

Katie: I really enjoyed his books as well. And I know they're also available now on audiobook for people who prefer to walk and be in nature while they listen to it.

Dr. Will: Exactly. And I think his voice is very, like, a meditation in and of itself. My wife doesn't agree with me. She's like, "I don't like his voice so much." But I like his voice. It's right out good old Eckhart.

Katie: I will make sure those are linked in the show notes as well for any of you guys listening. That's always at [wellnessmama.fm](http://wellnessmama.fm). And lastly, Dr. Cole, where can people find you to keep learning more, I'll link to these as well, and any parting advice?

Dr. Will: Thank you so much for this opportunity. Everything's at [drwillcole.com](http://drwillcole.com). I'm on all the Instagram. I'm trying to cop-out, but I'm too freakin old for this. But I am there. Twitter, Facebook, all the things. But, you know, I appreciate the opportunity and just given me the chance to share things that I love and I'm passionate about.

Katie: Well, thank you for being here. Thank you for your time. And as always, thanks to all of you for listening and sharing your most valuable resources, your time, your energy, and your attention 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."

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