

EPISODE 268

Why Your Body Needs Cholesterol & Your Brain's Silent Killers – With Guest Dr. David Perlmutter

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.

There are so many different things that impact our health, and a question I want to pose to you is where does our health really come from? Where does our health reside? What's governing what's happening with all of the cells in our bodies?

We have upwards of one hundred trillion cells that kind of make up this powerful cellular community that makes you, and the governing force is your beautiful brain. Alright?

Your brain is regulating everything at hyper speed, and it's of the utmost importance to take care of this organ.

We can't talk about burning fat and having great heart health if we're not talking about what's happening with our brain. There are so many things your brain is regulating in relationship to both of those things.

For example with fat loss, we've got your hypothalamus that's kind of the master regulator that's integrating your endocrine system and your nervous system, kind of feeding off the environment, dictating what's happening with your neurotransmitters, your hormones, and fat loss really boils down to your hormones.

We've got the HPA axis, so the hypothalamic–pituitary–adrenal axis, and that super highway, along that path is also your thyroid, alright?

There's so much going on here, and your thyroid is known as kind of this master regulator of your metabolism, but the ship is driven by your brain.

And our brain health, again, is of the utmost importance, and so today I wanted to bring on probably the best person in the world in this subject matter when we're talking about nutrition related to our brain health.

And he's going to share some mind-blowing critical information with you, and I'm very, very excited to have him on.

Before we do that, I want to give a quick shout-out since we're talking about brain health, University of Malaya found that lion's mane mushroom is clinically proven to be neuroprotective. So it's protecting your neurons in your brain specifically.

They also had another kind of piggy-back study looking at people who had traumatic brain injury, and how that was actually able to help to regenerate brain tissue. What? Is this even possible?

Yes, it's possible. Alright? Of course there's some wonderful things in nature, wonderful foods that have some great benefits for the brain, but something specifically like this that's neuroprotective, that's pretty rare.

So lion's mane mushroom, but here's the key; I want you to make sure that it's dual extracted. This means it's a hot water extract and alcohol extract, so we actually get all of the goodies that we're trying to get from it.

The one company I know to do that is Four Sigmatic, okay? So head over to www.FourSigmatic.com/model. That's www.FourSigmatic.com/model and you get 15% off all of their incredible medicinal mushroom elixirs and mushroom coffees as well.

Yes mushroom coffee revolution is in full effect, alright? And also they've got mushroom hot chocolates, and all these cool things. I love their chaga, I love their rishi, clinically proven benefits for improving your sleep quality.

Head over there, check them out, I promise that you're going to love it. And on that note, let's get to the iTunes review of the week.

iTunes Review: Another five star review titled 'Best Health Podcast EVAAAAA,' by Nicole Printon. 'Fitness has been my passion for over twenty years. Shawn's podcast has caused a major shift in what I thought I knew about nutrition. Thank you, Shawn, for bringing us cutting edge fitness and nutrition info that causes us to dig deeper and learn more, so that we can grow into our healthiest best selves.'

I've been listening to you for years, but after hearing your interview with Shaun T, I just had to leave a review. Thanks for changing minds, bodies, and spirits with your work. Nicole Printon.'

Shawn Stevenson: Awesome, Nicole thank you so much for that, and that means the world to me. I appreciate you immensely, thanks for taking the time and just sharing the love, and I'm just grateful for being a part of your life and your world.

So everybody, thank you for leaving these reviews over in iTunes. Please keep them coming! If you've yet to leave a review, please pop over and do so. And on that note, let's get to our special guest and topic of the day.

Our guest today is the one and only Dr. David Perlmutter, and Dr. Perlmutter is a board certified neurologist and four time- four time New York Times bestselling author.

He serves on the board of directors and is a fellow of the American College of Nutrition, and I believe he might be the only person that has that distinction right now, which is amazing.

Dr. Perlmutter received his MD degree from the University of Miami School of Medicine where he was awarded the Leonard G. Roundtree Research Award, and he's published extensively in peer reviewed scientific journals including 'Archives of Neurology,' 'Neurosurgery,' and 'The Journal of Applied Nutrition.'

And these are all sources that I go to when I'm doing research, and he's one of the guys putting the information out there. So powerful.

His books have been published in 28 languages and include 'Grain Brain: The Surprising Truth About Wheat, Carbs, and Sugar,' which has over a million copies in print, 'Brain Maker,' 'The Grain Brain Cookbook,' and his most recent book, 'The Grain Brain Whole Life Plan.'

And he's been interviewed on many nationally syndicated TV shows including *20/20*, *Larry King Live*, *CNN*, *FOX News*, *Oprah*, *The Dr. Oz Show*, and on and on.

And he's also the recipient of numerous awards including the Linus Pauling Award for his innovative approaches to neurological disorders, the National Nutrition Foods Association Clinician of the Year Award, the Humanitarian of the Year Award from the American College of Nutrition, and the Media Award from the American College of Nutrition.

He's just an absolutely well-respected, and just brilliant thinker, and brilliant teacher, and I'd like to welcome to *The Model Health Show*, Dr. David Perlmutter. How are you doing today, David?

Dr. David Perlmutter: Well I am doing great, Shawn. Delighted to be with you today.

Shawn Stevenson: I'm so happy to have you on. I've been looking forward to this conversation for a long time.

Dr. David Perlmutter: Me too.

Shawn Stevenson: I would love to start with your story, you know? Your superhero origin story. Let's talk a little bit about that. What got you interested in health and medicine in the first place?

Dr. David Perlmutter: Well I grew up in a very medical environment. My father was a very accomplished brain surgeon, and you know it was probably one of the theories I could choose to try to relate to him, was because he was so dedicated to his craft, so I figured early on that the best way to approach my dad would be to try to learn as much as I could about what he did.

So I actually found myself even as a young kid, age thirteen, in the operating room with him holding open the brain while he would take out brain tumors, and you name it.

In those days you could get away with that kind of stuff, and I thought it was fascinating. The brain was very, very fascinating and I decided to study more about the brain in college, published my first paper when I was nineteen, and began lecturing.

Lectured at the American Heart Association when I was nineteen, and really just jumped in with both feet. And you know, after all of my training and I began practicing neurology, I was ultimately really dismayed because we didn't help anybody to any significant degree.

You know, neurology is kind of an area of medicine where it's pretty much diagnose and adios, meaning we can tell you what you've got, but the grab-bag of therapies that are available to brain specialists is very, very limited.

So I began to wonder, 'Well why are people having these issues in the first place?' In other words, if you could figure that part out, then you might be able to start thinking about preventing these issues. Who knew?

And you know, it turns out as I began researching that, there was already publications appearing around the world indicating that diet, for example, and lifestyle had a huge role to play in determining the brain's destiny.

Well here we are now 35 years into this, and still fighting the fight, you know? Still trying to let the world know that our brain's destiny is something we control.

When you talk about something, for example like Alzheimer's, which in 2018 is going to cost the globe \$1 trillion, far more than the market value of Google or Apple, that this is a disease for which there is no treatment at all. No treatment whatsoever.

And you know, my mission at this time is to let everybody know that your lifestyle choices play a major role in determining your brain's destiny.

And we're going to keep hammering away at that in every venue that we get. You know obviously Shawn, I appreciate being with you today because again it's yet another platform, and I'm sure that your demographic is one that recognizes that these are decisions I make about my future health.

That's what you're all about, so it's great that we're having this time together.

Shawn Stevenson: Absolutely, and it's so exciting, and to see the tides changing with the work that you're putting out is just really remarkable.

And your book, 'Grain Brain,' I think that this is one of those books that should be mandatory reading if you're interested in just being alive, alright?

It's so important and so loaded. The way that you write, and how you really speak to my man brain, and also woman brain, but the more analytical kind of part of me in looking at, 'Oh this is what's going on behind the scenes.' It's really fascinating.

And one of the conditions most people fear is memory loss, and that falls under kind of this umbrella of diseases of Alzheimer's and dementia, and I really want to get the subject out to a much bigger kind of public conversation.

And most of the world doesn't know this, but there's a huge connection between dysregulated blood glucose, insulin resistance, and Alzheimer's.

So can you please help folks understand why this is?

Dr. David Perlmutter: You know, it's a terrific question, and it's one that I actually answered just yesterday. I had the distinct opportunity to go to Washington D.C. and address the World Bank, not just for the 1,000 people that were in the States, but at 150 sites that were tuned in around the world, because of this global epidemic.

And you can be sure that this sugar issue was front and center in terms of its detrimental effects upon the brain.

So we began suspecting that blood sugar was an issue about a decade ago, and since then we've seen some really nice research. One from a Dr. Rosebud Roberts at Mayo Clinic publishing- demonstrating that when you look at people's diets, those individuals whose most favorite carbohydrates as a calorie source have about an 88% increased risk for Alzheimer's disease, a disease for which there is no treatment.

Those whose diets favored higher levels of fat, the dreaded fat, as a calorie source actually had about a 44% reduction in risk for again, Alzheimer's disease.

And that really from a dietary perspective frames in where our discussion can go, and that is that a diet that's rich in carbohydrates, and especially simple carbohydrates, is one that ultimately leads to insulin resistance and elevated blood sugar.

The brain absolutely does not tolerate elevations of blood sugar, even subtle elevations of blood sugar.

An outstanding report appeared in 2013 in September in 'The New England Journal of Medicine,' arguably one of the most well-respected medical journals on the planet.

It was a very interesting study that took several thousand individuals, and at the beginning of the study they did a brain cognitive study to determine how well their brains were working, and they did one other test, they measured their blood sugar.

About six and a half years later, they came back and they said, 'Okay we're going to examine your brain function,' and then they said who had dementia by now, and who did not.

And what they found was a powerful direct correlation between even subtle elevations in blood sugar and risk for dementia.

And what was really interesting is in the conclusion they stated that even mild elevations of blood pressure well within the range of what your doctor is going to say is a normal blood sugar- did I say blood pressure?

Shawn Stevenson: You did.

Dr. David Perlmutter: Blood sugar. Even if your doctor says, 'This is still in the normal range,' it's already associated with elevation of risk for dementia.

So you can have a blood sugar of 105, and your doctor gives you a pat on the back and says, 'Don't worry about it, you're not diabetic, everything is cool.' You know what? It's not.

According to our most well-respected research, it's not cool at all. You already have an increased risk for a disease that has no treatment.

Our mission is to get that information out to everybody to empower them to make choices. The idea of having a blood sugar being okay at 100 to 105 is not good enough.

While that might be considered normal, you know Shawn for you, and me, and your audience, and for everyone, we want people to be optimal, not in the normal range.

The normal range is a completely contrived idea based upon statistics in terms of what we call standard deviations.

I want everybody to know what's best for their brain, and the lower the blood sugar, the better the insulin sensitivity, the better it is for your brain.

Now there are many mechanisms that relate this elevation of blood sugar to damage in the brain, and I think probably one of the biggest players is when your blood sugar is elevated, that blood sugar binds to proteins. We call that glycation.

As a matter of fact, many people don't know it, but they're probably very familiar with this because of the blood test called A1C. If you watch the evening news, you see all these advertisements for people who are generally overweight, and should be on a higher fat, lower carb diet.

But anyway, they're taking drugs to lower their A1C. What is A1C? It's sugar bound to a protein, in this case hemoglobin, so it's called the hemoglobin A1C.

The level of A1C directly correlates to the degree of brain shrinkage on an annual basis, and that degree of shrinkage outperforms the amount of brain shrinkage you get even if you carry the so-called Alzheimer's gene.

Why that's important is because you can't take the diving board off your gene pool. You can't rewrite your genes you got from your parents and all who came before you, but what we now understand that you change your gene expression.

You can change the very expression of your life code. We know that about 70% of our DNA that codes for health and longevity is under our direct control by changing our lifestyle, by eating appropriately, by gaining exercise, making sure our sleep is restorative by limiting stress.

We can pave the way for a healthy brain, and that's very, very empowering, especially when we know that we have no treatment for our most dreaded brain condition, that being Alzheimer's.

Shawn Stevenson: Yeah, wow it's incredibly empowering, and at the same time it's very sobering just for us to kind of like look at some of this, and some of the confusion, especially when it's related to our blood sugar and how much that impacts our brain.

In the book you say that- and so of course our blood sugar, one of the big players is insulin, which is an incredibly important hormone, and we tend to think about diabetes in relationship to this.

But you say insulin doesn't just escort glucose into our cells, it's also an anabolic hormone meaning it stimulates growth, promotes fat formation and retention, and encourages inflammation, and all of those things are detrimental to our brain.

Dr. David Perlmutter: That's right, and everybody recognizes insulin for what we all learned about, and that is it's what is secreted by your pancreas to lower your blood sugar after a meal.

Okay, great. But I think that Gary Taubes has done an excellent job in writing the book, 'Why We Get Fat, and What to Do About It,' really explaining that insulin has other very important roles in human physiology, and most importantly as you well mentioned, it stimulates what we call lipogenesis, the creation of fat, and it inhibits lipolysis, the breakdown of fat.

And that is a great thing because it allowed us to survive. When we as hunters and gatherers would find in the late summer blueberries, we would eat the blueberries, the sugar would be in our bodies, raise our blood sugar, stimulate insulin, we would lay down fat and we could survive throughout the winter of caloric scarcity.

The problem with that mechanism, it's still in play and people are catering to that mechanism 365 days a year for the winter that never shows up.

So you know, hunting and gathering isn't hunting down the convenience store and gathering up the corn chips, it really is being active and on a diet that's higher in fat and protein, and remarkably lower in sugar and carbohydrates.

So you know, getting back to this notion of changing gene expression, what has been I think the most appending event in my professional career in terms of discoveries, have been two, as a matter of fact.

First, the notion that we can change our gene expression, and second is something you alluded to just a bit ago, and that is that we have the ability to continue growing brain cells, to regenerate and repopulate our brains throughout our lifetimes.

And certainly that is something that was not taught to me in medical school in the 1980's. We were told you got a certain number of brain cells, and that was it. It was pretty much we were on the skids after age of about eighteen, it was one way, and that was downhill.

But we know now through the work of Dr. Peter Erickson published only in 1998 that humans retain the ability to repopulate our brains with new brain cells throughout our lifetimes, even into our senescence we have the ability to grow new brain cells, and this growing of new brain cells is one way to stave off dementia, and it's under our control.

Now your audience is probably on the edge of their seats right now, like I am wondering, 'Well what in the heck can I do to make that happen? How do I enhance the growth of new brain cells?'

And I tell people there's something you have to buy, and here's the pitch, you've got to go out and buy a new pair of sneakers. That's it, and you can get any brand you like, so this is nondenominational.

Why is it so important? Because as we've learned from work at University of Pittsburgh, a collaborative study with UCLA, that probably aerobic exercise is the most powerful way that we can change our gene expression and flip on the switch that turns on the gene that makes the chemical called BDNF that grows new brain cells.

Levels of BDNF correlate to reduced risk of dementia, levels of BDNF correlate to better memory, and as we just learned a couple of months ago, low levels of BDNF in women are strongly associated with risk for suicide.

So this is a very, very important growth hormone that we can increase in our bodies by spending some time walking, dancing, the elliptical machine, swimming, biking, whatever it is that you can do to get your heart rate up, and do it every single day.

This may be associated, according to the conclusions reached by Dr. Erickson and his team, may be associated with a 50% reduction in risk for Alzheimer's disease. Wow!

So I gave this talk just yesterday, and I paused at that point, and I didn't want to ask how many in the audience have ever heard of that, because I know very few hands would go up. But I said, 'You guys have spent these two hours with me today. I am going to close the door until each and every one of you promises that you're going to take this to heart and make changes.'

You know, a lot of times when you give lectures, I know you know this, somebody- I mean a lot of people say, 'Oh I heard Shawn today, it was really interesting,' but that's as far as it gets. I want action.

I really do, that's the mission, it's your mission too. We're giving out this incredible information that's halfway, the other half is okay then you're already [Inaudible 00:21:06] and they've got to act on it. And you know, this is knowledge that is hugely, hugely empowering.

Shawn Stevenson: Yeah, as simple as that. The only thing you need to buy are some new shoes, so whether it's the Nikes you guys are rocking, or Sketchers, or if it was like me when I was a kid, I wanted my mom to buy me some Pumas, and she literally bought me Panthers.

Alright? True story, alright? Panthers do exist, it's an off-brand shoe, and I strangely accidentally stepped in a bucket of paint, and I was like, 'I can't wear these no more, Mom.'

So that's so powerful just to understand that.

Dr. David Perlmutter: I would have worn them after paint, they probably looked great.

Shawn Stevenson: Right, especially today. Especially today. But this is so powerful to know that how much exercise can influence whether or not we have this- again like this is something that if you look at the research, you see about 100 million people over the next thirty years being impacted by Alzheimer's.

This does not have to happen, and that's incredible insight.

And by the way, when you talked about kind of- and you talk about this in the book as well, our thrifty genes, and how we're kind of hardwired for this feast and famine situation, but today we don't even hunt.

You know, and you talked about hunting, maybe going to the convenience store and hunting down some corn chips. I pictured like a guy wearing a loin cloth with a spear walking in the 7-Eleven. That would be hilarious.

But that's the extent of what we have to do to get our food, you know? Most of the time it's walking into your kitchen.

And so wow, this is profound. And also really quickly, I want to point to- and I just mentioned this in the conversation that I just had on *The Dr. Oz Show* about Alzheimer's related to sleep deprivation.

And one of the things- because these are TV segments, we didn't really get into is how much insulin resistance from sleep deprivation influences our risk of Alzheimer's, because even just one night of sleep debt can create- make you look like you have blood sugars as though you're Type 2 diabetic, or at least insulin resistant.

And your brain can have this kind of situation where it's insulin resistant as well. We see about 14% reduction in brain activity, and also kind of circulation utilization of glucose by the brain when you're sleep deprived.

So tying all this together.

Dr. David Perlmutter: That's right. In my newer book which is based on 'Grain Brain,' called 'The Grain Brain Whole Life Plan,' I talk about the importance of sleep, and talk about how I as an adult, but also as a guy whose father died of Alzheimer's disease, felt that- I didn't know how well I was sleeping, so I went and had a sleep study as well, and everything came out okay.

But I think people should do that. I mean, you know, you cannot underestimate the power of a good night's rest. That's when the brain consolidates memory, and at the same time activates what's called the glymphatic system to clear debris.

Interestingly, one bad night of sleep or sleep deprivation, one bad night, while it does affect insulin and blood sugar, actually crazily does actually elevate this brain derived neurotrophic factor.

So there is some benefit perhaps to a sleep deprivation of one night, but the people that we're talking about, people who are snoring, who have sleep apnea, periodic leg movements, whatever that are waking them up, drawing them out of restorative sleep, and they are at dramatically increased risk for Alzheimer's and certainly insulin resistance and diabetes.

And let me just make this very important correlation in a country that has 23 million confirmed diabetics already, where one third of adults are pre-diabetic and on their way to really a fairly significant illness.

My interest is in the brain, and that relates to diabetes because if you become a Type 2 diabetic and think of those statistics I just revealed, you have doubled your risk for Alzheimer's again, and I'll repeat it, a disease for which there is no treatment.

The reason I keep repeating that is again, we live in this society where we're pretty much told, 'Do whatever the heck you want to do, and when you suddenly come down with a problem, there's a pill for you.'

And you know, as you and I have this conversation, there is no treatment, there's no magic pill that can help you with your Alzheimer's, that will reverse this condition. It doesn't exist.

Am I in favor of drug research? You bet I am! I think it's great, but I think there's a quote from Albert Einstein that says, 'Intelligent people fix problems; geniuses prevent them.'

And you know, John Kennedy said that, 'The time to fix the roof is when the sun is shining,' and I think that's where we are. But what we're doing here, as a physician, what I'm doing is I'm hitting the ball back across the net to other side.

And that means the responsibility is going back to you, everyone who's watching this interview, that your doctor has nothing for you in terms of treating your brain if you have Alzheimer's. And you could be well on your way.

You know, the changes begin in the brain before you can't find your keys, or forget the WiFi code, or go into the room and don't know why.

Those changes begin twenty to thirty years ahead of time. So we've got to get you exercising this afternoon, tomorrow. We've got to make it happen, we've got to get your blood sugars down, we've got to lower your insulin levels, you've got to get your hemoglobin A1C down into the low fives.

All of these things need to be maximized. Vitamin D level in the optimal range. All important. And you know, it's not like there's an Alzheimer's diet like there's a Heart Smart Diet or an Osteoporosis Diet. They're all the same.

Can you imagine that you have to pick the diet and pick the disease that you don't want to get, take your chances on all the rest? No.

The same diet is involved in reducing inflammation that is good for your heart, good for your cancer risk, good for your risk for diabetes, because those are also inflammatory conditions.

Alzheimer's, heart disease, diabetes, cancer, multiple sclerosis, Parkinson's; they're all inflammation based diseases.

So when we lower our sugars and we increase our healing fat, and we exercise, and sleep appropriately, we're dropping down these inflammation numbers in our bodies, and that's good from the top of your head to the bottom of your feet.

So it's all size really does- all fits all. One size does fit all.

Shawn Stevenson: Okay, so just to jump and change gears here, I would love to talk about how in the world does our friendly neighborhood loaf of whole wheat bread play into this whole equation?

Let's start with the surprising impact that wheat has on our blood sugar first, and then kind of dive deeper from there.

Dr. David Perlmutter: Well it's a good question because you know, wheat in and of itself, I don't think- and this may surprise you coming from these lips, is so tragic in terms of blood sugar.

That whole wheat- whole grain wheat is a threat, but because of the fiber that that would contain, it's not the biggest culprit.

The biggest culprit is going to be the refined grain, where the fiber is removed, and you wonder how people can eat that type of bread, for example, or other products.

The other issue of course with wheat is the fact that it's a gluten containing grain, like a barley and rye, and to a great extent in America at least, oats because of how they're milled.

Gluten is made up of another protein called gliadin, and alpha-gliadin has been shown to increase the permeability or the leakiness of the intestines in all humans according to Dr. Alessio Fasano at Harvard.

It's this permeability or leakiness of the gut that causes inflammation, and as I just mentioned, the cornerstone of our most dreaded conditions including Alzheimer's.

So yeah, I'm connecting a few dots along the way. I have the liberty to do that, and it's for this reason that I recommend avoiding wheat products.

Why? Again, because they contain gluten, and also they are high reasons for elevating blood sugar. Whole wheat bread has a very, very glycemic index, which means that it's going to raise blood sugar quite significantly.

And you know, frankly a slice of whole wheat bread has a higher glycemic index than a Snickers bar, and that raises eyebrows because here's a candy bar, but the reality is that the calories in the candy bar are coming sure from some sugar, but there's a lot of fat in the chocolate and in the nuts, and those are good fats.

Now I'm not saying we should be focusing our diet on a Snickers bar, but I am saying that if we're looking at and judging our foods based upon the glycemic index, then this whole wheat slice of bread does not belong on the plate based upon those two very important parameters.

It alludes however also to the notion of the importance of fiber in the diet, and I cannot over-emphasize that enough. Most importantly, because of the role of fiber and specifically what we call prebiotic fiber, to nurture the gut bacteria.

When we do so it paves the way for better health, and reduces inflammation, and stabilizes blood sugar. What more do we want?

Shawn Stevenson: Yes, yes and you know, the word 'gluten' itself is Latin for 'glue,' just FYI everybody, and something interesting you talked about in the book that I've been talking about for quite some time, but just really highlighting this and the opiate receptors in the brain, and how that is influenced when we eat wheat.

Can you talk a little bit about that?

Dr. David Perlmutter: Sure. Well in wheat there are chemicals that actually do bind to receptors in the brain that are the type of receptors that are sensitive for example to morphine.

And I think my friend, Dr. William Davis in the book 'Wheat Belly' really does a marvelous job in describing how these chemicals work, how they make people feel after they eat wheat.

And you know, when you stimulate those receptors, it's probably a good feeling. That's why people become addicted to opiates, for example.

So you know, it's working on the human at multiple levels in order to spread its seeds. We have been cultivated by the wheat plant. Humans have been cultivated by the wheat plant to spread itself around the globe, and it did a marvelous job. It's been very successful.

We usually say, 'We cultivated the wheat,' but you could look at it the other way. By harvesting this activity in the human brain, wheat has been very successful to become as pervasive as it has globally, representing as much for example in the United States as 40% of the foods that we consume. So we see that.

Now does it mean that all grains are bad? No, it doesn't mean that at all. I've been- people have said, 'Well Dr. Perlmutter doesn't want you to eat any grains at all.'

Not true. If you have some wild rice that is organically grown, I think a serving is not bad. I think quinoa, which isn't by definition a grain, but everybody talks about it as such, is in moderation a good food high in protein, great source of fiber.

So I think that these are some straightforward recommendations in terms of what people can be doing to better their chances of preserving their brains.

I mean you know, when your risk for Alzheimer's is 50/50 for all Americans if you live to the age of 85, that is the flip of a coin. We can do a lot better than that, and that is just by looking at our blood sugars, getting some exercise, eating the right kind of fat, and there are a few important supplements along the way that I think are really good as well.

Shawn Stevenson: Definitely. Well we'll touch on that in a little bit. I want to talk a little bit about the common mistakes patients and practitioners make when thinking that just because they test negative for celiac, they assume that their health problems are not related to gluten consumption.

Dr. David Perlmutter: That is a wonderful question because I am confronted by that probably every day, either directly or through what I read.

You know, on my Google Alert obviously I have gluten sensitivity, celiac; this is when something is published, I get those reports.

And time and time again, even to this day, there was a study published yesterday- or rather a paper in one Minneapolis newspaper just yesterday that said, 'What's with all this gluten-free craze just because a tennis player, and an actress, Gwyneth Paltrow and all these people say that they feel better going gluten-free?'

That's not enough to tell people they should go gluten-free because there are health consequences, and we'll get to that in just a minute of being gluten-free, which is absurd.

Well what the argument is, is well if you don't have Celiac's Disease, bring it on. Eat all the gluten you want because it's totally fine, it's great for you. And that is really unfortunate that people are getting that message because it's ridiculous, and it's not what current science is telling us.

Yes the 1.8% of Americans who have Celiac's Disease have got to avoid gluten in any way that it may be delivered, have to be very strict, because they have an autoimmune condition that is sensitive to this protein.

Beyond that, as was recently published in the 'Journal of the American Medical Association,' again a study out of Harvard, demonstrates that there are significant numbers of individuals who have non-Celiac gluten sensitivity meaning they don't have the blood markers for the autoimmune condition that we call Celiac's Disease, and yet they have significant reactions to consuming gluten that are not just gastrointestinal that may be neurological.

They may have a movement disorder, they may have cognitive impairment, they may have even mood changes as it relates to consumption of gluten.

This has been validated in peer reviewed science. So when you see these people saying, 'Oh go and eat all the gluten you want, you're fine if you don't have Celiac's Disease,' it's such a disservice to the millions of people who may be sensitive and who felt better by going gluten-free, and then read this article and then they question whether it's related.

Ultimately the good news is they re-challenge themselves with gluten, they feel poorly again, and then once again they finally realize they made the right decision to stay off of gluten.

There was an interesting report that was spun in the news that said that if you go gluten-free you increase your risk for heart disease.

Wow! That's breathtaking, and I can't imagine how eliminating something that's potentially toxic would increase the risk of heart disease.

And what they found- what the study actually showed was that people who are gluten-free generally avoid lots of grains, whether they contain gluten or not, and therefore have less fiber in their diet, and that may be associated with an increased risk for cardiovascular disease.

I buy into that one lock, stock, and barrel. The point is how it was spun however was that going gluten-free has this health risk, cardiovascular disease, and so all the

dieticians said, 'Aha, now we've got you,' and that's not what the study proved at all, nor was that what the authors concluded at the end of the research.

They made it very clear that people who go gluten-free generally avoid all types of grains, and therefore they're getting less fiber in their diets.

So you know, the admonition from me is if you go gluten-free, and you should, make sure you have other sources of good fiber in your diet.

Fiber is so lacking in the standard American diet, an acronym for SAD; very, very important because of its role in nurturing the gut bacteria, which make B vitamins, which make our neurotransmitters to keep us focused and happy, which play a role in regulating inflammation.

So- and controlling blood sugar, and appetite, and mood.

So we've really got to spend a lot of thought devoted to how we nurture our gut bacteria, and fiber is the key player here.

Shawn Stevenson: Awesome. And I'll put this in the show notes as well, we did a show dedicated to the dangers of a gluten-free diet, and one of the things is when we hear this catch word like, 'Okay gluten-free is healthy,' so we just go ham on the gluten-free donuts, gluten-free bread, gluten-free for life. You get a tattoo on yourself, 'Gluten-Free.'

And the reality is we're just swapping out one unhealthy choice for another unhealthy choice. And of course there's options, like when you do want to have a gluten-free treat, there are options for that. But straight up just basing your lifestyle on eating foods because they're gluten-free is dangerous.

And so again, I'll put that in the show notes. And I'd love-

Dr. David Perlmutter: I love that. You know, you go to the grocery store and walk down the gluten-free aisle, and you see the most horrendous choices of foods that are so laden with sugar, but they're gluten-free, you think you can eat them.

And I also get a kick out of all the foods that are now labeled gluten-free but never had gluten in the first place.

Shawn Stevenson: Right, yeah. It's so crafty.

Dr. David Perlmutter: It's a sales thing. But I think nonetheless, it's important. I think gluten-free is very, very important, and you know we have seen so many patients over the years who've had problems for decades and finally were able to improve their skin, their joint pain, their headaches, their mood just by dropping the gluten.

Shawn Stevenson: Yeah, I would love to go through some of your patient stories, but again everybody, this is a mandatory book to get, 'Grain Brain.' The stories are phenomenal, and you know just a side bar to throw in here, the gluten-free products.

This is a true story, the other day I was at the store, and I see this gluten-free stuff in the freezer, and there was a product called Gluten-Free Muffintops. Right? Gluten-Free Muffintops.

And it's just like so ironic. Who made this poor choice in names? Because the muffin top is something people are trying to get rid of, you know, physically if you've got a muffin top.

Dr. David Perlmutter: Right.

Shawn Stevenson: But- and you've heard the statement, 'You are what you eat.' And so I posted on Instagram, I was like, 'The award for the most poorly named food product goes to.'

But because again it's gluten-free, it's all good. Or not.

So next up, I would love to talk a little bit about these- another issue potentially here is the impact on inflammation, and inflammatory cytokines, and antibodies that can get produced from adding wheat into our diet.

Dr. David Perlmutter: Well again, our mission for health is reducing inflammation. That's job one. Let me just say parenthetically say that inflammation at a low level is a very important process. It's what our bodies do to deal with infection, for example, to help us with trauma, to wall off an area and help it heal.

But it's this unbridled, unrelenting inflammation that is characteristic of these degenerative conditions that really gets us into trouble.

You know, these chronic degenerative conditions, the heart disease, Alzheimer's, cancer, diabetes are ranked by the World Health Organization as the number one cause of death on planet Earth now.

Not infectious issues, not war, it's these chronic degenerative conditions which are spreading around the world as more and more of the world adopts the Western type diet of higher sugar, higher carbs, and getting rid of the good fat.

So we've got to do everything we can to reduce inflammation. Wheat, because it contains gluten, is a very pro-inflammatory scenario. It's why you've got to avoid wheat.

Am I against eating wheat? Yes I am. I'm trying to do the very best I can to give people the story as I see it. And you know, let me just say to your viewers that Dr. Perlmutter's story has changed over the years. No question.

I mean twenty years ago, our discussion about fat and carbohydrates was different, and I think it's a good think. I mean, I see the fact that what you hear from me is based upon the current literature, based upon our most up-to-date research changes with time, and that's a good thing because it's a moving target.

We're trying to stay ahead of the game, and not keep our feet stuck in the mud from twenty years ago. So you know, I think that's really very, very important.

I'd also say that all of the research that we do, and all the publications that we provide and also review are on www.DrPerlmutter.com in their full form, not just in the abstract. Their full PDFs are on our website.

I also send out a newsletter every single week for all of our subscribers at www.DrPerlmutter.com. So if I may shout-out to your viewers, if they want that free newsletter, just sign up and our team sends it out, and it's stuff that I write every week that is very, very current.

You know, knowledge is power and my life mission is just to give this stuff out as much as people will listen. Are we up against a big industry that has other ideas in mind? You bet, but I think it's better to light the single candle than to curse the darkness.

Although you've got to curse the darkness a little bit, just to keep the darkness in check, but the mission here is all about giving- in this case your viewers the best information as we see it today to make life changing choices.

Shawn Stevenson: Love it. Love it. Wow. The next thing I want to cover, and I think this is going to be absolutely game changing for folks who don't know about this are some of the critical brain nutrients, specifically cholesterol.

So we're going to talk about that right after this quick break. So sit tight, we'll be right back.

Alright we are back and we're talking with New York Times bestselling author, Dr. David Perlmutter, and just before the break we were getting into some of the important brain nutrients.

Like we know some of the things that we need to avoid that have this big potential downside with consuming them that have been kind of smuggled into the human diet recently in our evolution, namely wheat.

And one of the most eye-opening sections in your book is when you talked about how critical cholesterol is to the health of the human brain. So first of all, what role does cholesterol actually play?

Dr. David Perlmutter: You know, think of this first of all, that you and I are having a health discussion about the virtues of cholesterol. You know, it's pretty remarkable.

After all the castigation of this poor fat over the years, that cholesterol was responsible for everything bad in the world. And you know, think about it, that 80% of the cholesterol on your blood test that is measured in your blood is cholesterol that's made in your body because your body needs cholesterol. It's manufactured in your liver.

So cholesterol has always been our friend. It's allowed us to be healthy. It's a very important fat, it is the precursor for vitamin D, it is the precursor for the sex hormones progesterone, estrogen, testosterone, it's the precursor for cortisol.

It is a fundamental component of the cell membranes for every cell in a person's body including their brain cells, and it even acts as an antioxidant in the brain.

So this bizarre war on cholesterol as if cholesterol is responsible for heart disease, for example, has I think really been put to rest as of late.

We do understand that carrier proteins for cholesterol like LDL, which somehow got the name 'bad cholesterol,' it's neither bad nor is it a cholesterol, it's protein for that matter.

We do know that when that protein becomes damaged or glycated, bound to sugar like we talked about earlier, and oxidized, it is related to narrowing of arteries.

What happens is then cholesterol comes to the site of damage to repair the damage once the inflammation has happened.

So you know, the cholesterol is like the fireman coming to the fire and yet we're blaming him for the fire in the first place. He's there to help.

When you look at the data that shows that elderly people with the lowest cholesterol have the highest risk for dementia, that speaks volumes. It speaks volumes in the context of the number of older people who are taking cholesterol lowering drugs for no good reason.

We need cholesterol, our bodies thrive in a cholesterol rich environment.

Those very drugs, the statin medications that lower cholesterol, also inhibit the body's ability to make something very, very important, and it's called Coenzyme Q10, and it's this deficiency of CoQ10 brought on by the statin medications that may be related

to the cognitive issues people get on statin drugs, now called statin brain, and the muscle problems that are so pervasive in individuals taking the statin medications

So you know, all that glitters isn't gold, and we've come to realize that these assumptions that dietary fat was a terrible thing, that saturated fat was bad for us, and that cholesterol was the enemy, we've got to lower it into a ditch as low as possible.

These are antiquated ideas that still are a bit tenacious, you know? People still are holding onto them. Many, many doctors are still telling people, 'We've got to lower your cholesterol, and you've got to stop eating cholesterol.'

The truth of the matter is dietary cholesterol relates very little to your blood cholesterol. So eat the eggs, and yes, eat the yolks where the cholesterol lives. The egg white omelet is still on the menu and it doesn't make any sense whatsoever.

Shawn Stevenson: And it's not that delicious. So one of the roles- and by the way guys, so the LDL as he mentioned, when you say low density lipoprotein, you don't say the word 'cholesterol.'

It's a carrier molecule, and specifically with LDL, this carries- it can scoop up cholesterol and carry it to your neurons to help processes in your brain that need to happen, that they can't happen without cholesterol. It's that important.

Dr. David Perlmutter: That's right. We need LDL. The issue is when LDL gets damaged and the surefire way to damage your LDL, have high blood sugar.

And here's what's even more head-scratching, and that is that these statin medications that lower your cholesterol are associated with about a 40% increased risk for Type 2 diabetes, which is a far bigger risk for heart disease than Alzheimer's.

Shawn Stevenson: That's nuts.

Dr. David Perlmutter: So you know, that information that is published in our most well-respected peer reviewed journals, people have to know that, that they're taking a drug that's ostensibly good for their heart, meanwhile they're dramatically increasing their risk for diabetes which is horrible for the heart and profoundly detrimental to the brain.

Shawn Stevenson: I've got to share this, and this was directly from your book, speaking of which. National institutes of health state- so researchers compare memory function in elderly individuals to cholesterol levels.

They found that the people who did not suffer from dementia had much better memory function if they had higher levels of cholesterol.

And the conclusion of the report states high cholesterol is associated with better memory function, alright?

Dr. David Perlmutter: Who knew?

Shawn Stevenson: Crazy.

Dr. David Perlmutter: You know, you can get excited about this stuff because people are to this day thinking cholesterol is the enemy and drive it down as low as possible.

You know, it's hard to compete with the direct to consumer pharmaceutical ads that are playing on the evening news, I understand that, but that's why again we do our best to write books, and appear on your show, and do everything we can just to get this message out.

Hey if people read all this, and now understand and get some balance in their lives, and understand both sides of the story, then make- your decision is then informed.

But the idea of doing what the ads tell you to do, and therefore your doctors tell you to do, is not a fully informed decision.

Shawn Stevenson: You know, one of the most profound things- you know, I know this already, but just the way that it was layered in your book talking about how important fats are for the brain, but specifically Omega-3.

So let's talk about some other important brain nutrients for people, maybe we could just even bulletpoint them. But I want to spend a little bit of time on Omega-3. Like why does this matter so much for brain health, specifically in reducing our risk for dementia and Alzheimer's?

Dr. David Perlmutter: Well Omega-3s are obviously a very important type of fat, to be contrasted with the more pro-inflammatory Omega-6s that are found in your typical store bought corn oil, soy oil, safflower oil, et cetera.

So even from the perspective of understanding another entree into lowering inflammation, we want to favor Omega-3 over Omega-6s.

In the typical American diet, when you look at blood work based upon what people are eating, and as is reflected in their blood, we see that people generally have a ratio of Omega-6 to Omega-3 of about 20-1; far more pro-inflammatory Omega-6 but we need more Omega-3s.

The ratio should be 2-1 or even 1-1.

One of the critical brain related Omega-3s is called DHA; Docosahexaenoic acid. It is found in fish, it's why fish is brain food. Fish oil is being so important.

But you know what, Shawn? It turns out that the richest source of DHA in nature is human breast milk. Who knew?

Shawn Stevenson: Right.

Dr. David Perlmutter: It's so important for the brain, it's so important for reducing inflammation. So DHA does some wonderful things. It's a natural what we call COX-2 inhibitor, so it acts to reduce inflammation like certain drugs do.

It's also a critical part of the cell membranes like cholesterol, but in addition, DHA does something else really important, it like aerobic exercise stimulates the genes to make BDNF, and that causes the growth of new brain cells.

When you look at blood levels of DHA and compare them to dementia risk, work from a Rush, a hospital by Dr. Martha Clare Morris, we see that there's a wonderful correlation that those individuals with the highest blood levels of DHA, as well as those individuals with the highest consumption of DHA have dramatic reductions in risk for becoming demented.

So DHA is absolutely on the list. This could be fish oil supplements, it can be derived from vegetarian sources like algae, you can eat fish, eat sardines, wonderful choice because of the DHA component.

Shawn Stevenson: This is just profound, and this is directly from your book again. This was in the journal 'Neurology,' and this was a little bit of a longer term study, and following study participants, 280 folks, and for the people who never consumed fish the risk of dementia and Alzheimer's disease during the four year follow-up period was increased by 37%.

And individuals who consumed fish on a daily basis, risk of these, he says it's reduced by 44%.

Dr. David Perlmutter: That's right, and you know that study in particular is interesting because it is a very, very long-term study. That it's looking at data or the results of lifestyle choices from a long, long time ago up until the study was published.

That said, I would indicate that we should temper our enthusiasm towards fish in general these days because fish isn't- it's not your grandfather's fish anymore.

That fishy taste is certainly something to be concerned about in terms of A) toxicity and B) the fact that so much of the fish that's available is farm-raised, and that is

really an issue because farm-raised fish are treated with antibiotics, they are fed who knows what.

Oftentimes it's a grain that has been exposed to an herbicide called glycoside.

Shawn Stevenson: It reduces their Omega-3 ratio.

Dr. David Perlmutter: It reduces their Omega-3s. They dye the food with carotenoid so that the fish flesh will turn orange artificially.

And the conditions in which these fish are raised are highly toxic, and there's no alchemy here. You can't have a toxic environment and create golden wonderful fish.

So you know, eat a lot of fish, but it's got to be wild fish, wild saltwater type fish. I'm not so keen on freshwater fish, especially that which is- even though it's wild, that comes from for example the Great Lakes.

But wild sockeye salmon from Alaska, the king salmon, Coho salmon; really wonderful choices in terms of a really good source of protein with the added benefit of terrific brain healthy fat.

Shawn Stevenson: Yes and you also added the note in here of people who regularly consumed Omega-3 rich oil such as olive, flax seed, and walnut oils were 60% less likely to develop dementia than those who did not regularly consume those oils.

So what we want to do is get a mixture, you know? Have some variety in our diet.

Dr. David Perlmutter: That's right, and you know when 'Grain Brain' was written, the PREDIMED study had not been published as yet. And let me just briefly tell you what that study was.

It compared the risk of dementia in people on a standard American diet, who only knows what that is like, compared to what has gotten a lot of popularity as of late, called the Mediterranean Diet.

But the PREDIMED spin on this comparison was in addition to the Mediterranean Diet, these participants were told to consume a full liter each week of olive oil. It's that much, I drink that much at least.

And they found that there was a dramatic reduction in risk for dementia, and breast cancer I might add, in those people who had not just the fat rich Mediterranean Diet, but even more added fat to their regimen.

Think about it. We're talking about eating more and more fat because it's good for your health.

Shawn Stevenson: Wow, paradigm shift. Paradigm shift. This is so fascinating. There's two quick things I want to ask you about before we let you go. Tests. What tests do you recommend for people to uncover a gluten sensitivity?

Because this is something, again if you don't test positive for Celiac, then you're just kind of brushed off and it can't be this.

Dr. David Perlmutter: Sure, well understand that I recommend everybody go gluten-free. Why? Because the research shows that 100% of humans have an increased permeability of their gut lining when exposed to gliadin, one of the proteins in gluten.

So I don't wait for a blood test to tell a patient or any individual, 'You need to be gluten-free,' because it's what I'm saying to 100% of the people based upon the research.

There are studies available, one is called Cyrex, and it's very good at looking beyond Celiac Disease, and looking to a host of measurable antibodies and other markers that may relate to being gluten sensitive.

But you know, to me we like to do dietary restriction and see how people improve, and that really is very, very convincing, oftentimes more convincing than having a positive blood test.

Shawn Stevenson: Now last question for everybody. We've learned so much here in this conversation, but what are some of the things that we can do without wheat?

Alright, I know it sounds like a crazy question, but for many of us it's a staple. Not a lot of the people listening, but for- this is going to get to some people who don't know a lot about this information.

But without wheat, what can folks do?

Dr. David Perlmutter: Well there are plenty of gluten-free grains out there; we mentioned for example quinoa. But I think a general shift away from cereal grains is going to be a good thing because of just the overall lowering of your carb intake.

Having some wild rice that is organic is not a bad idea, but you've got to watch portion control in terms of the carbohydrate load.

There's been some concern as of late with respect to rice having arsenic issues, and I've actually blogged about that.

So I think that the main thing we want to be sure of, and it really gets back to your question, and that is that people get adequate amounts of fiber if they decide to drop the wheat, for example.

The upside of eating wheat is it's giving people fiber, but it's a bit of a Faustian agreement here that you're making a deal with the Devil here. And yeah you're getting your fiber, but it comes along- and along with that fiber, is the downside.

And you can get fiber without the downside, with nothing but an upside.

Shawn Stevenson: Yeah.

Dr. David Perlmutter: So surprisingly, fiber rich foods are things like many vegetables. And if you're emphasizing what's called prebiotic fiber which is the most important thing- aspect of fiber to nurture your gut bacteria, then you want to eat foods like jicama, dandelion greens, garlic, onions, leeks, chicory root, lots of vegetables, really worthwhile adding to your program.

And if you don't think you're getting enough of that on a daily basis, you do what I do, and that is I add organic prebiotic fiber to our protein drink in the morning- usually that's mid-day, along with coconut oil for example.

But you can go to the health food store and buy fiber- prebiotic fiber that comes from the acacia tree in Africa. Harvested sustainably, made from a resin that this tree secretes, and your gut bacteria are going to be very, very happy and they're going to say, 'We're going to take care of this guy because he's giving us what we need.'

That's what symbiosis is all about.

Shawn Stevenson: Perfect. This has just been such a fascinating conversation, and I'm truly, truly grateful for you putting your time, effort, and energy into creating 'Grain Brain.'

And I know you know, you've already impacted the lives of so many people with this, and I just want to say thank you because-

Dr. David Perlmutter: Shawn, and I want to say thank you to you. You know, you've got a very, very powerful wide-reaching platform, and you use it to do good things. So that's a beautiful mission and I praise you for it.

Shawn Stevenson: Oh I receive that, Dr. Perlmutter, and I truly appreciate you taking the time to share your wisdom with everybody.

Can you let everybody know where they can find your books, and where they can connect with you online?

Dr. David Perlmutter: Sure. My books are in thirty countries now, but if you go to any bookstore, Amazon, Barnes and Noble online, you can find them there.

I'd like your viewers to connect with me in as many ways as possible. Facebook is David Perlmutter MD, I post every day. I do a lot of live videos. I did a live video, as I mentioned, just yesterday from Washington.

My website is very, very rich in terms of serving as a resource for all of the studies that I quote in my books, that I quote in my blogs, and that is www.DrPerlmutter.com.

And if you go to www.DrPerlmutter.com/subscribe, that's where you can get onto our newsletter. Or just go to www.DrPerlmutter.com and sign up for our newsletter.

We send that out every week linked to some really cool stuff, and you know it's all about being a doctor. Doctor means teacher.

Shawn Stevenson: Yes.

Dr. David Perlmutter: And that's what the mission has become for me. So once again, I appreciate this opportunity.

Shawn Stevenson: That's it, everybody. Dr. David Perlmutter, thank you so much for sharing your wisdom today.

Everybody, thank you so much for tuning into the show. I appreciate you immensely. I hope you got a lot of value out of this. This is definitely- again this should be in your library, like yesterday.

If you don't already have 'Grain Brain,' it's an incredible treat on this topic, but also just foundational information for human health, and I don't think that there are very many books that cover such a wide range of issues, but really drilling down on this core concept of this particular food substance that has been integrated into the human diet.

And looking at what is it really doing inside of our bodies? And what are some of the things that we can do to actually reverse some of these issues? And I think that that's a really strong message to pay attention to as well.

Now one of the last question I asked him like, 'What do we do?' Alright? 'What do we do without having this bread in our diet?'

And this is something, again we've seen in recent human history as kind of like, 'Give us our daily bread.' It's this breaking bread, right? It's so ingrained in our culture- ingrained in our culture, that we need to try to find a way to- how do we supplant that?

And for me, it's really simple, just add more fat. Add more vegetables, and add more high quality kind of lower glycemic fruits. It really crowds out the need for that, and there are so many great options and substitutes when you do want to have kind of your flaky, doughy, bread type thing with low glycemic flours.

You know, things like coconut flour, and a little bit of tapioca, and all these different things that you can combine and make some wonderful dishes.

And he actually has a cookbook, shout-out to the cookbook as well, another New York Times bestseller.

So there's lots of options for us, and it's not putting us in a situation of lack, it's putting us in a situation of surplus and options. It's just getting out of that- what he talked about during this episode, living the average life, because that average is not very good today.

We want to live above average. We want to become allergic- dare I say allergic to average. Alright? And that's what you deserve. You deserve to have the health, the happiness, the success that is worthy of your greatness.

And I hope that you got a lot of value out of this again today, and make sure to share this with your friends and family out on social media; Instagram, Twitter, Facebook, all that good stuff, and of course tag me. I love to see that engagement.

I appreciate you immensely. We've got some great show topics and guests coming up, 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 www.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.