



EPISODE 379

# Food Vs. Medicine And Are Humans Really Carnivores

With Guest Dr. Paul Saladino

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**Shawn Stevenson :** Welcome to The Model Health Show. This is fitness and nutrition expert Shawn Stevenson and I am so grateful for you tuning in with me today.

I just got word that they're possibly making a new Matrix movie. All right, The Matrix changed everything for me, and I remember at the time when the first Matrix came out, Keanu Reeves, Laurence Fishburne, Carrie-Anne Moss.

When that movie first came out I was working at the front desk at the Ramada, I was at the Ramada, I was in college and I was working part-time at the Ramada Hotel. And I was the "front desk manager", everywhere I go I find myself being the leader of something, right. I had some issues about the way they were running that hotel, there is a whole another story, I always wanted to innovate.

But I remember there was a guy who would come in just about every week, he traveled for business and he would stay at the Ramada and we'd say, "Hi," just passer-by, giving my man the key, very low maintenance. He went to see The Matrix and I'll stand at the front desk, I didn't really have any intention of going to see the movie.

A man stopped and he looked at me in my eyes and my soul and he said, "You have to see that movie. It changed my life, you've never seen anything like it." And I'm just like, "He must have had a—" I don't know, I thought maybe he was just ramped up on something like I don't know, maybe he was doing some illegals, I don't know, but I'd never seen my man like that.

And so I was like, "We got to go check this movie out." So I went to see it and I got it. That movie changed the way that movies are made but it also brought forth a really powerful perception about reality in and of itself and the fact that we can be trapped inside of our vision, our definition of what we think the reality is.

And the reality of the reality is that sometimes that can be beautiful trapping,

there's a statement that ignorance is bliss, right? But at the end of the day, as we're learning more about human anatomy and physiology and biology and the universe itself— I just saw something the other day that really begs my noodle on how many galaxies there are, right?

There are literally billions upon billions, upon billions of other planets and all we know, we're still trying to figure out stuff here, without messing ourselves up. There's so much more to learn and so this is why I make it a mandate to bring on multiple perspectives, to bring on conversations and researchers and leaders in their field who think differently about certain subject matters.

And today we have somebody who thinks differently about food. And so we've had on some of the top experts with a more omnivorous perspective, with a vegan perspective, with the paleo perspective, with the ketogenic perspective, Mediterranean diet, the list goes on and on. There are so many different diet approaches today. We are going to be talking about the carnivore diet, all right.

And so again, I just want you to come into this with an open mind, to possibly free your mind and consider some of these aspects because it's really fascinating when you think about some of these different insights that he's going to be sharing. Do I share the complete perspective that he does? Absolutely not.

And I would encourage all of us to maintain our own perspectives and to think critically about things, especially when it comes to diet and nutrition because this is the stuff we're choosing to make our bodies out of, there's nothing more powerful and valuable in the universe than that. And so we do want to keep an open mind and try to do our best when it comes to that topic and our choices.

And so again, I am really pumped to bring this perspective to you today. And also you know what, something that we immediately agree on in the health space is that we all need to move our bodies. We all need exercise, a human body is designed to move.

Over the last few years, it's been a big shift in the way that we're even talking about exercise and movement. I was a personal trainer for about 10 years and through that process, I came into the game on some other level stuff just because of my exposure.



I was working with a guy who was this award-winning, bodybuilding type guy, and he knew all these little tips and tricks and insights and "natural bodybuilder". He worked at another job with me, funny enough, that was across the street from the Ramada, it was the casino, a casino I working at.

But anyways in learning from him about superset training, about high-intensity training with weights, right, different things that I had never considered before. And so I came into the game on another level but I kept an open mind and so planks are just in everybody's mental Rolodex today, we were doing this about 20 years ago working on these various muscles and formations and ways of training that we heretofore just really haven't talked about in popular culture.

And today we're moving from not just a weight lifting paradigm which we know we need, not an aerobic paradigm which we know we need a little bit of that, we could see that through high-intensity interval training which has become hot; What we need is functional training, right. Things that actually translate over into the real world, that's what we would have done as we evolved.

A million years ago our ancestors weren't like doing the CrossFit workout with like the deadlift and the Boulder, in like throwing a spear, we didn't have that, right? You're just moving to survive and to procure food and to create shelter and community. But today we go to the gym, we try to replicate what we really need.

And it's great, these push-pull motions, we can get growth hormone production, we can get stronger, we can improve our insulin sensitivity, it's great benefits. But we move with a purpose when we move in a more what we're calling functional, but even that word, I don't think it really even fits, but just moving our body in creative ways, that's where we're at today, right? And ways they translate over more into the real world and this is why I'm such a huge fan of Onnit.

This is the company, the brand that really pushed functional training into popular culture. They're the ones who really popularized steel maces and steel clubs which I have all of these tools, the battle ropes. I had never seen battle ropes at the gym, which there are many gyms that have them now, Onnit was carrying this stuff really, really early on.

This is a company that's dedicated to the nutrition side and the fitness side, so I



love those guys. And so I've got the steel clubs, steel maces, these tools, I've got the battle ropes, I've got the primal kettlebells, the ones that you see even The Rock using, this big gorilla.

And they've got these cool Marvel kettlebells when they have in stock, Star Wars kettlebells all these cool designs, and taking it from just a kettlebell which looks pretty cool, but I love picking this tool. And here's a great thing— early on, they didn't offer this for anybody.

I talked to them and I was like, "Listen, we can't just do 10 percent off for our nutrition and for the foods, we need it for the fitness equipment too." And they agreed. And so now you can get 10 percent off all of the fitness equipment at Onnit as well in addition to the supplements and the foods.

So pop over there right now, check them out, it's [Onnit.com/model](http://Onnit.com/model), get 10 percent off every single thing they carry. That's [O-N-N-I-T.com/model](http://O-N-N-I-T.com/model) for 10 percent off. And now let's get to the Apple podcast review of the week.

**iTunes review:** Another 5-star review titled "Great content with a variety of views" by Smpipad "Hey Shawn, my name is Brook. I have my master's in dietetics. I love your show. It has a variety of views, it talks about the nerdy science stuff but it's simple enough for everyone to understand. I learn something new every time I listen."

**Shawn Stevenson:** Awesome, this is such a great review, it is so appropriate for today. This just lit me up to see this one and I appreciate it so very much and that's what we really strive to do here on the show. And again, thank you so much for taking the time to leave me that review over on Apple Podcasts.

And if you've yet to do so, please pop over to Apple podcasts and leave a review for the show, it means so much and I just appreciate it immensely. And on that note, let's get to our special guest and topic of the day.

Our guest today is Dr. Paul Saladino and he's leading authority on the science and application of the carnivore diet. He's used his diet to reverse autoimmunity, chronic inflammation and mental health issues in hundreds of patients, personally and many of whom had been told that their conditions were untreatable.

He's a featured contributor for Psychology Today and his book "The Carnivore



Code- Unlocking the Secrets to Optimal Health by Returning to Our Ancestral Diet" will be released coming up very, very soon so keep an eye out for that.

And when he's not researching connections between nutritional biochemistry and chronic disease, he can be found in the ocean searching for the perfect wave cultivating mindfulness or spending time with his friends and family. And we're going to jump into this conversation with Dr. Paul Saladino.

I just saw a great little post, it was from Jason Weaver. Now that name might not sound familiar to you, but there are some people who are like they saw the Jacksons TV special which seemed to be repetitively the on TV all the time, he played young Michael Jackson.

He played on a television show and he also had some R&B and like hip hop because he's a singer but he would like sing on a song with like Chingy or something but here's the thing, the big claim to fame for him that most people don't know— he was the voice of Simba in The Lion King, the original movie, the cartoon.

And so his mom, they were just going to get him by, they were just starting to get a little bit attraction with his career, Disney offered him 2 million dollars, and he was just a kid, really, like maybe he was 14 years old or something. And they're celebrating, jumping around the house and then his mommy, it took a little while but she was like, "Wait a minute, why do they want to give us 2 million dollars? There's something bigger here."

And so what his mom intelligently did, which is like really difficult to do is say, "Wait a minute, we want some of the overall." And they end up getting maybe \$100,000 and like backend, so he's still getting paid on The Lion King.

**Dr. Paul Saladino:** On the Lion King which is probably one of the most successful movies.

**Shawn Stevenson:** He's made well over 2 million dollars from it, you know what I'm saying? So just thinking in those terms and thinking outside the box and that's something that you're doing and you've got this new book coming out, and I know it's been— listen, I know that writing a health book might not be great for your health, you know what I am saying?

**Dr. Paul Saladino:** I tried, man. One of the things, I grew up with a dad who's a doctor. And so I saw from an early age a discordance between lifestyle and intention, and lifestyle and practice. My dad is one of my idols, like maybe he'll listen to this podcast, maybe not, but I hope he does. I'm sure he'll read my book and in the book, I kind of I tell him, "Hey dad, I'm proud to be your son and you mean a lot, it's really cool to have been that way."

But one of the hard things for my dad was that he was an internist, super smart guy, he worked his butt off and became unhealthy working his butt off doing that. From my earliest adult days, I have never wanted to do that, I've never believed in doing that, and I've never been willing to do that.

So throughout everything I've always kind of felt I need to keep the balance, I have to keep the balance and I actually feel that as humans, I'm a better creative person when I'm doing the things I like to do, when I'm passionate. If I'm not surfing and working out my brain is not going to work as well.

And as an entrepreneur, as a budding entrepreneur it's been a fun process to learn that and to realize like, "Wow, this is endless work", I could work all day, all night, 7 days away and push things forward but I'm going to be, it's not about that anymore it's about thinking clearly and creating the best quality content that I can on podcast and my book, not the most content, just the most quality content. And in order to create the most quality content, I have to go surf.

**Shawn Stevenson:** Yeah, I love it so much. And that's really today, we need that, there's such a massive amount of content out there, but we need good content.

**Dr. Paul Saladino:** It's noise. There is so much noise.

**Shawn Stevenson:** The people thinking like you are, I know that, man.

**Dr. Paul Saladino:** Yeah, there is so much noise out there.

**Shawn Stevenson:** And so to ask the question of like what got you interested in health I think I just got the answer already, it's probably just being around your dad.

**Dr. Paul Saladino:** I think that I mean, I was fortunate to grow up in a medical household. That's a fascinating question, what makes us healthy, what makes us sick. Everybody wants to be healthy, everybody wants to feel good.



I think everybody, I hope everybody listening to this has had at least some point in their life where they felt good.

Not everybody listening to this feels good now, but a lot of people have felt good at one point and they either felt good doing gymnastics or playing water polo or playing golf or playing cricket or baseball or whatever they did in their life, they felt good on the beach with their family, they had these moments that were just Diamond where they were clear-headed, their mood was good, they were happy with their body, they had libido, they had energy and they were sleeping well.

And like that's what it's about, right? We're not here for a long time, so we might as well have a good quality of life, so that's what— I think I became fascinated with that very early in my life, "How do I get more of that and how do I help other people do that more too?"

Like what a fascinating question, like the quality of life, it sounds trite, but man, that's what we're all after. And so that has been a question I've been iterating in my mind for decades, you know. "What makes people unwell," I remember asking my dad that when I was probably 13 years old.

**Shawn Stevenson:** That's a big question.

**Dr. Paul Saladino:** "What causes heart disease?" That's always been kind of the first one that fascinated me, "What causes atherosclerosis?"

**Shawn Stevenson:** Right, what causes it?

**Dr. Paul Saladino:** "What causes it, dad?" And we can get into it for sure, but he was like, "Nobody knows."

**Shawn Stevenson:** I was just going to say, I bet I know what his response was.

**Dr. Paul Saladino:** He said, "Nobody knows." That was 30 years ago. Now we pretty much know, it's debated and people don't agree on all of it and the nuance, but I want to know because I don't want heart disease. I don't want to have a heart attack.

I don't want to have a stroke, I don't want to have diabetes, how do I avoid those

things? I want my back to work so I can jump and do backbends and surf, all these things.

**Shawn Stevenson:** Yeah, absolutely man. And this reminds me of a line from Drake he said, "I'm here for a good time, not a long time" and just looking at our lifespan as human beings, and I just recently had a conversation with Dr. David Sinclair who I will probably bring up here's some point, and understanding like right now it's very finite, like we're looking at ways to extend our life span, our health span but a big part of this and what I hear you saying is like it's enjoying the process. And part of that obviously is cultivating good health and a part of that is our mental health.

And also we're going to talk today about how our diet can affect that, which we'll get to in a moment. But I'm wondering for you, and so much has changed, like you said in last 30 years, I remember not being able to really even say that there was a cure for type 2 diabetes, for example.

This is something that can literally be turned on and turned off and the science is pretty clear now. But what we've learned in the last few decades is just absolutely incredible. But you're coming from a place where you were in a conventionally driven mental perspective and you took a pivot along the way and you realized that food has a lot to do with our health, which is very challenging and all of the friends that I have who are physicians, me going pre-med and looking at, I was immediately taught pharmacology, right.

But you gave this really powerful insight that if you look at the measure of food, and I want you to break this down, the measure of food versus the measure of a drug we might take, it doesn't even compare, food matters a lot.

**Dr. Paul Saladino:** Food matters a ton. And you've hit on perhaps one of the most important points when Western medicine realizes this, the paradigm will shift. The simple fact of the matter is that there is no bigger lever for health and disease than food.

And all discussions of whether you espouse a vegan diet or whether anyone espouses a carnivore diet or a paleo diet or a keto diet— if Western medicine opens its mind just a hair to the possibility that food could influence disease and that food is the driver then the amount of research that will come out of that will change the world.

Because that is the research that's not being done. So many people with inflammatory bowel disease, Crohn's, ulcerative colitis, or irritable bowel syndrome or other autoimmune conditions, thyroid disease, whatever are going to their doctors and asking the question,

"Does food have anything to do with my Hashimoto's?" "Does food have anything to do with my ulcerative colitis?" "Does food have anything to do with my eczema?" "Does food have anything to do with my—" what's another good example, "rheumatoid arthritis?" And 98 percent of the time they're getting the answer, "No".

And that is wrong! That is 100 percent wrong because food is the lever. And I realized that pretty early, I've realized that what I ate influenced the way that I was going to feel. And this probably came from my early athletic endeavors, I never had a very illustrious athletic career, but I was an athlete and I ran.

The first thing there was running and distance running eventually I did ultra-marathon distance running, and I've since become a little more sane in the mind and choose my activities. But as an athlete, any athlete is going to realize that the food they eat influences the way they perform, that's the first thing. But Western medicine has forgotten that.

And I say forgotten because we used to know that. But in the last 100 years the pharmaceutical model has really taken over and what we're taught in medical school is how to diagnose a disease and then which pill to give for that disease. We're never taught to ask the question, "What causes this disease? What caused that?"

If we started asking that question people would have crises of faith because they would come up with, "We don't know," often and the awesome part about that is that when you get that answer, "We don't know, I don't know," you start looking into it, you start thinking, "Well how am I going to move through this, how am I going to move past this problem and actually understand what might be causing this disease."

But when Western medicine realizes that food is the answer to that then we can get the studies we need that can help us decide, is meat really bad for us, are vegetables really good for us? Could vegetables be harming people? I'm a huge believer in a carnivore diet and so a lot of the things I believe are heretical, but



in my mind, plants are a big part of the problem, but we'll get into that.

**Shawn Stevenson:** Yeah, absolutely. I want to ask you the example that I heard you say had to do with, and it just like hit me like a ton of bricks and I have thought about it but in a different color, like in a different context. But drugs and food, they're both molecules, right, but we're eating massively more amounts of these molecules from our food.

**Dr. Paul Saladino:** Kilogram quantities of molecules in food and microgram or milligram quantities in drugs. And we know that I can give someone 200 milligrams of metoprolol and basically causing them to pass out, because the heart will go slower, the blood pressure will drop so low.

Molecules are what we're made out of, at some level, right. We can do the full spectrum of magnification from quantum physics to macro-level biology, but at some level molecules are interacting with humans and they're touching receptors and signaling cascades and our food is 10 to 1000 times greater signal to our bodies in a molecular fashion, in exactly the same fashion a drug would be.

**Shawn Stevenson:** Right. And just putting in that perspective, just like really lit me up and this is the thing that I love about your approach too, is that there are mini different pieces of this equation that we're all figuring out and there's a lot of stuff that is still on the table, drugs do stuff, but food, man, it does stuff too but we overlooked it long enough.

**Dr. Paul Saladino:** Food does stuff. And by the same token, as we'll get into, molecules and plants do stuff. And molecules in meat and animal foods do stuff and there are plant toxins and so that's kind of, we'll talk about that too. But we've gotten so many drugs from plants, there are so many molecules and plants that are totally toxic for humans but that's the same equation you know, plants do stuff.

**Shawn Stevenson:** Yeah, absolutely. One of the people that really sparked me to just be like, "I've got to talk to him," was Mark Bell. I talked to him a little while ago and he's crushing it, and he's doing carnivore diet.

And I wanted to look for a little bit more information, more clarity on it and you know people kept pointing me to you. And so one of the things that I first heard you say was that the carnivore diet isn't a meat-based diet, it's an animal-based

diet. So let's talk about that distinction.

**Dr. Paul Saladino:** Yeah, so imagine that you and I are in a tribe. You seem like an awesome guy, I'd love to be in your tribe. Let's go hunt because that's how we're going to get our food, that's how we're going to get probably the best food that we can get.

So we're out in the plains in Africa, hunting a gazelle or maybe we're after something even bigger, you know maybe we're after an elephant. 300,000 years ago when they're not going extinct and we can, humans could have hunted elephants, and say we have a tribe and we bring down an elephant or a gazelle or a large animal.

We're not just going to eat the ribeye, we're not just going to eat an elephant tenderloin or a woolly mammoth tenderloin we're going to eat the whole animal because it's calories and what happens accidentally probably from an evolutionary perspective, we get nutrients from all these different parts of the animal.

There are different nutrients in different compartments of the animal, our muscles have a different physiology than our liver, than our kidney, than our spleen, than our brain, then and piece of your body, than your blood. And so our body uses nutrients differently throughout the body. A muscle, a piece of muscle meat like a steak is not the same nutritional content as liver or kidney.

And so our ancestors have always known this, they eat the whole animal and if you actually look at the way that indigenous people generally eat animals or carnivorous animals eat other animals, they often go for the organs and fat first.

One of my good friends Mike Mutzel has a podcast you might know about High-intensity health, in Seattle. And he has chickens and he lost a couple of chickens to raccoons but he said something that was really striking for me he said, "The recommends only ate the stomachs of the chickens, they didn't eat the chicken breasts or the chicken thighs", these are wild chickens so they don't have these huge breasts like factory farm chickens do.

**Shawn Stevenson:** Breasteses.

**Dr. Paul Saladino:** Breasteses. The raccoons ate the abdominal organs. And you'll hear these

indigenous accounts of we hunt an animal, the first thing that we've traditionally done in our tribe is eat the liver raw and it's savor that everyone gets a little piece, it's sacred because they knew that if they did not eat the liver eventually they wouldn't develop nutritional deficiencies or something.

And you can eat a lot of meat on the animal-based diet but to be ancestrally consistent, to be nutritionally complete, to really kick a lot of but the organs are where it's at and combining them is evolutionarily consistent behavior. So it's an animal-based diet.

**Shawn Stevenson:** Yeah. And we've definitely moved away from that in the recent decade for sure, and to the degree that even the idea of eating a heart or a liver or brain or anything like that is just like so far off of our radar. But again, like looking back on the way that we traditionally ate animals that we would hunt, yeah, this is a huge part.

Because I think that one of the things I'm hearing you allude to is that, because for me immediately I'm like, "What about these certain nutrients?" And you're saying that these are potentially the most nutrient-dense foods, period. And taking into consideration plants as well, is that true?

**Dr. Paul Saladino:** Absolutely. The idea of nutrient density is a little bit misguided but nutrient availability and nutrient richness, density is a weight per volume measure, right. So if you're talking about nutrient density, the arguments always end up that a multi-vitamin is the most nutrient-dense thing on the planet because you can get all these nutrients in a very small pill.

But a better measure is taking into account bioavailability and nutrient richness or the amount of nutrients that occur. So it's a multifactorial equation, it's not just, it doesn't have a single variable. The first variable is how much of a nutrient is present in food and the second variable is how much of that nutrient can we get out of it.

And the third variable is are there things in that food that prevent us absorbing the nutrient which is kind of tied into that second variable. How much can we get out of it? So when you're thinking about it that way, gosh, you can make a really strong argument.

It's basically an open and shut case that animal foods are the most nutrient-rich

foods on the planet, and the most nutrient bioavailable food on the planet, they're just, we get so many the nutrients. The corollary to that is also that there are numerous nutrients in animal foods that we know humans need to thrive that do not occur in the plant kingdom. And the reverse is not true. Things like carnitine, creatine, choline, vitamin K2.

**Shawn Stevenson:** B12.

**Dr. Paul Saladino:** B12, exactly, there are so many of these and many of those we can make very small quantities of in our bodies, but to get enough we have to eat animal foods, it just doesn't work any other way and there are plenty of studies with vegetarians or plant-based eaters showing that unfortunately, they have lower levels of those things and function less optimally, because of that.

**Shawn Stevenson:** Fascinating, that's so fascinating. We don't typically talk about the reverse and this is why with The Model Health Show we really strive to bring on the best people in their respective fields. And because there is this other extreme end of the equation where folks are vegan, and then we moved to this side, I didn't know there was this side of the equation until recently where we're just saying carnivore diet specifically.

And so a lot of questions come up for me because when we're looking at the vegan side of the equation, we know that there are a lot of nutrient holes that we can fill through supplementation where the case might be to sustain that lifestyle, things that are very important. With a completely animal-based diet, nothing really comes to mind except maybe what about vitamin C?

**Dr. Paul Saladino:** We can talk about it, yeah. So I did a podcast with Chris Masterjohn on my podcast which is Fundamental Health, a couple of weeks ago. Chris is a pretty well-known Ph.D. scientist in the nutritional world and he doesn't believe in a carnivore diet per se but we had a long conversation about what nutritional deficiencies there might be on a carnivore diet, that's one of the first things I thought when I looked into this.

And what you find is there's nothing missing, when you eat it intentionally, right, when you do it intentionally. If you just eat muscle meat, and this is what Chris and I talked about, you can definitely have nutritional deficiencies, right folate, biotin, riboflavin, many nutrients can be inadequately represented in the muscle meat but they're just robustly present in liver, kidney and the organs, it

quickly completes the picture.

There are also conversations about amino acid balance, methionine and glycine. Really, the conversation often comes back to vitamin C about this and this is so fascinating, it's a little bit of revisionist history here. Because we've been told that we need tons of vitamin C to be healthy, but if you look at the scientific literature, when we give people vitamin C supplements we don't see improvements.

People who have higher levels of vitamin C in their blood tend to do better, but those are epidemiology studies. And the problem with epidemiology studies is they can so often be confounded by healthy user bias and other problems, people that have higher levels of vitamin C are likely to be doing other healthy behaviors which may actually be counting.

So when we give people actually vitamin C it doesn't seem to help them. If you actually look at what vitamin C does in our body, it's involved in a few oxidation reduction reactions, it's in the aqueous compartment of the cell and helps to regenerate glutathione which is one of the major oxidative reductive sort of players in our cells.

But the question is how much do we really need? Because Vitamin C actually does occur in animal foods and it's never been really talked about, but if you look at meat, if you just go to your phone or your computer and Google like, "How much vitamin C is in meat?" It'll say 0. And that's wrong.

If you look at actual databases and there have been multiple studies that show this, the amount of vitamin C in muscle meat alone is between 10 and 15 milligrams per pound, who am I to say, "Oh, 10 or 15 milligrams, that's nothing, I need 1000." But then we have to call into the question, the studies that say, "Why would you need a 1000 milligrams of Vitamin C? Can we actually show any clinical benefit?" And you cannot.

So if you look at how much vitamin C humans need, the best metric is going to be are they having oxidative stress? Are they having scurvy which is the most blatant sort of manifestation clinically of vitamin C deficiency and then are they showing oxidative stress?

And there are some fascinating studies from the 1930s and 1940s that they did



with people in concentration camps and they actually gave them scurvy, actually not concentration camps, these were conscientious objectors to the war and they were subjected to this experiment, it would never have happened now.

But they gave them scurvy and it took between 4 and 6 weeks in most people to get scurvy and then they looked to see how much vitamin C they needed to reverse the scurvy.

The lowest dose they gave was 10 milligrams and it completely reversed scurvy. So 10 milligrams a day is enough to prevent scurvy. They didn't actually do lower doses, we don't know, it could have been 5 or 3, but if you are eating an animal-based diet you will absolutely get 10 milligrams of vitamin C a day, there's no question.

Then the question becomes is there a benefit to getting a little more vitamin C than that and the discussion gets a little granular. But at a clinical level, what I've done in my practice and what we can do now is say if you are not getting enough vitamin C what would we see and we would see oxidative stress, and we don't see that, right?

You can check measures that are a little esoteric but things like an 8-hydroxy-2-deoxyguanosine which is DNA damage or lipid peroxides you can check glutathione levels, you can look at oxidized and reduced levels of glutathione and they all look fine in the carnivores that I work with and that I've been studied. And of course, this is all in its infancy.

But it appears that humans don't need more vitamin C than you can get eating animal foods nose to tail, and that kind of makes sense evolutionarily, right? The last thing I'll add to that the RDA right now for vitamin C is 60 milligrams, 60 milligrams for women I think and 80 or 90 for men and you can easily get to 60 milligrams a day eating animal foods nose to tail, the liver is more rich in vitamin C than muscle meat.

So the Inuit for instance, they average probably 40 milligrams of vitamin C a day and they don't seem to have scurvy or oxidative stress at least clinically when we can see it. So getting to 40 to 50 milligrams of vitamin C a day with animal foods is totally doable. And then the discussions get a little granular from there but there seems to be plenty.

**Shawn Stevenson:** Yeah, man, this is fascinating.

**Dr. Paul Saladino:** I haven't taken a vitamin C supplement in over a year and I don't have any scurvy. My teeth are all just fine, they are not falling out.

**Shawn Stevenson:** Of course I immediately think of pirates every time I hear scurvy.

**Dr. Paul Saladino:** Right, and so the thing, the difference there is you cannot eat spam, right, you cannot eat preserved meat, you have to eat fresh meat. Fresh meat is known to be an antiscorbutic. And there are cases of people eating just spam and you will get scurvy because that probably the salting process of the meat and the preservation process destroys the ascorbic acid.

But if you're eating fresh meat you will not get scurvy, and there's no need. The other thing I would say is if people are worried it's not the worst thing in the world out a little bit of vitamin C supplement though I have not seen clinical evidence that we need it.

**Shawn Stevenson:** Yeah, wow. You know what I really enjoyed about just looking into you and your work is that with the subject matter like this that is so counterculture, which is so crazy, it's just like a few years back it was veganism and people were just like, "How do you get your protein," or whatever and people were quizzing and you've got to be on the defense.

You're not somebody who's approaching things from a defensive place, like you're being on offense, like let me talk about some of the studies in the research and how all this stuff is actually working, but in a way that makes sense. And so I really enjoyed that about you.

And with that said, I do have some more defensive questions because, for me, it's like I said, it's very counterculture, but there are inherently, and just from our past episodes, there's so much value in what you're saying and just painting a bigger picture for people.

And so for me, I'm thinking about, like one of the other things that would come up and just to help us to elaborate and think a little bit differently about the situation, one of the first things I think about in terms of plants is that humans are naturally omnivores, we're hunter, gatherer— what about the gather part?

And so you're saying, "Well, we don't actually need the gathering part, that's more so if like there's nothing to hunt around." Is that correct?

**Dr. Paul Saladino:** That's exactly it. People will often say that to me, they'll say, "But humans are omnivores." That's a little circular logic, like what's an omnivore, right? You can get into all these kind of rabbit hole discussions about the human mouth and the human gut and all these things and they don't really lead you anywhere useful from an anthropologic perspective.

I think that the omnivore- carnivore distinction is much more grey than people believe it is. For instance, we might consider wolves and dogs to be omnivores, or maybe we can consider them to be carnivores. Wolves don't eat a lot of plant matter in the wild. But if you feed a dog a kibble cereal, they're probably going to get cancer long term but it's not going to die tomorrow, right.

**Shawn Stevenson:** And he'll eat it.

**Dr. Paul Saladino:** He'll eat it. Does that mean it's a carnivore or an omnivore? So it's kind of a misleading distinction. The more interesting question for me is which diet is going to create the best health for any individual? And there may be some variation between individuals and we can talk about that as well. I do think that throughout evolution humans have eaten plants but you hit on this point perfectly.

Again, we can never know this. but if we look at the paleo anthropologic record, there's a pretty convincing story that it was the hunting of animals and the consumption of animals that made us human, that allowed our brains to grow. If we look at the size of the human brain, for instance, right— I was just listening to this great podcast with Bill Von Hippel on the way up here, he is a sort of anthropologic guy as well, and he wrote a book called "The Social Leap" I believe, it's a really good book.

But, so humans diverged from apes 6 million years ago, there was a change in the Rift Valley in Africa and we kind of were forced out of the savannahs. And we can see from the size of skulls how big our brains were and we know that primate evolution preceded human evolution for 30 million years and the size of primate brains is it stayed common, stayed consistent.

Monkeys, primates eating vegetables primarily plant-based diets had the same



sized brain for 30 million years. When we moved out of the savanna, out of the trees into savanna we were forced to start eating animals a little bit, our brains started to grow a little bit.

And then about 2.5 million years ago after Australopithecus Homo Erectus, Homo Habilis showed up and looking at the size of the cranium we see a sudden inflection point and we get really a much bigger brain, much faster. So we go from 400 CC to maybe 950 CC, we doubled in size over the course of a million years. When 30 million years before that it didn't even budge, right?

So we doubled our brain size and then we doubled it again in the next 500,000 years, it just gets to be logarithmic. And if you look at the anthropologic record, it's clear that we were hunting animals then, that was when we started hunting animals. You can see stone tools, you can see nicks on the bone what we would have used, sharpened stone tools to carve the meat off the animals.

And so from a historical evolutionary perspective, it's very clear that humans ate animals at this key point in our evolution to become "human". But one of the probably, what we came from, we came from a lineage that was eating plants, right? So we kept some of the ability to digest plants which probably was an evolutionary benefit because we're not always going to be able to have a successful hunt.

If you and I are hunting and we don't get an animal, well, okay, let's go gather, right? Let's get some calories till tomorrow and then we'll hunt again. So we're going to eat some plants. But I think it makes a lot of sense and there is evidence from numerous directions pointing to the fact that these foods were probably just fall back foods, you know, they're secondary, they're just survival foods.

If we can dig up a tuber then we can get enough calories to get till tomorrow and then you and I can go hunt an elephant again. And there are so many lines that would point in that direction, the nutritional content, we know we can't just survive on tubers forever, we have to hunt again, we know what happens if we just eat a vegan diet, right?

Because if people could just gather, you and I would just be like, "Hey man, let's just go dig tubers forever, I'm not risking my life with the saber tooth tiger, or get trampled by this elephant, let's go just eat see some roots and stems and



leaves." But I think humans figured out pretty quickly that stuff doesn't taste good, it's not that nutritive, it might get us till tomorrow, it might just give us enough calories, but it's just a fallback food.

And so I think having the ability to do both allowed us to get through the lean times, but there are some fascinating studies of bones from Neanderthal and Homo Sapiens from 80,000 years ago in Europe. And you can look at the collagen in the bones and you can look at the carbon content and the actual stable carbon and nitrogen isotopes in the bone and get a sense of where on the trophic level people were getting their protein from.

And invariably, the bones show that we had higher amounts of stable nitrogen and carbon than known carnivores at the time, suggesting that we were eating the majority of our diet from animals 80,000 years ago, hunting. So you can look at hyenas and how much stable nitrogen isotopes they have in their bones and we had more than that, so we were eating more and bigger animals than they were.

And if we got any significant amount of protein from plants, that would have resulted in the decline of our stable nitrogen levels. So I think that humans have eaten plants but like you said, they've been survival foods and the animals are where we get all the nutrients from.

**Shawn Stevenson:** Interesting. Survival foods. And this brings me back to somebody who we talked about before the show, Daniel Vitalis, and he coined the term "surthrival" and so he's another one of those cases and for me personally and working in this field for, it's getting close to 20 years now, about 18 years, and seeing so many cases of folks who, because you mentioned this in passing, but who take on a vegan diet and it generally lasts within we'll say 5 years is like the max for most people.

And now, of course, we have many awesome vegans who listen to this show and there are these, and I'm just going to ask you, these anomalies or folks that have been vegan for 20 years, 25, 30 years?

**Dr. Paul Saladino:** You kind of touched on this earlier and I want to stay open-minded and appreciate if you were they are, I think that any time someone makes a conscious choice for the diet they're doing the right thing.

If you're thinking about what you're eating whether you're choosing to eat a



vegan diet or a carnivore diet you're on the right path right. I just want the people that choose to eat a plant-based diet to be aware that nutritional deficiencies may develop and the toxins in plants have been shown to trigger inflammation and issues in the gut and can activate the immune system.

I did a podcast a few months ago with Rich Roll, super nice guy here in LA on the minimalists and Rich is thriving on a vegan diet. My question is always how much more butt could he kick eating higher quality foods? So there's a couple of questions tied up in this right, if people who are listening to this and they're doing great on a vegan diet, who am I to tell them how to change. If they're having a high quality of life then that's awesome. I'm so happy for them.

And in the back of my mind, I always think like, "What if they could be better with higher nutrients?" And I just want to make sure they're looking at the nutrients that they might be missing and being aware that the plant foods might be triggering immunologic reactions. But I think that for a lot of people who are eating a lot of plants, they would feel even better eating animals.

But I do think, and this brings up a very important point— I do think there is genetic variability in our ability to tolerate plants. Some people like Rich can tolerate plants and do pretty good and Rich would be a freakin animal if he ate animals, he would be a terminator if he got some steak into him and some liver.

But you know, there are definitely some people that I see in the community that I've encountered clinically, who they eat plants and they get rheumatoid arthritis or they get profound problems. I had eczema, or Hashimoto's thyroiditis or ulcerative colitis.

So within the spectrum of omnivore, carnivore, I believe that humans fundamentally are built to be hunters, that our biology, our biochemistry is built to use animal foods as the primary fuel.

And I think basically everybody is like that, I don't think our biology has diverged in that somewhere along the evolutionary tree there is this major branch point and a whole group of people, their biology changed so much that it was like, "You know what, we're going to do plants, we're just going to be a plant-based people."

I don't think that ever happened because I think that humans have been eating



the majority of their food as animals as much as they could get them for our entire evolution. And it's only within the last 10 to 12,000 years that we start doing farming and agrarianism and we know that human health declined radically when that happened.

And so that's too short a time and there haven't really been selective pressures to say like, "Oh you're a race now of plant-eating people." So I think that every human on the planet is really built to eat animal foods and on top of that, some people have the ability to tolerate more plant foods.

Maybe they can extract more of the vitamins and minerals from plant foods there are polymorphisms in enzymes like BCMO which has to do with breaking down beta carotene into vitamin A which might allow someone to get more vitamin A from plants. But other people can't really get that vitamin A from plants and they need preformed vitamin A in animals.

So there are lots of polymorphisms or immunologically perhaps they're less likely to be triggered by the toxic molecules in plants to cause harm for other people. So the people are thriving on a plant-based diet, that's great, I think they would do better on animal-based diets, and I think that there's a spectrum of how well we can tolerate plants.

And that generally everyone is going to do better by eating less plant toxins and getting more of the bioavailable nutrients, it's kind of that simple equation, less toxins, more nutrients, you thrive.

**Shawn Stevenson:** Got it, yeah. So let's talk about some of those plant toxins, specifically because in reference to my conversation with Dr. Sinclair who is just a brilliant guy, living what he talks about, he is doing amazing. He talks about Xeno or the medic nature of plant foods and how important that is for basically giving us a little bit of a stressor to make us better.

And so I'm hearing from you that we don't really need that stressor— so where does that fall into line, what are some of these plant toxins that are actually more of a problem than a potential benefit?

**Dr. Paul Saladino:** This is probably one of the most interesting and nuanced parts of this discussion that people find the most challenging. The first question that you asked or the first sort of statement you made there I would agree with— we



don't need plant molecules to give us a little burst of stress, right? You can go for a run, you can be in the sun, you can jump in cold water, you can sauna.

So I'm writing this book it's called "The Carnivore Code" it's going to be out in a few months. And I talk about this in the book, there are molecular hormetics and there are environmental hormetics. I think we must be very careful not to confuse the way that they act in our bodies because they're a little different and it's nuanced.

Environmental hormetics are what we've always had, I believe, you go in the sun, you get a little DNA damage in your skin and your body makes a little bit of glutathione or something to repair the DNA damage or it turns on the PARP enzymes to repair the DNA damage.

So you're getting micro stressors just by living your life in a natural way. The problem is that we've been separated from that a lot, it's coming back in with the biohacking space now, people are like cold plunge, it's like, "Yeah, of course, cold plunge, we've been jumping in cold water for 4 million years."

**Shawn Stevenson:** This reminds me of something Daniel said, Daniel Vitalis, "We've evolved Homo Erectus, Homo Habilis, Homo Domesticus.

**Dr. Paul Saladino:** Homo Domesticus, Homo Fragilis. Yeah, and we're not in the sun enough, we don't experience heat stress, Rhonda Patrick's all about that I still want to debate her, I respect her but I still want to debate her. We can turn on heat shock proteins in a sauna, like we would exercising on a hot day.

You can jump in cold water and get cold stress. You can be, you can do all kinds of things in your life that will affect your levels of glutathione and affect sort of your ability to strengthen or at least stress your antioxidant system. So we don't need plant compounds to do that, you can live what I would call a radical life, kind of tongue in cheek.

You just do cool things in your life, you go surf in cold water, you run up mountains, you go in the sun, you go to sauna, you do cold plunges or whatever you want to do— that, there is your hormetic stressor, that's our evolutionary hormetic stressor.

The Xeno hormetic compounds are little nuance, so let's break this down



because it's really important. Plant compounds, molecules in plants can activate antioxidant response elements in our body. They do this because they are a toxin, okay? And this is, I'm sure that Dr. Sinclair and he and I were talking actually before the podcast, because I bumped on him outside, I'm sure he would agree with this, like the things that we think of as Xeno hormetics are toxins so the dose makes the poison is what people say about hormesis.

If you give yourself a small amount of a molecule like sulforaphane, which is in broccoli sprouts right? This is an isothiocyanate molecule, it will activate the Nrf2 system in the liver and the Nrf2 system in the liver will say, "Okay, I need to make more glutathione, I am going to turn on glutathione synthetase, glutathione peroxidase," and you'll get more glutathione.

Glutathione is the major cellular antioxidant currency in the body. So you will increase your glutathione in the short term with an isothiocyanate like Sulforaphane. But here's the rub, and this is what I think David is missing and I am going to have him on my podcast and we'll talk about it. Because it's a Xeno hormetic, that Xeno means foreign.

Xeno means a foreign molecule, it is an intruder. It's acting as a toxin in your body, it's not just going to Nrf2 and turning it on and making glutathione. Isothiocyanates also act as toxins in other places in the body and this is what people are missing with these plant compounds.

Sure, there are some of these Xeno hormetics that will increase your glutathione in the short term, but we're never told about the fact that they do other damaging things in the body, this is what I call collateral damage, because they're from a different operating system.

The plant didn't make this molecule, the plant doesn't make Sulforaphane or an isothiocyanate to benefit you or me, those are phytoalexins, they're plant defense molecules. Those are chemical spikes from plants that have been evolved over plants 400 million years to prevent animals from eating them, those are plant events molecules.

Why do we think that a plant defense molecule would be good for us in the long run? We have to think about this in terms of the net benefit or loss. So what David would argue is that glutathione is increased by this molecule and in the short term it is. But number one, do we need more glutathione if we're living a

radical life, and I think there are studies to say, "No we don't", and I'll tell you about those, it doesn't actually provide any benefit.

And the second thing is that it's going to circulate in the body and do other damaging things that we're never told about. In the case of Sulforaphane, it can inhibit the production of thyroid hormone by competing with iodine level of the thyroid. And as it circulates throughout our body it's causing lipid peroxidation in our cell membranes.

The reason it's turning on the antioxidant response system, the reason it's turning on Nrf2 in the liver is because it's creating lipid peroxidation because it's an oxidative stressor. And so before the glutathione goes up you get damage to your cell membranes from Sulforaphane.

And you see this in every single plant molecule, I talk about this in my book, every single plant molecule I've looked at, we see the same pattern. Why would I take a molecule like this if I don't need it in the first place and it's going to damage me?" That sounds like a net negative to me, right? We don't need those molecules to have enough glutathione, to have enough antioxidant system movement in our bodies.

And the last thing I'll say, I know I've been rambling, is when you actually look at fruit and vegetable depletion studies. So they've done these studies in people. You can take away all of the fruits and vegetables from someone's diet, most of them are about 24 days or 6 weeks, there is 4 or 5 of them I'm thinking of.

So you can take 2 groups of people and one of them eats pounds of vegetables a day, like a pound and a half of fruit and vegetables a day, tons of polyphenols, tons of Xeno hormetic molecules.

The other group, they take away all the fruits and vegetables and they're just eating like meat and bread, they are not even eating a carnivore diet, they're eating just like worse than carnivore diet, I mean, way worse than a carnivore diet because I would say carnivore diet is amazing. But anyway, they're just eating like meat and bread, right, meat and cake.

And at the end of that study they're going to compare these 2, and you would think if those molecules, if polyphenols, if Xeno hormetic molecules like isothiocyanates, which is different than a polyphenol, were actually benefiting



humans. At the end of those 4 to 6 weeks you would see a difference in glutathione, or oxidative stress or immune response, or inflammation, but you don't— those groups are exactly the same at the end of 4 to 6 weeks.

They look at markers like 8 hydroxy 2 deoxyguanosine, marker of DNA damage or lipid peroxides, malondialdehyde, F2 isoprostanes, markers of inflammation hsCRP, markers of immune activation Interleukin 6 TNF-alpha, they are the same between the 2 groups.

So the case that's being made for these molecules as hormetic kind of falls flat, like where's the benefit? And the thing they're not looking at is what about all the harm those things are causing?

And there is actually a study that shows that in people who remove all those things the oxidative stress markers get better, when you remove fruits and vegetables that was an 11-week trial, the oxidative stress markers got better. And you just like tip the whole thing over on its head this.

**Shawn Stevenson:** This is fascinating. I have so many questions that have come up.

**Dr. Paul Saladino:** I'm here, man.

**Shawn Stevenson:** It's just again, changing our lens and how we're looking at this. It was a great time and a great conversation, and it is really impressed in I guess more of the public consciousness through Dr. Gundry who I know you know as well and his conversation about lectins.

But this is just, that's kind of like a blanket statement of all the different potential plant compounds that can be harmful for us. But my question immediately is— so meat doesn't have any of these? Different animal foods?

**Dr. Paul Saladino:** They don't. I mean you think about it from this perspective— how are plants defending themselves? They can't run away, they've had to evolve chemicals. You hunt the deer, it's way faster than you and me, elephant's going to step on my head or go with his tusk, it doesn't have to evolutionary evolve a toxin in its muscle.

There are a few animal foods you could point to maybe like a pufferfish, right, it has tetrodotoxin or something. But generally speaking, animals have claws,

teeth, fangs hooves and motility, movement, that's their defense mechanism. But plants are just stuck in the ground. In my book I say what if I just take you to the beach and I just bury you up to your neck in the sand, remember like you were a kid.

But I am going to bury you so tight that you can't move, you're stuck? You'd be like, okay. Now I'm going to pin your face like a soccer ball or have a bunch of 6-year-olds, a 6-year-old birthday party hanging around right, these 6-year-olds are just like, "Where's the ball?" You're going to feel like you're going get kicked in the face, man, that's how a plant feels, you're going to feel vulnerable.

A plant is rooted in the ground, there's nothing it can do to prevent that deer, that moose from coming over and just taking a big bite out of it. And the only plants that have survived 400 million years of coevolution with the animals are plants that have toxins.

And so you can look at every single plant out there, it's got some Phytoalexin or it has an actual spike like a rose bush, right? But for the most part plants have toxins in them because they're just trying to survive.

But animals just run away and so generally speaking there are none of these compounds in animal foods that are defense mechanisms against attack or predation, they're going to run away from you. And then there's a lot of nuance discussions here, we can get into the cancer and all that different stuff.

**Shawn Stevenson:** That's exactly what I'm going to ask you about next— I want to talk about the relationship between animal foods and illness, and we're going to do that and we'll talk about fiber too, right after this quick break. So sit tight, we'll be right back.

Don't sleep on sleep. Today there is a big revolution happening to improve our sleep quality, because we are understanding finally just how much our sleep quality impacts our physical performance, our brain function and literally impacts our body composition.

Sleep deprivation is something that can directly lead to increase fat gain and an inability to lose weight as well. With great sleep we see an increased ability to burn fat, like the research that was done by the International Association for the Study of Obesity that found that our sleep quality, namely a sleep-related



hormone called melatonin that everybody's heard of increases your body's production of something called brown adipose tissue.

This is a type of fat that actually burns fat and the reason that it's brown versus the white adipose tissue is brown adipose tissue has a lot more mitochondria, and these are the energy power plants in our cells, very metabolically active tissue that we build more of when we get great sleep. Now the issue today is getting that great sleep and there are tons of lifestyle factors but there's also a nutrition component.

And there's a study that was published in The Journal of Pharmacology, Biochemistry and Behavior that found that the renowned medicinal mushroom Reishi was able to number one significantly decrease sleep latency. This means you fall asleep faster when you have Reishi.

They also found that this increased overall sleep time for study participants and they found that this increased the sleep efficiency by improving the non REM deep sleep and improving our light REM sleep as well. This comprehensive approach to improving sleep, it's not pounding our sleep into submission what we see with conventional drugs and things of that nature where it's kind of like pseudo sleep, this is actually improving your sleep quality, your sleep efficiency by utilizing Reishi.

Now the only Reishi that I use is from Four Sigmatic, because it's dual extracted where they're doing an alcohol extract and a hot water extract, so they are actually extracting all of the nutrients from the mushroom that you think you're getting with company X.

You're actually getting those compounds with the hot water extracted, getting the beta-glucan related compounds and then with the alcohol extract to get in more of the hormonal compounds. And I think these are really important for sleep like the Turpin's and things in that category and so much more.

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**Shawn Stevenson:** Alright, we're back and we're talking with Dr. Paul Saladino and just fascinating information and research. And so many people have been saying your name in the past few months and I'm just glad to have you here on the show to talk about the carnivore diet.

And before the break I brought up the subject matter and this is huge, I think about Dean Ornish I think about all these folks who are on the other end of the spectrum saying that meat is the causative factor in animal foods, specifically the China Study, are these are the causative factors behind our disease, cancer, obesity. So what are we missing here in this picture?

**Dr. Paul Saladino:** A lot. A couple of things, let's start with an evolutionary lens. Why would something that humans have been eating for 4 million years be bad for us? It's a little bit of kind of a circular question, but let's just think about it from an evolutionary perspective— we have been eating—

**Shawn Stevenson:** That's a good question.

**Dr. Paul Saladino:** Right, like we have been eating meat for 4 to 6 million years plus, like why would this be bad for us? This, as we talked about in the first part of this podcast, this is really what made us human.

The nutrients in meat we know allowed our brains to grow allowed us to thrive and are clearly more bioavailable and present than they are in plant foods. That's really not debatable. So why would something like this be bad for us?

And the answer is that it's not bad for us but we're often confused by epidemiology studies. So I've done a number of debates with vegans or gotten into these sort of conversations repeatedly and I would love to talk to Dean Ornish or Joel Furhman or Dr. Gregor or any of these Vegan pundits right, or Joel Kahn. At a scientific level, I believe they're well-intentioned and they want to help people but they're misled.

And if you look at the evidence that they bring forward, it gets to be a little nuanced but they can only provide epidemiology studies. And so I think that the main reason that people are so confused just is that if you look at the type of study these physicians are suggesting as supportive of their cause, it's epidemiology it's not interventional.

And a layperson is like a programmer or an engineer or an economist or a businesswoman or something, they're not familiar with the distinction between epidemiology and interventional medical studies but this is what's being done, this is the wall that's being pulled down over our eyes.

And I don't mean to suggest that there's really a nefarious motive here but I think that at some level there's a lot of misleading things happening in terms of the world of plant-based thinking. So there are studies in the West, of Western populations that show an association, a correlation between more vegetables and longer life. But as we know correlation is not causation. There's this great website called Spurious Correlations, have you ever seen this?

**Shawn Stevenson:** I haven't.

**Dr. Paul Saladino:** This is just this guy, this is statistician doing funny stuff. You can make some incredibly accurate correlations between the number of movies Nicholas Cage appeared in a year and the number of violent deaths by hanging. Or the number of, the amount of cheese consumed per capita and the number of deaths by getting tangled in the bedsheets, on a yearly basis, like you can correlate all kinds of things that don't have any causative relationship, right.

And so that's what epidemiology does, it says, "Okay, Shawn and Paul, we're going to give you a study, we're going to give you a survey. What have you even over the last 5 years?" And you say, "Oh I mean this is much stuff," right. "And how are your health outcomes now?"

But there are so many variables that doesn't account for. What is your marital status, do you have a partner that cares about you? Are you financially well off? Do you go to the physician to get regular screening for things like colon cancer or breast cancer? Do you exercise? That's not really taken into account they try, but they can't really do that.

And we tend to see because of what we've been told, what's the narrative that we've been told for the last 70 years in the US? Meat is bad for you, fat is bad for you, vegetables are good for you. So who eats more vegetables? People that are doing the right thing, people that are exercising, they are playing tennis, golf, they are in the sun.

If you look at the socioeconomic status of people who are eating more plants they're higher, because they're kind of listening to what's coming down from the health authorities, "I need to do the right thing, I need more salads because—"

And they have the ability to kind of get that information. Who is eating more meat? It's people who are lower socioeconomic status, they are kind of the James Dean types, like, "You know what, hamburger's good, I'm going to eat that." And they're also eating a hamburger with bread and fries and a milkshake and a coke. So can the survey distinguish all that? No, it can't really.

The people who have eaten the most meat in these epidemiology surveys over the last 60 years are also the people who are eating more junk food, smoking more, they are more overweight, they're more diabetic and they are more obese. So, of course, they look like they're unhealthy, but this is the type of study that these plant-based people are pushing, and they're saying, "Look, there's an association here clearly this should be causal."

But it starts to fall apart when you take any epidemiology that's not done in the Western world, it doesn't have the same narrative right? If you go to Asia for instance, there are large epidemiology studies of more than 100,000 people. And the narrative there is different, in Asia and Hong Kong, if you eat meat you're doing good, you're in like royalty; meat is associated with a higher socioeconomic status in Asia.

So what do we see? We see the complete opposite. But the plant-based folks never tell us about that. In Asia, if you look at all-cause mortality in Asia, the



more meat you eat the lower your all-cause mortality is, you live longer in Asia if you eat more meat.

**Shawn Stevenson:** So if we take and jump out of the survey type of study and we look at what's actually happening within ourselves, from biological level, is there any association with red meat, for example and heart disease?

**Dr. Paul Saladino:** No, there's not in interventional studies. So it's all epidemiology again right, and it's all confounded by these healthy user and unhealthy user biases. But there are no interventional studies which show that red meat is inflammatory, and there are interventional studies, right?

There are studies in which people have eaten more red meat and the inflammatory markers don't go up. And there are studies in which people have been given more fiber and they don't get less cancer, they get the same amount of cancer that's the other flip side of the coin, right.

So if you look at the interventional studies with red meat, like it doesn't, there's no evidence that red meat is inflammatory when we give it to humans, and why would it be, right? What's the evolutionary context?

Why would red meat be inflammatory? Oh yeah, you and I are going to go hunting woolly mammoth and it's going to prevent us from being healthy beings to pass on our genes, that gene is going to get called out 4 million years ago, right?

That doesn't make any sense and that's what people have lost. I would challenge Dean Ornish or Michael Gregor or Joel Fuhrman to come in the woods with me and actually understand what it's like to live in the woods.

Because these guys are just living in a fairytale world, there are not enough plants in the woods to sustain us for the last 4 million years and that's what's written in our genome. And a different story could have been written, but that's just the story that we have today.

**Shawn Stevenson:** You just said something I don't want to pass over in relationship to heart disease, like when you asked your dad about that, what causes it, you just said inflammation several times. So talk a little bit about that.

**Dr. Paul Saladino:** So this is a really cool topic. One of the things people worry about when they eat more animals is that their LDL cholesterol is going to go up. And this really pulls us down into the weeds, but I'll try and make it clearer for people. I have a lot of good friends now who are cardiologists and we all lament this hyper myopic focus on LDL cholesterol as the only indicator of cardiovascular risk.

It's just not a good predictor. And so it is true that in many people if you eat more saturated fat like our ancestors would have done for the last 4 million years your LDL may go up. But if you eat more saturated fat in the form of animal foods at the exclusion of insulin resistance promoting processed carbohydrates you will lose weight, your diabetes will get better and you will become more insulin sensitive.

And your other markers on your lipid panel will get to be much better. But unfortunately, most in the medical community only look at LDL. They won't look at triglyceride HDL ratio, they won't look at inflammatory markers and they definitely won't look at fasting insulin and measures of insulin sensitivity.

What we see when we really dig into the equation with LDL is that LDL is necessary for atherosclerosis but not sufficient to cause it on its own. To make the argument that native LDL, low-density lipoprotein causes atherosclerosis on its own is to take a very tenuous position that is not supported by the science. LDL is involved but it does not initiate atherosclerosis.

And so there's another variable there that everyone is missing. And that variable is insulin resistance. It's not about how much LDL is in your blood, it's about how much LDL gets stuck in your arterial wall. And that relationship is not linear. There are tons of studies that show the same number of people have heart attacks with an LDL of 90 milligrams per deciliter, as 170 milligrams per deciliter, it's not a good predictor.

So why is there no dose-response relationship between LDL and heart attacks if we accept the prevailing hypothesis that the more LDL higher the risk? Furthermore, if LDL is enough to initiate atherosclerosis why don't we get atherosclerosis in veins?

Atherosclerosis only occurs in arteries which are high pressure and probably because of the high-pressure damages the endothelium more. the endothelium is the inner cell layer of our arteries, it has a very delicate layer of glycoprotein



is called the glycocalyx which protrudes from it and is kind of waving in the flow of the arteries.

And so in higher turbulence areas, that glycocalyx can get damaged a little bit and if there is inflammation and insulin resistance then the LDL will come into the arterial wall. But in the absence of inflammation, in the absence of insulin resistance, it doesn't matter how much LDL you have in your arteries, it won't come into your arteries.

And we know that LDL is beneficial, this is another fascinating point that I talk about in my book. Nobody ever talks about the fact that LDL is a carrier for cholesterol, but LDL also has immunologic roles in the human body. It protects us from bacterial infection. People that have higher levels of LDL are protected from bacterial infection as they age.

And then we come back to this fascinating evolutionary lens. Why would evolution have designed us to have something in our bodies that is good for us, that protects us against bacterial invasion and it's also killing us? It doesn't make any sense, right.

There's another piece of the equation and that piece of the equation is it's not about how much LDL you have, it's about how much LDL gets stuck. And insulin resistance and inflammation are what make LDL sticky and your artery sticky.

And that's why we don't get atherosclerosis in our veins because we need a little bit of damage in our arteries to initiate the movement of LDL into the arterial wall and inflammation is the beginning of that and turbulence is the beginning of that, but LDL itself is not enough.

So the take-home here is meat and heart disease are we looking at epidemiology studies, probably, if we're looking at mechanistic studies LDL will rise, but like I said, there are so many amazing studies that show that as we age higher levels of LDL are protective.

So the story is clearly just not been fully elaborated for us and it's quite fascinating. I take great pride in the fact that my LDL is robustly high and that that is serving immune rolls and delivering cholesterol to my testicles to make testosterone and delivering cholesterol to my skin and it gives me the building blocks of steroid hormones.



**Shawn Stevenson:** Yeah, vitamin D3.

**Dr. Paul Saladino:** Vitamin D3, while I am insulin sensitive because I can check my fasting insulin and my HDL is also very high, and my triglycerides are very low. But if I went to a traditional doctor they would look at this and fall out of their seat completely missing the fact that my HDL is 95 and my triglycerides are 46. Like show me someone, like I just don't believe that with that amount of insulin sensitivity any human is going to develop atherosclerosis.

**Shawn Stevenson:** You seem very healthy, but you'd be on the statin.

**Dr. Paul Saladino:** I would be, and in the paternal 1984 society, I would be on a statin, in a heartbeat and that statin would limit my ability to produce testosterone, it would inhibit all the other things that I'm doing with cholesterol.

**Shawn Stevenson:** Increase your insulin resistance?

**Dr. Paul Saladino:** It probably would increase my insulin resistance by affecting the mitochondria, it would effect the production of cholesterol in my brain, it might predispose me to dementia later on, it would do all these bad things when in fact if we have a risk of coronary artery disease we just need to make sure that we are insulin sensitive.

**Shawn Stevenson:** Yeah, this is fascinating and just really important things for us to consider. That angle about the veins— I never thought about it before, it's really, really interesting. There are so many things I want to ask you about but the final topic that I want to make sure to cover, and this is what immediately comes up for, especially in the health space, people who are adamant about the consumption of fibrous, specifically fibrous vegetable, fibrous foods. And what the hell?

So what about that? What about this angle with fiber? Are we getting any animal foods or is that the question to ask? Or are we missing the point, do we not need fiber like we've been taught?

**Dr. Paul Saladino:** Yeah, this is again, I love it, so many great rabbit holes here. The fiber discussion often segues into cancer, diverticulosis and the microbiome so we can talk about all of those specifically, or constipation. The main question I get from people is, "How am I going to poop on the carnivore diet?"

And I want to be like, "I'm going to send you a picture of my poop every morning, I want to prove to you that you can have beautiful easy to pass stools on a carnivore diet."

So if we're talking about constipation and you look at the medical literature, this is not debatable. There is no evidence that fiber improves constipation, in fact, fiber fails miserably to affect constipation. Fiber does not increase the ease of stool passage, it does not decrease the pain, it does not increase bleeding.

It can increase stool volume, it often makes stools more painful to pass because they're bigger, but people with constipation continue to have symptoms on diets including more fiber, they just have bigger stools. So they might have more poop but it's still painful and they have to use laxatives to the same extent. So there's no evidence that fiber improves constipation.

And there is evidence to the contrary that the removal of fiber in one study resulted in complete resolution of idiopathic constipation in a trial. This was a fascinating trial, they had 3 groups, it was about 60 people, about 20 people in each group and all the people in the group had idiopathic constipation, so they had constipation that the doctor, gastroenterologist were like, "We don't know what's causing it, that's idiopathic".

One group, a diet is normal, one group ate reduced fiber and one group ate zero fiber. The group with zero fiber, 100 percent of them completely resolved idiopathic constipation within 4 weeks. 100 percent, they all resolved constipation. So a lot of constipation I believe is caused by fiber, whether it's fiber feeding methane-producing organisms in the gut or fiber triggering other problems in the gut. If someone is listening to this and they have constipation, remove fiber and watch what happens.

I can't even tell you how many people I've worked with who have removed plant fiber from their diet and seen complete resolution of GI symptoms, whether it was diarrhea or constipation. So IBS, irritable bowel syndrome, removed fiber and see what happens like people will be amazed.

**Shawn Stevenson:** This is like when you get that picture on a social media of like what color is it, and like this is like the whole, and somebody would just blow your mind saying the opposite thing, like we just had this picture of the shoe, have you seen the

shoe one?

**Dr. Paul Saladino:** No.

**Shawn Stevenson:** And the shoe is clearly pink and white, and my wife is like, "Oh it's grey and blue," and I'm just like, "Clearly there is something wrong with your medulla oblongata," right. But this is like so counter what we have been taught and to hear a statement like that— but here's my thing, and this is something that we are still learning so much about it and also I know that you still have a lot to learn about this subject too in relationship to fiber, is what is going on with the microbiome?

And if we look at some of the data with traditional hunter/gatherer tribes and what's happening with their microbiome and the diversity, and so one of the first things that comes up for me is what about SCFAs, short-chain fatty acids?

**Dr. Paul Saladino:** Yeah, let's talk about it. So let's talk about diversity first. Ketogenic diets do not change alpha diversity. And fiber also does not increase Alpha diversity. So Alpha diversity is a measure of how diverse any defined ecosystem is. There is Alpha diversity, Beta diversity, Gamma diversity, whatever.

But Alpha diversity is one of these metrics that is held up for the gut and they say, "Oh the more diversity the better." It's an oversimplification because you can have tons of gram-negative anaerobes, tons of proteobacteria running around your gut and have a lot of diversity, you just have a lot of criminals.

Having said that, what we see is that when people remove fiber the Alpha diversity doesn't change at all. And when people add fiber the Alpha diversity does not increase, and so this is published studies on people, on kids, on like high fat ketogenic diets which have very little fiber. Alpha diversity doesn't change, adding fiber isn't going to increase your Alpha diversity.

So the Alpha diversity story is really wrong. You can't change your Alpha diversity with fiber or not fiber, that doesn't affect it. In terms of gut microbiome, I love talking about this, I want to talk about it more because more and more people are criticizing the carnivore diet for this unjustly.

No one knows what a healthy microbiome is. The microbiome that you have when you are healthy is a healthy microbiome. Everyone is trying to say, "Oh, if

you increase the fiber you'll see an increase in lactobacillus and bifidobacteria, therefore if you decrease the fiber you're going to have an unhealthy microbiome." This is about 20 steps too premature. I can't even tell you the number of people I've seen and worked with who have had a resolution of inflammatory bowel disease, Crohn's and ulcerative colitis on a carnivore diet by eliminating fiber.

So if anyone wants to make an argument to me, that their microbiome is getting worse as their chronic debilitating autoimmune inflammatory bowel disease is being resolved, that's a pretty tough argument to make, right? And number of people that have had a resolution and gas bloating, constipation, diarrhea, and abdominal pain by removing fiber, it's hard to make an argument their microbiome is getting worse.

To me, it's again, it's myopic science being done by people who are saying, "We know what a healthy microbiome is, you need Bifida, you need akkermansia, you need fecal bacteria, you need Roseberia. And sure, probably you should have those bacteria in there, but if we look at the Hadza, the Hadza don't really have any bifidobacteria in there, so what's a healthy microbiome?"

And I would argue that the microbiome is something we should be looking at but we shouldn't be putting all of our eggs in that basket. What we should be doing is saying, "Are you having malabsorption?"

What's the steatocrit, which is a measure of malabsorption in your gut, what's your pancreatic elastase, what about calprotectin, what about zonulin?" Stool zonulin is maybe not the best measure but we there are other measures of gut health, right?

So we can look at the bacteria in your gut but I can also go into your gut figuratively, not literally and say how much inflammation is in your gut. I can look at calprotectin, I can look at a peg 400 tests and tell you how leaky your gut is, or I can do a lactulose mannitol test and tell you how leaky your gut is.

Or I can use stool zonulin as a measure that. That's what we should be doing. And so I think we should have these conversations, but clinically what I've seen, and all the literature points to the fact that removing fiber makes all those measures better.

**Shawn Stevenson:** Fascinating. So this was, I prefaced this question with we still have a lot to learn. And you just reiterated that, and figuring out what does that actually look like with a healthy microbiome. And we've got just one more minute, so quick question— SCFAs? Short Chain Fatty Acids.

**Dr. Paul Saladino:** Yeah, let's talk about it. So the main Short-Chain Fatty Acid that people think about is butyrate. But there are also propionate, isobutyrate, valerate, acetate, and you make all of those from protein just fine. There's also a very, very fascinating paper done in cheetahs that shows that collagen can act just like plant fiber and be metabolized into short-chain fatty acids as well.

So this gets back to the nose to tail eating of animal saying that if you are eating that connective tissue of an animal like our ancestors would have done, there's plenty of animal fiber in there, so that's probably the ultimate like, "Well, case closed." There are plenty of foods that we can make into short chain fatty acids that are not plants. So anyone that is saying you need butyrate, you need this from plants, that's just not true.

There have actually been studies done comparing plant-based diets and carnivore diets and looking at the amount of short-chain fatty acids and in the carnivore diet you still make short-chain fatty acids. You make different short-chain fatty acids but the colonic epithelium cells which rely on the short-chain fatty acids can use whatever, they can use isobutyrate just as well as butyrate.

**Shawn Stevenson:** A quick question I'm going through in here, it just popped up in my mind. And I saw this I think it was yesterday, a study USC, looking at helping to escort out a recycling estrogen. What about that, can animal products do that too?

**Dr. Paul Saladino:** Oh, this is plant foods that were doing that?

**Shawn Stevenson:** Yeah.

**Dr. Paul Saladino:** Well the question is why are the elevated estrogens there in the first place? Why are we recirculating them in the first place?

**Shawn Stevenson:** See, you keep baking the noodle, man, it's good.

**Dr. Paul Saladino:** Why is it there in the first place? Generally what you think of when you look at a gut test, whether it's a GI map or something, you look at something called beta-

glucuronidase which is a compound produced by bacteria and it is also produced in the liver.

And if somebody has a high level of beta-glucuronidase we might think they have dysbiosis or the wrong type of bacteria and that beta-glucuronidase can do like its name suggests, it can cleave glucuronide from molecules that our body is trying to get rid of like estrogen. So the question is if somebody is recirculating estrogen they probably have dysbiosis and their gut probably has the wrong type of bacteria.

So we'll know, like I said, we don't know what healthy gut microbiome is but we know what an unhealthy gut microbiome looks like, kind of, right. So, in that case, they have dysbiosis in the first place and the plants probably caused the dysbiosis and in that case yeah, there are other things you have to do to prevent that recirculating estrogen. And healthy physiology you shouldn't need anything added to get rid of excess estrogens.

**Shawn Stevenson:** I love it, man. This is just for me, just fascinating and I love the fact that you've really poured your heart and soul into the research and just picking things apart and trying to figure this stuff out to be able to share with people.

And like I mentioned, a lot of people are following your work and applying the things that you've been teaching, at some, varying levels of degrees and they're seeing great results. So just huge, huge props for you for that.

**Dr. Paul Saladino:** Thank you, man.

**Shawn Stevenson:** And also you've got a book coming out very soon, so people keep an eye out for that. But in the meantime, please let folks know where they can learn more about what you're up to, where they can connect with you online?

**Dr. Paul Saladino:** The best place to go is carnivoremd.com, that's my Website you can find links to everything there, you can find my podcast, my Instagram everything. Carnivoremd.com And on that you'll find a link to my book which is called "The Carnivore Code, Unlocking the Secrets to Optimal Wellness by Returning to Our Ancestral Diet."

And it will be out December probably, it'll be big. And the book, so the book is done, I am in the editing phase, it's over 400 pages. I'm going to have to cull it

down a little bit but there's over 300 references in the book. So all the things I'm talking about here, all the studies I'm referencing, every single one of those is in the book.

**Shawn Stevenson:** Awesome. Again, thank you for just having the audacity to kind of be the face of this and to put so much study and research into making this make sense for people, it's really awesome man, thank you.

**Dr. Paul Saladino:** Man, I'm so grateful to be able to do it, I'm blessed. I feel like I'm in the right place and it's been a fun journey and as you see, we've covered so much in this podcast, and it's been so interesting and fun to dig back in the lipids from medical school and look at gut flora and look at diverticulosis and cancer and heart disease, it's a whole different thing, we didn't even talk about the environmental stuff today, that's a whole another thing. But it's been my pleasure and I'm just, I'm blessed to be able to talk about it, I'm grateful to contribute to the community.

**Shawn Stevenson:** Awesome. I am grateful for having you today, man, thank you.

**Dr. Paul Saladino:** Yeah.

**Shawn Stevenson:** Everybody, thank you so much for tuning into the show today, I hope you got a lot of value out of this episode. And listen, this is about thinking bigger, thinking differently because as he just mentioned, going back and looking at the things that he learned in medical school from a different perspective, just imagine what we can accomplish.

We don't want to get caught in our tunnel vision and forgetting that there's so much and the human body is so complex and amazing and we live in an amazing universe as well. And there's a code to it all, just to pivot off of the title of his new book coming very soon.

And again, if you want to learn more about the carnivore diet, what Dr. Saladino was up to, definitely check him out on social media, pop over there to the website and preorder the book as well. And we've got some powerhouse episodes coming your way very, very soon so make sure to stay tuned, make sure to share this out with your friends and family on social media.

And of course, you can tag me, you can tag him and let everybody know what



you thought of the episode. Again stay tuned, we've got some powerhouse stuff coming your way. 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](http://themodelhealthshow.com). That's where you can find all of the show notes, you can find transcriptions, videos from each episode, and if you've got a comment you can leave me a comment there as well.

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