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GUEST EXPERTS

 **Essentials for Brain Nutrition** from Ryan Wohlfert, DC, CCSP & Isaac Jones, DC, BS
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 **How Toxic Metals Impact Brain Performance** from Wendy Myers, FDN-P, NC, CHHC
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 **How Your Microbiome Can Optimize Brain Health** from Partha Nandi, MD, FACP
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 **Autoimmune Influence on Brain Disorders and Diseases** from Peter Osborne, DC, DACBN, PScD
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Essentials for Brain Nutrition

Ryan Wohlfert, DC, CCSP

Dr. Wohlfert: Hey there! I'm Dr. Ryan Wohlfert. And this is the Superhuman Brain Masterclass where you're going to learn everything you need to go from brain disease and disorders to a high performing, super healthy, high functioning mind.

And what we're going to do is we're going to go from A to Z showing you exactly what you need to do because there's not enough information or there's not enough action steps that people can take to help improve their brain function and avoid all these common diseases that are running rampant in our society: Alzheimer's, MS, Parkinson's, dementia, brain fog, anxiety, depression. And I've been working a ton with thousands of patients helping them improve their brain function, get a strong body so they can live a fulfilled life. And now we're going to bring that knowledge to you.

Dr. Jones: Yeah. And I'm Dr. Isaac Jones and the author of this book—it's a bestselling book in Japan—Superhuman Entrepreneur. Like Dr. Ryan, I just have a passion to help people really understand what underlies a lot of the brain disorders and brain diseases that take place.

You heard my story. I used to have ADHD, dyslexia. My mom suffered from depression. My grandfather died of Alzheimer's disease. And neurological conditions like Alzheimer's and autism and all these other neurological conditions are completely on the rise. And so this training

that Dr. Ryan and I are putting together for you will really uncover and demystify a lot of the challenges that people have when it comes to really upgrading their brain, being able to focus at a higher level, being able to have a better memory, etc.

So we're going to be really getting into that. And Dr. Ryan is just going to share some brain statistics that I think will boggle your mind literally and show you just how amazing and magnificent your brain actually is.

Dr. Wohlfert: Well, the brain kind of gets pushed to the background because we don't see it every day. But we can feel the effects of whether it is working or it's not working. For example, the brain is so important that it's the very first thing to develop when you're inside your mom's belly developing. And nature knows how important it is because what's the second thing to develop? The skull to protect it. That's how important it is.

But I always tell my patients and tell a ton of people, if the brain was on our face, we would take a lot better care of it. It's three to four pounds. But, again, we lose sight of how essential it is. It's inside our head. It's unseen. But it's three to four pounds. It's the heaviest organ that we have in our body.

Dr. Jones: It's just an amazing, amazing organ. If you take just one grain of sand of your brain and



you look at what's inside that grain of sand within your brain, you'll have 100,000 neurons and—get this—over one billion synaptic connections, which is the way that neurons communicate together. It's how we memorize things and things of that nature.

Dr. Wohlfert: I think that's my favorite stat right there. A grain of sand, 100,000 neurons. That's unbelievable. Again, we lose sight of that because it's almost too unbelievable.

Dr. Jones: And here's one of the reasons why we want to get this information out is because only 20 years ago our attention spans used to be around 12 seconds, 15 seconds, even more than that 50 years ago. But now we're down to six seconds, eight seconds as far as our attention span. People are scatterbrained. There are more challenges than we know what to do with now.

And there's over 92,000 thoughts that you have in your brain every single day. It's pretty, pretty amazing. You have 92,000 thoughts. And there's some things that we're going to talk about in a video to come that will help you understand how to rewire those thoughts and rewire your brain.

So, again, we're excited for you to get all of this information. But what we're probably most excited about is that we don't want your brain to shrink! Most people are walking around with shrunken brains. If you're overweight or obese, your brain is like three to five percent smaller than people that aren't. Stress causes your brain to shrink. There are all these different things that create issues within the brain like what I'm about to get into a right now, which is the understanding of chronic inflammation.

Dr. Wohlfert: Well, you want to think about your body like a bucket. We all have a different sized bucket coming into this life. And every stress you put on your body, all the inflammation, whether

it's mental, physical, emotional, spiritual, adds a drop to that bucket.

Now, sometimes those drops are a little drop. Or they could be huge waterfalls. And you don't feel it. That's the point is you don't feel the effects of this stress until that bucket starts to overflow. And what drugs do is they try to make the bucket bigger. But you're still putting that stress in. You can only make that bucket so big until it comes crashing down.

Dr. Jones: Absolutely. And when that bucket starts to overflow, like Dr. Ryan said, you've got environmental toxins. You've got biotoxins. You've got deficiencies. You've got stressors. You've got all these different factors that we're facing in the 21st century that cause your bucket overflow. And everyone has a different size genetic bucket, right? Everyone's tolerance for toxins and biotoxins and stress is different.

And so you have some people that end up developing neurological conditions sooner than other people. But you look at Alzheimer's and Parkinson's and a lot of these conditions. They start 15, 20... Alzheimer's starts 40 to 50 years before it gets diagnosed.

So you want to understand these factors that are driving inflammation inside the body. All of that, once the bucket starts to overflow, it drives this cycle called the NO/ONOO cycle. And it sounds funny, but that's the actual scientific term for it. And it's the cycle of chronic cellular inflammation.

And that cycle of chronic cellular inflammation, it actually turns on disease genes. It can express various disease pathways inside the body, especially inside of the brain. And later on we're going to be educating you on the things and the factors that drive the degradation of the blood-brain barrier and how these toxins and deficiencies end up affecting the brain even



more so than they should, and then how to really address that.

But today we want to talk about how we can actually properly detox the body. And we want to get into the nutrition and the science around the foods that we should be eating and the nutrients that we should be getting to maximize our brain function.

Dr. Wohlfert: And one thing I want to touch on is you might have symptoms that are different from somebody else. It just depends on where your weak link is. It could be genetically where that weak link is. And then by putting toxins into your body or having deficiencies or different stresses will activate or express those genes because it's weakened you.

So, for you, it could be dementia. For somebody else, it could be brain fog. For your mom or dad, it could be depression. It just depends on what that affects.

Dr. Jones: Yeah, absolutely. Absolutely. So why don't we get into some of our favorite foods here and what will actually help you develop a healthier brain and develop healthy levels of what they call neuroplasticity in the neuroscience world. You don't want too much neuroplasticity. You don't want too little neuroplasticity. But when you have a healthy functioning brain, you have neuroplasticity, which is the ability for your brain to make connections, to remember, to focus, to function the way that God intended for your brain to function, which is high performance.

So one of the first things that you want to do to really protect your brain neurologically is to consume antioxidants. Antioxidants in the form of vegetables, citrus fruits, spices, herbs, these are neuroprotective foods. These are some of the most high dense antioxidant foods that you could possibly be consuming.

One of the things that your brain needs is fish oil. A lot of people aren't getting fish oil. So chia seeds are full of alpha linoleic acid and docosahexaenoic acid and eicosapentaenoic acid—or EPA and DHA—is found in fish oil, just like this here. But these are really amazing brain foods that will really help your brain function at a very high level.

Dr. Wohlfert: Now, we're going to be talking a lot about, especially the DHA part of the 3 because that's really important for the brain.

Dr. Jones: It is. It is. And some people have heard this before, and they're supplementing with fish oil. And there is an over supplementation of fish oil that can cause an over neuroplasticity of the brain. So we want to kind of show you how not to do that and how to maximize the ratio of omega-3 to omega-6.

So, yes, it is like most people and most people listening right now—you're probably one of them—who has too much omega-6 inside of their body. And that drives prostaglandin E, too, which is this compound that can drive inflammation inside the cells. It's like the sergeant of arms of the cell.

And so, again, a lot of these micronutrients are really powerful. And choline, phosphatidylcholine—it gets created from it—are found in eggs, as well as grass fed butter, which has CLA, conjugated linoleic acid, as well. But there's just so much, man, that we're going to be able to educate you on!

Dr. Wohlfert: And magnesium, that's a huge one. Magnesium is involved in almost every cellular process going on. So avocado, I put one of these in my smoothie every day, along with nuts and seeds. What have we got? Pumpkin seeds—that's also great—with zinc. And then cashews, all these are great.



That's what's going to give you the brain function, the cognition, the memory, the learning. And the more you can stack the deck in your favor, the easier it's going to be for you to have a life, to have that memory that maybe you're losing. Absolutely. You know,

Dr. Jones: Absolutely. Dr. Ryan and I, we work with entrepreneurs. And we work with executives. So these people are like, "Hey, how can you maximize our brain function?" So, yeah, Alzheimer's and dementia and a lot of these conditions in children now neurologically, they start years before they actually become symptomatic.

But we want to help you get beyond that. And it starts with your lifestyle. It starts with some of the lifestyle strategies we're going to be teaching you in the Superhuman Brain Masterclass. And it starts with really understanding a lot of the distinctions around the foods that you should be eating, which we'll definitely be getting into in more detail in our advanced training that you can get when you purchase the masterclass.

Dr. Wohlfert: Yeah, you're going to see how to make these smoothies and shakes. You're going to see how to make these brain-based mocktails that get you started right at the start of the day to help boost your brain activity, get it in a nice, even mental state so you can be more productive with

your job, with your kids. You can be more even keeled with your kids, less irritable, less angry, less reactive because we're going to be getting into even adaptogens and how they help your body handle the stress that you place on it because you're not going to get rid of all the stress in your life. It's naïve to think that.

So your goal, hopefully you'll learn through this, is to do the things necessary to counteract the stresses that you place on your body by getting rid of the toxins, increasing the nutrients in your body to get rid of deficiencies, and handling the stress that you're placing on your body.

Dr. Jones: Absolutely. And we've got so many downloadable documents. We've got so many. If you do want to purchase the Superhuman Brain Masterclass, we've got recipes. We've got expert interviews with the top brain scientists and biohackers to help you understand fully and completely how to really maximize brain function and upgrade your brain.

But I'm just excited that you're here. Thank you so much. Definitely share this video with your loved ones or people that you care about, that you want to help to prevent them from developing brain-based disorders or diseases, or if you want to help them potentially reverse or halt the symptoms that they're dealing with in the tracks.



How Toxic Metals Impact Brain Performance

Wendy Myers, FDN-P, NC, CHCC

Dr. Wohlfert: Brain fog, anxiety, depression, ADHD, memory loss, Alzheimer's, dementia, Parkinson's, all of these brain conditions rob you of your focus, productivity, performance in life. And they are all on the rise. I'm Dr. Ryan Wohlfert. And this is the Superhuman Brain Masterclass where you'll learn everything you need to go from brain dysfunction, disorders, and disease to a productive, high-performing supercharged mind.

Today, I'm joined by Wendy Myers. Wendy Myers is the founder of MyersDetox.com. She is a detox expert, functional diagnostic nutritionist, an NES Bioenergetic practitioner in Los Angeles, California. She is the number one bestselling author of *Limitless Energy: How to Detox Toxic Metals to end Exhaustion and Chronic Fatigue*. She is the host of the *HeavyMetalSummit.com*. Wendy also hosts two podcasts, including *Live to 110* about detox and the *Supercharged* podcast about bioenergetics.

Passionate about the importance of detox to live a long disease-free life, she created the revolutionary Myers Detox protocol after working with thousands of clients. Today, Wendy is going to show you how toxic metals affect brain performance and how to detox them. With that, I want to welcome to the Superhuman Brain Masterclass Wendy. Thank you so much for joining me. Man, let's get right in to it. Won't you start off telling everybody what your background is and how you got started in all this.

Wendy: Well, like a lot of people, I on my own health journey, I was really struggling because I was eating a perfect diet, all healthy organic foods. I was taking amazing supplements. I was exercising a few times a week. I was going to bed early every night, low stress, doing everything possible. And I still felt like crap. I was exhausted. I was brain fogged. I just was really struggling.

And I just was going on Dr. Google and trying to figure out what was going on with me. And I went also to my medical doctor, and did all these tests, and found out I had the hormone levels of a menopausal woman at 37 years old. And I had all these nutrient deficiencies. And I was also incredibly brain fogged and really frustrated by that because nothing I did resolved that. With all the things I was doing, basically addressing my health as my full-time job.

And so went on the Internet, Dr. Google, and found out about detoxification and did some testing and found out I had mercury. I had arsenic toxicity. And then, later I learned that I had a thallium toxicity, cesium toxicity, and all these different metals that interfere in energy production and brain function. And really just sparked a passion in me to start MyersDetox.com to inform people about the importance of detoxification, no matter what health issue they're trying to address.

Dr. Wohlfert: And that sounds like so many



people out there. I know with your clients, my patients, they've been through the wringer. And they try to do the right things. And they do the "right things" that they feel is going to help their health. And then, they don't get the results.

Wendy: Exactly.

Dr. Wohlfert: And they end up like you did, brain fog, and they're like, "What the heck is going on?" So why do so many people suffer from brain fog and other brain dysfunction?

Wendy: Well, you know what? Everyone suffers from heavy metal toxicity, to some degree. The question is not, "Do you have metals?" It's, "What metals do you have and how many do you have?" And so everyone has mercury. Everyone has lead because of leaded gasoline being spewed into our environment from coal burning and from leaded gasoline. And the mercury is from coal burning. These are just ubiquitous in our environment, in our fish, in our soils, in our air. So it's impossible to avoid.

But brain fog's specifically is caused by mercury toxicity, lead toxicity, and aluminum toxicity. These are metals that are neurophilic where they are able to attach on to our nervous system tissue and our brain tissue and affect our nerve transmission. And they affect just our functioning and cognition in a lot of different ways.

But brain fog, specifically, can have multiple issues, including chronic infections like Lyme disease. And also, statin drugs, huge, huge is cause of brain fog, a lot of people on those medications. My father suffered terribly from brain fog when he was on statins for 10 years.

But oxidative stress, mitochondrial dysfunction, and microglial activation where the nerve cells are over stimulated, all combine to impair the capacity of brain cells to maintain normal

cognitive processing. And so this affects things such as short-term memory, concentration, and decision making, all of your executive functions. But eliminating the offending metals, as well as providing proper nutritional support are essential for regaining one's normal brain functioning.

Dr. Wohlfert: Well, what other ways, if there are, how do heavy metals affect our brain and our upper level functions to prevent us from having the clarity of thought, being able to handle stress in our lives, and so forth?

Wendy: Well, metals act by several different mechanisms in our brain tissue. So there's about seven different ways that the metals impact our brain tissue. So number one is just cellular destruction where 10, for instance kills off our cerebellar neurons. And mercury destroys cellular infrastructure, like our neurofibrils within nerve cells and inhibits neuron formation.

Oxidative stress from metals reduces glutathione levels and generates a lot of free radicals. They cause mitochondrial dysfunction. This is something I talk a lot about. You can learn more at MitochondriaDetox.com where I talk a lot about toxic metals like arsenic, aluminum, tin, thallium, and cesium, and how those inhibit energy production. Specifically, they poison enzymes that transport nutrients into our mitochondria, which makes our body's energy.

They make our ATP. And so when you don't have enough energy production, you don't have enough ATP supply for neurons, for astrocytes, and other brain cells to function properly, our brain uses up, I think it's about 20% of our energy. And so that's a huge, huge problem. Probably the biggest problem when it comes to heavy metal toxicity.

And then, number four toxic metals, they cause microglial activations of the cell or worse



stimulation of neurons. Especially aluminum will cause a lot of cognitive dysfunction and brain fog, specifically. And we get a lot of aluminum from vaccinations. Especially children that are on the normal vaccination schedule, getting a massive amount of aluminum really predisposing them to behavioral issues, developmental delays, speech issues, behavioral issues, and brain issues later in life because this aluminum causes so many problems.

My own daughter had the highest levels of aluminum of any client that I had ever tested because of getting vaccinations when she was young. So anyways, so that's a whole another summit.

So number five, metals interfere with neurotransmission. So they reduce levels of neurotransmitters like serotonin, dopamine, and GABA. Number six, metals interfere with hypothalamic function, especially the production of ADH or vasopressin.

And they block melatonin receptors causing sleep disturbance. So obviously if you're not sleeping, you're not regenerating your brain tissue. You're not detoxing your brain that well. You're not recovering your body every single night. And this is going to cause fatigue and brain fog.

Number seven, metals interfere. They also cause a generation of both, beta amyloid and Tau proteins in susceptible individuals, which leads to Alzheimer's.

Dr. Wohlfert: So bottom line is metals aren't great for you when you're exposed to them excessively and your body isn't able to detox because they're just overloaded with them. And they're all over. Aren't they? Where are some of the main areas or places that we're all exposed to these toxic heavy metals?

Wendy: Yes, well, we get metals in the air, food, and water. So we're being exposed to them with every breath we take, with every bite of food. Unfortunately, or even if you're eating "organic food," organic means toxic, chemical-free, pesticide-free, chemical fertilizer-free, it does not mean metal-free.

There's a reason that there aren't any warning labels or testing that's done for any of our foods that's mandated by the Government because all the food has lead in it, all the meat, all the vegetables. I know different groups, and different camps, and different diets, they're, "Oh, meat has all these toxins in it." But vegetables have toxins in them, also. Kale is really high in thallium. It's just impossible to avoid.

And then we're slathering our bodies in all kinds of perfumes, and beauty products, and toxins that get absorbed readily through our skin. We're exposed to pesticides. It's just constantly. We go to the park, we're exposed to glyphosate. It's just everywhere. And so there isn't any way to avoid it. You can avoid the most obvious source of toxins like maybe some tuna or using organic skincare products, or what have you. But even with all the measures you take to try to control your environment, you still can't stop the influx of toxins—metals and chemicals—into your body.

You really have to think about a sensible lifelong detoxification strategy. Something that you're just adding to everything you're already doing to your healthy regime, your healthy lifestyle—diet and exercise, sleep, high-quality supplements—but really focusing your supplementation with minerals that help with detox and detox substances like binders and chelators.

Dr. Wohlfert: And we're actually going to get into that a little bit later because we can't avoid all these toxins, people, the listeners, we'd all better learn how to detox them. Correct? So we're going



to get into that a little bit. But first I want to know, you already mentioned a few, but are there any other metals like specific metals and how they affect brain function?

Wendy: Yeah. So number one is mercury. Mercury is ubiquitous in our environment. And it's deposited throughout the brain, especially in the hypothalamus and then the hippocampus. It also deposits into the thyroid. One of the reasons so many people have thyroid issues. Mercury is also found throughout the cortex and occipital lobe. And it impairs working memory. It's been associated with the development of Alzheimer's disease and autism spectrum disorders in children.

Lead has been known for many years of neurotoxins, especially in children. It lowers IQ. And like mercury, it impairs working memory. And it interferes with the processes of learning. And it's also associated with behavioral disturbances in children. It's also associated with chronic fatigue, depression, and cognitive impairment in adults.

My clients that are very lead toxic are very, very tired. They tend to sleep 11, 12 hours a night and still wake up feeling exhausted. Aluminum is associated with, both autism and Alzheimer's disease. But once aluminum enters brain cells, certain people will be unable to eliminate it efficiently, thereby inducing oxidative stress and cellular damage. And in older individuals, such damage can be permanent.

Aluminum is a big, big contributing factor why so many people today have dementia, and memory loss, and different pain syndromes, and things of that nature, which is a central nervous system issue.

And tin, tin affects balance mechanisms and the cerebellum, as well as causing tinnitus and general fatigue. Anyone that has chronic ringing

in their ears, that's generally tin and aluminum contributing to that. Yes.

And five, if there's an excessive buildup of manganese, not magnesium, manganese, this is very, very neurotoxic. It can induce Parkinson-like disease syndrome called manganism. People get manganese from drinking well water. Almost all of my clients that have consumed well water for even a six-month period of time, tend to have very, very high levels of manganese. That's something to think about. It's not checked typically when people are looking for toxins or checking for metals in their well water. So you got to think about that.

Bismuth, something that not many people are aware of, can cause brain swelling and seizures. Wilson's disease and hemochromatosis due to iron overload can cause serious neurological dysfunction. Wilson's disease is copper overload. These are both genetic disorders and affect copper and iron metabolism, respectively. I just want to bring those up. It doesn't affect a lot of people, but it is a big factor in many people that are having trouble figuring out what's going on with them. They can ask for their doctor to check for Wilson's disease or hemochromatosis.

Dr. Wohlfert: So basically, it's not a question of, "If you're going to be exposed to these, it's just when and how much you are exposed to them and how much your body accumulates and can't get rid of?"

Wendy: Yes, exactly.

Dr. Wohlfert: So with that, how can somebody assess their level of a toxicity?

Wendy: Well, there's three different ways to—there's four—but there is three different ways that we use at MyersDetox.com to assess heavy metal level. So the best screening tool is a hair mineral analysis, a hair tissue mineral analysis for each



TMA. And this tests like 37 different minerals and metal levels.

It's really important to assess mineral levels because, by supplementing your body with the minerals that you need, this naturally helps to push out and displace toxic metals in your body and different enzyme-binding sites. So that's the number way to detox metals easily, and naturally, and safely from your body.

Next, I use a urine metals test because different metals come out in different ways in your body. Some metals exit through the hair. Some metals exit through the urine. Some metals exit through the stool like cadmium. So we use all three of these screening tools because metals come out in different ways in the body. There's no one perfect test. There's no one metals test that's better than the other, they just give us different sets of information. So you'd be careful when you hear people talking about metals tests.

And most doctors only use urine metals test as a screening tool. But you don't see a lot of your metal toxicities. And then, people can be misled into thinking they don't have like trivalent metals like aluminum, arsenic, tin, and thallium, because those don't show very well on urine tests when you're doing a DMSA challenge. That's an amino acid that people take to be able to push metals out into the urine so we can see the toxicities more clearly. So people have to be careful about the test they do. Ideally, you want to do all three metals test to get the best picture of your metal toxicities.

Dr. Wohlfert: Blood necessarily isn't one of the best ways to check it?

Wendy: Definitely not, I don't ever recommend doing a blood test. That's something a lot of medical doctors, conventional medical doctors, will do. If they're asked to get a heavy metals test

by their patients or if someone's in a hospital setting, they suspect an acute metal poisoning, they'll do a blood test to help.

The problem is the body, if you have an exposure to a metal, the body is not going to allow this metal to float around in your bloodstream for any length of time. It's going to sequester a way into bones or fat tissue or other types of tissue because it has to protect the body's organs and protect the body's function.

So when you have an acute exposure, which most people don't have, they have low-level chronic exposures, but when you have an acute exposure—say a thermometer breaks. They get the mercury—that might stay in your blood for a few weeks, but then it gets stored away in the body. So that blood test would have to be done very soon after that acute exposure.

So we need to look at other factors like the hair, which is a three-month average of what's being excreted into the hair. Your hair is like a garbage can. And so the body will excrete excess metals into your hair. The urine test is only a 24-hour snapshot. So when you take something like DMSA, that helps to get toxins out of stored sites so we can see them more clearly. And stool tests, we eliminate a lot of metals in the feces. So those are much, much better indicators of your metal toxicities than doing blood tests.

Dr. Chris Shade offers a different type of blood test that I do recommend, but I only recommend that specific blood test. But even that is not perfect, in and of itself, you really need the whole spectrum of tests to get an accurate picture of the majority of your body burden of metals.

Dr. Wohlfert: Yeah, and how you just said that the body gives clues of what is really dangerous to it. It's not going to want those toxic metals, heavy metals floating around in your blood. It



wants to get it out of there as quickly as possible or else it's going to damage all your organs. So right there you know, even if it's sitting in fat cells or wherever you're storing them, it's going to do damage eventually. It's just going to take a little bit more time than if it's just floating around in your blood.

Wendy: Absolutely, the body has to store that away to protect you. And the bones are like the body's garbage cans. That's where all the lead is, that's where a lot of aluminum is that the body is storing away.

Dr. Wohlfert: So tell me about the hair test a little bit more. Now, how does that reveal the toxins that can basically lower your energy, make you feel, "Ah," kind of blah?

Wendy: Well, like I mentioned, the body uses the hair as a garbage can. It excretes metals into the hair in an attempt to eliminate them. So when you take about a one-inch sample of hair, like about two centimeters, that gives about a three-month average of what the body is excreting into the hair. So it gives a nice picture of a very high correlation of the metals and minerals that are in the body's tissues.

Dr. Wohlfert: Well, I'm glad that's one of the tests that we do in my office then. That's excellent. Now, so you've explained a lot about what these metals do, how they affect your body, how they lower your brain function, lower your performance, lower your cognition and thinking, well now, let's get into some action steps that people can take because we know that they're exposed to them, whether they know it or not, whether they feel it or not. So what are your best...Actually, let's start with your simple detox tips to increase their brain power, increase their performance, increase their energy. What would you suggest?

Wendy: Well, the number one way to restore brain function is increase your energy production in your body because your brain uses so much energy when it's processing and functioning. So I devised something called the Mitochondria Detox. You can learn more at MitochondriaDetox.com. And this uses, basically it's a very simple three-step system to be able to detox the metals that cause fatigue.

So these metals, I mentioned earlier, are arsenic, aluminum, tin, thallium, and cesium. So these are also metals that interfere in brain function to varying degrees. And these metals specifically poisons enzymes that transport nutrients into your mitochondria and that are needed to make ATP. They're the basic building blocks that make ATP, which is our energy currency and molecule in our cell.

And so if you reduce aluminum in your body or reduce thallium, which we breathe in from car exhaust, it's in all the petroleum deposit, it's naturally occurring in petroleum deposits, that is a huge factor in chronic fatigue, and poor brain function, and digestive issues, as well as nutrient absorption. If you take substances to bind on to basically to, like I said bind on to these metals and remove them from the body, you're going to restore a lot of energy production in your body, restore your mitochondria's ability to produce energy.

So like I mentioned, that's one of the number one things you can do to restore energy in your body. And there's a reason that so many people are exhausted today even if you take impeccable care of yourself. This is something I struggled with for years. Eating an amazing diet like so many of you, guys, are listening, taking impeccable care of yourselves, watching all these summits, taking these master classes, listening to podcast, you're doing so many things right. And if you still don't feel well, you have to be thinking about



toxic metals as a big factor in interfering in brain function, energy production, and so many other different metabolic processes in the body.

So one of the best things you can do is this Mitochondria Detox that gives you a few different supplements to help to bind on to metals in the body and excrete them. And there's one product called CitriCleanse. It's a binder. It's a modified citric pectin, incredibly effective at absorbing all these metals and a lot of different chemicals like a sponge. And you simply urinate them out. It's like the simplest thing that you can do to start cleaning up all the different metals and chemicals that are in our body.

Dr. Wohlfert: And how long does like this type of detox take? How long does it take to detox from heavy metals? I'm assuming it's different, depending on the metal and how much is inside your body. And then, secondly, when they do go through a detox like this, do they have any symptoms? Do they feel [inaudible 23:52]. Usually, when you hear when you detox, you don't feel that great for a few days. Is that the case with this one?

Wendy: Yes! So here is the thing. Everyone has different metals, but people have a different ability to detox. So depending on how someone's aged, their metabolic rate, if they have multiple health diagnoses, genetic factors, there's a lot of different factors that come into play in someone's ability to detox. So everyone's very, very, very different.

Typically, it takes about two years when you're doing a very, very focused detox. Like my Myers Detox protocol, working one on one with a practitioner, taking supplements, doing things like infrared saunas, and detox protocols like that, it can take about two years to remove 80%, 90% of the toxic metals you have in your body.

If you have multiple health issues and you're older, you're 60 or older, it can take longer. We've spent decades, 30, 40, 50, 60 years, accumulating metals and toxins in our air, food, and water. That's probably not going to turn around in six months. So I want to just set realistic expectations.

And I try to communicate to people that detox is more like a lifestyle. It's something you add to your already healthy health regimen. Diet, supplements, and exercise, and sleep, everything that you're doing. Your biohacking that you're doing. You want to incorporate detox for life.

And so that's what I try to do with the Meyers Detox Protocol is teach people the supplements that they need to take. The diet they should be eating that's ideal for detox. The detox protocols they should be doing. So they can take those stills and use them for the rest of their life to maintain their clean, healthy body once they've done an intense detox.

But my Mitochondria Detox that starts working a little bit more quickly. People can usually start seeing results in about 60 days. So I encourage them to try the Mitochondria Detox and see how it works for them. But again, taking binders is probably the most important thing that people need to do with them doing any kind of detox protocol. If they're doing infrared saunas, coffee enemas, any kind of detox program they're doing, you have to take binders to prevent redistribution of the toxins somewhere else in your body if you're taking different substances natural or not so natural to chelate metals and coax them out of your tissues.

Dr. Wohlfert: So it sounds like would you say is your Mitochondria Detox, is that your favorite one to start people on?

Wendy: Yes, that's the easiest thing for people to do to get started doing a detox, which is a



few supplements, very, very easy to do. And it's very, very effective. So that's where I recommend people start. And then, when they're ready to maybe take things to the next level, so to speak, to do the Meyers Detox Protocol because the Mitochondria Detox gets metals that cause fatigue, and interfere in brain function like arsenic, aluminum, tin, thallium, and cesium, and it gets a little bit of iron also, which interferes in brain function. But if you have other metals, based on testing that we do in the Myers Detox Protocol, you're going to need other supplements to get rid of those metals.

Dr. Wohlfert: But I love what you said. And I'm glad I asked, "Like, how long can they expect it to take or long to detox?" Because that's important to know that it's not just, "Okay, you do this for a week. You do it for a month. It's a lifestyle. And if you want to fix your brain, you've taken, depending on how the person is, 40, 50, 60 years old, you've taken all this time in this world accumulating all these heavy metals, all these toxins in their body."

And I don't want to say they can't expect it to go away overnight. I know we want it to. But again, it's not going to happen. So having that long-range game in mind, instead of just that short-term result because that's just going to lead to frustration. So I'm so happy that you said that.

Man, you've given some unbelievable information here. And not just information, that's not what this is about. This is about action steps. I love that you've given them action steps. What to look for. What to do. Specific tests to do. Why certain ones are better than others. So, man, that's awesome. Is there anything else that you want to add before we close up?

Wendy: No, really, I know a lot of people out there are suffering from brain fog and fatigue, and are very, very frustrated because I was there

with you, guys, myself. And went to my doctor looking for answers. Reaching out to alternative medical practitioners. Trying all different types of things to try to resolve these issues because it's incredibly frustrating and interferes in your work. And it interferes in your relationships. But you can conquer these things.

I have better brain functioning now than I did in my 20s because of all these things I've been doing with detoxification. It was only when I finally added that component to my health regimen when I really was able to get the energy production, the better mood, and better brain function that I was looking for so that I could just meet my goals in my life, and feel happy, and pursue my dreams.

I was, at a certain point in my life, where I was so brain fogged that I wanted to pursue a master's degree, I was wanting do all these different nutrition certifications, I couldn't remember anything. I remember thinking, "I'm not going to be able to even do this. Pursue this degree that I could have done easily in my 20s because I just can't remember anything that I'm reading." And that really puts the brakes on your life when you're in that type of position.

And I assure you that mercury, aluminum, and lead, and other metals are causing that cognitive impairment, that memory issue, the brain fog, which puts you in a bad mood. That it makes you depressed and anxious because you just can't function in your life the way that you know that you're capable of. And people get really hard on themselves because of that.

So there is a solution out there. It's more than diet. It's more than expensive supplements and nutritive supplements. It's really about adding detoxification to your health regimen.

Dr. Wohlfert: Wow! Excellent! Now, where can



our listeners find out more about you?

Wendy: Yes, so you can go to MyersDetox.com and tons of free information, about 250 podcasts. Hundreds of articles that you can read. And you can go to Mitochondria Detox to learn more about my Mitochondria Detox. And so enjoy all the free information. I love producing. I love educating people about the importance of detox. It's improved my life so much.

Dr. Wohlfert: Well, again thank you so much for sharing these amazing action steps. And that's what we're talking about, not just information, taking the steps necessary, helping the listeners step out of brain dysfunction, disease, disorders, and get into a productive high-performing, focused, supercharged mind. Thanks again, Wendy.



How Your Microbiome Can Optimize Brain Health

Partha Nandi, MD, FACP

Dr. Ryan Wohlfert: Brain fog, anxiety, depression, ADHD, memory loss, Alzheimer's, dementia, Parkinson's, all of these are brain conditions that rob you of your focus, productivity, performance, and life. And they're all on the rise.

I'm Dr. Ryan Wohlfert. And this is the Superhuman Brain Masterclass where you'll learn everything you need to go from brain dysfunction, disorders, and disease to a super healthy, super productive, and super focused mind.

Today I'm joined by Dr. Partha Nandi. Dr. Partha Nandi is a practicing physician, international bestselling author, and the creator and host of the Emmy Award-winning medical lifestyle TV show, *The Dr. Nandi Show*, which airs weekdays in over 110 broadcast stations and in over 90 million homes across the U.S. and in 90 countries worldwide.

He's also the chief health editor at ABC Detroit and a practicing physician in Metro Detroit. He travels the globe speaking on how to be your own hashtag health hero—I love that!—which includes his no-nonsense approach to food and fitness, how he combines eastern and western philosophies, and the science behind the amazing health benefits of spirituality, mindfulness, and community.

So today on the Superhuman Brain Masterclass, you'll learn how your microbiome can optimize

brain health. So with that, I want to welcome Dr. Nandi. Thank you so much for joining us. You're going to bring so much value, show people how to make a superhuman brain for themselves. Welcome!

Dr. Partha Nandi: Hey, thank you so much, Dr. Wohlfert! I really appreciate the opportunity. It's awesome to be able to talk about the brain. So many of my patients, they come to me because of the fact that they may have problems with their gut. But so many people have it with their brain. In fact, I'm so happy that you're doing this for our community.

Dr. Wohlfert: And that's what we'll get into is the microbiome. That's become kind of a—I don't want to say buzzword—but like a buzz medical health term that some people get confused about, a lot of people get confused about. So that's why I want you to explain, just first start off, what is the microbiome exactly?

Dr. Nandi: Thanks for that introduction because here's the thing. People don't even know what the microbiome is. It's a giant word. And they say, "Well, what does that mean?" So in simple words, you have a more than a trillion little bugs in your intestinal tract. And I tell my patients this: you have so many bugs that basically sometimes almost rivals the number of cells that you have in your body.



So what I mean is every single organ—and let's say the liver; let's say the brain—has these cells. And you may have just as many of these little bugs. So not just bacteria, but protozoa, all these what we call microorganisms. And why do I care? Why do I as a physician care about that? And why do you, Dr. Wohlfert, care about this? Because the fact is that we now are understanding that these little bugs can affect every part of our body.

So I'll give you a brief history. What happens is that we used to not even think of bacteria except for the fact that it can cause an infection, make you sick. But then we started having studies. One was in *Nature*. *Nature*, for those who have never heard it, is kind of a big magazine in health and in anything in science.

And in *Nature*, they found out that of all things, obesity or being obese actually could be related to if you played in dirt. So what's the connection? So if you played in dirt and you messed around as a child, you seem to be less obese, not just because of the activity, but because of the bugs you pick up.

So we as a society are often so excited about being super clean. You wash your hands, which is great. But to super sanitize, put hand sanitizer everywhere you go, there may be something to the fact that you're too clean. And so if you're too clean and you don't have any bugs that you introduce, you first of all don't develop an immune system that actually has seen anything. It's almost like putting your kid in the closet for 18 years, not having to meet anybody. And then, they're eighteen; kick them out of the house and say, "Here, meet the world!" And they'll be in shock. The same thing happens to your immune system.

The other thing that happens when you don't let them play in dirt or just mess around in nature, is that you don't develop the right type of bacteria throughout your body, including your gut.

So back to the *Nature* article, it seems as if something that's totally unrelated—obesity or being obese and having the diseases from obesity—may be related to the microbiome. That opened the eyes for a lot of people. And they said, "Really, what's going on?"

They've done multiple studies. So we're talking about diabetes, high blood pressure, heart disease, Alzheimer's, autism, Parkinson's, Crohn's disease, multiple sclerosis. It goes on and on and on. And it seems like, "Hey, there's something here that we need to really talk about." So the microbiome has now become a centerpiece.

So I'm a gastroenterologist and an internal medicine doctor. And now traditional medicine, Dr. Wohlfert, not just functional medicine has gotten into it, meaning that the medicine that most people that deal with doctors and deal with hospitals have now understood. There's a World Microbiome Day. One of my organizations is the American Gastroenterology Association. I went to their world meeting in May. And they had an entire section on just the microbiome.

So it's really, really important to understand that the trillions of bugs in your gut may actually affect your brain, your heart, your lungs, your entire body. And so that's what's to me so exciting because I talk about—and you pointed this out in the beginning—that how to be your own health hero, how to be your own health advocate.

If you know that the gut microbiome, these trillions of bacteria and other organisms can affect your health, you can do something about it. And that's what's exciting!

Dr. Wohlfert: And you said one word there that I'm going to actually change. You said the microbiome may affect the brain. I'm going to say it does affect the brain. It definitely does! And how does it do that? I think I've heard people say that



the microbiome in your gut is the second brain. And some even say actually that's your first brain.

So how does it affect the brain?

Dr. Nandi: Absolutely. So we really believe that there's connections between the microbiome and the brain. And the reason why, I'll tell you; I'll characterize the word "may." It's because most studies have been done on animals. And we have studies that are associations. So I want to be fair and let people know that you can really make a big change. But I don't want to overstate it.

One of the things that we really, really want to emphasize is that we want to give you real advice based on real fact. And sometimes you go on the internet, man. You can find anything about anything. People are saying all kinds of crap. So that's just my disclaimer.

Dr. Wohlfert: I figured that was why. I took it one step further, but I know you've got to cover yourself.

Dr. Nandi: It's not even just that. It's not even about covering yourself. It's that there's a lot of disingenuous stuff going on. And I want to make sure that one of the things that I tell all the people that work with me is that we have to really make sure that we are honest with people because my mom could be listening to this. And I want her to be able to trust that that's how I deal with it. One of my relatives, maybe even in India—I came when I was 9 years of age—but if somebody listens in India, I want them to know that this is full disclosure.

But back to your question is how can this affect the brain? And this is what's exciting. So you know, Dr. Wohlfert, and I do, too. I go to Thanksgiving with my in-laws. And when you smell that food, something amazing happens. My mouth starts to water. Even though you don't do anything,

your mouth starts to create this environment for food to be digested. And as a gastroenterologist, I know that gastric acid is actually starting to be produced.

So imagine that. You smell and you see. And that activates a reflex in your brain to then connect to the gut and your mouth and your salivary glands to create these enzymes and create an environment to eat food. So how does that happen? So there clearly is, just from all of us just experiencing everyday life, a gut-brain axis. So there's a connection between smelling, seeing—in your brain—to the gut. So there's clearly a gut-brain axis.

Anybody ever go try to give a talk. Even if you're the most experienced speaker, what happens? You get this kind of funny feeling in your stomach. Why is that? There should be no connection. You're not eating something funny. You're there. And you're kind of juiced up and a little anxious. And that gives you your feeling in your stomach. So these things in real life that happen way beyond this talk and way beyond science tells you that there's a connection.

And then when you go into the physiology, there's a definite gut-brain axis. One of the nerves called the vagus nerve, directly connects from your brain to your gut. We know that things that affect you to be anxious, you to be excited, can affect your gut. But now what's revolutionary is this, that what happens to your gut can now—we understand—affect the brain.

So what does that mean? So you, for example, eat crap every single day. And you eat all these fast foods and simple carbohydrates. And I'll get back to that. If you eat all these pieces of candy, white bread, all kinds of junk every single day, you go to whatever your favorite fast food restaurant is, and you do that every single day, which a lot of Americans do. A lot of people in the world do now.



And what that does is create an environment where your gut is not healthy. And I'll go one step further. The microbiome suffers, meaning that all those trillions of bugs, there are good ones that are more favorable for your health as a human. And there are others that are not. So when you put in crap into your gut, guess what comes out? A bunch of crappy organisms that don't affect your health.

And then there's a concept called leaky gut. So what that means is this. You have a one-cell layer thick between on one side poop and the other side blood. One-cell layer thick. That is how amazing your body is. When that one cell layer gets bombarded with all this crappy food, it starts to have something called inflammation. So what that means is your body doesn't like the stuff that it's getting.

The stuff that we're creating now in the last fifty years, Dr. Wohlfert, is stuff that our bodies have never seen before. It's never been because it's all engineered. And so your body then thinks of it as foreign, like, "What the heck is this?" because it hasn't had thousands of years to get adjusted to it. It's only had twenty years, ten years, 5 years to get adjusted to these things that are coming down. So it thinks of it as foreign. And then you have little bits of irritation. Inflammation happens in this 1-cell layer thick.

And guess what? Instead of being totally [*holds hand in front of camera*] you can't see right through it. You can't have any leaks. You start getting leaks in them. Microscopic leaks. And that is the beginning of inflammation. When you have the beginnings of inflammation, stuff leaks across from the poop into the blood. And that begins the formation of inflammation.

That inflammation then, your gut—and as Dr. Wohlfert rightly pointed out—is one of the smartest organs in the body, meaning that it

has one of the most complex nervous systems, complex immune systems. So that gut immune system talks to the immune system of the brain, talks to the immune system of the heart, and the lungs. We now know there's communication between them because all the cells in your body comes from what? One place, right? It comes from one union of your mom and your dad coming together. So in that development, these cells communicate.

So it's saying, "Wow, there's some bad crap going down in the gut! We've got to get ready!" So your immune cells in your brain and in every part of your body is activated. But there's no danger. Imagine if your military starts throwing bombs across everywhere, and there's really no enemy. Guess how it hurts? It hurts the civilians. So it hurts your own body.

So when you look at the brain, it hurts the brain. We can look at diseases like Alzheimer's. You have things like amyloid plaques that form. You see them in the brain. That is the result of inflammation that's been occurring, for not just today but several years.

I talk to my patients, and they go, "Doc, I'm good. Look at me. I'm thin. I'm healthy. I eat me some burgers and fries, and I'm good. Look, I'm thin. I'm excited." But I tell them, "Can you see inside yourself, see the damage that you're creating that when you're fifty, that is going to pay incredible bad effects to your body." And so we see an epidemic of Alzheimer's.

People with ADHD, even one of the founders of this event, he talked about ADHD. Dr. Isaac talked about ADHD. And we now know that ADHD could be related to your gut bacteria, to your microbiome. We know that 70% of cases of autism also have digestive disorders. Why is that? Why is it also that the time when you diagnose autism is also the time when your gut microbiome actually



forms? Super interesting coincidence.

So all of this gets to this point that your brain is intimately related to your gut microbiome. Intimately, meaning that the stuff that you do to make your microbiome healthy or not healthy can affect your mind, your actions. People, when I tell them this, that 90% of the serotonin in your body is created by the gut, they can't believe it.

"Let me ask you, what's the connection?"

Well, serotonin is a key regulator of the brain. Acetylcholine, key regulator of the brain, produced in your gut. And when people say, "The way to your heart is through the gut," let me tell you, the way to your brain, the way to your lungs, the way to your kidneys, the way to your muscles, it's all in the gut because that is your first introduction.

Your body is really pretty shielded, except for your eyes, your nose, your mouth. The gut is the only place where you're vulnerable. Your entire environment, without having any antiseptics, it's whatever you put in is what your body recognizes.

So the key to optimal health begins with the gut. And the brain especially because of the fact that there's so many of the hormones and the products that the brain needs to thrive is produced in the gut. And, again, it's super exciting. Why? Because it's not like you can just say, "Oh, my gosh. My parents had Alzheimer's. My aunt had Alzheimer's. I'm done for. I'm just going to go out there and have me a piece of pie and some fries and call it a day." Absolutely not! You are in control. You're your own health hero.

And that's what's exciting about now and the next decade, Dr. Wohlfert. I'm juiced because we can offer so much for our patients.

Dr. Wohlfert: I love that you ended with that because that's basically what I was going to say is this is so encouraging. I don't want it to be

discouraging for people. It's encouraging because they're in control. Again, be their own health hero. You're not doomed to your genetics. You're not doomed because you're getting older or getting old. It's completely under our control.

And that's why we're doing this. I love it. And that was an awesome riff that you went on. I loved it! That brought us so much value and added so much because we talk so much in this masterclass, both Dr. Jones and my masterclass sessions and with a lot of the expert sessions that we've done.

That's why I wanted to focus so much, not just on as brain as the topic. Yes, but how the gut is intricately related and connected to the brain. So that added just a huge amount of value.

Now, obviously we want to help people on optimizing their gut health so it optimizes their brain performance and can create that super human brain. That's why we're doing this. So what are some helpful tips that people can do to help optimize their gut so they can optimize their brain and become super human?

Dr. Nandi: Dr. Wohlfert, thank you for that. And the thing about modern medicine that's changed, when I was in medical school, people would say, "Well, you've got these genes. You've got this and those environmental factors. That's it. You're done." It's a paradigm shift. It's completely different. Now we know that only 5% to 10% of your medical destiny is from your genes. That's at 5% to 10%, which means that 90% to 95% is not. How amazing is that?! So you can now do things to change the way your body will be, not just today, but in 20 and 30 years.

And especially I'm talking to the younger people. Of course, at any age you can change it. But when you're the 25, 30 year olds that are like, "I'm good. Everything's perfect," you are in the driver's seat.



If you can get these messages now, boom. You're good for the rest of your life. Of course, I don't want to downplay. There's some genetic diseases that you can't control. Absolutely, I get that. But the vast majority of the population doesn't have that.

So to answer your question, what can we do? So this is my entire message in whatever I do. When I do the *Health News*, when I do the television show, when I do digital, social, it's all about being an advocate, being your own health hero.

So what the heck does that mean? That means that making your health and wellness the number one priority, like you do, Dr. Wohlfert, instead of finding out how big of a house you have or how big of a phone or God knows what gadget, or how fat your wallet is.

Some of my sickest patients are millionaires, multimillionaires. And they have done incredibly well. But they don't have anything because they don't have their health. I'll say it again. They're incredibly wealthy. They've got a T on their car. They've got these big huge houses. They've got everything else. They really don't have the ultimate wealth, which is your health and wellness. Let me tell you, that is the ultimate.

So what can you do? So I broke it down into 5 steps. I call it 5 steps to become your own health hero. To me, in this series, I would call it to be your own brain health hero. So what can you do?

And the first step is a little bit unusual. It's really define purpose in your life. So what does that mean? For example, when I talk, for example, to kids all around the country and all around the world, what does it mean to be a hero?

And some people—we were talking about this, Dr. Wohlfert and I before the talk—and they say, "Lebron, man! Lebron's my hero!" Or they'll tell me

a musical star, like Beyonce or Justin Bieber. Or if they're in another part of the world, they'll talk about a footballer. And I say, "What about making yourself the hero of your life? What about making you the priority?" And the correlate to that is find out what you really want to do, and make your life purposeful, like you're doing, Dr. Wohlfert.

And when I get up, I don't just get up. I jump out of bed because I know that I'm affecting people's lives. I know that even if I'm affecting one person's life, it's going to be exciting. And that's what I tell my five and six year old. If you can affect one person's life, your life becomes more worthwhile.

So what does that have to do with anything about brain health? Here's the deal. When you live a purposeful life, guess what happens? Not less than ten studies in medicine has shown that you decrease by 50% to 60% all the killers in our society. Heart disease, stroke, Alzheimer's, dementia all go down—amazing!—just by having a purposeful life.

So what gives? When you have a purposeful life, guess what happens? And this'll be a central theme to what I talk about. Your fight or flight response decreases. So when you have a purposeful life, you know what you're doing. There's not that angst and like, "What am I doing? Oh, my gosh. I don't know what I'm going to do tomorrow. I have no idea what's going to happen." You worry about a lot of things.

And your body, even though you may not consciously see it, you develop this sense of inflammation. Why is that? When we were hunters and gatherers, when we had tigers and bears chasing us, we wanted to always eat lunch and not be lunch. You wanted to make sure you didn't end up on somebody's plate. So that instinct, that ancient response is still within us. So when we worry about what's going to happen in my life? I have no purpose," small parts of that fight or



flight response happens. If it happens once or twice, no big deal. But if it happens consistently, inflammation then takes over your body. So when you have a purposeful life, that cortisol, the epinephrine is decreased. So the first step is purpose. It's very, very important.

But the second one is equally important to me, which is understanding what the most powerful weapon we have against disease. And my friend Dr. Mark Hyman talks about this. He said, "The most powerful weapon we have against disease is the fork, brother." The fork. The fork, not some fancy device or procedure or yet another pill. It is the fork.

So you put in crap, you're going to get crap out. So you put in foods that are plant based, amazing, amazing quantities of nutrients. So the simplest one I like is a Mediterranean diet, lots of nuts and seeds, plant-based foods, very little red meat, lots of fish and chicken. If we just do that, no formulas. I'm not talking about a keto diet. I'm not talking about the sun worshipping diet, the water deprivation diet, the yellow fruit diet, the black plant diet. I'm not talking about the don't eat this at night, don't eat this in day. It's a very simple procedure. You look for plants. Plant-based diet, very little red meat, more fruits and vegetables. If you do that and drink water instead of pop, if you'll get there 90%, 95% of the time.

When you do that, guess what happens to your microbiome? Your microbiome then thrives. It can give you the healthy responses to your brain, your entire body that you're craving. And that microbiome flourishes. Not just one, but many, many studies have shown if you follow this diet, your microbiome will thrive.

If you have a purposeful life, guess what happens? When you don't have the cortisol, when you don't have the production of inflammation, you don't have the leaking in your gut. And you don't

produce the inflammation that I talked about before. So those are the first two steps.

And the third step is movement with purpose. Now, I don't mean that you have to go to the gym and lift 670 pounds over your head. Look around, make sure somebody attractive is watching and then drop it so there's a huge loud noise.

And you've been there, Dr. Wohlfert, in those gyms. Guys and gals do that. That's not it. It's movement with purpose. We're talking about taking my kids on a bike ride every night. We're talking about walking with your parent, talking about gardening, talking about taking the stairs, standing up at work instead of sitting on your butt all day long. All those things do something extraordinary. It also changes your level of inflammatory products in your body. And also it changes your gut microbiome and increases your health.

Many, many studies have shown that the incidence of dementia, Alzheimer's, brain diseases, alters because of just moving with purpose, not only because of the microbiome. It's because when you are moving the big muscles in your body and increasing the blood flow to your brain, that is unbelievable to your brain.

If you sit around and stagnate, you have little blood vessels in your brain that just stagnates and it doesn't have good blood flow. You have little areas that start to become ischemic, which means there isn't enough blood flow. And then they start to have atrophy, which means it starts to shrink down and stop working. So number three is movement with purpose.

Number four is really important also: spirituality, the fourth step. That doesn't mean that you have to pray every single day. And I'm religious. And I pray. But you don't have to. Spirituality doesn't mean prayer every single day, or religion. It means



that you understand that the universe is bigger than yourself.

Whether that means that you do yoga, whether it means you do mindfulness, whether it means you go to church or synagogue or mosque and pray, or whether it means you walk on the beach and understand that this vast universe is bigger than you.

And why does that matter for brain health? Because when you have spirituality, when you have that sense that you are at ease, the same thing I talked about with purpose, the same fight or flight response decreases. One of our favorite players—Dr. Wohlfert and I are big basketball fans—Michael Jordan did not win any NBA championships until he realized that, until his coach brought in a mindfulness expert to calm his brain, calm his mind. Two other players, Kobe Bryant and Shaquille O’Neal, will tell you the same thing, that one of the biggest tools for their success has been spirituality.

And why is that important to brain health? Because when you have reduced inflammation and when you have decreased unrest in your body, you have less disease. You have ease instead of disease. So the fourth step is spirituality.

The fifth one is tribe. It’s what you’re doing with this community. It’s that you’re bringing people together that are like minded that are saying, “You know what? We’re going to do it all together.” So what does that have to do with brain health or microbiome health in general? So a famous study, the Rosetto study, the Rosettos were an Italian group of immigrants from Italy in Pennsylvania 1950s.

And what happened to them was when they looked at their heart disease rates, their death rates, they were vastly different than the county

next to them. Nobody died before 80. Nobody had a heart attack before 60s or 70s in a time when people were dying of heart attacks throughout the country in their 40s and 50s.

So what was the difference between the Rosettos and everybody else? It was their community and tribe. They ate together, played together, cooked together, and worked together. And that protective effect in their community changed their bodies. That protective effect, again, decreases your fight or flight response, decreases your inflammation, changes your microbiome, and improves your entire body, including your brain health.

So if you take those 5 factors, my kids, if you ask them today, Dr. Wohlfert, “Who is dad’s favorite super hero?” it ain’t gonna be Super Man. It ain’t gonna be Spider Man. Only one super hero, and that’s Batman. Why? Because Batman really doesn’t have any super powers. He’s got a fancy suit, a nice belt, and a crazy decked out car. And that’s what he’s got. But those things give him the tools to succeed to beat all of the criminals.

Well, to me, a health hero is just an ordinary person like myself who has all the tools to beat all of the criminals of health, the criminals of wellness. That includes all of the stuff that takes away your brain health, all the diseases like Alzheimer’s, like Lewy body disease, Parkinson’s, ADHD, autism. All these factors can be really vanquished by those simple 5 steps.

You don’t need a formula. You don’t need to buy this product or that product. “Oh, wait! Today it’ll be \$19.99.” This is all within your power. And that’s what I love about the fact that you can become your own brain health hero by following these 5 steps. I wrote a book about it, but I love talking about it because it’s really doable, and it’s simple.



Dr. Wohlfert: Holy cow! That was so cool. There's so much going through my head as you're going through that. For those of you that don't know, Dr. Nandi live about an hour, an hour and a half apart. We were talking before this. We're huge basketball fans. And the tribe aspect of it, I've got to get together with you because we both love basketball. We both love health. Holy cow. We're going to work out great.

But those 5 aspects, it matches so perfectly with what I call the Family Six Pack.

Dr. Nandi: Oh, I love that!

Dr. Wohlfert: It's a Family Six Pack. So I help parents, moms, dads upgrade their brain, their energy, their health so they can be—we talked about this before, too—they can be their family's hero. By taking care of themselves, they can take care of their kids. And the Family Six Pack is Focus, Food, Fitness, Refresh, which is sleep, Faith, which is the spirituality, and then also Function, which is their nervous system and brain health. So it just matches perfectly. So, obviously, yes, we talk the same language. And that's freaking cool!

But is there anything else as we wrap this up that you want to share with the viewers and listeners?

Dr. Nandi: You've heard a lot of information and you're going to hear from a lot of experts. And it becomes daunting because you say, "Well, I've listened to this." And what happens is you don't know what to do. Remember, the first step is just making the commitment to say, "I'm going to do something about this," and then collect the resources.

People get overwhelmed because they don't know what to do. There's so much information. Just take a first step. If you look at the 5 pillars, say, "Okay, I'm going to take the first step of living a purposeful life." And what I do is I put on a list on

the left hand side the things that I do every day that I like, and the things that I do that I may have to.

With the second pillar, make sure that you say, "Okay, I'm going to make a commitment, but just make one change in my diet in what I do with my nutrition plan that'll change it."

Movement with purpose, let's just commit to just walk for five minutes with your tribe. Call a friend. Get together with someone that you haven't for a very long time.

And spirituality, I practice at least ten minutes of meditation. Whatever it is you do for ten minutes a day, put your phone down. Put this amazing device down that you worship. Spend ten minutes just thinking about a way to become spiritual.

So if you can do that, it's not a daunting task. But once you start it, the results will be so unbelievable, man. You will not ever stop again. So that's what I would say.

Dr. Wohlfert: I am so happy that you said that. That's perfect. That's what I love teaching people how to do is don't try to change everything all at once. Do your best to not get overwhelmed because, trust me, I get overwhelmed sometimes with all this. But both you and I have been doing this for years. So now it's not as daunting. But we didn't start where we are right now.

I know a lot of people say, "Life goes fast." There's plenty of time for you to incorporate these. And that's why we highly encourage you, the listener, the viewer, to invest in this master class so you're not trying to remember all this. It's at your fingertips. You can see Dr. Nandi's interview because you're going to pick up more and more that you hear that.

Dr. Tom O'Bryan, Dr. John Dempster, Dr. Michelle



Sands, there's so many experts that we have that have been doing this and that have been teaching people how to do this. So that's why it's so important to invest in yourself like your own health hero. And part of that is taking care of your health so you can take care of those around you so you can be your own health hero.

So can't thank you enough, Dr. Nandi. You shared such amazing action steps to help the viewers step out of their brain dysfunction, their disorders, their disease, and into a super healthy, super productive, and super focused, and super

human mind. So thanks a lot. And definitely, everybody, check this out over and over again.

Dr. Nandi: Appreciate it. Have a good one. Thank you so much!



Autoimmune Influence on Brain Disorders and Diseases

Peter Osborne, DC, DACBN, PScD

Dr. Jones: Welcome to Superhuman Brain Masterclass. I'm Dr. Isaac Jones. I'm here with Dr. Peter Osborne, who is such a brilliant clinician, as well as somebody that's going to help us understand the autoimmune brain connection, one of the most interesting topics and most relevant topic to 21st Century brain health. Peter, thank you so much for being with us today.

Dr. Osborne: Oh, a pleasure to be here, Dr. Jones. I just, I'm excited and ready to share.

Dr. Jones: Awesome! So I'd love for you just to share a little bit about your background. I know that you've gotten to a point where you're coaching and training doctors now and some of the lead wellness practitioners around the world. And you're also educating masses of people on how they can really change and transform their health. You're an author. So I'd love to get a little bit of background for the audience just to learn a little more about who you are and what you're up to.

Dr. Osborne: Yeah, sure. I started this journey really in to autoimmune disease when I was in the VA Hospital working the rheumatology wing. And the VA Hospital, it's a veteran's hospital. I'm a veteran of the Air Force. And people were just being treated in a way, in my opinion, that was inconsistent with good health and inconsistent really all the way across the board with just being a human.

It was not good, heavy doses of immune suppressant drugs, heavy doses of steroids, a lot of surgery for joint replacement. It was basically, to me, it was a mill. I didn't want to be there in the sense that they weren't willing to look at nutrition and diet, even when I brought them research from rheumatological journals that showed that things like fasting, and gluten avoidance, and certain food avoidance, and omega-3 fatty acids could actually have a more profound impact on autoimmune pain than the standard treatment model that was being delivered. So they weren't really interested in science so much as they were just interested in continuing the status quo.

And so when I left the hospital there, one of my very first patients in private practice was a little girl. She was nine years old. Her name was Ginger. She had terminal juvenile rheumatoid arthritis, and meaning that they gave her six months to live. Imagine, as a parent, going to the doctor and having the doctor say, "Look, you've got to go home and prepare for your child's funeral. There's nothing more we can do."

Dr. Jones: Horrendous!

Dr. Osborne: Horrendous! Horrible case! It was as simple as going gluten-free. Yeah, within six months, we had the permanent stint that was embedded in her arm out. She was no longer going back and forth to the hospitals. Her knees were no longer swelling up to the size of softballs.



She was able to run, and play, and do things again. And then, today—this was a long time ago—so today she's graduated from college. And she's off doing great things in the world. And that was a six-month terminal diagnosis. All it took was the knowledge of diet change.

Dr. Jones: Wow! Unbelievable!

Dr. Osborne: Yeah, so for me, that was my first endeavor in to, "I need to get more people this information." And that's really what forged and created our mission. My mission at DrPeterOsborne.com and GlutenFreeSociety.org is to help 100 million chronically sick people with real, natural answers. To get that information into their hands.

And so part of our mission is direct to consumer in the sense that we have a huge database of articles and materials that people can come and learn for free. But we also train physicians. My goal is to train 10,000 physicians because that's how we're going to reach 100 million. So that's our mission. And that's what we're about.

Dr. Jones: So powerful, that's so powerful. Now, you've gotten into the details of autoimmune and how it affects your whole body. But why don't we just talk a little bit about some of the challenges that you're seeing with people's brain health in respect to all of the 21st Century issues that are going on?

Dr. Osborne: Yeah, we have such an epidemic of brain problems. I really think a lot of the problems, in our country specifically, are because of brain dysfunction. People who are more angry, more irate, freaked out people who are struggling with depression in record numbers, record numbers of diseases like bipolar and autistic spectrum problems so the brain is absolutely involved.

One of the reasons why I think we're seeing such a fundamental increase in the problem is what's in the food: the chemicals, the pesticides, the food dyes, the food preservatives, the way we process the food, the way we feed and treat the animals before we eat them. There's this whole chain of the way that food and farming has been scaled for a money perspective, but not from a moral or an ethical perspective. And I think we're seeing that play out in the big stage.

But one of the other things, that in my own personal clinical experience, is that gluten and grain can contribute to massive, massive problems. And people are just not aware of that. We have this food guide pyramid that's always been very supportive of grains, as a base, for the consumption of our caloric intake. And there's no science that shows that we should be consuming this much grain.

As a matter of fact, a lot of the science is showing that eating less grain is actually a better thing. That if you go back in time, and we look at schizophrenia, as an example, schizophrenia's original name was bread madness. People don't realize that. They don't know that part of the history of that illness. But what would happen is people would eat bread, and certain people actually felt a madness, a psychotic-type of behavior that would lead to those types of diagnoses.

And just 50 years ago, the diagnosis of schizophrenia would land you in a permanent hospital scenario where they would do brain shock treatments. And you weren't getting out. So today, we have gluten. And we know that gluten can contribute to schizophrenia and other neurological disorders, brain disorders, neuropathies. We know that it can contribute to dementia and Alzheimer's. So now that we're learning this stuff, we can apply it and we can save a lot of people the grief around neurological disease.



Dr. Jones: Wow! Yeah, and just to piggy back on what you just said, when I was in special needs taking tests in high school and elementary school where I needed that extra time to take tests, I was in normal classes, but to take tests, I had to jump over to special needs, but it was a humiliating experience for me. And I can remember when I went to this alternative physician that my mom found that there was so much hope in the way that he was talking to me because he just saw just miracles happen all around him in getting people off of all of these different medications, and getting them to understand the importance of diet, and optimal nervous system functions, and balancing the gut, and healing the leaky gut that people have, etcetera.

And so just three months after cutting out gluten, getting rid of food dyes, getting under a chiropractic care, going to a naturopath and getting an understanding of the overgrowth of various biotoxins and unhealthy microbes in my gut, three months later, I went from being diagnosed with ADHD and on medications to literally not needing any medications and fully functional, getting straight A's in classes.

And this is just an example of why we even called the Masterclass Superhuman because ultimately the reality is most humans are, like you said, they don't know what they don't know. They're asleep to the reality of what's possible for the upgrade that exists just around the corner for them.

And just knowing the simple changes, like what you just suggested, for me is the whole reason why I'm a doctor and the reason why I'm doing what I'm doing. But I love that. I love that story of that little girl, six months, now she's graduated college and has a life. But what are some of the biggest challenges that underlie the issues that you're seeing or like if you could summarize some of the main maybe seven or three or two issues that we're seeing? Brain certainly is one of them.

Pesticides, you mentioned. But what are some other underlying issues?

Dr. Osborne: Big issue, the brain is 60% fat. If we want to nourish it, we've got to eat fat. The last 50 years of nutritional policy in the United States is getting low-fat diets and in most industrialized countries, not just the U.S. And I think if we look at the unethical nature as to how that came to be, we know that the sugar industry actually hired scientists to demonize fat. And that's been a big part of what's created this scenario, as well, is just low-fat diets.

So I think people should realize and understanding that we don't have time to get into which kinds of fats are healthy, and which kinds aren't, and why but as the general rule of thumb, manmade fats that are hydrogenated from genetically-modified oils that are either corn or soy-based are not healthy fats. And if we want to talk about what is healthy fat, real food fat from real animals that are taken good care of, there's nothing wrong with animal fat. But there's also fats that Mother Nature creates. The fat in avocado, the fat in coconut, these are healthy, regardless of whether or not they're saturated. And people need to understand that message.

Then we have the excessive carbohydrate intake in this country. Excessive carbohydrate creates a process in the brain, creates a process in the bloodstream where that excessive sugar, that excessive carb coats our proteins, it coats our neurotransmitters, and it coats our hormones. This process is called glycation.

That's why when you go to the doctor to measure diabetes, they run a test called a hemoglobin A1C. It measures glycation. It measures how the proteins in your bloodstream are coated with sugar. And when you coat something with sugar, it's sticky, it's gummy, it does not work as well. The hormones don't communicate as well. The



neurotransmitters don't communicate as well. So high-carbohydrate diets are part of the problem.

Medication use is part of the problem. Look, we've got record use of antibiotics. Whether they're prescribed or whether they're being used in animals, you're still being exposed to them. If you're in a major metropolitan city like me, the Houston area, 42 prescription medications in the drinking water. We can identify those after the water's been filtered. That's a problem.

We all know the law of synergism. When you add one medicine to another, it creates an unpredictable outcome that potentially can be at 10 times or 100 times or 1,000 times synergistic and have a huge effect. So we've got 42 prescription medications that are being identified in our drinking water in the Houston area.

Then we have, aside from medications from unintended exposure, you have doctors writing scripts for medicines for heartburns, for medicines like antibiotics, for medicines for pain. These things can all contribute to—like your Tylenols, not your Tylenols, but your Ibuprofens, your non-steroidal anti-inflammatories—rip a hole in the gut lining. And this is the first step.

We've all heard of leaky gut, but there's another process called leaky brain. And before we can develop a leaky brain, we have to first develop a leaky gut. And so the use of non-steroidal anti-inflammatories as if they're handing them out like candy, we know those cause leaky gut. We know that those, even at low doses, cause gastric and intestinal ulcerations that can open a hole in the gut lining.

We know that drugs like the antacid family that suppress stomach acids can contribute to leaky gut through increasing our risk for infection. We know that those drugs can actually create problems with malabsorption of vitamins like

vitamin B12, which is very critical to produce the myelins that coats the white matter in our brain. We need B12 to do that. So we've got so many people being put on so many different medications that can alter the GI tract, creating leaky gut that subsequently can lead to a leaky brain.

Then we have medications that can directly affect the brain. Things like statins, one of the top drugs that are used in this country. Statins cause Coenzyme Q10 deficiency and vitamin D deficiency. And cholesterol's important for hormone formation. And it won a Nobel Prize. LDL bad cholesterol won a Nobel Prize in 1998 because it was discovered that you need bad cholesterol to form brain synapsis.

So we have so many people being told, "Do these medicines because your family history and because you're doomed to illness if you don't do these medicines." But the outcome of doing these medicines, so many of them contribute to leaky gut or so many of them contribute to brain toxicity in ways that doctors are not giving full disclosure.

You go in for a surgery, you sign 50 waivers because they're giving you full disclosure. If you go in and get a prescription, there is no full disclosure. You're not being sat down and said, "Look, these are the really big risks for taking these medications. These are the short-term risks. These are the long-term risks." Nobody's getting full disclosure. And I think that's a really huge part of this problem.

Dr. Jones: Oh, my, gosh, absolutely, you're getting me fired up here. Dr. Peter, this is such a huge issue. And what I find in a lot of the labs that I run is that there's so many intracellular micronutrient deficiencies of antioxidants, amino acids, vitamins, minerals. And the list goes on. Chromium is typically deficient because of all the sugar that



we're eating. There're typically fructose insulin sensitivities. And all of that affects your brain. And a lot of that, again, is caused by the medications. But you're getting at such a good point, whether you're actually taking medications or not, if you're just even consuming the drinking water, or consuming conventional meat that have the estrogens and the antibiotics, and the various other medications they use to get the meat ready for consumer for sale.

Now, what's interesting about all of this is in my intake forms that I get from people, what I also see is a lot of people are just missing some of the basic things like hydration. Your brain is 70% water. And a lot of people are dehydrated.

One of the things that creates even bigger problems that I'm seeing, that you're seeing, as well, is intracellular micronutrient deficiencies just from the food being so deplete of minerals, and vitamins, and amino acids because of the over-farming of the soil and obviously the pesticide use.

But, Peter, powerful, powerful challenges that we're seeing. It's good to be aware of them. And this feels, perhaps, a little doom and gloom because you're like, "Oh, my, gosh, this is just stuff that we're all being exposed to. There's environmental toxins, as well." But there's so many amazing solutions. There're so many great things that you can do.

I would just love, perhaps, for us to take a little bit of a turn and talk about some of the things that you do practically with the people to make the biggest difference in maximizing overall health. And we can get into the autoimmune epidemic here and what is actually causing that, which creates the breach in the blood brain barrier, which oftentimes leads to a lot of the brain-based issues that we're seeing.

Dr. Osborne: Yeah, I think practical, fundamental things that the audience can walk away with. I look at seven things. There're seven fundamentals that you have a control over in your life every day, and you should get educated about them, and approach them in an intelligent fashion if you want to maintain good health without the doom and gloom, right, because rule number one and fundamental number one is hope and love.

You've got to have hope in your heart that you can get better and you've got to have love around you because those two things are critical to set the stage for the proper healing mechanisms.

But beyond hope and love, we've got food. Food should be clean. You should eat real food, not processed foods. So you should start reading labels. You should start really redefining what you value or what you call food. When you drive through a fast-food restaurant, somebody else has prepared that from some frozen concoction of some kind of Frankensteinian base.

And people call that food. And we really need to start redefining what we call food. Real food comes out of the ground. It grows. Real food comes from animals that are properly cared for, properly taken care of, and properly fed. So when we're defining real food, let's start from the fundamental premise that if we eat real food, we're going to go a long way toward avoiding a lot of the things that we just talked about: the pesticides, the chemicals, etcetera. So food is a major component.

Clean air and clean water are two other major components. And look, we live in an industrialized world. And we're not going to stop living in an industrialized world. And I think there are benefits to living in an industrialized world.

Look, life is a lot easier than it was 100 years ago. Heck, my father-in-law grew up with an outhouse.



They didn't have running plumbing and water in their home. We look at that, for example, not having running water increases the risk of spreading communicable diseases, right, because when you're sharing the same bathtub with 6, or 7, or 12 other people, you're sharing the same germs. You're living in closer quarters.

So technology and industry have allowed us to understand these things. And it's allowed us to implement great things. And a lot of people want to demonize technology and industry. I'm not in that camp. I think it's great. I think we just have to realize, look, with technology comes some other risks that maybe we didn't have before, but we can mitigate those.

And part of that is cleaning our air. We can put and we can implement air filtration in our homes and in our offices where we work. We can implement water filtration in our homes and at our offices where we work. Heck, I've got a filtration system in my practice and I've got one at home. So it's not hard to do. You just need to recognize that it has to be done, so clean food, clean air, clean water, right, all controllable.

Sleep, sleep is controllable. Turn off the electricity in your home. When it's dark outside, you should be gearing for sleep, while so many people use technology to become insomniacs and wreck their health. So we want to understand that most healing occurs between the hours of 10 p.m. and 2 a.m. And if you're not sleeping, you're not making those healing hours up if you sleep later. So get to bed on time and honor your body's need for rest.

Another one is sunshine. We've been told that get out of the sun because of skin cancer when, in fact, most skin cancers occur in areas that get the least quantity of sunshine. It's not saying that you should go out every day and burn your skin, but let's use some common sense, people.

The sunshine makes vitamin D. It helps us make melatonin. It helps regulate our circadian rhythm. It's very, very important. We need to get that sunshine on a daily basis, on a regular basis. And that's free.

The other thing that we need to make sure that we're tapping into is movement: body movement and exercise. It doesn't matter whether you're a CrossFitter or a yoga person, you should be doing something. As you said before, the brain is 70% water, but so is the rest of the body.

And stagnant water, right, breeds infections. Stagnant water turns bad. We want a sack of water, our body water, to have motion and movement because it's that motion and movement that lubricates our joints, that lubricates our brain through cerebrospinal fluid.

Movement, as a chiropractor and as part of my training, when you walk, when you move, your sacrum does this [*makes circular motion with hand*]. It creates a figure eight motion that supports the spinal cord and pumps cerebrospinal fluid around the brain. It keeps the brain nourished. So we've got to have movement in our life. It's fundamental.

So those are some of the things that are free. Those are some of the things that you can go do right now. And now, that you've heard them and you understand why they're important... And again, for me, education is a big part of it. A person can say, "Well, my doctor said to exercise, but he didn't say why." And if people don't understand why it's important or how it can impact their health in a good or a bad way, a lot of times they're just not going to do it. So now that you understand a little bit about why, go out there and implement.

Dr. Jones: Hmm, that's great. Love all of those tips.



Quick clarification, one of the things that I've been talking about is, essentially, controlling electromagnetic frequencies from your computer. Like, for instance, right now, I'm not on Wi-Fi. It's directly plugged in. I've got [inaudible] units all through my house that decreases the overall EMF of the house to a much healthier level. And that's something that we talk about.

I had built in an electrical switch to the electrical outlets that the electricians came in and put in for me to the outlets that are in and around my room and my kids' room. But for people that maybe don't want to invest into an electrician to pre-wire that switch, is there anything that you would recommend to decrease the electrical pollution when you're sleeping because it does affect sleep so much.

And your brain is electrical. These electrical signals, we don't understand fully the impact of Wi-Fi, and Bluetooth, and all these other technologies on our brains. But what we're starting to find out is actually relatively frightening. And the brain tumors that are forming. And the fact that the World Health Organization has called cellphones carcinogens. So what are your thoughts on that?

Dr. Osborne: I agree, you've got to at least approach it from the perspective of minimizing your exposure where you can. In my house, we hardwire everything. In my office, we hardwire. So everything is hardwired in so that we're not having to have as much of that floating around through our air.

At night, when you're going to bed, put your cellphone in airplane mode or turn it off, or put it out of the room. If you want to keep it on so that when somebody calls you, you can put it out of the room. Keep it away from your brain, at least 12 feet away from your brain, when you're trying to sleep at night so that you can minimize any

risk of those signals. If you're running Smart TVs and other Smart devices, hardwire them into the wall. If you've got a router in your home that is sending a Wi-Fi signal, turn it off at night. So these are again, just very, very simple things that can be done. Another thing that can be done—and it's an investment that you can make, but it's not as expensive as bringing out an electrician and installing specialized devices—is a grounding sheet.

It's putting a grounding sheet on your bed that grounds to an outlet in your home because one of the things that we've seen in research is that when humans are connected with the Earth, it actually increases healing. It actually increases our capacity to heal.

Lance Armstrong's team, the biker who won so many different Tour de France's, the U. S. team had less injuries and healed faster than every other team. And they had a greater degree in terms of people being able to finish the race from their team. And one of the reasons why, one of their hidden secrets, was every night, they would be grounded.

And so grounding your bed when you're sleeping at night can be a very, very effective way, as well, at making sure that you're picking up the right kinds of electromagnetic frequency that can actually accelerate and improve healing, as opposed to interfering with it.

Dr. Jones: Beautiful. Yeah, and just as a quick tip, if you go to Amazon, you can find outlets. They're like little things that you can plug into the outlet that then you can plug your Wi-Fi in to that has a timer on it. So between the time of ten o'clock and six o'clock in the morning, I actually have all the Wi-Fi in the house shut off completely.

And it's something that I don't have to remind myself of. It's just all automated. And those



timer switches are something you can buy, very inexpensively on Amazon. I love that.

And then, one of the things that you'd said was with sunshine. Now, how much time in the sun should we be looking at getting per day? And how do you, for people that are concerned about the propaganda out there that the sun causes cancer, what would you say to that?

Dr. Osborne: Everybody's different. I would say this to the audience, "You know the limitation of your skin better than anyone else, right." If you are a red head, freckled, very pale person, you're not going to want to go out in the sun for an hour and just roast yourself, right. If you're going outside and you're going to be on a boat for six hours, protect yourself. Like, there are times where we have to use good judgment and common sense.

So my advice is get sunshine to the quantity of your skin's ability to tolerate it without burning. There's something called a minimal erythema dose, which is the quantity of time in the sun that it takes for your skin to burn. Don't go out long enough to burn. Go out long enough to not burn. And do that on a regular basis because consistency is what wins here.

It's not, "I'm going to make up all my lack of sunshine on the weekend and get six hours on a Saturday and roast myself." It's, "If I can get 20, 30 minutes a day," then that consistently day in and day out is going to serve you.

One of the things that I do, just a tip, is every morning when I come into the office, I drive up—we have a parking garage—I drive up to the top floor. I roll down the windows and push back the sunroof. And I'll just sit there. And I'll soak up the sun for 30 minutes.

I might be reading or listening to an audiobook

or something along that line, but that's one of the ways I get my sunshine every single day without excuse because if you work 9 to 5's, especially in the winter months, the further Northern climate state you're in, you get off of work and it's dark. And so you want to have a way that you can implement sunshine on a regular basis in your life. Another thing you can do, if you go to work every day is take your lunch outside. If you bring your lunch, go eat it outside. Now, again, that can be harder to do in the middle of winter when it's 20 degrees and very, very uncomfortable. But get as much as you possibly can.

And if you live in one of those climates above 27 degrees latitude, you might consider a light or a sun light. You might consider a photo lamp to put on your desk 20 minutes a day or so. It won't make vitamin D for you, but it will help your brain in terms of producing the adequate quantities and regulating serotonin and melatonin. So those are things that can be done, as well.

Dr. Jones: Years ago, when I interviewed Alan Christianson when he had his *Adrenal Reset Diet* come out, he had also talked about the benefits of sunlight to normalizing cortisol, and stress, and optimizing sleep cycles, and healing the adrenal glands. So yeah, it's amazing for brain function.

And you think about going in a studio and you've got all these studio lights shining bright on you. Like on Monday, I did 12 hours of video shoots, which I'll never do again in my life, but there were really bright lights on me. If you go outside and just get overcast sunlight, you're getting like 10X the photo rays into your body that is so much healthier for you than a lot of the artificial light that's found inside. So getting outside is absolutely huge.

And one tip that I'll also throw in there that I did right before this call is I was on a phone call that didn't require video. I just walked outside. I



unbuttoned this shirt. And it's overcast right now. I just walked around for around 30 minutes.

And if there's any opportunity for you to be on the phone, just grab a wireless phone or your cell phone. Ask them to call you back on your cell phone if you're using a landline and go for a walk outside which is a huge opportunity. Number one, you're getting to walk, which is great and one of the most underrated exercises out there. And number two, you're getting out in the sun. I love that.

So let's talk about autoimmune and the brain. You're one of the world's top autoimmune experts, which is the biggest challenge, I would say, that's driving a lot of the conditions like cancer, heart disease, Alzheimer's, dementia, Parkinson's, etcetera, that really is the cause of the cause of these challenges. So why don't you just share a little bit about what autoimmune is, how it forms, and then how it impacts the brain?

Dr. Osborne: Yeah, the premise for me on health is that all forms of disease that are non-genetic—like, I'm not talking about cystic fibrosis or down syndrome here. We're talking about chronic lifestyle diseases—are nothing more than your body's alarm systems trying to warn you. Names for disease are irrelevant, in my opinion, because if we give it a name, we give the person a victim status.

How many times have you heard a person refer to their disease, "My celiac disease, my rheumatoid arthritis," like they own it. Instead of them owning, and they own the disease, then the disease owns them. And then, it becomes a part of who they are. And to me that does not empower a person to make meaningful change.

So understand that all disease is nothing more than your body's inability to adapt to the choices that you're making consistently over time. And

if we understand that, then we understand that we can change our choices. And if we change our choices, we change the ability for our body to adapt differently.

Let me give you an example. If you overconsume sugar, and sit down for 10 hours a day, and you don't exercise, you will probably develop diabetes. But the diabetes is nothing more than an inaccurate manifestation of the way your insulin is being produced. Your insulin is being produced because of the choices that you're making. So again, your body is adapting by making more insulin because of your choices. And so you're adapting into the disease.

You're going walk out of the disease just as easily as you can adapt in to it. So understand that your genes aren't to blame. That your choices are most likely interfering with the way your genes behave. Your genes are actually just trying to keep you alive. So all disease is, is an adaptation of your body trying to keep you alive. Your body's super smart. And in the case of diabetes, if your body didn't make more insulin, you would go into a coma. And you would die. So your body is adapting into the disease.

So with autoimmune disease, it's much the same way. Now, we know there are certain triggers for autoimmune disease. And clinically speaking, what I like to do is I like to look at these triggers first. What are those triggers? Because if we know what they are, for the person, then we can educate the person about what changes that they can make.

And these four triggers are biochemical triggers. There are other emotional and spiritual triggers that can also occur. I'm not going to get into that today because I want to get into the biochemical triggers. So there's four.

Number one, we've talked about it already. And that is food. Gluten is one of the biggest triggers



for autoimmune disease as a food, as a food-based protein. But lots of foods can trigger autoimmune disease. I've seen cases where people had autoimmune disease because of blueberries. I've seen cases where people had autoimmune disease because of broccoli.

So one man's food is another man's poison. And we have to honor that. And we have to be able to measure that in a distinct and unique way so that we can get that person a diet that's fit for them and not generalized for everyone. So food is a trigger.

Number two, chemicals are a trigger. And some that have been the most well-studied, pesticides have been very well-studied, as have heavy metals. Things like mercury, and cadmium, and lead, and arsenic, and valium. So we want to understand that chemical exposures overtime...

And most people don't go out and get an acute exposure to lead. They're not going out and sucking on a mercury thermometer and getting mercury poisoning. They're getting chronic, persistent, persistent exposure through their environments. And with that bioaccumulation, so to speak, over time, remember the body is trying to deal with that. So it's adapting to those exposures. And it's adapting into autoimmune disease. And that's, again, why we want to identify whether those exposures are happening and how to deal with them so chemical exposure, food.

Number three's infection. And there are a lot of different forms of infection. Experts in Lyme disease because Lyme can be a trigger, Lyme infections. Yeast overgrowth or yeast infection can be a trigger. Mold infection or mold reaction, nasal mold reactions, I see very, very commonly for people with brain problems. They have mold growing in their sinus cavities because of immune suppression. And it's a type of infection.

Although, most doctors when they do a nasal

culture don't even culture for mold, they only culture for bacteria. And if it's a negative culture, they just dismiss it as not being an infection and give somebody some kind of sinus rinse that isn't really going to solve that problem. So we want to look at infection as a potential possibility. And that could be viral bacterial. It could be fungal. It could be parasitic. And so we want to understand that those can play a major role in contributing to autoimmune process.

The fourth trigger biochemically is nutritional deficiency. And you mentioned this earlier—micronutrient deficits. Vitamin D deficiency triggers autoimmune disease. Zinc deficiency triggers an autoimmune disease. Vitamin C deficiency causes dysregulation in the immune system that contributes to autoimmune disease. You need to have some kind of a tangible, objective way to measure these things. And my advice is get with the doctor and have them measured so that you know, look, what is your body lacking or missing. What is it that you can do to empower yourself to either supplement or eat more of the food that contains more of a particular nutrient so that you can get those deficiencies corrected.

And one of the other things on that note is many of the medications that people are on—this is a topic that very, very few doctors ever discuss—it's called drug-induced nutritional deficiencies. But it's a very, very common thing. I used to lecture about this internationally.

And so, for example, estrogen hormones can cause vitamin B2, vitamin B3, and magnesium, zinc deficiency. Statin medications for cholesterol can cause CoQ10 and vitamin D deficiency. High blood medications like the diuretics can cause potassium, and calcium, and magnesium, and zinc, and CoQ10 deficiency.

So people are on these medications on a consistent basis. They have no idea. They have



not gotten full disclosure about the potential for drug-induced nutritional deficiencies. They're on these medications for 5 years, 10 years, 15 years. And what end up happening is these medicines force deficiencies. And some of these medicines, like heart disease medicines, they're designed to reduce the risk of heart disease, but they're creating nutritional deficiencies that actually increase the risk of developing heart disease.

So again, those are critical to understand. If you're out there and you've been put on multiple medications, you need to have that conversation with your doctor, drug-induced medical deficiencies. There are actually two different medical textbooks written on the topic. And so it's not something that they shouldn't be trained in, it's something they should understand. And, in my opinion, if you're going to prescribe the medicine, you need to know the side effects in and out.

Dr. Jones: Absolutely. Wow! So profound. At the core of autoimmune is these four factors. And I think it's important for everyone to understand that you can take control of your health. I love the concept, Peter, of your decisions over time create adaptations, which end up expressing certain types of challenges in the body genetically. And that the genetic adaptation of cancer, of diabetes, etcetera, those are your adaptations to actually protect your body from dying. A lot of people don't understand that. It's such a profound concept to really understand that there's an amazing healing and regulating power inside of your body that is literally working for you, not against you.

So let's talk a little bit about the impact of leaky gut and the breach of the blood-brain barrier. And then, how autoimmune disease, through that mechanism, can create brain challenges.

Dr. Osborne: So let's start with the premise that the gut is a quarantine zone. That's its job, but its

job is not to provide access to your bloodstream. Its job is to quarantine everything that comes in the body and separate good from bad. That is the sole function of the GI tract that it, again, quarantine, meaning we don't want things in the gut going through the gut wall, into the bloodstream because that's when the dangerous inflammation and reactions could start to begin.

So understanding that it's the job of the gut to keep things separated, we have to understand that what we put in our body, whether it's a medicine, whether it's a food, or a perceived food like a Frankenfood, we have to understand the impact that those can have on our barrier.

Our gut has five primary barriers that protect it from breaking open. The first barrier is your stomach acid. Okay. Your stomach acid, as food comes in and hits the stomach, there's acid there because if you're eating things with bacteria, or viruses, or other things, many of those are sitting with the acid. So the acid is a protective mechanism that kills off anything that could get down into your lower intestine and have potential penetration. So the acid is a very important barrier.

The second barrier is a compound that we make in our mucus. So we have this mucosal lining within our GI tract. And that mucus secretes, we call it secretory mucus, it secretes an antibody called IgA or secretory immunoglobulin A. This is our first line of defense. It's our immune system's first line of defense. So if we eat something that is not necessarily good, that IgA works like a handcuff. And it binds it so that we can get rid of it. So that we can poop it out. So that it's not coming into the bloodstream. So IgA is the second barrier.

The third barrier's our microbiome. So our microbiome, this is the bacteria that lives inside of us who do several things. These bacteria help



us digest our food. And a lot of people develop food intolerances because they have microbiome deficit. So the microbiome talks to our immune system. It actually sends chemical messages to our immune system and vice versa to talk about what's in the gut and whether or not the immune system needs to get ready to battle something. So there's this crosstalk or cross communication between our microbiome and our immune system that's very, very critical. So the microbiome being healthy is very important.

But our microbiome also helps us to produce short-chain fatty acids that keep the colon healthy. And it helps us to make certain vitamins. You can't make adequate biotin, for example, which is a B vitamin, that you need. And about 60% of your biotin comes from your microbiome. About 40% of your vitamin K comes from your microbiome. So if you are one of those people that are antibiotic, antibiotic, antibiotic, what you're doing is you're disrupting an entire gut barrier. So that microbiome is a very important part of the gut barrier.

The fourth barrier in the GI track is something called a tight junction. And it's the little anchoring proteins that make sure that the cells in the gut are not separating or spreading out. So if you could imagine...I like to think of it as a Lego block. If you've ever played with Lego blocks, as a kid, you got one block here with a little prong and another one here with an ending and like connect together. And when we try to pull them apart, it's hard to pull them apart.

Now, imagine if we shaved out the prong, the blocks would just fall apart. Well, that little prong is what we would call a tight junction in the gut if we're using that as an analogy. And so tight junctions snap the cells in the GI tract together to prevent a leakage across that barrier. They're like little gate channels. And they open and close, depending on what we're doing.

And there are a lot of things that can cause the leaky gut. And we've talked about a lot of them. The wrong food, food allergies, certain medications, certain types of infections can create or trigger this leaky gut to occur at the tight junction level. So tight junctions are one of those critical barriers.

The fifth barrier in the gut is called the GALT, the gastro-associated lymphoid tissue. Some doctors say, some scientists say that that represents 70% of the entire immune system clustered and focused right behind the gut wall. I like to think of it as a massive set of tonsils that wraps around the intestine. Because what happens, if something breaches those barriers, is you've got the biggest part of your immune system is there to take care of business. It's there to protect you.

And so there are those five barriers. And if we start doing things that cause breaches in those barriers, this is where leaky gut starts to set in because those barriers are there to protect us. So once leaky gut sets in, things can leak into the GALT, the gastro-associated lymphoid tissue.

The reason I'm talking about this is because I want you to understand how autoimmune disease starts. Okay. When something that doesn't belong leaks in to the GALT, the GALT use it as a threat. And so it starts to produce antibodies and to produce chemical cytokines to deal with that threat. It's doing its job. Again, autoimmune disease is not the body going awry. Autoimmune disease is the body adapting to try to protect and preserve.

But what happens is some of those chemicals that can leak through a leaky gut, for example, one of them is called a lipopolysaccharide. It's a bacterial byproduct. Think of it as bug poop, bacterial poop. Okay. It looks like, to your immune system, it looks like an enemy. So your immune system's attacking it.



But what happens is sometimes the bug poop or these other proteins that leak through can look like your organs or look like your tissues. So some of them might look like your thyroid gland, or your thyroid hormone, or your joints, your cartilage, your muscles, your tendons. Some of them might look like your heart. Some of them might look like your liver. And so initially your immune system, your GALT, doing its job properly, is attacking what's leaking through.

But if what's leaking through looks like you, okay, then your immune system starts to turn on you. And that process is called molecular mimicry. And we've known about it at least since the early 1980s. Okay. So this is not new information. We're almost 40 years from that point.

But in science, unfortunately in an autoimmune science, particularly, a lot of the doctors who specialize in the autoimmune disease and the mainstream, they won't even recognize the term molecular mimicry, they won't even recognize the term leaky gut, even though now there's so much research on it.

I always say great ideas, revolutionary ideas that become a very good big part of science, our history's fraught with that. The doctor that discovered hand washing was laughed into an early grave. X-rays, when they were discovered, they were not used. It took 30 years for them to become used mainstream. It took that long for the idea to become special. Antibiotics, as much as they can be detrimental, they are also very lifesaving in the right circumstances. It took, I think, 36 years for antibiotics to really truly be fully accepted.

So with every revolutionary idea in medicine, with every revolutionary thought process comes this timing of 30 to 50 years before everybody accepts it as, "It is what it is." And I think where we're at with molecular mimicry and autoimmune disease

today, I think we're coming into we've got now enough fundamental research where the mindset is starting to shift in that direction.

Dr. Jones: Wow! Wow! So, so profound. And one of the biggest challenges with the breach of the gut with those five barriers creating leaky gut, creating molecular mimicry is that you then get this degradation of the integrity of the blood-brain barrier. So won't you talk about that second phase that happens and then how the brain ends up getting impacted through all of this.

Dr. Osborne: Well, there's a couple different mechanisms that we know about. And one of those mechanisms is the disruption in the microbiome. There's a nerve that goes from your brain to your gut, the vagus nerve. It's very, very important. And we now know it's like a two-way highway. Seventy percent of the lanes on that two-way highway come from the gut to the brain. Thirty percent of those lanes go from the brain to the gut.

So we know the gut has a huge influence on thought. And if we look at the neurotransmitters that are produced by the microbiome, 60% to 70% of dopamine is estimated comes from your healthy gut. Okay. So imagine taking that antibiotic and it disrupts your dopamine. This is one of the reasons why it can cause depression, an antibiotic. Think about that in terms of serotonin.

We know about 90% of the serotonin is produced by the gut, not the brain. So we have the gut producing these neurotransmitters trying to relay messages back to the brain. And the information from the gut, it far outweighs the information from the brain to the gut. So the gut has its own brain, its own nervous system. And it does a lot of communication to our master brain in our head. And that's one of the mechanisms.



So the antibiotics are a big factor in that, as are other things that can disrupt the microbiome. Eating foods with pesticides. Pesticides are antibiotics. Drinking water with chlorine. Chlorine is an antibiotic. We use it to disinfect our water. So if you're not filtering your water, you're getting chlorine and chloramines, again you're creating a gut dysfunction that leads to chemical reactions in the brain that change the way you think, and change the way you feel and behave. So that's one of the mechanisms is through the actually microbiome and the vagus nerve.

Now, one of the other mechanisms is once we get a breach of that, once we have a leaky gut, we have a breach of the gut barrier, we're allowing for chemicals that are not supposed to be in the bloodstream to penetrate. And some of these chemicals can have an effect on the endothelial component of the blood-brain barrier meaning that the blood-brain barrier's a lot like, if you look at it under a microscope, it looks a lot like the gut barrier. We've got these very tight junctions and these tight seals.

Well, now those same things that can disrupt the fourth barrier in the GI tract, which is the zonulin proteins, those tight junctions, the same thing can happen in the brain. Now, those chemicals are just traveling to the brain. And they're going to create a disruption in the tightness of the blood-brain barrier. And that allows other things to start leaking in to the brain.

And so now, the brain has to fight stronger. And it has to produce more antioxidants. It's under more of an assault and more of an attack than what it should be. And so we know there's a concept. I use the word brainflammation. Grainflammation creates brainflammation. So when you're doing things that cause a leaky gut, and those things traverse to the blood-brain barrier and rip a hole in your blood-brain barrier, you now are opened to brainflammation as a result of normal

behaviors and normal activities, eating normal foods. Because once those barriers are breached, things that are leaking in that don't belong that are supposed to be checked and balanced out are getting through. And that's not a good thing.

Dr. Jones: So profound. Peter, this is such great information. Dr. Osborne, the thing I think a lot of us need to recognize is that we're all predisposed genetically to certain types of diseases that won't be triggered unless the environment and our decisions that we're making create it such that there is an adaptive mechanism that caused the genes to be turned on.

And so for some of us, which for me, my grandfather died of Alzheimer's, and my number one genetic susceptibility is Alzheimer's disease. And does that mean I'm going to get Alzheimer's? No, because I'm living a lifestyle. I'm doing the things that I need to do in order to prevent that from happening. However, heart disease is number two for me. And so there are things that I do every single day that Dr. Osborne beautifully exemplified in this interview to help prevent those diseases to be turned on.

Now, Peter, it's exciting to think about the epigenetic impact, which is the environment in and around our cells having an impact on the gene expression that will turn health-promoting pathways on, and not disease-promoting pathways for people that want to prevent disease. However, for people that already have brain-based challenges like I used to have with ADHD and dyslexia, and mom used to have with depression—key word is used to. She was on Effexor and Prozac, no longer on all of those. She used to be an insomniac, no longer an insomniac—so there are so many exciting things that you can do. But what have you seen, Peter, in people being able to see a reversal of some of these challenges through lifestyle modification and change?



Dr. Osborne: That's just it, we've talked about some of the triggers earlier. For me, again, I come from the clinical perspective because that's where I live and breathe is in the clinic. And so one of the things that we see is we measure, we measure the four triggers first. In every person that's struggling with current illness, we measure for infection, we measure for vitamin and mineral deficiencies, we measure for food reactivity, and we measure for environmental toxins and reactions to environmental chemicals.

And those are the big pieces that we control. Once, we start controlling those pieces as it matches that person's uniqueness, what we see is very, very profound, we see the complete reversal of autoimmune diseases. And so that, to me, is the motherload because most autoimmune diseases, you've got an endocrinologist treating your thyroid disease.

You go to the rheumatologist treating your autoimmune inflammatory joint disease, you're told, "It's forever. It's genetic. We don't really know what causes it. But here's a drug that you can take for the rest of your life." It doesn't make sense. It makes no sense to say, "We don't know what causes it, but we know what fixes it," that doesn't make any sense.

And the thing that really gets me is, "Yeah, we know what causes it, it's inflammation. So let's give you something to block the inflammation." But they don't take the next step, which is, "Well, what's causing the inflammation? Because if I can stop what's causing the inflammation, instead of masking it, then I can get to the root of this."

And that, again, so it's this paradigm shift that really needs to happen. But for us, it's understanding objectively, for a unique person,

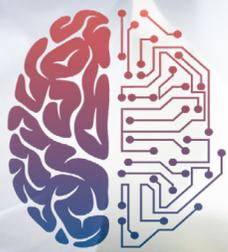
what are those triggers so that we can actually put them on the right path for the rest of their lives, and avoiding the things they need to avoid, and doing the things that they need to do in order to ensure that their body's genetic expression is one that's conducive to hope, and light, and health, and vibrance.

Dr. Jones: Dr. Osborne, this is a very emotional and powerful conversation to have because I just think that if people are willing to understand what you just talked about, your interview with me today will completely change and transform their life. I'm so grateful for you, for what you're up to, for your stand in the World that you're taking to help people transform their health and their vitality, and really reverse a lot of these challenges and prevent them ultimately from happening in the first place. So, so grateful for you. I'd love for you to share where they can learn more information about you and what you're up to that they can plug in to.

Dr. Osborne: Yeah, we've got two places really that we can send you. One, if you want to learn more about my clinic and what we do, it's DrPeterOsborne.com. And if you want to learn more about our mission around gluten, you can visit GlutenFreeSociety.org.

Dr. Jones: Beautiful. Well, thank you again so much. I can't wait for people to get this information. And keep being the amazing person you are, Peter.

Dr. Osborne: Thank you. Thank you for putting this summit on and being brave enough to challenge the status quo. I appreciate all you're doing.



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