THE MODEL HEALTH SHOW

EPISODE 781

Eat These Foods To Boost Brain Health & Reduce Inflammation

With Dhru Purohit

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SHAWN STEVENSON: Welcome to the Model Health Show. This is fitness and nutrition expert Shawn Stevenson, and I'm so grateful for you tuning in with me today. Improve your focus, memory, and more with these science backed tips. On this episode, you're going to discover the best foods to support cognition and brain function. The biggest drivers of neuro inflammation and how it wrecks. Your cognitive function, the number one nutrient to instantly improve your brain and so much more. I was recently interviewed on one of the top health and wellness shows in the world on these topics, and I absolutely had to share it with you. And this show is hosted by my truly good friend, Dhru Purohit. Now people say good friend all the time, this is my good friend. This is my good friend. We spent time together. We've been to each other's houses. We've eaten each other's food. He is a truly exceptional individual and he's built one of the, again, top health and wellness shows in the world. Incredible interviewer. He asks great questions. And again, this information is game changing. I think that you're absolutely going to love it. Let's dive into this interview that I did on the Dhru Purohit show.

DHRU PUROHIT: Let's jump right in. And I want to talk about top foods for brain health and nutrients. I mean, there's so much out there and I'm sure people come to you for a ton of advice. And one of the things that you see, especially when people are starting off, they're like, which supplement or which thing is the best for that? And we tend to overlook some of the most obvious stuff that's right in front of us. And I feel like that's what you did a really great job in "Eat Smarter", is you highlighted the things that it's just easy to overlook, and the power of food truly as being medicine. Not like medicine, but medicine for real, right? Sometimes even better. And I want to start off by This study that you mentioned inside of Eat Smarter and it was around Alzheimer's and a particular nutrient. Tell us what that nutrient is and how this nutrient was shown to have a significant reversal on our age.

SHAWN STEVENSON: Yeah, so the current science when we're looking at Alzheimer's, you know, it's, It's a really, really difficult situation. There's not much as far as peer reviewed evidence on being able to reverse this condition and see much improvement. It's a lot of

times just trying to slow down the progression. But now there's so much evidence coming out and so many wonderful scientists are asking these questions like, what can we do? Let's try this thing. Let's try that thing. And the funny thing is it's circling back to the world of nutrition, but it of course makes sense because your brain is literally made from food. And we know today that, you know, Alzheimer's is. largely tied to this, we're calling it type three diabetes, this insulin resistance taking place in the brain.

And so looking at what are the nutrients that help to regulate our insulin response. What are the nutrients that help to normalize and heal brain cells to create neurogenesis and spark the creation of new brain cells? We know some of this data. So what is the application here? So this nutrient that I'm going to tell you about is tied to something else, which is the main thing that your brain is made of, which is water. All right. And this is so, again, you mentioned this simple, but it's so overlooked. Right around 75 percent of the brain is actually made of water and we say that, but we don't really get in and really honor it. So the structural integrity of the brain itself, so the white matter, the gray matter, the cerebral spinal fluid, like that liquid that the brain is kind of housed in and taking care of, kind of creating a condition or shock absorption.

All of this is based on water, but it's not just water. And this is one of the big problems that I was taught in my university, and even high school, and even elementary. We were inundated with this idea that water is H2O. That's it. H2O. And that is a massive mistake because, in nature, you never find H2O by itself, anywhere. It doesn't exist. Through our evolution, water is known as a universal solvent. Because it's always combining with things in our environment. And so what water really is, as far as what we've evolved consuming, is H2O with other things dissolved into it, specifically minerals, right? So that mineral density determines things ranging from the pH. The total dissolved solids, all those things.

And this, these minerals are, are incredibly important in the construct of water because they enable connect, conduct, conductivity. If we talk about electrolytes specifically, right? So what are electrolytes? These are minerals that have an electrical currency or an electrical potential, right? And our body is running on this electrical currency. And so one, and I'm going to share with you two of these, I'm going to share the one that you mentioned in a moment, but I

want to share one that is more obvious. Well, not so obvious today, actually, which is sodium. And sodium has been found, this was researchers at McGill University, found that sodium works as an on off switch in the brain that literally is turning on neurological programs and turning them off. Many of which protect the brain against neurological diseases. We don't hear about the importance of sodium. We hear it more demonized, right? It's vilified as this bad guy causing high blood pressure, causing issues with brain health. But it's without context, there's no nuance there. It's just like, this thing is bad, be careful, watch your sodium.

Watch your salt. Salt. And these things are used interchangeably, and that's another problem, because salt isn't sodium, but it is our biggest dietary source of sodium. Salt is about 60 percent chloride, 40 percent sodium, but there's many other types of salt. There's magnesium salt, there's potassium salts. But what folks really kind of get mixed up is that the biggest intake of our sodium is from processed foods in our culture today, in the standard American diet. So about 70 to upwards of 80 percent of the sodium people are taking in are from processed foods. highly refined, hyper processed foods. And so when you start to move away from that a little bit, all of a sudden, we can find ourselves in a sodium deficiency. And you would think, again, like, that's not a bad thing, but sodium is a major electrolyte concerning your neurological function. So again, researchers at McGill University found that sodium works as an on off switch in the brain that determines things like memory, reaction time, but also they protect the brain against neurological diseases.

So that's one. The other electrolyte that's found with water, usually in nature, sodium, and the one that you mentioned earlier is magnesium. So this was an adventure to get to this point because this is so fascinating in the context of Alzheimer's. And this was a, and I love this, it's a double blind placebo control clinical trial. And this was published in the journal of Alzheimer's disease. And it found that improving magnesium levels in adult test subjects. And these folks were between 50 and 70 years of age, could potentially reverse the brain. Aging in the brain by almost 10 years. Alright, now specifically looking at Alzheimer's disease, this was published in the journal Neuron, found that magnesium is able to restore critical brain plasticity and improve cognitive function.

And neuroplasticity is the ability of the brain to adapt and to evolve. And looking at this specifically, with Alzheimer's patients, and again, I mentioned this earlier, this is a randomized, double blind, placebo controlled trial. We don't often see much improvement when people have cognitive decline associated with Alzheimer's, but they saw simply by getting folks' magnesium levels up. They saw that their brains aging reversed, their cognitive ability improved, simply by addressing this one key nutrient, but it's not just some isolated magical nutrient. It works in concert, there's none of this operating in a vacuum. That's why I mentioned sodium first. All of this works together to create this kind of whole brain functioning, if that makes sense.

DHRU PUROHIT: You know, I think for anybody who's listening and has been told by their doctor, all mostly well intentioned or a nutritionist or just seen it on the news, you know, all the things that sodium is associated with in high amounts. It can feel like a very scary world. It can feel like, oh, I can't. put, you know, this, this homemade broccolini that I made that is, you know, organic and is really good. And now all of a sudden I'm worried about adding some, some sea salt to it. Right. You don't have to have that fear. I actually was at a restaurant. This was in New York. This is almost like 10 years ago when I was living in New York. And I was sitting there and we were eating at this great place, a great restaurant. And they had some Himalayan sea salt, right. Which is like, you know, my preferred one, one of my preferred salts that were there. And I was having a business meeting with, um, with someone and I grabbed it and I just put a bunch, you know, some salt on there for taste and a ton of olive oil. And the person was, uh, you know, they're looking at me like in shock.

So aren't you worried about your sodium levels? And, you know, at that time I didn't have all the references that I have now. Some of the things that you just talked about. And I was like, I'm not. And what I didn't know exactly at that time was Yes, you can be worried about sodium and blood pressure and other stuff, but you have to understand, as you mentioned, that most of what comes from in the modern day diet today is the processed foods. So don't worry about the salt that you're sprinkling on your food, because that actually is crucial for you. Instead, let's pay attention to the processed foods that are made in the factory that are loaded up with the salt that we don't see.

SHAWN STEVENSON: Exactly, and Eat Smarter actually detailed a massive meta analysis looking at the association between sodium and heart disease. And the original data that came out, again, this was decades ago, and we know that so many of our dietary tenets were false in the first place when we shifted from, you know, demonizing fat, right, going to the low fat paradigm, and in place adding in more carbohydrates, more sugar, and just looking at the results, what happened in our society the last few decades.

But another thing that was vilified was salt and sodium, but the original data on that, and I kind of detail it for everybody to map it out, was first done on laboratory animals, was done on rats, and they gave them 50 times the, the equivalent of 50 times the amount that, An average human would take in and then they were like, Oh, wow, it, it blew up their blood pressure. This must be bad for our blood pressure. So that was the original science, which is great. We can get a hypothesis going, but then we have to run some, some clinical studies on this. And so this was a Cochrane database of systematic reviews, massive meta analysis. And they found that Even salt intake above the RDA, so we're looking at over two teaspoons a day, does not have a negative impact on blood pressure for the vast majority of people.

Now, there are some genetic predispositions. For sure, we have to acknowledge that. But for most folks, it's still well within range for optimal function. And as a matter of fact, what they found was folks who don't have enough sodium intake, so this was, you know, somewhere in the ballpark of one teaspoon or less, are even high at a higher risk for high blood pressure. Now that's totally counter culture, counter intuitive.

DHRU PUROHIT: People don't hear about that.

SHAWN STEVENSON: That not getting enough sodium can cause high blood pressure in a roundabout way. What it does is increase stress hormones. It creates insulin resistance. Sodium, again, I was talking about this earlier. These electrolytes helping to modulate and manage insulin sensitivity within the brain. And this, I'm not just saying that just because it sounds nice. This is one of the things that is so overlooked. When we're talking about what we're calling type 3 diabetes. And just to be clear, Sodium isn't just coming in the form of salt,

it's also abundant in many foods, natural foods. And so, just by getting a consistent intake of real whole foods, we're going to get a pretty decent amount of sodium.

But I want folks to realize just how many processes sodium is involved in. Again, this is an electrolyte, so it provides this electrical currency, this electrical energy and transmission for signals. So in the brain, It helps in something called signal transduction. So for your brain cells to be able to talk to each other, which is kind of important. You know, you want your brain, brain cells to be cohesive and communicating efficiently. And so when we run into these deficiencies, we start to see this rapid decline in cognitive performance. But again, if we're getting this intake of sodium in from processed foods, along with the thing that creates massive degradation to the brain in the form of sugar. This is creating this kind of chemical soup where A lot of negative things can happen, but we don't wanna demonize one thing, throw the baby out with the bath water.

I'm probably never gonna say that again, by the way. Like, who's ever throwing a baby out with the bath water? That's a terrible analogy. But speaking of water in that bath water, you know your brain is again, the primary... the primary substance that the brain is made of is water. And there was a really cool study that was done in publishing medicine and science and sports and exercise. And what the researchers discovered was that just a 2 percent drop in our body's baseline hydration level led to significant cognitive decline. Specifically, they found that there was a drop in requirements in the brain for attention processes, motor coordination, executive function. So there was a decline in the prefrontal cortex, which is responsible for social control for decision making for forethought.

All of these functions started to decline simply because we're dehydrated. Again, just a 2 percent drop. That's not much. Our brain does not really tolerate dehydration very well. And so again, we're all, many of us are looking for that, that next nootropic. We're looking for that thing to give us that limitless experience, but overlook the most fundamental thing, which is water. If you're not meeting that need, water with our electrolytes. We're really missing the point. And we're trying to, basically it's window dressing. Trying to target things with all these other incredible nootropics. But we're talking about things that can operate in the five to ten

percent improvement range versus the very foundational thing when we're talking about water and electrolytes that the brain itself is made of.

DHRU PUROHIT: So on a practical level, you and I both, we're in front of a laptop a lot, we're doing interviews throughout the day, a lot of load on our brains and our mind, a lot of, um, energy that they take up throughout the day, just like a lot of other people that are listening. Do you ever... Are there signs or indications for you that I dropped a little bit in terms of, or I might be a little bit more dehydrated? Like, do you notice if you ever can't focus as much or other stuff? And do you keep like water with electrolytes around? Like, what's your own process with it? You know, separate from our foundation of whole foods, which is what, you know, the book is all about. Are there things that you do throughout the day when it comes to water and also, you know, electrolytes like sodium?

SHAWN STEVENSON: Yeah, that's a great question. And also, I just want to reiterate that. Sodium is one electrolyte. We also have potassium. We also have magnesium, calcium. These are all electrolytes. So they have many of these similar functions. They do different things like magnesium is responsible for right now, we've identified 650 different biochemical processes that magnesium is required for. And I might've mentioned this to you last time I was on, but that means. There's 650 things the body can't do, if you're deficient in it.

DHRU PUROHIT: And that's just what the reason, you know, the first time he came on the podcast, where we talked about the book Sleep Smarter. At that time, I think it was...

SHAWN STEVENSON:300 and something like that.

DHRU PUROHIT: It was 400 and something.

SHAWN STEVENSON: Yep.

DHRU PUROHIT: And now, since that time, now it's 600.

SHAWN STEVENSON: We keep discovering more.

DHRU PUROHIT: Right.

SHAWN STEVENSON: And this is the beauty about science. But also the other side of that is realizing how little we still know. You know, but it's, it's very dangerous when we get into this place that this is the definitive thing, there's no question, except when it comes to principles of... of physiology and health and anatomy and biology that we do have a pretty good grasp on. And so for myself personally, absolutely. I've experienced this before where, you know, I'm running around. I've got a lot of things going on and I might happen to not get adequate amounts of water. And I'm feeling like, man, I've got a little bit of a mental lull and something so simple, the water's right over there. Or, you know, especially when I'm working around my home office or at our studio, like there's always water accessible, but I might miss out on that. It's a very simple thing. And so here's the big tenant and I've got it right here with me as well. And you've got yours over to the side as well. Keep a bottle close by.

Because you can't drink what you don't have, right? You can't drink if you don't have your eyes close to it as well. Like, having this, for me, my bottle is like my friend. It's like my sidekick. It's my, it's my Robin, alright? If I'm gonna be Batman, it's my Robin. If I'm gonna be.. Jordan, this is my Pippin, all right, I don't know why I said that analogy, but keep your bottle close to you, get a bottle that you like, you know, I've got my show on my bottle, the Model Health Show, you know, I used to carry around after a trip to Jamaica, I had this flashy, like, Usain Bolt colors bottle that I just like to have around, and it's also like a memory, you know? And so get a bottle that you like, keep it around, keep it handy, and as far as the electrolytes are concerned, you know, after I really dug into the research for this book, It became apparent to me how important this is.

But I really had a big problem with a lot of the electrolyte products out there. A lot of folks, of course, they think about things like Gatorade or Powerade, which is absolute garbage at this point. Now they've got new formulas where they're pulling the sugar out. Right. After all these decades of really inundating our culture, like, drink these things if you're going to perform at a high level. And I used to, even in high school, I would, instead of getting a soda where other people were getting, you know, sodas and juices, I would get a Powerade at lunch or get a Gatorade because I'm trying to be healthy and not realizing just how much

sugar, high fructose corn syrup, all these other, like these things that we know today are detrimental to performance are in there as well. And the original formula, fun fact, if you're looking at something like Gatorade, had a tremendous amount of sodium in it and they were running trials and basically finding how it improved sports performance by getting these electrolytes up. But then over time, more and more sugar was added and that's the thing.

Right now I do, I'm very adamant about getting some high quality foods in that are rich in electrolytes, but also I might dabble in an electrolyte supplement that sans sugar without sugar in there. You know, maybe it's flavored with a little bit of Stevie or something like that, but it is something that I find, especially when I've got a lot going on, having a little bit of an electrolyte there with my water, definitely get that cognitive boost.

SHAWN STEVENSON: Got a quick break coming up. We'll be right back. Do you ever feel like your brain is running on low battery? Well, batteries themselves provide energy from chemical reactions that involve Electrolytes. Electrolytes are minerals that carry an electric charge and electrolytes play a major role in providing energy for your brain.
Take sodium for example. Sodium is an electrolyte that actually enables your brain to maintain proper hydration. Our brains are mostly made of water. It is so important for the form and function of our brains, but we can't maintain that hydration to do all the things that our brain does without an adequate supply of sodium. Not only does sodium help to maintain proper water balance, A study conducted by researchers at McGill University found that sodium functions as a quote on off switch in the brain for specific neurotransmitters that support optimal function and protect the brain against numerous diseases. That's just one important electrolyte for the brain.

Another critical electrolyte is sodium. For providing that electrical energy for your brain is magnesium. A fascinating study published in the journal neuron found that magnesium is able to restore critical brain plasticity and improve cognitive function. And a double blind placebo controlled study published in the journal of Alzheimer's disease found that improving magnesium levels in adult test subjects who were in an at risk population for Alzheimer's. These folks were between 50 and 70. Improving magnesium levels was found to potentially reverse brain aging by over nine years. Getting a functionally and structurally younger brain.

Electrolytes are that important. Now, there's one company that has hundreds of thousands of data points for the optimal ratios of electrolytes. And that company is LMNT. Go to drink lmnt.com/model, and you're going to get hooked up with a free gift pack, a free sample pack with every single electrolyte purchase. Hook yourself with any of their electrolyte flavors, and you're going to get a free bonus pack. It's an awesome opportunity to get the very best electrolytes in the world. Without any artificial colors, without any binders and fillers, no nefarious sweeteners, anything like that. Just the highest quality electrolytes on the planet.

And by the way, LMNT is actually fueling athletes in every single professional sport, many professional sports teams from the NHL, the NBA, especially the NFL. Have now switched their teams over to utilizing Element for their team's electrolytes. Even though they might have NFL contracts to have those other brands like the Gatorades, the Powerades, the Haterades, they might have contracts to have their containers on the sidelines. But many of these teams are now utilizing LMNT again, go to drink l m n t.com/model. And with every electrolyte purchase, we're going to get a free sample pack, head over there and check them out. And now back to the show.

DHRU PUROHIT: And from what I remember, you don't drink coffee, right?

SHAWN STEVENSON: I do now!

DHRU PUROHIT: You do now.

SHAWN STEVENSON: I Do now. As of recent...

DHRU PUROHIT: How long ago?

SHAWN STEVENSON: So it's been, it's, it's been a couple of years now, it's been a couple of years, but for my entire life. So for like maybe, I don't know, 35 years, something like that, I, I never touched, well I had one sip when I was a kid, and that's what created the whole problem, I was just like, I, I literally, I remember taking that drink, it was my grandmother's coffee, And I just didn't understand, like, why are her and my grandfather having such a good time? They love to have their Folgers in their cup every morning.

DHRU PUROHIT: Right.

SHAWN STEVENSON: And I, and I got a sip of it, and I literally, I could, I thought there was something wrong with them. I'm just like, is this part of getting old? Like, why, what's wrong with your mouth? And I just said I'm never going to touch this stuff again.

DHRU PUROHIT: Yeah. Well, you drink it now, but I think that's another big area because there's a lot of people that are like, okay, you know, I drink a decent amount of water throughout the day. But with most people starting off their morning with coffee, that's just another. It's a lot of benefits, right? A lot of studies around coffee and the benefits that come from it, especially, you know, you're shooting for organic, other things like that, clean coffee. But, or, and rather I should say, it is very dehydrating. And so we've had a few past podcast guests that are really deep in the space that are like, look for every cup of coffee you have. Really think, one cup of coffee, three to four cups of water. Especially in the morning, when your brain's just getting going. Because yes, you might be drinking a lot of water throughout the day, but that morning, one or two cups of coffee can immediately put your body in a place where you're starting to feel a little bit of dehydration.

SHAWN STEVENSON: It can function as a, as a diuretic. But more so, coffee, for a lot of people, they get the coffee poop. Right? So it can stimulate bowel movement. And there's many different Reasons why, or hypothesis around why, one of the really interesting things that I'm, this is why I love talking with you because I can talk about these kind of things, um, but one of the interesting things is that coffee has been found, and caffeine within coffee, to stimulate the release of serotonin, and serotonin functions, we think about that in association with, with mood, stability, antidepressant activity, anti anxiety activity, but it also functions in the gut.

For intestinal motility, so literally the ebb and flow of the digestive system kind of helping to get things moving, serotonin has a massive role in that. And it starts to make sense when we realize 95 percent of our serotonin is located in our gut, produced by our enterochromaffin cells in there. And so getting coffee in, getting that serotonin boost association is one of the things that I feel, it's my hypothesis, that helps kind of get things moving along. But even

that, stimulating bowel movement, we're releasing more. energy, releasing fluid as well. And so diuretic through the colon and also through our urine potentially. So yeah, we want to be adamant about water and I'm a big proponent of water first. And many of our friends have really taken on this tenant. I've been doing it for 18 years now, every day. First thing I do, you know, I'll go. Have a tinkle. Sorry, I don't know why I said tinkle. I go to the bathroom, I go pee.

DHRU PUROHIT: Sounds like you're being potty trained.

SHAWN STEVENSON: Right. I just had an instant image of my son and the potty training, that whole thing. So I'll go pee, but then I'll go and I'll have, you know, 20 to upwards of most of the time, somewhere 25 to 30 ounces of water to start my day. And this is very specific because this is a time when, for most folks, you're the most dehydrated. You've often times, you've gone 7, 8 hours, potentially, without food. And your body is doing a tremendous amount of metabolic processes while you're sleeping. You know that, you know, autophagy is kicking in. We know that the glial cells in the brain, we know that they're more active in the glymphatic system with cleaning out metabolic waste from the brain.

It's ten times more active while you're sleeping than when you're awake. And all of this is happening in a water medium. This is why we know when we go pee in the morning, the urine is much more concentrated. And so, but there's still so much metabolic waste that's built up in the system, we literally need to flush it out. And so getting up and having that water helps to evacuate or eliminate these, you know, potential toxins, but also these metabolic wastes to create more room for new growth and, and health. So it's very important and very specific why I do it, number one, but also we get the benefit of something called water induced thermogenesis.

So it's an uptick in our metabolism. And there was a Peer reviewed, you know, randomized controlled trial that I talk about in Eat Smarter as well, where the researchers had folks that just drink 17 ounces of water. at one clip, just was, we'll just say within a few minutes. And they found that it increased their metabolic rate by upwards of 11 percent. And they basically burned 30 calories just by drinking water. And you do that a few times a day, and this is the interesting thing about water, and it's often left out of the macronutrient conversation. You

know, we talk about fats, proteins, carbohydrates, so much infighting about that. But there's two other macronutrients that are just largely looked over when we're talking about metabolic health and also brain health, and we can talk about both of these, but alcohol is another macronutrient, and also water is a macronutrient, but water is considered to be in a non caloric macronutrient.

That's looking at things through the tunnel vision of what calories are. And we talked about that last time I was on here. Drinking something calorie free can make you burn more calories. That's a really interesting effect. Why does water do that? It's not because your water, your body's like trying to heat the water up. That's a very small percentage of what it does. It just makes everything work better. You know, all the way from your brain to your endocrine system to your hormones, everything is operating in a water medium. It is that important. And so if we can get something across to everybody today is that water is the nootropic. It's the number one nootropic. It's the number one facilitator of our metabolic health. And if we don't have our water right, like we're just literally window dressing, we're doing things that are superficial. The whole thing starts with water.

DHRU PUROHIT: So crucial. You know, that's the beauty of the podcast medium, especially is that when you get down these deep storytelling of our health, that's like what health class should have been, right? Because now you get excited. Now you see things in a different light and it makes you take something. Yes. Everybody says that water is important. And just like if we were in Santa Monica right now, if we, Went down the street and we talked to people and we said, is eating healthy important? They say, yeah, eating healthy is important, but that means so many different things to so many different people.

Now we get into the nuances of why and the storytelling of it. And you do such a great job. Let's continue that storytelling on top brain foods and things that really allow us to function, think optimally, and cognitive performance. And the next thing I want to get into is that, I want to talk about fats.

SHAWN STEVENSON: Yes.

DHRU PUROHIT: And there are certain fats that are able to cross the blood brain barrier, which might be worthwhile revisiting just to explain to folks what that is. And two of the most important and abundant fat structures in the brain are omega 3, fatty acids, and EPA and DHA. Talk to us a little bit more about that and some of the research that you've come across.

SHAWN STEVENSON: Absolutely. So the dry weight of the brain, so this is without water. So water is the most abundant Thing within the human brain from there the quote dry weight of the brain is fat. Protein then its sprinkling of carbs and minerals is in there as well. But protein is also incredibly important in this conversation. It's not that far removed. So about 11 percent fat about 8 percent protein All right, so we don't want to negate protein but fat is so freaking important of the dry weight of the brain. It's the most Important macronutrient if your brain is literally made primarily of fat if we're talking about macronutrients So, how does this all work? Well, this starts off in the womb.

And this also is carried out once we are born and we're breastfeeding. Mother's milk, if we're talking about that dietary construct, it is so abundant in fat, specifically about 50 percent of the fat found in human breast milk is saturated fat. Again, we've, this is one of those things that's been vilified, that it's so bad for us. Why is the very thing we know for certain that humans are designed to consume when we are born? Why is that thing so bad if 50 percent up as a 50 percent of the fat in mother's milk is saturated fat? So for cognitive development of babies and as a matter of fact, there was a study that I just came across Looking at not only just the saturated fat but getting to this point DHA and EPA And that, that construct, the amount of DHA and EPA in mother's milk, and seeing the direct when, when, and this was a multi country study as well, it was an observational study, but they took into account other factors as well.

They did a really good job, but they found that mother's milk that, that had the highest constitution of EPA and DHA, their children performed about 20 percent better on cognitive skills tests. All right. So we're talking about the template for our brains and what it's made of. Now as we move into adulthood, now just to be clear, this doesn't mean a guzzling saturated fat is going to make your brain work better necessarily, the, the gates that allow in saturated

fat actually start to decrease your, but saturated fat is so important. Your brain makes it itself. All right. So your brain literally can make its own saturated fat when it needs to. So getting it dietarily, this isn't saying saturated fat is bad. Okay. Thank you. But it's also not saying that this is the primary brain fuel because it's a, it's a, it's nuanced. What is a primary brain fuel for our, from dietary perspective, is EPA and DHA.

These are critical. This is one of the most important takeaways from this episode today. And so research is, They decided to do, again, another randomized controlled trial. This was published in the American Journal of Clinical Nutrition, to see what is the direct impact of DHA and EPA. And so what they did was, they simply gave folks an increased intake of DHA and EPA versus a placebo. And they found that the folks just within a matter of weeks consuming DHA and EPA had a dramatic increase in memory and their reaction time. just by including more of these nutrients. And so that started already, I'm just fascinated by this. So I'm like, why, what's going on here? Well, these essential fatty acids, DHA and EPA, these are known as structural fats in the brain.

All right, so we know about white adipose tissue, we know about, you know, visceral fat, subcutaneous fat, those are storage fats. The brain doesn't have storage fats, thankfully, because during times of a famine, If you had storage fats in your brain, your brain.

DHRU PUROHIT: You'd End up eating your brain.

SHAWN STEVENSON: Yeah, you'd end up eating your brain for fuel. So it's good that we don't have storage fats. But the structural fats of the brain, EPA and DHA, are largely a big part of that. And what they allow for is signal transduction, like we talked about with electrolytes. They work in tandem with electrolytes to provide plasticity for the brain cells, form structure, and strength. That's how important these essential fatty acids are. And to lean into this further. So as I was digging into this, some of the most fascinating research and these folks, these scientists actually use. FMRIs and to actually look at the brain and see what's going on in the, with the brain with intake of DHA and EPA.

And they found that folks who had the lowest intake of DHA, specifically DHA is the most important, had the highest rate of brain shrinkage. So their brains were shrinking when they had a low intake of DHA and EPA as well, but DHA was even more prominent. And so what they found was that the number was, if it's below four, about, about four teaspoons a day of DHA.

I'm sorry, four grams. It's about four grams. Anything under that had accelerated brain shrinkage. The optimal range was six grams. of DHA and EPA. These are people who had shrink proof brains. Again, we're talking about cognitive performance, with the brain size matters. You know, this is, this is one of those things that we don't want to lose brain volume. It's gonna be correlated with a loss of cognitive function for sure, if you're literally losing your brain. And so this is how important DHA and EPA are. So when I said this is one of the most important takeaways from this episode, I want everybody to be so adamant moving forward about getting their water in and getting in DHA and EPA specifically.

What are the best dietary sources? We, and this is what I love about you as well, like we have that food first tenet. Where can we find this in its whole food form that's been used for the greatest amount of time? Number one. And this is working along with folks like, you know, Lisa Moscone out of NYU and people who are again, looking at the brain and seeing, do these nutrients actually have an impact? She shared with me that caviar and salmon roe are the best sources of dietary DHA and EPA. And at the time, this was a few years ago when we were hanging out, caviar wasn't on my radar, you know, like I just didn't even, it wasn't, I didn't grow up around anything like that. So I saw it on, I literally knew it from the lifestyles of the Rich and Famous with Robin Leach, it was like a TV show. It was like the pre Cribs.

DHRU PUROHIT: Maybe a little bit of a mention on Fresh Prince of Bel Air.

SHAWN STEVENSON: Right, right, exactly, you know. And so, this was like pre MTV Cribs. So this was like an original, like seeing how stars are living, right? And I remember Caviar and this kind of thing. So I'm just like, wow, really? Because we often attribute fatty fish, which is an incredible source again of DHA and EPA, to salmon, mackerel, sardines. These are really, really dense sources. But if you're going gram for gram, you're going to find maybe three

times more DHA and EPA in fish eggs. then in the fish itself. So salmon roe and caviar. Now again, I'm going to give multiple options for people. If that's not speaking to you, you don't have to run out and guzzle caviar. As a matter of fact, it'll probably cost a little bit too. So, but again, if you look at something like that, like, Oh wow, folks realize the value a long time ago of these things. They put a higher price point on it. The same thing with salt. The name salary is derived from the word meaning salt the etymology of it because people were paid in salt I just saw this I don't know what's wrong with me or right with me But I've just watched these random documentaries and I was looking at this story of these goats Have you seen the goats that climb up on these walls?

Yeah, they're sideways like what in the world? What in the world are they thinking? They're like 200, 300 feet up in the air.

DHRU PUROHIT: Yeah, like vertical, like completely vertical.

SHAWN STEVENSON: They're, they're vertical and they have their babies. The little, the little baby goats come up. They're called kids, right? The baby goats are called kids. They have their kids coming up on this wall, and they're just terrified watching this, and they're doing it to be able to lick the minerals coming out of that, you know, certain places that might be in that dam, for example. Sodium, right? Salt is so important. Again, there's multiple kinds of salt. Potassium salt, magnesium salt. They're willing to risk their life to get it. So anyways, putting all this back. With DHA and EPA, we got salmon roe, we've got caviar, we've got whole fish, fatty fish, salmon, mackerel, sardines, and many others. And then from there, we go to, and by the way, we're going to get to some vegan sources as well.

This is very important. But then we go to grass fed beef. It's going to be a great source, potentially, of these omega 3 fatty acids. But there's a big distinction between grass fed and grain fed. There's data and I go in multiple times over and over again showing the difference in grass fed versus conventional beef in the book because people need to know that conversation. It isn't just hearsay anymore. From there we've got eggs. The egg yolk specifically. Great source of DHA they can even be enriched as well. But now we get into What about the vegetarian sources? And this is where things get a little bit complicated. Because,

for years, as a nutritionist in my clinical practice, I was having folks, you know, I mean, I'm talking, this was 15 years ago, hemp seeds, uh, uh, chia seeds, I'm, all of it, I'm having people take, you know, hemp oil, get their omega 3s, right?

DHRU PUROHIT: Because at the time, you also were vegetarian.

SHAWN STEVENSON: Yeah, so, and I've done everything, like, and I'll do it years at a time to experiment with myself. And thankfully in my practice, I got away from having everybody doing what I was doing, and instead focusing on what they need, which is really the, the move forward and what's happening now is personalized nutrition. That's the wave of the future, but you know, again, I've been doing that and teaching that for a long time. So, with that said, I was missing the point because that type of omega 3 is ALA. It's not DHA and EPA, all right? DHA and EPA are the ones that have express access into the brain. ALA does have a role and is important. DHA and EPA is so important. Your body won't do the opposite. Your body will convert ALA into DHA and EPA. But you can lose upwards of 70, 80, 90 percent in the conversion process. Depending on your metabolism for being able to do that conversion. So to get the amount of DHA, again we're talking about that bare minimum being 4 grams.

To get that from a plant source, you're going to need to have a couple of cups of chia seeds, you know, like it's just not viable if you ever want to leave the bathroom, you know, so it's not efficient, not effective. So what do we do? We can get in some from those sources, flax seeds, hemp seeds, uh, chia seeds, all that good stuff. I implore you, if you're doing a vegetarian approach, there's two other wrongs. We've got krill oil, Which depending on where you lie in your ethics, which is, and I, I'm going to find another name for this because when I say it, just the name, I think it can throw people off. It's a microscopic shrimp. Emphasis on microscopic. All right. It is so like you can't, it's not like a shrimp, like you would think it's microscopic and it's abundant in oceans. This is what whales primarily feed on. It's so rich in nutrients that can create a massive brain. Like whales are hyper intelligent as well. If you look at some of the data on that as well, but anyways. Krill is a viable option, but it's also rich in astaxanthin, which is this powerful antioxidant that helps to protect the omega threes in there, the DHA and EPA from oxidation. Nine times out of 10, it's going to be a higher quality source than you might find a conventional fish oils because of that protection from oxidation.

And the reason I'm saying krill oil first is because we have peer reviewed evidence on its effectiveness. All right, so we've got that with food, we've got it with fish oil, we've got it with krill oil, but not as much. Nine out of ten peer reviewed studies on omega EPA are done with fish oil. Right. So we've got to acknowledge that. Not saying this is the best source, you've got to be careful with your sourcing. Krill oil. It's gaining some traction, it's being studied a lot more now. The next option of full plant source would be algae oil. We do know the DHA and EPA is there. But we got to keep in mind, we don't have a lot of peer reviewed evidence on it. But at minimum, I, I want to, again, put this emphasis, I implore you to To make sure today to get your DHA and EPA to literally protect your brain from shrinkage. And this isn't like, it's cold outside, you get into a cold plunge or whatever, shrinkage for guys. It's not that kind of shrinkage. It's like, this isn't the kind you can bounce back from easily.

DHRU PUROHIT: Right. Once you shrink your brain, I mean, it's very hard to come back from that.

SHAWN STEVENSON: Exactly. So just, I want everybody to keep that in mind, how important our hydration is and DHA and EPA is absolutely critical.

DHRU PUROHIT: And you know, I think, you know, I'm glad that you went through that full spectrum, because as you mentioned, You and I, we've also tried a lot of different things, raw food, vegan, vegetarian, the whole, the whole gamut. And one of the arguments that was brought up back then that I also, you know, made that argument too, is that, well, let's look at animals, right? Let's get a gorilla. What does a gorilla eat? They're not eating fish, right? How is their body and brain and their muscle size so big? The key distinction between you know, a lot of these big animals, even whales and you know gorillas and human beings, Is it a lot of those animals are eating all day long all day? so if you're talking about like just like you made that analogy of like Okay, sure you can try to get your those essential oils and fatty acids from chia seeds, but just actually look at the data in terms of how much you're going to get and then know that human beings aren't really designed to be eating that amount.

You're going to be pooping and eating all day long, which is not going to leave any room for anything else that's there. So we're just a distinct and a completely different animal in our evolution. So we've got to find what works for us specifically.

SHAWN STEVENSON: I love that. Yes. We've been, we've been designed. We've evolved to be more efficient in digestion, to have a lot more energy for cognitive performance and creation, you know, that's the thing about humans. That's what makes us so miraculous. And, you know, Michio Kaku, astrophysicist. He said that the human brain is the most complicated organ in the known universe. And it is, like, when we have one, the coolest thing is like everybody listening, you have one. of the most powerful complex, complicated complex organs in the known universe. But we, I think that we really struggled to understand how we got to where we are today. We abandoned a lot of that thinking. And one of the biggest steps in our evolution was the ability to eat more nutrient dense sources of food and to extract more energy from our food through cooking, which again, we've both done.

Long stints on raw food, for example, and we, I remember like, I didn't touch anything cooked except maybe some tea for several years. And I did this in Missouri, which is not the health hub or like we, there was no raw food restaurants there. I was, I felt like Tom Hanks on that island by myself many times, you know, me and Wilson eating a salad in Missouri in the winter. And so, but to, to completely vilify something that helped us to evolve is not appropriate. Not to say the raw foods can't be wonderful, but we got to look at this in all in context. And so, our digestive systems became much smaller. Again, if you look at the other animals that subsist on plant foods strictly, there's so much energy caught up in digestion. There's so much complexity to the digestive system.

DHRU PUROHIT: Our stomachs in some cases. You know, just a lot more going on.

SHAWN STEVENSON: It's a lot more going on. And I want to share this with everybody too, because I think that we don't realize just how much energy is taken for digestion just in general. The majority of our energy that we use on a day to day basis for the average person is used to digest the food that you eat. All right. So just imagine how much energy is being siphoned by constantly eating or eating the wrong stuff. And this is important because When,

when you realize that how miraculous eating is in the first place, like, okay, we're going to, we'll just say somebody's eating that fish that we talked about where they're eating some salmon, they're eating some walnuts, which we'll talk about in a minute. They're eating some, you know, a leafy green salad. That food is going to become what you see in the mirror. That food is going to become your brain. It's going to become your heart. It's going to become the blood in your veins. Like your, your body is taking that food and turning it into human tissue.

That's a freaking powerful, amazing thing to realize. Like, and you get to choose what you make yourself out of. And of course, there's going to be waste and all that kind of stuff, but you're making your body out of this stuff. So your body takes that very seriously. It's a large energy requirement to convert that food into you, you know, the digestion, assimilation, elimination, moving everything where it needs to go. So we start to understand how much energy is required for it. And so we want to make it count, you know, but at the same time, you know, again, we, I'm a big proponent of what are the best sources? What are the most nutrient dense sources that are backed by science and also backed by our ancestors and taking that data and putting, marrying it together.

And, another one of those I want to share. So we talked about EPA and DHA, but we also have phospholipids. And these aren't talked about very often as well. So phospholipids are primarily made from omega 3s, but you can also find them dietarily by themselves. And I wanted to share this because this is one of the coolest studies. This was a, and this was done recently, a double blind placebo controlled randomized trial, so gold standard of clinical testing. And this was looking at the consumption of phospholipids, and they found that having test subjects, increase their intake of phospholipids, help them to enhance their attention span and also improve reaction time. But here's the important part. This was done when test subjects were put under stress. So it helped them to focus under stress.

Wouldn't that be helpful today? You know, we're inundated with stress. So phospholipids can help us to improve our focus, improve our performance when under stressful conditions. And again, this is going back to what is the brain made of and phospholipids really function similarly with DHA and EPA, structural fats that provide shape, strength, elasticity for our neurons as well. So, what are the best sources of phospholipids? Funny enough, eggs, egg

yolks, far and away, great source of phospholipids. Also, we've got, um, oats, krill, another great source. Milk, sunflower seeds are a pretty good source, salmon roe, crab meat, that's another great source of phospholipids. Again, a lot is talked about in the domain of brain health along with fats, but it usually revolves around big idea.

Fats, just get in some kind of fats. Saturated fat, omega 3s, phospholipids matter too. And then they go into their own subsets of like phosphatidylserine. There's so many other things there that we can geek out on. But just proactively getting in some phospholipids, I think, is going to be another game changer as we move forward.

DHRU PUROHIT: Let's talk about the Doctrine of Signatures, right? And you recently did a big podcast episode on this, talking about 11 top foods for your whole body health. And So, you know, I would love for you to explain a little bit more about this. And then in this context, maybe you pull out one of these foods that can be really powerful that might have, uh, that not might that there's research around maybe some support for supporting our cognition and, and brain function. So what, what is this doctrine of signatures?

SHAWN STEVENSON: Sure. So this is. Yeah. Thanks. What that translates to is really a sign of nature. And this is a certain school of thinking, a certain perspective or approach to science that basically is stating that everything in nature that humans interact with, that we consume as far as food, It will tell you what it's good for in the human body based on the way that food looks, how it tastes, how it functions in nature itself, the activities that it does. It can give you a clue as to how it can help humans. And then for me, I'm just like, that's a really interesting tenet. You know, like we tend to think we don't come here with instructions and we just try to figure stuff out. But nature has kind of given us a little bit of a clue. But I wanted to find, is there peer reviewed evidence to affirm this?

Like for example, you know, walnuts looking ridiculously similar to the human brain, for example. Do we have period evidence that it is Actually effective and helpful for the human brain?

DHRU PUROHIT: Because we have folk folklore, right? People would always say that my family growing up are you vedic everything like that be like? Oh, have some walnuts first thing in the morning, have some almonds first thing in the morning. But what did you find?

SHAWN STEVENSON: Now, here's the thing, walnuts, first of all interesting source of omega 3s, but these are plant form, but it is going to be some conversion, but one of the really cool things about walnuts that I really uncovered in the data is that It has these plant sterols, different compounds within the walnuts that can actually help to break apart beta amyloid plaque in the brain. Which we know that that build up is one of the strongest things associated with Alzheimer's disease and dementia. So walnuts really do help, they have very interesting brain protective capacities. And so that's just one and then we look at Pecans, right? Even if you look at the walnut itself, it like has the two hemispheres.

It comes in its own cranium that's very hard to crack. Um, pecans as well has some really good data on brain health, but I wanted to mention this with the eyes, right? So there's a lot more science being done around this as well. But blueberries, people know about carrots, you know, you cut the carrot, it kind of looks like an eye, but blueberries, even more interestingly, and if you look at a blueberry, it kind of has its, the lens and the retina. You know, the little, like, if you flip it on to the other side, these kind of like, little outlines going around that has a little bit of shape to it and kind of some structure. But one of the studies that I unearthed was, and this was actually done by researchers in Russia, and this was published in the Russian Academy of Sciences, and it affirmed that blueberries can significantly reduce the risk of cataracts.

All right, and so also blueberries are abundant in this compound called anthocyanins and these anthocyanins are well noted to protect our retina against UV damage. Like, I don't think a lot of us realize that our eyes can get sunburned, for example. So, really helpful with that. And another study, this was published in the Journal of Neuro Immunology, found that blueberry anthocyanins may be able to reduce inflammation and oxidative stress that targets, specifically, breaks down the retina. Right? So, and I just was going on and on and on, finding all of this data affirming the thing that, again, if you look at the Doctrine of Signatures, like, this food kind of looks like this human body part. Does it really help this

human body part or protect this human body part? And again and again and again I kept finding data that it's absolutely true.

DHRU PUROHIT: Yeah And you know because there is so much folklore and there's long history of it and some of it that comes from sort of Ancient wisdom ancient cultures, but they didn't have the evidence They didn't even have the scientific method at that time that was established as a way to look into these things They didn't have the technology to be able to do that. They're not able to do these things in double blind placebo controlled trials. But, um, because so much of it does come from folklore, uh, in, in like the early, I think it was like early 2000s and 2010s, there was a whole bunch of articles that, that came out sort of dismissing the doc, the, the doc, uh, doctrine of signature.

And primarily because Even in the space that we've been in, you talk about this a lot on your show, nutritional science, which was, first of all, it's hard to fund, right? Who's going to do it, especially when you can't patent it, turn it into a drug that you can then go sell for billions of dollars. It wasn't as much research being done in this space. So even since that time period I think like if you google doctrine of signatures One of the first articles that comes up is wired magazine 2014 basically saying the whole thing is bullshit But if you go back and you actually read that article and where it's coming from It's really talking about the lack of evidence that's there and what you did recently is you're saying. Let's look at the evidence that's come out and a big chunk of it being evidence That's come out within the..

SHAWN STEVENSON: Last five, ten years.

DHRU PUROHIT: Five years ten years. Which is really fascinating and exciting because we do need that evidence to be able to talk about it, you know, to really get into the nuances and that's where it's really important. That's what I appreciate about what you put together.

SHAWN STEVENSON: Thank you, man. You know, it means a lot. And, you know, this is, it's so fascinating. I think that if we, if we look at the data. And just have a little bit more objectivity to it and understand like there's, again, I said this earlier, there's so little that we know and I think that there's, to just say definitively that this is the answer and that this idea that our

ancestors gave us, the Doctrine of Signatures, holds no weight. It's ignorant. Like they figured out stuff. If we, if we're just, again, being honest, we are so less healthy and robust compared to our ancestors. And, you know, if we talk about infectious diseases being an issue back in the day. If we take that out of the equation, we're not just talking about a longer lifespan, we're talking about a longer health span.

Whereas here in the United States today, A lot of folks, you know, I shared some numbers when we were talking last time, but I've got some of the updated figures right now. And here in the United States, there's two, and this was prior to the pandemic, by the way, 242 million Americans are overweight or obese. The last time I said it was around 200 million. So I dug deeper and found 242 million prior to the pandemic. Things have gotten worse since then. We've got 130 million Americans are diabetic or pre diabetic right now. We've got about 60 percent of our citizens have some degree of heart disease right now.

We're just ticking time bombs. Massive increases in recent decades in Alzheimer's, Dementia, uh, ADHD, Depression, Cancer, the list goes on and on. And we're not just like, what is, why? Why is this happening? And obviously our food is a big issue. You know, the American, the, the, the journal from the American Medical Association, JAMA, Detailed in 2018, poor diet is the number one causative agent between our massive epidemics of chronic diseases, we know this already, we knew this already. But are we doing something about it? Food matters. And so in that context, looking at some of this stuff and having fun with it even, and I love it because podcasts like this get into the hands of researchers.

You know this. We've got people listening to the show that you would never realize, you know, we, I, I introduced you to Dr. Amy Shaw, and that's how she found out about me years ago when she was working to improve her own health. And she found my podcast on sleep from, I think it was seven years ago she shared with me and it was a game changer for her. And now she's a superhero out here making massive impacts and waves in circadian medicine. I can't even put that into words. So, Getting this information out sparks the minds of other researchers and scientists. Finding creative ways to get funding to run these studies so we get this data. Here's another one of those. This was probably the weirdest and craziest one for me. Chocolate, alright. We think about the end product of chocolate or even the cacao

beans, right? So the root of chocolate coming from cacao beans. What would their, botanically they're kind of a seed of a fruit. But if you actually look at the cacao pod itself, you cut one, In half, lengthwise, and you open it up, it looks like a bunch of teeth that are smiling at you. It is the freakiest, weirdest thing when you see it on camera. And I went, and I showed pictures of all this stuff that I went through on the episode.

But it is so weird. It's just like, okay, does this have an impact on our teeth? Is there some clinical evidence on this? Guess what? This study was published and conducted by researchers at the Department of Pediatric Dentistry at the University of Naples in Italy. And it found that polyphenols from chocolate specifically have anti karyogenic, a. k. a. anti cavity effects. And the research has found that chocolate polyphenols significantly reduce biofilm formation and acid production that is detrimental to our teeth. Now, this is even more crazy. So theobromine. They use this compound specifically. And this is where chocolate gets its name. It's theobroma cacao, which translates to food of the gods in Greek.

So again, this isolated compound theobromine, which has well noted benefits for cognitive function, for cardiovascular health, but specifically for our teeth. And this study, and this was published in the Dental Research Journal. One of the most prestigious journals in the health of dentistry, in the field of dentistry. And this study revealed that the theobromine and chocolate based, non fluoride toothpaste outperformed two commercial fluoride toothpastes in this clinical trial, including one of those was kids Colgate that it went up against, in defending the teeth against cavity associated microbe activity.

All right. So when we open up that cacao pod lengthwise, and we see all those teeth, these white teeth glaring back at us and for our answers to be like, you know what? This might be good for our teeth. And now today we're using our very sophisticated testing methods to basically affirm what our ancestors already knew, you know, and so there are so many different instances like that that I went through in the Doctrine of Signatures episode.

DHRU PUROHIT: It's, it's powerful and we'll make sure we link to it in the show notes because that's a really great episode that you went through. There's a couple other top brain foods. Since that's the theme. That we're rolling with over here that you've highlighted in the book

Eat Smarter and I want to mention one of them that I'd love to just hand over to you. And it's got a little bit more traction the last few years, but MCT. MCTs. MCTs, you have a whole thing inside of there about a remarkable study published in the, the the New York Academy of Sciences and what they found about MCTs. And I'd love you to just share a little bit. So what are MCTs? What do we find out about it?

SHAWN STEVENSON: So what these researchers discover is that MCTs can help to improve the condition of Alzheimer's. So, Alzheimer's patients with moderate to mild symptoms seeing improvement, again, you very rarely hear anything like that. So, what they discovered was that essentially MCTs function in two ways. Number one, researchers at Yale found that MCTs Some of the rare nutrients that are able to cross the blood brain barrier and directly feed and nourish our brain cells. Your brain is very, very choosy on what it allows in. And this is so important for us to understand. We have the blood brain barrier or the BBB. And this barrier is so interesting as far as human anatomy because this is giving us a clue that the brain is an exclusive area that everything cannot get into.

Like there's like your body, Galaxy and then there's this whole other solar system going on with the brain in a sense. They're all interconnected, but there's this velvet rope and Security guards there. I think about Dwayne the rock Johnson being a security guard like all you know Like millions of him only allowing certain things in if you're not On the list, you're not getting past the big fella, right? And there's certain nutrients that have like an express pass card that can just go right through the toll booth. MCTs are one of those nutrients. So, medium chain triglycerides, and these are in that category, there's different types of saturated fat, right? So we talked about saturated fat earlier, we've got long chain, medium chain, short chain.

It's not that saturated fats are not allowed into the brain, it's the length of the chain. Medium chain triglycerides still have that capacity to make it into the human brain and to benefit. But what these researchers discovered was that, number one, they're able to do that, but the scientists found that the consumption of MCTs directly led to improved cognitive function in mild to moderate forms of Alzheimer's disease and cognitive impairment. But it wasn't just from The MCT is going into the brain, it is also from their production of ketones. And the consumption of medium chain triglycerides trigger our liver to make ketone bodies, which if

we know about Alzheimer's, there's this dramatic decline in glucose metabolism in the brain ketones functioning as an alternative fuel source for your brain to run these processes, right?

And so these ketones expressly are able to make their way into the brain and to run processes. So MCTs work in two ways. Number one, directly nourishing brain cells themselves. Number two, triggering the release of ketones, allowing the brain to be nourished in that way as well. So really, really powerful stuff. We've got MCT oils that can be, you know, extracted. You, of course, you want to make sure with your sourcing, it's coming from ethical places without any pesticides, herbicides, all that kind of stuff in the growing process. Coconut derived is probably going to be better.

DHRU PUROHIT: Cause you have, cause some are like palm oil derived, but if you can get the coconut, that's probably going to be the best thing.

SHAWN STEVENSON: That's right.

DHRU PUROHIT: Especially with the association of whatever, deforestation, other stuff with palm.

SHAWN STEVENSON: Exactly. Exactly.

DHRU PUROHIT: Any so so for you when you think about including that because you know, we're talking about Alzheimer's patients, but again, we did. We did a whole series of episodes on Alzheimer's actually today. On you know the Thursday that we're recording this we have an episode out with David Perlmutter all on the topic. But even if you know, I think this is really the key even if you are not.

Let's say, uh, somebody who is feeling like they're at risk for, you know, Alzheimer's, or even if that's not maybe your top concern, you're looking more at performance. Even for, you know, just saying generally younger individuals who are not maybe Alzheimer's is a primary concern for them. MCT still will have benefits for you.

SHAWN STEVENSON: It's time to get your metabolic oil changed. There's a specific oil that's been found to positively alter your metabolism. Researchers at Yale University published data reporting that medium chain triglycerides, MCTs, can readily cross the blood brain barrier and be utilized by our brain cells. So this translates to more energy. But also MCTs are absorbed more easily by other cells of our bodies as well. Medium chain triglycerides are smaller so they can permeate our cell membranes And don't require the use of special enzymes in order for our bodies to utilize them. The result is more efficient energy. They're also supportive of a healthy gut environment, especially since they have the capacity to combat harmful bacteria, viruses, fungi, and parasites.

MCTs are metabolic and carcinogenic. Cognitive win win, but the quality matters. Make sure that you're sourcing your MCT oil from the very best place. I've been utilizing the MCT oil from Onnit for many, many years. It's exclusively coconut based. So there's no other nefarious oils that are involved. and getting these MCTs. I highly recommend you checking them out. You can add it to your teas, to your smoothies, to your hot chocolates, coffee, and some folks even utilize it for salad dressings. But make sure to utilize these MCTs for better cognitive function and metabolic health. Go to Onnit. com/model that's O N N I T.com/model for 10 percent off their incredible MCT oil and you get 10 percent off store wide. So make sure to check them out. Go to Onnit. com/model for 10 percent off and now back to the show.

But more so there's another oil. When I talked about the blood brain barrier, this is one of the biggest issues that is not being talked about right now is neuroinflammation. And this is inflammation in the brain. And the crazy thing is. And we've, we've talked about this before, but the brain itself doesn't have pain receptors. So you can't know when your brain is hurt until it's too late. Oftentimes, your brain can tell you about pain anywhere else, but it's very secretive of what's happening within itself. And one of the biggest drivers of neuroinflammation is obesity. If somebody is moving towards obesity, you know, they're significantly overweight. There's a high propensity towards, and this is from the, and you mentioned this earlier, the New York Academy of Sciences, the annals of the New York Academy of Sciences, the same researchers found that Inflammation in the brain is a, is a double edged sword because neuroinflammation in the brain is a causative agent in creating obesity and obesity is a causative agent in creating neuroinflammation and we just get into

this vicious circle.One of the issues behind that is obviously our massive intake of sugar in our culture today with the average person somewhere around 70 pounds of added sugar every year consumption. And your brain is like the sugar gates into the brain. The biggest pass, express pass, is for sugar. It's just how we evolved, but we did not evolve with this much sugar.

That's the thing. So your brain will gladly confiscate half of the sugar that you take in from a meal. It is, it'll just stop it right up, and it can create absolute havoc in the brain. With that said, one of the things that starts to happen over time with our abnormal intake of sugar, our abnormal intake of sugar, Low quality fats are our exposure to pesticides, herbicides, we're denticides, all these environmental chemicals, which there's tens of thousands released every year into our environment that are new. And even just this past year, new chemicals, the EPA actually has approved 40, 000 chemicals. That are used, that are able to be used in agricultural farming, right? So, the process of agriculture, let me say this better. They have 40, 000 chemicals approved to be used in pesticide formulation. Pesticides, herbicides, or denticides that are able to be used in our food supply.

Alright? So, what happens is the breakdown of our blood brain barrier. This is key. So when the blood brain barrier starts to break down, that protective force, stuff starts getting into the brain that shouldn't be there. And it exacerbates this problem of neuroinflammation. Now here's a food that can actually help to heal the blood brain barrier. I, I couldn't believe this. I mean, I thought the food was good. There's a lot of good science around it, especially if we're looking at longevity. But when I saw this, it just blew my mind. And this was from researchers at Auburn University. They published a study, groundbreaking new research, asserting that oleocanthal rich extra virgin olive oil is able to restore the function of the blood brain barrier. Oleocanthal rich extra virgin olive oil can actually heal and repair the blood brain barrier. There's something about that fat. There's something about that food that literally heals the protective force, the protective mechanism in the brain. All right. Now, I want to highlight a couple of important points here.

So, some of the data digs in further, you know, the monounsaturated fats in there. Appear to be very brain friendly and even have some protective effects at reducing the risk of Alzheimer's. And one of the studies they talk about in Eat Smarter, the implementation of, it's

like two to three tablespoons of extra virgin olive oil a day, reducing the risk of Alzheimer's by, you know, 50, 60, 70 percent. And these are observational studies, so I'm not saying this is cause, causation, but again, the research did a really good job accounting for other potential confounding factors. So, that just, it tells me that this food really has a propensity towards supporting cognitive function. But with your olive oil, this is one of the most important things to be careful with what you're buying, all right?

I've seen, I've been to people's house and I'll see olive oil sitting on their counter in a plastic bottle, all right? In a clear bottle. As well. Olive oil is photosensitive. And I don't think we realize this as well, oftentimes. I know I didn't. That it's actually, there's a chlorophyll content in there. Kind of gives us this kind of greenish hue to it.

DHRU PUROHIT: Greenish. Yeah.

SHAWN STEVENSON: So that chlorophyll is, it has that photosensitivity to it as well. It's one of the aspects. But anyways, being that it's photosensitive, light breaks it down. And can accelerate oxidation. And make the oil go rancid. So this is why you find olive oil, Most of the time, even if it's lower quality, in dark glass bottles. Because it's protecting. This is how stuff has been done. Our ancestors figured this out. Long time ago, we've got to keep this in a dark condition and also putting it in glass because also plastics photo degrade too. And so light breaks plastics down, but it can take again, a couple of centuries for, you know, a small amount of plastic to fully break down, but it's happening. Micro amounts are happening all the time when it's under light. If anybody's had the experience of leaving a plastic water bottle in a car, right, you know, and then having a sip, like you can taste the plastic, like it tastes funny.

DHRU PUROHIT: At least in there. Yeah.

SHAWN STEVENSON: And so water is a solvent. So you're drinking a plastic tea, you know, but with these oils and some of the compounds in there, some of the acids that can even exacerbate that breakdown of plastic more so. When it gets, make sure that our Extra, extra virgin olive oil, extra virgin. So it's cold processed and that tells you something else. Like if this

is cold process, they do so much to keep it cool. Do I want to cook it? Maybe, maybe not. Maybe not. We can, and it is a safe oil, but it's low temperatures, low temperatures. If we're going to cook, use oil for cooking at higher heats, we want to use something more stable, saturated fats. The saturated fats, we're talking about the saturation of hydrogens on that, uh, the chemical structure. And so it just makes it more stable. Whereas once we get into monounsaturated fats, we're having some spaces missed for those hydrogens and it makes it a little bit more unstable. So now it has like a flex to it. Polyunsaturated fats are much more unstable, but we need all of these, right? So with olive oil, low temperature cooking, but mainly using it to make olive oil. Dressings using it as a quote finisher after you plate your dish drizzle some olive oil on top, you know Oftentimes, you know if I make a salad, you know, I'll just even if I have a salad dressing, you know I get the good stuff. I'll even throw in an extra tablespoon of olive oil as well.

DHRU PUROHIT: Besides just the health benefits, it's like, I crave it, you know, and there's, there's a couple of, we'll link to one of the studies. There was one study out of Italy where researchers were giving people up to a liter of olive oil a week, right? Like a massive amount. Somebody thinks a liter of olive oil a week and they found all these benefits. I don't have it on hand, you know, I don't want to pull it up on my computer right now, but we'll link to it over there. And, you know, just to build on top of it. And there was a big book I wanted to interview the author. I'm forgetting the name now, but he wrote about the, the sort of, how dirty the olive oil industry is and have to be really careful because a lot of olive oils are cut with, You know, these hydrogenated seed oils that are out there, right? Canola oil or whatever. So shooting for, you know, the ones that have that, whatever certification you're looking for that is making sure that this thing is pure, because if you probably roll up to your normal grocery store, Ralph's, other stuff, there's probably a decent amount of, you know, Olive oils, even if they say extra virgin, they're cut.

SHAWN STEVENSON: They're making it into crack. It's not just that pure. They've got this kind of crack version of their olive oils out there. And this is so true, you know, and then we get in that conversation about What happens when we consume those types of oils, right? And I've got these wonderful people in my life. Dr. Kate Shanahan is another one of those folks. She's one of the foremost experts in this topic of these highly refined seed oils. And now, it's not

that these are inherently bad. I'm not saying that. When we have an extraction from, you know, a peanut oil or, you know, a macadamia nut oil. But what we are talking about here Are things like rapeseed, we're talking about canola, we're talking about soybean oil that is marketed as vegetable oil, quote vegetable oil, but that's not kale oil.

It's not broccoli oil. It's, it's manipulation and marketing. And I remember my family making that switch over and started frying french fries and fish and vegetable oil and thinking is so much healthier. And again, for myself, nine out of 10 people in my family, obesity, heart disease. Diabetes, you name it. Somebody's got something. And, really, almost 10 out of 10 people, you know, myself included, you know, I had this degenerative spinal condition when I was just a kid. I was 20 years old. But that was years in the making. to have this advanced arthritic condition. The physician told me I had the spine of an 80 year old man when I was 20, all right? And I, now when I hear that and I think about it, I'm just like, there's some 80 year olds that are killing it out here that are doing great. You know, it's not, it's just what we've associated with aging. You know, in our culture today. And so anyways, and having this experience where we're inundated with all these different seed oils today and thinking that it's healthier, this is a major problem. One of the primary journals, one of the top journals in inhalation toxicology, I cited in eat smarter, found that simply smelling seed oils while cooking can damage your DNA.

DHRU PUROHIT: Dude, this is going to sound crazy, but growing up. You know, my family, they're vegetarian and, you know, growing up and everything like that. We're from India and. Everywhere you go over there, like, you know, I mean here too, but it's all cooking with seed oils, right? It used to be coconut oil, other things like that, but now it's all seed oil, ghee. And then everybody was convinced that they came to America and this is the better way of doing it. Margarine, seed oils, other stuff. Let's get rid of the ghee and not cook with that anymore. And my mom growing up would make this, this dish.

It's like a little flat, flat bread and it's called Puri. It's like, uh, from the tradition in the region that I'm from in India, Gujarat, and you would kind of fry it. It's like, it's like a little, uh, fried bread that's there. And she would cook it downstairs and kind of fry it. On Sundays, it was something that we'd have with, like, chai. We'd have puri, like a little bit of bread and coffee in

the morning, kind of our version of it. And when they would cook it, I'd be sleeping, you know, sleeping in on a Sunday and I'm in high school, middle school, and I would get the worst headaches. Every Sunday when she would cook this, you know, downstairs the windows are open, everything like that. But upstairs, hot air rises and our whole house would be fueled, fulled with these fumes from this vegetable oil that was there. And I'd wake up with almost like. Not full of migraines. I didn't even know what migraines were back then, but like really severe headaches. And even still to this date, when I am in a place that doesn't have good ventilation, or if I go to a restaurant, we're meeting friends and they're not using the best oils that are there. I can see an impact right on my brain cognition and function. And it feels a little bit like my brain's being suffocated.

SHAWN STEVENSON: Oh, that's such a good analogy. That's such a good analogy. And this is an N of one, but this is the most important data. That we ignore.

DHRU PUROHIT: Right. It's not to extrapolate out to everybody else, but it's to pay attention to your own body.

SHAWN STEVENSON: Yes.

DHRU PUROHIT: Because my body is going to be different than somebody else's, but if we can find these little quirks for ourselves, it's all just about putting ourself in the right direction for health.

SHAWN STEVENSON: And the key here is you paying attention to it and making the association, right? So that you, you see that, okay, it's happening when this thing is happening, cooking this particular thing, and then I have the associated headache. And so the question is why? What's going on there? Right. Well, these things are so, so freaking toxic. The manufacturing plants to take, we'll just say, you know, soybean oil or canola oil and to turn it into something that is palatable by humans. The bleaching, the deodorizing, the high heat processing.

DHRU PUROHIT: It's like a 20, it's like a 13 to 27 step process.

SHAWN STEVENSON: It's not. It's not extra virgin, it's been around the block a lot, a lot before it gets to you and it's palatable. That's the thing, it's just like, it's so distant from anything natural at this point. And now here's the biggest part, and this is the freakiest, scariest part, but also we can, we can change this. Taking biopsies from humans, so literally just taking and analyzing biopsies. Their fat tissue and looking at what's, what are the fat cells made of from folks earlier in the night, earlier part of the 1900s versus today. And so looking at Biopsies from the average person, again, about a hundred years ago, the amount of polyunsaturated fats, which again are primarily in our diet are from these highly refined seed oils, but we find it in natural foods and they're great, there's wonderful processes that they do.

The makeup of the average human fat cell of PUFAs polyunsaturated fats was about two to four percent. Today, the average person's fat cells, when doing a biopsy, is made up of about 25 percent polyunsaturated fats. Literally the ingredients that make up the human body are different now. We're made of these things. It's not just like, Oh yeah, we're just consuming these things, doing all this stuff. No, it's literally making your fat cells out of this very, very volatile type of fat. Because as mentioned, they're not stable. Right? So you're going to be more subject to, we'll just use an analogy with our skin, for example, and sun exposure. You're out there cooking yourself in canola oil, basically, because your cells are literally made of this stuff. It's not a joke. And we see this increased incidence of skin cancer, and we're just like, oh, you just need to wear sunscreen. No, that's not what it's about. What are you made of? What is the sun interacting with?

And so this isn't just a small thing. And the primary way that folks are consuming this is through processed foods, obviously, you know, and then we're proactively cooking with these things and it's very abnormal. We have not done that in the history of humanity, ever.

DHRU PUROHIT: A new experiment.

SHAWN STEVENSON: New experiment, but what we have been using, ghee, butter, animal fats, you know, tallow. We've been using coconut oil has been around for centuries. We've been using these types of fats that are much closer. They're just basically food, fat, and extraction.

DHRU PUROHIT: Step on it or cook it a little bit and then it's ready to go.

SHAWN STEVENSON: That's it. Food, fat extraction, not this again, 20 hour process. All of these chemicals added to make it palatable because it would just, it would taste so terrible for us to try to consume those things. And so, the bottom line is this, again, these being so volatile and easily damaged. What they would do to increase the stability of them is to hydrogenate them, right? So partially hydrogenated vegetable oil, that's what margarine is, for example. And I remember.. I was just a little kid and I remember when my grandmother made the switch from butter to Country Croc because, you know, the doctor that my grandfather was seeing was like, Hey, you know, you've got high blood pressure. You got these different things. Start using, you know, get rid of the fat and start using these, you know, vegetable oil spreads. My grandfather within the next couple of years ended up having two heart attacks.

DHRU PUROHIT: Because all these Seed oil fats that are not really plant vegetable fats. They are super inflammatory. This goes back to the conversation of not just neuroinflammation, just total body inflammation.

SHAWN STEVENSON: And the rhetoric, you know, the, the absence of education in these things. It's very blanket statements, you know, that we got into this fat phobia. You know, you want. He's trying to help him, but he's going off of the small bit of data that he was informed with, you know, and, you know, our Mark, for example, Mark Hyman, he's been one of those folks who's really come from that paradigm and seeing what that looks like, and then really understanding just how much our food matters and taking that data. In conversations with Mark, for example, with how little our medical professionals are taught about food and today, not even just that, but miseducated about food. And so then that's getting sent out in mass to patients, this really poor dietary advice and wondering why they're not getting the results. And oftentimes what happens is, and me being in this field as long as I have as well. Unfortunately, we think that the person's lying. We think that they're not following the diet program, they're not cutting their fat, they're out here guzzling, you know, whatever it is, and they're just lying. When nine times out of ten, they're working hard, they're really trying the thing, but it's not working because it was never designed to work.

DHRU PUROHIT: Such a, such a key point, and no affiliation with this company, but one company that I do want to mention, which is an at home test, it's called OmegaQuant. And I, it's 99 bucks. Anybody can do it. It's a little prick test that you get sent home and you can actually see what kind of fats is your body made out of and it's tons of peer review evidence. They have an incredible clinical board that's out there. And it's not only something that I mentioned for. People who are traditionally more vegetarian, vegan, other stuff, because I came from that world. It's also people who don't realize how much processed food that they're eating. And how much their body is literally, it's like you went from using high quality bricks and stone to build your house, to now you're using paper mache or like really, you know, uh, messed up Legos or something like that. And a little bit of wind comes, a little bit of sun stress, whatever, and your whole house gets knocked down.

And that's what we're doing with our bodies, we're building our fats. out of these really bad materials. So, just a resource that's out there. You don't need a doctor. It's just an at home test that people could do and immediately get results in terms of what does your omega 6 to omega 3 ratio look like? Because like you said, it's not these things, we don't want to demonize them. It's when that ratio gets out of control that we start to get real challenges that are there. Right.

SHAWN STEVENSON: Because those fats, if we're talking about these seed oils, you know, it's called vegetable oil, they're very high in omega 6 fatty acids, which again, there's a tendency in our, in our inner circle for those to get demonized. Omega 6s are important for so many processes in the body. They're used, literally it can be used as an energy source. They're, that's a, that's the primary use. But then they're used for different structures to make up, again, like I mentioned, making up our body fat tissue. So there, it's not that they're bad, but they are. And also inflammation gets a bad name because we need inflammation. Inflammation is the immune response, it's the process that happens when new cells are being made. And old cells are getting removed, there's a balance there. We just don't want to be in this hyper inflammatory state.

But today, that ratio, historically we were looking at maybe about a 3 to 1, most scientists agree, 3 to 1, omega 6 to omega 3 ratio. Today, The average person on the low end is 17 to 1.

That's gone up four times higher, but that's the low end of it. Right? So we're, some folks potentially is 50 to 1. And wondering why we're in this pro inflammatory state in our bodies and in our brains. And so helping to shift that ratio over proactively, this is why DHA and EPA It's so transformative, I believe, in these peer reviewed studies because people are coming in so out of balance with them, you know, so addressing that.

DHRU PUROHIT: So if you had to put a top three, you know, we've been talking about the beneficial foods and nutrients for brain health, cognition, focus, and long term avoiding of cognitive decline, Alzheimer's. So those are the, those are positive ones. If you had to take three that are really damaging our health, but especially our brain health. Would you put seed oils in that category?

SHAWN STEVENSON: Absolutely.

DHRU PUROHIT: Top three?

SHAWN STEVENSON: Easy, easy top three. Easy top three.

DHRU PUROHIT: So seed oils is one of them. Any others that you would include in that top three?

SHAWN STEVENSON: Sugar is definitely the number one. And I really... I'm coming from a place where I, I really understand though, I understand because sugar is, it's also beautiful, you know, it's associated with so many things cognitively, you know, from, you know, after your soccer game, you know, you get in the, the treat afterwards, you know, the, the ice cream or the pizza. We've got everything associated with, you know, even love Valentine's day, you know, you give in sweets, you know, it's, I don't want to completely demonize something that has a beautiful side to it for connection.

DHRU PUROHIT: That's part of the nuance, right? That's the nuance of conversation that we have to have.

SHAWN STEVENSON: That's it. But in our culture, it's so far swung to the other direction where it's, We're inundated with this devastating, absolutely devastating amount of sugar for the average person. It's tearing our bodies up from the inside out. And so that's really what it is. So for me, number one is sugar. I mentioned earlier about 70 pounds for the average American is consuming every year. 70 pounds.

DHRU PUROHIT: I heard it was like 200. I thought we went from like 12 to 220 pounds.

SHAWN STEVENSON: Yeah, so this is added sugar. Added sugar. Which is, again, what's added in addition to the sugar contained within the foods. So now we can get up somewhere in the ballpark of maybe 150 pounds of sugar. a year for the average person. But again, it depends on where you look. I always like the air on the side of where we have the most evidence. And so again, for the average person, somewhere in the ballpark of 70 pounds of added sugar, which is insane. Okay. That's like I don't know. That's like a fourth grader. That's like the size of a fourth grader of sugar. So anyways, we've got that. Being one of the biggest issues. I already mentioned this. That consumption is, it's insane. It's, it's so much and it's driving so many different metabolic breakdown points. So we've got sugar, then we've got the vegetable oils, these highly refined oils. And then I would say the third one. I don't even know why I'm struggling to say this. So anyways, But it's so, it's diverse, but I'll just say it in a, it's umbrella point, which is pesticides consumption. So pesticides, herbicides, rodenticides, fungicides, side means to kill. You know, but it's really designed to kill very small organisms through most of the time they're either estrogenic or neurogenic.

And man, the amount of pesticides that people are consuming today, like. We, we haven't even gotten our finger on it exactly because again, people aren't, this, people, it's being studied now, don't get me wrong, but the level to which it just takes time because those, this industry is so powerful, we're talking about big agriculture, they're using these very cheap compounds to increase their yield, they can, they don't care, their number one objective is not your health, it's to make money, and so, anything they can do to fight this information getting out, but anyway, so they're either estrogenic or neurogenic. One of the studies that I shared recently on my show, which was one of the most eye opening for me, was that we've got chlorpyrifos. Let me use chlorpyrifos as an example. It is well established now that

chlorpyrifos increases the rate of brain development abnormalities for infants and babies. in the womb, higher rates of miscarriages for women who are pregnant, who are exposed to chlorpyrifos, but it's been caught up in red tape for years.

It was actually about to be banned, but then it's kind of found its way back into circulation where it's still being able to be used without, without much warning to it. And so that's just one example. But one of the interesting studies was that pesticides were found to disrupt microbial gene expression. All right. This is a good point to emphasize here in this episode too, is that you, and you've talked about this multiple times on your show, the majority of genes that we have. So we look at ourselves and we see we're human, but we have upwards of four to 10 times more bacteria that make us up, you know, depending on who you talk to. So we're talking 40 trillion, a hundred trillion. Microbes, you know, in the form of bacteria living in and on our bodies. But it's not just that, which we, there's supposed to be a symbiotic nature. You also have all of these bacteria genes as well. They have genes too! And they're running processes and functions that influence human functionality.

This is one of the cutting edge places that we're at right now. And so if we go gene for gene, 99 percent at least of the genes that you carry around are microbial genes. Not even human genes. Alright, and there's the diversity of those genes, like when we did the Human Genome Project, which I think there's still some flaws here, finding there's somewhere in the ballpark of maybe 22, 000 genes we share collectively. Bacteria, those 99 percent that you carry, if you're going gene for gene, is so much more diverse. We're talking about millions and millions of different genes because they've had more time to develop and evolve and face off against different things for them to survive versus us, you know, as humans, this outpicture of where we are today, those genes inherently affect us. So, to know that pesticides are detrimental to microbial gene expression.

DHRU PUROHIT: Designed to kill them intentionally. That's scary stuff.

SHAWN STEVENSON: What is that doing to our gene expression? What is that doing to our microbiome? What is that doing to, you know, our, our gastrointestinal tract? What is it doing to our heart health, our brain? When I say that most pesticides are estrogenic or neurogenic,

it's, that means they have to be damaging to the nervous system of the pesticide, the pest. But we're just like, oh, we're, we're bigger than a bug. It's not going to affect us.

DHRU PUROHIT: Right. But nobody knows the total exposure that we get over the course of a lifetime, eating three meals a day and getting it in concentrated forms and processed foods.

SHAWN STEVENSON: Right, and the fact that we're just looking at that isolated thing. Whereas today, we know that our microbiome is really, you know, a major hub, if not the hub, of the expression of our health. It's like the the garden where everything is really growing from. You know, talking with um, Dr. Emmer and Mayer out there at UCLA and, you know, he's been studying this for 40 years before anybody knew the word microbiome. So back when people thought he was nuts, like what is this? What are you looking at these, you know, gut microbes for? Like that doesn't impact anything. Whereas today, now it's a really, it's a buzzword, really, but the science there is so Beautiful and expansive, but when we understand that this pesticide isn't, it's not about damaging the human cells, they're definitely 1000 percent damaging our microbes. These are small organisms, smaller oftentimes than the pest they're trying to kill. With these compounds that are neurogenic. And our bacteria have a version of a nervous system. But often times they're considered to not have a nervous system. But they're able to sense. They're able to sense the environment. To sense a form of pain and move away from that. To sense temperature. All these different things. We just don't understand it yet. But we just throw it out like, oh bacteria they don't, they're stupid.

DHRU PUROHIT: They're dumb, they don't know what's going on.

SHAWN STEVENSON: These stupid bacteria, you know, they don't even have a brain.

DHRU PUROHIT: Meanwhile they're here controlling the show.

SHAWN STEVENSON: Right. Exactly. Exactly. And so, and also the reproductive cycle of our microbes, you know, and understand these compounds are, are estrogenic. And we know now we have some pretty sound data on it affecting the reproductive cycle of humans as well. Clearly, again, the development of the brain in the example of chlorpyrifos, which is just, that's just one, that's just one of the many that are approved by the EPA. Environmental

Protection Agency, supposed to be protecting us. We're part of the environment too, EPA, you know. And so, this is all coming right now, but we don't have to wait for it to be the definitive, you know, to make it to mainstream. Even, and the funny thing is, right now at this time that we're living in, man, where the data will come out, but if it isn't something that makes you hate somebody else or makes you upset and angry and want to fight and just connecting so much in fear.

It's just here today, gone today. It, even if it makes a headline, it's here today, gone today. Most people never know it because the biggest thing that we experienced recently, that the numbers have changed even since I saw you last. If you go to the CDC site and you look up the comorbidities along with COVID 19, it's right there in plain sight, you can see it. 95, over 95 percent of the people who passed away with SARS CoV 2, over 95 percent had an average of four pre existing chronic diseases and or comorbidities. It's on, it's, it's almost so strikingly obvious. Yet we're not doing anything about it. As far as the big top down change, it's not being addressed. Our underlying susceptibility, the biggest underlying susceptibility is our, is our health. What are we doing to improve that? And so that's my mission. And I know this. My mission, I know it's your mission as well, that's why I, I appreciate you so much because the crazy thing is, you know, platforms like this are the most influential, you know, a lot of folks have kind of tuned in that the major media is not, they're not invested in, in your best interests necessarily, it's really turned into reality TV in a sense, you know, and we've all, we've all been inundated with reality TV, but it's not reality. There's so much going behind this thing.

DHRU PUROHIT: Reality TV is the most scripted TV.

SHAWN STEVENSON: To make things appear a certain way, and also to make you at odds with other people. Inherently, no matter what news you subscribe to, it's still, they're doing the same template, which is to get you inundated with fear, and to make you focus on an enemy of sorts, right? Because that just drives connection, that drives ratings. And we've got these characters. We're playing these roles. They're not sharing the news anymore. We don't have investigators who are really going out and looking at, for example, the, the, the pesticide industry and how much harm it's causing. How it's, you know.

DHRU PUROHIT: Some, but super rare.

SHAWN STEVENSON: It's very rare.

DHRU PUROHIT: Like Kerry Gilliam and all this stuff, it's rare.

SHAWN STEVENSON: There's some great reporters out there, but their stories are rare. Oftentimes, they don't even get published or, you know, they've got to do it themselves and they don't get as much traction. There's some wonderful reporters out there doing great work. I know some of them as well. But what we're seeing in the major media and also even local news is oftentimes, you know, 99 percent better as far as getting some data. But my son This is a true story. Just yesterday, because when I turned my television on, it's automatically on this spectrum news on the, you know, it's like a news channel 24 hour.

Yeah. And so I turned it on because I was going to put something on for us. But then I was like, I had to respond to a meeting. So I'm handling this on my phone, this meeting, my son, he's like playing with his Legos. And then, I finished the email, and then he turns to me, he's like, Dad, why does the news just talk about bad stuff all the time? And I didn't even realize, all it had been was like five or ten minutes. And all it had been was just all these bad things that were going on, that he caught. I never talked to him about the news before, ever. We don't have the news going in my house. And a child was able to point this out. And I share with him that, you know what, son, because 90 percent of the news is about all the bad things happening in the world, not all the good that's happening.

DHRU PUROHIT: The lowest common denominator of humanity, as Reverend Michael Beckwith says.

SHAWN STEVENSON: Yes, exactly. And the world is taking a nightmare pill, is another thing that he says. And it's 90, it's 90 percent all the problems that are going on. And plus the sports and the weather, you know what I mean? And the news really has become a lot more sports like. If you start to pay attention to that. Yeah. Like even with the election, you know, it's like a lot more like you've got the, you've got the polls and the ratings and like, you've got the scoreboards and just like making it more like ESPN

DHRU PUROHIT: Which team are you on? Who are you rooting for instead of really what? You know, you're trying to do with your platform, which what you are doing with your platform is really helping people understand that we are the CEOs of our own life.

SHAWN STEVENSON: Yes.

DHRU PUROHIT: So we, as a CEO of a company, we have to choose who's part of our team. We have to hire and fire the people that are going to make this organization, our household for our families, our health, especially we've got to be the CEO of our health. And we have to make these decisions in terms of who we are going to let into the boardroom? Who are we going to give a voice to? Who are we going to get a chance to listen to? And most importantly, what are we going to take action on? That's when, when we understand that we are, we can either be part of the problem or we can be part of the solution. And we're that gatekeeper. That's when our life starts to change.

SHAWN STEVENSON: Thank you so much for tuning into this episode today. I hope that you got a lot of value out of this and big shout out to my friend Dhru Purohit and the Dhru Purohit show. He is absolutely amazing, great human being. And this information is so important because again, it's about empowerment. It's about education, but most importantly, it's about utilizing what you learn. So whether it's being more proactive about minding your body's hydration levels or getting in those Omega threes that you've been saying you want to get in more regularly. Whatever inspired you today, take action on it, put something into play because speed of implementation is often one of the greatest character traits of somebody who sees a high level of success.

I appreciate you so much for tuning into this episode. We've got some epic masterclasses and world class guests coming your way very, very soon. So make sure to stay tuned, take care, have an amazing day, and I'll talk with you soon. And for more after the show, make sure to head over to themodelhealthshow.com. That's where you can find all of the show notes, You can find transcriptions, videos for each episode. And if you've got a comment, you can leave me a comment there as well. And please make sure to head over to iTunes and leave us a rating to let everybody know that the show is awesome. And I appreciate that so much and

take care. I promise to keep giving you more powerful, empowering, great content to help you transform your life. Thanks for tuning in.