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Dave Asprey: You're saying though if an animal is raised properly, especially multi-generationally because of epigenetics, that they don't make amyloids?

Teri Cochrane: That's right. They are going to make not the amyloids that we're eating that we can't digest. And you know what was really interesting? They did a study with mice, is that you fed them amyloids, the mice became super inflamed and then they died.

Announcer: Bulletproof Radio, a state of high performance.

Dave Asprey: You're listening to Bulletproof Radio with Dave Asprey. Today's cool fact of the day is that there's a new natural chemical that stops skunk smell. Now, if you grew up in New Mexico like I did and you've ever had your dog sprayed by a skunk, oh you dip them in vinegar, you wash them in tomato sauce, but basically your dog is going to smell bad for a long time. If you ever hit one in your car, you know what I'm talking about. But, the chemistry behind this is really interesting, because there's a fungus that makes a chemical that can snuff out the stink. This comes from something called the Journal of Natural Products.

The compound is called pericosine and it's from that fungus that reacts with the skunk spray's sulfur containing compounds, which forms residues that don't smell bad to us that you can easily wash away. That's interesting because researchers are pretty sure that the fungus uses that pericosine or pericosine, however you say it, to neutralize those noxious chemicals that it comes across in the wild. This is a chemical defense system that you'd find in the forest, which is kind of interesting. Maybe we should keep some forests around. What do you think?

Chemicals that are hard to wash away like those stinky things from skunks are problems because soap and even bleach doesn't do anything. Turns out a little bit of this chemical isn't going to harm you, but it takes away those things. And, it turns out that they can add cosmetic ingredients to this. So, what's going on? I don't have skunks in my neighborhood, why do I care Dave? We didn't understand that nature did this and we didn't understand that a fungus did this so we got to ask ourselves, what else does fungus do in our guts, in our environment, in our food? Well, I've got an expert on the show who knows a thing or two about this?

All right, today's guest is a friend and her name is Teri Cochrane. She is a integrative practitioner and a personalized health care person, I guess you could call it. She has a methodology called The Cochrane Method, which looks at biochemistry, nutrition, genetic tendencies, herbs and counseling to figure out custom things that work when other people don't. I found she has a very deep

knowledge of some of these pathways inside the body that most of us have never heard of and she knows how to hack them.

She's written a book called *The Wildatarian Diet: Living as Nature Intended*, so we're going to talk today about how what you eat turns your genes on or off. We're talking about epigenetics and nutrigenomics, and how things that you might've heard me refer to earlier, wild-caught, wild-fed proteins lead to better health starting at your molecules, starting at your cells and moving on up. We're also going to go deep on some of the cool biochemical reactions you don't know about in your body, and why black beans suck. Teri, welcome to the show.

Teri Cochrane: Oh Dave, so great to be with you and your audience.

Dave Asprey: I was just thinking about the nightmare I had last night. The nightmare was that someone gave me kale salad with black beans on top. Man, could you imagine something worse?

Teri Cochrane: No bueno Dave, no bueno.

Dave Asprey: I don't know why I'm against black beans today but I can just tell you, bean eaters, ugh. All right, I was hoping that you were not going to say, "But black beans are good for you." I knew you wouldn't. Let's talk about your children because as you talk about how you became the expert that you are, what happened? What made you learn about this?

Teri Cochrane: Well, the trajectory to a great discovery sometimes starts with a limiting belief system when someone tells you that your child will never be normal, will not grow past five foot four, and will live with brain seizures most of his life. At the time I received that diagnosis when my son was three years old, I was working for a Fortune 50 company running one of their departments managing over \$1 billion of assets. And when you hear that kind of information flood into your ears and then into your nervous system, it's quite a shock of course, and the first thing you say is, "Well, maybe we can figure this out and live with it."

Then as we went down the multiple rabbit holes of allergists and endocrinologists and other sorts of doctors, aware my son was only further falling off the cliff, I made the determination that he would not be one of those statistics. That I would be that mother that was going to try to figure it out. The reason why I had that as a underlying solution seeking mantra is because I'm a Cuban refugee and came to this country. We lost everything and my parents never lived in the state or vibration of victimhood. Instead, we focused on solutions. How do we do the best we can with what we have, and how do we surpass where we are? That really became very much of an undergirding as I became that health detective for my son while working in the financial services industry.

Dave Asprey: So, you're someone who manages complex. Billion dollar-plus cash management, investment management is a very complex system with tons of variables, and you turned that around and said, "All right, I'm going to work on my son." So, how's your son? What happened?

Teri Cochrane: Well, the boy that couldn't, they said he would not be normal and they were right, he became superhuman. I heard there's a really good book out there that was just released. What we found was when we uncovered his underlying root causes, he became a gold medalist at the Junior Olympics in karate, a national champion. He was the valediction speaker at his school. He was on a full academic ride at University of Virginia, became one of the top scholars there, started multiple programs in social justice at University of Virginia. He's a singer, he released an album, and now he's doing some good work in social justice. He just moved to New York City.

Dave Asprey: So, we can call you a proud mom.

Teri Cochrane: Just a little bit.

Dave Asprey: High five, mom.

Teri Cochrane: Thank you.

Dave Asprey: Now, it turns out that what you were feeding your son was a major variable here. How'd you figure that out?

Teri Cochrane: Absolutely. I became this rabid researcher. I'm a risk manager. I was a risk manager as you mentioned for multiple billions of dollars of assets and I soon became a risk manager for his health. Google wasn't even around. The internet was just starting almost 20 years ago, and so I went to libraries and I interviewed parents, I interviewed anyone I can get ahold of. But, the one tipping point and we hit that tipping point with a mountain of books on my kitchen table. It was food allergies, an allergy connection with food.

I realized that the standard American diet that I was feeding my son although it was organic, I was feeding him peanuts every day. We'll talk about the ... I called peanut the devil on steroids. Master, major aflatoxin, which is a mycotoxin on steroids. We were feeding him wheat, which has glyphosate as we now know, which are so deleterious because of the roundup that's sprayed on the wheat crops. We were feeding him a lot of citrus and orange juice, which is sugar which feeds the streptococcus and the Candida that was so living in his body because he was given a regular dose of 60 milligrams of Prednisone for a three year old.

Dave Asprey: That's a heavy duty dose for an adult.

Teri Cochrane: He was like Spider Man. We had to pull him off the walls, he was so really jacked up. That with the combination of Albuterol, which is also a stimulant. This gentle young soul was really, really over driven in his adrenals. So, those favorite foods of America, the peanut butter, the orange juice, the wheat, the corn of course, because that's what we, you know, the popcorn and the corn chips. Even as we moved away from gluten, there are so many products as you know that you don't eat gluten, but now you're eating corn and soy which are just as deleterious for other reasons. When I figured out that, we eliminated those five foods. Within four days he started breathing, and that was his journey to health.

Dave Asprey: Especially 20 years ago, it's hard for ... If you're 25 years old, you were five years old when it was like this but if you told someone, "What I eat changes how I feel," they would tell you, you were stupid and paranoid. But hold on a second here, I'm 300 pounds and my brain's all over the place and I feel like crap and if I don't eat that, I can focus. I feel it, but then it was because there was something wrong with me and it was a moral failing. We still have some of that mindset going on here but the idea is, I know some people who seem perfectly fine on corn.

I still think it's bad for them, but it's not as bad for them as it is for someone else. What's your take on that? I mean, should the people who are just like, "Yeah I eat corn, I feel great. I'm super human." What's going on with ... I'm picking on corn there, but what's actually happening there? Is it bad for all of us or can some people get away with it, or is it actually good for some people?

Teri Cochrane: Great question. When somebody asks me, "Is this food good for me?" My pat answer is maybe, because it depends on your genetic blueprint and your current state of health. Now, having said that, there are such outliers that the body has to work so hard to get to homeostasis or rebalance itself, then I would say, "Why would you want to make your body work so hard?" In terms of corn, the majority of corn is genetically modified, which doesn't even make it in an ancient form of corn that had a higher protein content, that had better minerals. But, the standard American corn on our grocery shelves today is a mycotoxin, which is a fire starter for many, many bad things in our body.

Dave Asprey: Corn isn't the mycotoxin, you're saying it contains a mycotoxin.

Teri Cochrane: It contains it, excuse me. It contains mycotoxins, absolutely

Dave Asprey: Okay, why?

Teri Cochrane: Well, it's the way that we grow it, it's the way that we store it, and it's the way that we actually feed our mono-cropping. We no longer do rotation in our crops when we plant every year and so part of it is, the nutrients. 90% of the soil has been nutrient depleted. Any of those same nutrients that get depleted year after year from the same crop, the crop won't receive it and the earth won't have it, so that's one of the primary reasons.

Dave Asprey:

There's some complexity there that I didn't think that you'd go there, but we know ... We are going to go deeper about mycotoxins because you've studied them and I would consider you an expert on them. But, there is a fungus called Fusarium and the way you think about mycotoxins, there's fields toxins, and there's storage toxins in corn and grains in general, but corn specifically suffers from both. What we used to have when we handled our soil correctly is we had, Fusarium would grow in corn, corn smut or corn rust. You'd open up the corn, there's some black stuff in there, you probably don't want to eat it.

Although in Mexico, there's a kind of deformed ugly corn that's moldy corn, and that's a safe species of mold for most people if you're not sensitive. It's weird, but it looks like you're eating tumors. I don't think it's that attractive. Anyway, I look at what's going on now. Well, when you spray glyphosate on the soil, it makes the fungus that's naturally present in the soil, make 500 times more toxin. Fusarium makes a bunch of them, but [Fusarinin 00:12:57] is one of them.

What ended up happening now, is that Fusarium moved into the roots of our corn, so now it's part of the corn itself. So, now you have these nice juicy looking corn kernels but the Fusarium is built into the corn itself. What is also not recognized is that corn will, and other plants will complex the Fusarium to protect themselves. They'll attach a sugar molecule to it, which means a Fusarium detection test won't detect the toxin. However, as soon as your body cleaves the sugar off with an enzyme in the stomach, you have Fusarinin, or the other toxins made by Fusarium.

This whole complex system, I'm talking with Lana and hey, popcorn cooked in butter, it's delicious and it's not gluten and so it's like, well, should we give it to the kids? I'm like, "I don't think it's a good idea. Let's not get them hooked on popcorn." At the same time, it'd be nice to go buy some super high end stuff. I've found over the last 15 years, the percentage of corn that's worth eating goes down, and down, and down to the point that I didn't even bother trying anymore. But I do believe 15 years ago, you could occasionally get some good popcorn that wouldn't mess with you.

Teri Cochrane:

I believe that to, absolutely. Michael Pollan, The Omnivore's Dilemma, author of The Omnivore's Dilemma and then many books beyond that said that we were a bunch of walking corn sticks and I take that one step further. I say, we're a bunch of walking mold sticks because corn effectively translates to mold and then as you talked about the glyphosate. The glyphosate, deleterious on so many levels because one of the other things that it has done to us is that it has inhibited our body's ability to produce the gut bacteria which breaks down oxalates which has a tie into mycotoxins, therefore exacerbating our situation with all things mold and mycotoxic.

Dave Asprey:

Now, I'm well known because with Bulletproof Coffee, I said ochratoxin A, which is a very well-known and well characterized toxin goes after the bladder and the kidneys very specifically. Other parts of the mitochondria as well, but it's bad news and it survives roasting. It is present in coffee, and beer, and wine, and

grains in general depending on the year and how they're grown. It is both a field toxin and a storage toxin. And saying, "I'm going to eliminate this as much as possible from coffee and put in very strict limits," and what do you know, I get a different result from my coffee. It sure pissed off some coffee people but guys, I've got the numbers and by the way, so do most of the global ... Most of the countries on the planet have standards, just not us in the US. Sorry guys.

Teri Cochrane: Very grateful for that good coffee Dave because I drink it and I feel the difference.

Dave Asprey: It still drives me nuts that people are like "Oh, that's just marketing." Why do I have 34 studies that I didn't pay for? Why did China put, I mean China known for their food quality, why do they have standards for this toxin? Yet, most people outside of agricultural research and people who are growing animals like cows, and sheep, and chickens, and pigs, they know about this toxin because it reduces fertility in their animals and they can make money if they feed it to their animals except if they feed it to them right before they're going to die, which is what they do. You and I are just going to have to agree like we do, this is an issue. People listening who are still skeptical look, I wish it wasn't. My life would be better without mycotoxins, except for penicillin. I like that one because it can save your life if you're infected.

Teri Cochrane: That's right.

Dave Asprey: Okay, I feel like we've talked about the definition. These are poisons made by molds, but we haven't talked about something that you have really called out. It's one of the Seven Pillars of Aging a superhuman, I read about amyloids. I call it cellular straitjackets and all, but can you define what amyloids are for people? Then I want you to talk about your system view of mycotoxins, stress, amyloids and just inflammatory foods. But first, what is amyloid?

Teri Cochrane: Amyloid is a misfolded protein that actually we have amyloids in our body and when our body is in balance, it becomes part of our homeostatic mechanism. Meaning, we try to ... Those amyloids in check are part of our eating aware inflammatory responses. However, we have now hit a tipping point on a misfolded protein structure coming from our food supply. The biggest offender of that according to studies out of Cambridge in Japan, chicken. I have now deemed chicken the dirty bird. Chicken in its tissue because of its crowding conditions carries the highest amyloid count. And Dave, I will tell you, we are so ... In my practice with all the clinical outcomes, we had a type one diabetic. We were able to reduce his insulin by almost 90% and rid of his osteomyelitis within four weeks. He had one meal of chicken and his blood sugar increased by 200 points for four days.

Dave Asprey: I'm sorry, chicken's nasty. It is not good for you. It is not on the Bulletproof Diet. It's in the yellow zone so people can eat it but seriously, it's not a good call.

Teri Cochrane: It's not a good call. What we have found in air go, the Wildatarian Diet is that we found through clinical literature and therefore the clinical outcomes in my practice, is that our traditional animal meat, in particular chicken being worst, beef being second worst. They've been studied specifically on amyloids, but also turkey and pork, they carry these truncated protein structures. What's so interesting about these amyloids is that they're now being linked to contributing to autoimmune disease, to type one diabetes, to kidney disease, to Alzheimer's, to Parkinson's. The dirty little secret, which I believe I'm pioneering in, is that we now know that the mycotoxins and the biofilm that they produce feed the amyloid.

Well, why are amyloid so deleterious? It's because the virus is in our body use the amyloids to protect their protein coding. Now what's happening is, I'm saying these viruses are Rip Van Winkle coming up from a very, very long sleep. These viruses that used to impart immunity in us are now beginning to impart autoimmunity because a reactivation of an IgG, immunoglobulin, a virus is being heralded to be contributory to polycystic ovarian syndrome through the varicella virus, Epstein-Barr. 82% of Hashimoto's linked to the Epstein-Barr virus of a reactivation. You don't have to have mono to have clinically Epstein-Barr doing bad things in your body. These are just two of the big ones, but I'm calling it the ping-pong effect. Biofilm for the mycotoxins make amyloids and guess what, amyloids feed biofilm. Then the viruses hide inside the biofilm.

Dave Asprey: This is some complex stuff. So, you eat something or probably breathe something. It seems like environmental mycotoxins are worse than eating them depending on the species and the dose and all that. But so, you're exposed, and now ... Mycotoxins are antibiotics. There's this ancient war between fungus and mold and bacteria. That's why the first penicillin came from Penicillium from cantaloupe and they noticed it kills bacteria. The bacteria, they sense that these fungal metabolites are there, and then the bacteria say, "All right, we are going to do," what I call the fourth F.

All life in order does fight or flee, you know, the fear thing, the food thing, the other F word that we all know but I'm not allowed to say unless I want to mark this as explicit, and then friend. We unite and we either make an army or we make a factory and we do stuff. So, the mold, metabolites force the bacteria to organize into these biofilms right?

Teri Cochrane: Yes, exactly.

Dave Asprey: Now, I've got mold caused biofilm in bacteria. Now, link that to amyloids.

Teri Cochrane: Now we're seeing that the biofilm has been linked to feeding amyloid structures in our body. Then the amyloids have been linked to having the viruses fortify themselves, and what I'm saying, it's reawakened.

Dave Asprey: Okay, so then the amyloids made by the biofilm, so the biofilm is cranking out amyloids?

Teri Cochrane: Yes, and the amyloids, they feed each other. Yes, indeed.

Dave Asprey: And the amyloids are the armor plated protection for the viruses so that they don't get taken up by our immune system.

Teri Cochrane: Exactly.

Dave Asprey: Now we have a higher viral load because of this?

Teri Cochrane: Yes, yes.

Dave Asprey: Okay. Now, chicken definitely raises insulin in most people. It's almost universally high in glyphosate and high in, actually high in bad fats is one of the reasons it's low in my diet. It's high in omega-6. Even if you feed it coconut oil and whatever, they just make a lot of omega-6. So, I'm not a fan of chicken. I do have five turkeys this year in our front yard feeding off whatever wild stuff they get, but that's more because I want to eat their eggs.

Teri Cochrane: That's a wild bird.

Dave Asprey: Yeah, ours are pretty darn wild, and they're ugly, good God. Anyway, now, you're saying something interesting though. You're saying that beef and pork are also really bad in this, yet wild hunters throughout all of history would eat those animals. You would eat a buffalo which is basically a wild cow. You would eat a wild boar. You would certainly if you could get a bird. You'd have to have a sling to get one, or just get a dodo bird or something, you'd pretty much eat those things. So, Wildatarian Diet, yet okay, beef bad for you? I don't know, I kind of like my beef and my lamb.

Teri Cochrane: It's really interesting. To your point, what we're finding is when we live and eat as nature intended, which was before the crowding conditions, the antibiotics, the hormones, the feeding of corn, the torturing of these animals, these animals did not produce the amyloids in their tissue.

Dave Asprey: So it's not beef, it's industrial meat that's the issue.

Teri Cochrane: There you go. If we can get back to what nature intended, beef will be fine but we know that DNA transfers generationally. And so, we've got to make sure that that pasture fed cow, we ... First we have to define what is pasture fed because, is it pasture fed? Is it pasture finished? What does the FDA allow as meaning to be pasture fed? Do they need to be out on the pasture for five minutes in their lifetime? So, first identify what it means. Then secondly, if in fact we can return these species to the way that nature intended, we will once again have these

rich meats and amino acids and the good omegas. We know that bison is much, the studies show that bison is actually higher in omega threes than salmon.

Dave Asprey: At least if the bison is fed right.

Teri Cochrane: If it's a happy bison. We have to make sure that they're happy and not tortured, exactly.

Dave Asprey: I remember a while back I went to Central Markets in Austin. They've been a longtime supporter of Bulletproof. I went in and I went to the meat counter there, and they had this most amazing grass fed bison and the fat was orange. See, this is what healthy ruminants do. They make yellow and orange fat because it's full of carotenoids from their diet and the butcher, I talked to him about it. I said, "That's the most amazing ..." [inaudible 00:24:55]. I'm in a hotel room like, "I just want to buy that and eat it," and he said, "Yeah, you're unusual." He said, "I'm going to discontinue that."

I said, "Why?" And he said, "Because people don't want to buy orange fat. They think it should be white." And I'm like, "No, give me the yellow fat. That's the most flavorful, amazing stuff." In Super Human, look, you should be eating less than 20% of your calories from animals, or just from any kind of protein even if it's these plant proteins, which are quite often toxic for you. The reason you do that is because excessive proteins are a bad fuel source. But you also when you think about it like that, you can afford grass fed meat and we can have distributed agriculture, which makes soil, which sucks carbon out of the air.

I got to say this, if you're vegan and you're listening to this and you don't already hate me for saying the vegan diet's unhealthy, I am more in alignment with you. Eat your damn veggies and don't torture animals. I do not eat, I will not eat industrial meat. I order the vegetarian meal at a restaurant. Usually actually vegan because they're using crappy proteins in the vegetarian stuff, or I'll add butter to my vegetables. This is how I actually have eaten for more than 10 years, actually now geez, it's like 18 years I think and it has changed my entire life.

That's why I have animals in my backyard, because I can eat them and I know what they ate. I'll get off my high horse in a minute here, but you're providing the science to support the behaviors there that I'm recommending that you recommend in the Wildatarian book. How hard is it for you? People listening right now, they're going, "It's too much. Seriously, I just want to eat my chicken wings." How much time and energy do you put into getting your meat?

Teri Cochrane: I say we can be wild in five, seriously. And Dave, you know-

Dave Asprey: In five?

Teri Cochrane: In five minutes. We can be wild in five minutes and we can either prep or make a meal in five. Just know where your sources are coming from. I have an organic butcher called The Organic Butcher here in McLean and I know the owner. We know where their sources are coming from. I just bought some elk and some antelope from him this weekend, they're fabulous. I had this amazing elk tenderloin, incredible. So, know your sources and it can be very easily procured, we just have to be informed. And I completely agree with you. In terms of the Wildatarian Diet, we say we're equal opportunity. You can be plant based, you can be fish based, you can be combo platter based. Just eat based to your genetic blueprint and where you are on your health continuum.

Dave Asprey: Now, in terms of being plant based, how do you be plant based without making nutrient depleted soil Teri?

Teri Cochrane: That's a really good question Dave. Well, one of the things we can do is getting back to our smaller gardens. Going back to community, gardens going back to those-

Dave Asprey: Hold on, don't you have to put animal poop in the soil in your community garden?

Teri Cochrane: I don't know we have to put animal poop in the soil. I think we can get nutrient rich ... I know we need nitrogen, and this is a question that may be out of my realm of expertise. But, I do believe that part of it is stopping the mono-cropping. There is no sustainability in large scale agriculture as we know it today in the United States.

Dave Asprey: Our soil is toast and we've destroyed millions of square miles of prairie, which was healthy soil to make corn, to make ethanol because of bad legislation and just dumb behaviors. We've got to get that fixed, but I do know as a permaculturalist, as an organic farmer where there have been pigs, where there have been sheep, you have amazingly fertile soil and where there are no animals, you get a slow decline in the soil. And I do have wild animals, we actually have three bears in the backyard right now. Hopefully the electric fences work against them. They haven't tried to go after the sheep yet and if they get one, well more power to them.

Teri Cochrane: Well, you know what's really interesting Dave is, I visited Polyface Farms and the work of Joel Salatin. I went to his Lunatics Tour.

Dave Asprey: He's been on this show a while back.

Teri Cochrane: Fantastic. He took a decimated piece of property and created a utopian society for little happy animals and he did it with their poop.

Dave Asprey: Yeah, and so I don't think we can support a plant based diet. I think it's actually environmentally harmful and those people are saying, "Oh, I'm just going to

plants." We're almost out of the nitrogen we mine to feed you those plants. The only way we can get that is by rotating our crops and having animals come through between the crops and crap on the ground. This is how it works and until we have some other technology or we shine a laser at the ground that grows soil or something, if everyone eats plants, we will have exactly zero of the heritage species that have kept all humans alive for probably 10,000-plus years.

Teri Cochrane: You know, that's a really brilliant statement. What I do know and what I believe, it's not been proven yet, is this methane that they're saying from the hoofed animals, we'll how is it now that we're producing so much methane when they have been on the planet for millennia? My theory is, they're eating indigestible food. When we can't digest our food what do we do? We produce methane. Feed them what they were intended to eat and the methane concentrations will go down. They're meant to be herbivores and corn is not considered to be healthy for them on any level.

Dave Asprey: Maybe cut the antibiotics out of their diet.

Teri Cochrane: Oh, for sure. That goes without saying, absolutely.

Dave Asprey: There have been a few studies of grass fed animals saying they make more, they might make less, the studies aren't conclusive by a long shot. Bottom line though is, I actually helped to fund the Carbon Capture XPRIZE where we're actually awarding the first team who can capture carbon out of the air a sizable, it's like \$5 or \$10 million prize. I've looked at this, the soil is the most efficient carbon capture thing out there. So, even if an animal makes carbon dioxide or methane, if the soil that it produces sucks more than that out, we still win.

And, if you want eat that nutrient food for the vegetable portion of your diet, if there is no demand for a diverse species of, or diverse set of species of animals that are part of agriculture, there will be no more animals. They will literally all die, and we've already lost thousands of variants of cattle and sheep. For instance the sheep in my pasture, they're a kind that are pretty good for wool, pretty good for milk and pretty good for meat. Now, this is a hard to find species because who wants pretty good? If you're growing wool, you want ones that are basically stick and fluff so you kill all the ones that aren't that. If you want ones for meat, you want ones that are just walking muscle with no ...

We have ended up with these weird turkeys with breasts that are so big, those are bad for us. And to go back to this Wildatarian world, I feel like we've got to address agriculture. I know that's not your main focus, but I just want people listening, if you read the Wildatarian Diet, you read the Bulletproof Diet, just say, "I'm going to eat an animal in its natural state." It's hard find them, but if you say, "Oh, I'm not going to every an animal because then an animal would have to be killed," you are not going to be able to feed your children if you keep doing that. That's true.

Teri Cochrane: I agree Dave, and part of the book does focus on how we've lost our connection to nature and what the cost is of this nutrient depleted, crowding, conditioned, antibiotic shooting into our animals phenomena.

Dave Asprey: You're saying though if an animal is raised properly, especially multi-generationally because of epigenetics, that they don't make amyloids?

Teri Cochrane: That's right. They are going to make not the amyloids that we're eating that we can't digest. And you know what was really interesting? They did a study with mice, is that you fed them amyloids, the mice became super inflamed and then they died. You stopped feeding the amyloids, and the amyloids were gone in their little bodies. There's so much nutritional beauty in how we can resolve chronic conditions in our country. If we focus on the food, it's the Alpha and the Omega. I say, you can do everything else right, you get the food wrong, you're still not going to get it right.

Dave Asprey: In Super Human I really dug in on it. Why are we getting this less flexible tissue? I looked at amyloids, and they're just less digestible proteins. Now, why do our bodies make amyloids? Because beta amyloid in the brain is well known for, people used to think it was the cause of Alzheimer's, some people still do. It's very clearly a symptom of whatever's causing Alzheimer's, which is metabolic dysfunction. With amyloids, the more inflammation you have in the body, the more amyloids you get. Amyloids are basically like calluses or scar tissue on your cells.

If you take an animal and you stress it its entire life, and you feed it crap and you do things like calculate the caloric efficiency, and you can hack that. You can put a mycotoxin in a cow's ear and it'll get fat on one-third less calories and you'll make one-third more money right? That's disgusting and horrible but they do it, so you get these inflamed animals. You eat an inflamed animal, oh my God, you also get inflamed? It's not that hard to understand, but this is what's going on and amyloids are one of those smoking guns of aging The Seven Pillars of Aging, reduce your amyloids, live longer. So, it's an inflammatory problem like almost everything else, and you're saying wild animals are less inflamed than industrial animals?

Teri Cochrane: Go figure.

Dave Asprey: All right, Teri I'm getting it. So, the things that cause amyloids, one of them is mycotoxins because these, even at parts per billion level of mold toxins cause tissues in humans and animals to become inflamed, which causes amyloid production.

Teri Cochrane: Yes, sir.

Dave Asprey: What hasn't been clear until ... You've really been the guiding voice on this. You're saying, now that these amyloids are there, what are they doing besides

just keeping your tissues from being flexible? Oh, they're making the viral load worse.

Teri Cochrane: Indeed, indeed. We have done so much great work Dave on identifying reactivation of viruses. When people have been diagnosed with end stage cancer, or infertility, or MS, or Hashimoto's and you look at their viral load, you make them wild, you stop feeding the amyloid structures, you lower their mycotoxin proportions in their body. You feed them the right fats depending on their genetic blueprint to see how much fat they can assimilate, and these situations resolve over, and over, and over again. The body is highly intelligent and wants to be imbalance.

Dave Asprey: When your viral load goes up, that causes inflammation, right?

Teri Cochrane: Yes sir.

Dave Asprey: Which creates more amyloids and all that. What starts the cycle? Is it eating amyloids? Is it eating mycotoxins?

Teri Cochrane: I think it's the trifecta. It's the fact that we have the glyphosate, which has done a, what I given as a triple whammy. Glyphosate, which is also called Roundup which is roundly sprayed on our crops and particularly wheat. It does three very bad things for us. It mimics the amino acid glycine. Glycine is necessary for the production of hydrochloric acid which not only breaks down protein, but it helps to break down the overgrowth of bacteria and bad boys in our system. It also interrupts the body's ability to convert sulfur to sulfate. All those happy little vegetables of kale, which I now call killer kale depending on your genetic blueprinting and your current state of health.

Dave Asprey: Screw you kale.

Teri Cochrane: It stops the body's ability to assimilate sulfur, and so sulfur which is so important for our gut integrity, our brain function, our neuro transmitters, our tendons. We're getting stuck in this sulfur metabolite, so we can't do what we're supposed to do. Then the third thing is, it has really reached the body's ability to produce the good gut bacteria that makes us able to metabolize oxalates, which are found in spinach, in almonds and those nasty black beans that we talked about.

Dave Asprey: Hold on a second, we haven't talked much about oxalates. I really offended Joe Rogan when I went on his show because he was telling people to drink these raw kale smoothies in the morning and I'm like, "Joe, let's go through some chemistry. Maybe we can modify this. Let's just like cook our kale and dump the water," and I think I hurt his feelings because he got a little upset, or maybe it was financially motivated after that, I don't know. I'm not going to ascribe motive to poor behavior. But, I do know that a lot less people are drinking kale smoothies now because of that oxalic acid problem like, "Why do my joints

hurt? Why do I have muffin top?" It's because of this stuff. So, what are oxalates? Walk me through the biochemistry of what they do in the body.

Teri Cochrane: Okay, oxalic acid. Oxalates, and if you have genetic predispositions. There are certain genetic polymorphisms that will make you less likely to be a great metabolizer oxalates. We've heard the oxalates list of kidney stones and gallstones, they create calcium crystals within our body. But, the other thing that oxalates can do, it's been really now linked to autism.

Dave Asprey: Oh yeah, totally.

Teri Cochrane: So, how these oxalates will disrupt the dopamine metabolism. Dopamine is our happy, feel good, sleep good, have executive functioning neuro transmitters. But, what's so interesting Dave, is that the freaking mycotoxins which then make Aspergillus, which then feed the oxalates, which then the-

Dave Asprey: [crosstalk 00:38:45] make the oxalates in your gut if you have it, yes.

Teri Cochrane: Exactly, so it's again that ping-pong effect. So, now we can no longer rely on healthy foods that are high in oxalic acid, if we have certain genetic predispositions, if we've been exposed to mycotoxins, if we've been over consumed with amyloids and if we're stressed, which is the next big thing.

Dave Asprey: So if you're in perfect health you can eat kale, but if you're not in perfect health it's bad for you?

Teri Cochrane: I call it killer kale. It's not good for me, it's not good for a lot of my clients. They come in to me saying, "I'm so sore and I don't understand because I'm having kale smoothies every day. I'm arthritic, and I feel like I'm 150." I say, "What are you doing?"

Dave Asprey: I'm sorry, this is how it is. But, kale is a plant based food right?

Teri Cochrane: It is.

Dave Asprey: Therefore, all plant based foods will kill you.

Teri Cochrane: No.

Dave Asprey: Oh, hold on. I was using vegan logic because one animal protein's bad for you, therefore they all would kill you. You didn't know?

Teri Cochrane: No, that's true. That's why we're all bio-individuals Dave.

Dave Asprey: That's actually the first chapter of The China Study, is this one extracted protein from milk casein, which isn't good for you. Because that's bad, all animal proteins are bad. It's bad logic. I will say that if people, most people want eat a

piece of kale, every now and then you want that kale, bacon, whatever thing, it's probably fine. For me, it actually gives me sore joints and makes me kind of pissed off and I don't need it. It's okay either way, but this idea that it's going to be good for you, oxalic acid is the plant defense compound that you're not going to be able to handle unless you're in perfect health. And if you're in perfect health, is kale a great choice?

Teri Cochrane: I don't think it's a great choice because actually they've done studies on kale. It really absorbs all these toxins. It's like a sponge.

Dave Asprey: In fact, thallium is called the poisoner's poison. It's one of the long standing things that they would do for thousands of years, especially in Russia. Thallium, it replaces potassium in the body and kale absorbs thallium from the environment better than anything else, and this is in Super Human. The toxic metals are a bigger and bigger problem. They will cause inflammation, which causes amyloids, which puts you right back on this cycle that you just described. I don't want to pick just on Kale, but I will say that my pigs and sheep will spit out raw kale, they don't need it.

Teri Cochrane: Well, that's why I've deemed it killer kale, because it's got so many things that could go wrong, and so, why do we want to risk it? Again, if you're in perfect health every here and there, but I don't like it. I accidentally took a kale smoothie and I had to get off the highway because my brain was not working properly.

Dave Asprey: You have a more extreme response than the average person probably. Is that genetic? Is that because you had unhealthy behaviors in the past? Why you?

Teri Cochrane: Well, why me? Well, great question. I do have all the genes. I have the SUOX gene, I have the CBS gene, I've got the cytochrome P450 family of genes. I've got a compound heterozygous for the methylation snips. I should say snips, not genes, and so I'm more delicate. I'm a delicate flower, but it doesn't ... But, I'm also incredibly robust because I know what to eat, and how to eat. It doesn't mean I'm deprived in any way, I am a complete foodie. You and I have dined together. We enjoy beautiful food together, but beautiful food that is beautiful for us.

Dave Asprey: I actually saw you flicking black beans at JJ Virgin. It was at ...

Teri Cochrane: Did you catch that on camera?

Dave Asprey: I hope JJ's listening. If you guys don't know who she is, she's been on the show several times. She's a dear friend and has endorsed some of my books and all. I have no idea if she's hugely into black beans or not, I'm just kidding. But, the idea that black beans are high in oxalic acid isn't out there as people saying, "Oh, I'm going to be healthy. I'm feeling bad, I'm fat, I'm puffy, I'm inflamed and

I want to be healthy, so I'm going to get rid of the industrial meat in my taco and make a black bean taco."

Now, getting rid of industrial meat, thumbs up. If you eat industrial meat, you're a bad person because you're torturing animals, destroying the soil, destroying the environment, creating antibiotic resistance, feeding corn and glyphosate and just seriously, it sucks. It's not food, don't do that. But, which is better, black beans? What should you put in your damn taco, although you're going to have to get rid of the flour and corn tortilla as well? But anyway, what do you eat if you don't have access at some restaurant to grass fed meat? What are your [inaudible 00:43:12]?

Teri Cochrane: That's a really good question. I gravitate towards lamb. I really like lamb. In the restaurants, you can find some lamb. Love it, lamb. The conjugated linoleic acid, my brain food baby. I love that stuff.

Dave Asprey: I just go outside and take a bite of the lambs I have outside.

Teri Cochrane: Lamb sushi.

Dave Asprey: Lamb on the cob, I like to call it.

Teri Cochrane: Lamb on the cob. I also look at lower mycotoxin options, pinto beans-

Dave Asprey: Hold on a second, you can't get lamb unless you're going to spend like 40 bucks on a meal. Like, it's lunch time, I'm going to-

Teri Cochrane: Good point.

Dave Asprey: So, what do you order?

Teri Cochrane: I do order ... You know, I have my restaurants that I gravitate towards. I won't eat chicken, if you have what I call the least worse options. So, chicken I will never put on my plate anymore. I know too much about it. I haven't had it in two years, not one stick of chicken.

Dave Asprey: I haven't had it in 10 years. I don't eat that crap.

Teri Cochrane: I love it. I'm going to put you in my next book.

Dave Asprey: You can feel the difference. Seriously, if you go on a chicken free diet for a while and then just go pound some chicken and feel what ... Just look at love handles the next one, it's very obvious.

Teri Cochrane: Very obvious. What I usually try to do is, I'll try to go with fish. Fish tends to be generally safer. I won't do black beans, but if you have a lentil soup even though it's a little bit got mycotoxins. I look at what the hierarchy of needs in that food

constituent. Lentils will also afford me some B12, which is really important for my methylation genes. It'll also give me some good iron, and it's got a lot of good fiber. So, sometimes we make the least worst choices.

Dave Asprey: Got it. So you'll eat lentils at a restaurant if you have to, but they're not your first choice.

Teri Cochrane: They're not my first choice. Usually it's going to be fish or lamb.

Dave Asprey: I would say lentils, even on the Bulletproof roadmap, lentils are much higher than you know the corn and wheat berry soup, so it's not like it's binary. In some cases for me like chicken, it's binary. I'd rather just fast. I'm not eating that.

Teri Cochrane: It is, exactly, exactly, me to.

Dave Asprey: And if it's industrial meat, even if it's a nice USDA prime rib eye, sorry, if it's not grass fed, it's not food. I will fast, or I'll eat the broccoli. I mean, I've been to remote parts of China where there's not food safety. I'll have the white rice thank you very much, and I'll pour my Brain Octane on there and have some [crosstalk 00:45:31] powder.

Teri Cochrane: Absolutely, great idea the Brain Octane on white rice.

Dave Asprey: You can do that, but when you look at food through that lens you realize, "Oh, I went to the restaurant ..." All right, I'm going to challenge you, Taco Bell.

Teri Cochrane: Oh, gosh. Lettuce, pinto beans.

Dave Asprey: I'm not eating pinto beans. Then I'll be inflamed and fart for a week.

Teri Cochrane: I know, I know, it's just that's a good one. Just keep driving.

Dave Asprey: There's going to be MSG in the rice to so at that one, keep driving. I'd do lettuce, but seriously why bother eating lettuce? There's no food in there. So, there are places where you're like, "Oh, I don't eat there." Subway, sorry guys. Jared might've lost some weight there, but we all know about Jared. So, what do you do there? You simply say, I'm going to vote with my dollars. This bread is not really bread, this meat is not really meat. It's not in my universe and I can tell you, I don't see Subway. When you realize this isn't food, your body will edit them out of your environment.

Teri Cochrane: Absolutely.

Dave Asprey: Yeah, people say, "Oh, it's by the McDonald's," and I'm like, "Where's the McDonald's?" They're like, "It's around the corner from you." I'm like, "Really?" Because, it's no longer marked in my mind as food, and sorry McDonald's, I see

that you're actually changing. Some of your patties are actually all beef now, but they're all industrial beef. Come on, we just have to upgrade. Anyway, I'll get off my soapbox there. The point there is, if you go to a restaurant that's a decent restaurant, you can usually find a piece of fish.

Teri Cochrane: Yes, absolutely.

Dave Asprey: Now, here's the hard question. Will you eat a piece of farm salmon?

Teri Cochrane: Wow, okay. It depends on how hungry I am.

Dave Asprey: Good answer, I'm the same way.

Teri Cochrane: I will eat it if I'm really starving and I've been in a conference for several days. I'm still going to get something, and what it's going to do ... What really kicks my patucos, oxalates, chicken, amyloids and sulfur. Those three are my non-negotiables.

Dave Asprey: Now, you talk about sulfur. It's interesting because certainly sulfur can mess with people, but glutathione is the sulfur containing molecule. I drink a lot of San Pellegrino because it's high in sulfate, which your body actually needs. What's the deal? Why is sulfur good? Why is sulfur bad?

Teri Cochrane: Okay, so sulfur, sulfur in the form of sulfate as you noted, is actually quite good. Quite good for our tendons, our joints, our mental health, our gut health. We need it, but we can't get to it because glyphosate has interrupted its pathway. With my genetic predisposition, that will also turn to calcifications for me and it will leak my gut. It's been really linked, impaired sulfur processing has been really linked to IBS, IBD, Crohn's, ulcerative colitis, it does a number on our gut. And so for me, I call, I have ... There's a continuum of sulfur. I call broccoli and cauliflower the kinder, gentler sulfurs. Why is cauliflower kinder? Because it also contains manganese which helps reduce histamine response and if sulfur is going to give me a histamine response and cauliflower lowers the histamine response, it's a net zero in that piece of it.

Dave Asprey: Can we just pound some manganese capsules and be done with it?

Teri Cochrane: We can, we can but we don't want to be too high on manganese.

Dave Asprey: Yeah, manganese can be toxic.

Teri Cochrane: Yeah, it can be toxic. So, it is that. I do make some choices around that but for me, sulfur is problematic. Garlic, raw garlic for me really can set me off in my joints. When people say, wow, I can smell garlic in my person a day later, hey folks, that means you didn't process it and that you're turning into a sulfur metabolite. And go figure if you missed that stop sign, or your joints hurt.

Dave Asprey: I put garlic and onions pretty far down. Millions of people have downloaded the Bulletproof diet roadmap because it's free, and it stacks ranks. It's like look, some people handle garlic and onions pretty darn well, but maybe because of the sulfur, maybe because there's another compound whose name I'm forgetting right now ...

Teri Cochrane: [inaudible 00:49:37].

Dave Asprey: [Elastinit 00:49:37]?

Teri Cochrane: There you go.

Dave Asprey: It's not that one. There's another one that's actually chemically very similar to THC, but there's some effects on brain function and honestly, I get angry when I have garlic.

Teri Cochrane: It's turning on your CBS polymorphism actually if you have that.

Dave Asprey: Yeah, and I smell bad. Literally I don't get body odor for days and days even if I don't take a shower, granted my skin biome is healthy, my gut biome is healthy, and all that kind of stuff.

Teri Cochrane: I'm the same way, I'm the same way.

Dave Asprey: But, I used to smell really bad at the end of the day and now I'm like, "God, I must be sick," if that happens and if you ate garlic, it changes that.

Teri Cochrane: It does change that. You know, what I do know is if you cook garlic, it's going to be, or if you roast garlic, it's going to be gentler and there's a tipping point. The reason why garlic, I call it the body's hierarchy of needs. If you have a massive fungal infection, garlic will help you on some level. So, what's the body's hierarchy of needs? When you come into our clinic, we help you figure that out. But, it's not going to be on your main stage plate all the time if you have an impaired sulfur processing mechanism, which is being fueled by the glyphosate right now.

Dave Asprey: Okay. You talk about something that's super out there. You talk about the relationship between your words and your food. Walk me through that.

Teri Cochrane: Well, we're big beginning to see that the emerging science of vibrational everything, we vibrate at certain frequencies. Every thought we think, every word that leaves our mouth has a vibrational frequency. If we have, and this is studies out of University of Pennsylvania and other universities that are showing, of course the work of Joe Dispenza who's become an international phenomenon is that when we entertain thoughts of, I don't want to eat this food. I'm going to eat this and it's going to make me fat. Why the heck do I have to cook this meal? I didn't want to cook this meal. You are imparting a low

vibration into the thinking, which then carries an energetic frequency, which will then potentially lower the nutrient vibrancy of that food.

Also, when we're mad, upset, the pituitary can't signal for the stomach to make hydrochloric acid so guess what, we're not going to digest our food that well. And so, there's multiple effects that are happening on the body biochemically and energetically. And so, we say your words and your thoughts have a direct impact on the bioavailability of the foods that you are eating. Words can be in a way poison to us and thoughts can be poisoned as well.

Dave Asprey: I'm happy that you say that. You look back throughout all traditions, they bless their food, they say a prayer before food. I've had so many different spiritual and other types of teachers just say you don't have to pray to a specific thing, just think good thoughts about your food for eat it. It probably does something there, I don't know that we understand all the science behind mechanisms, but it is certainly not going to harm you unless you're wasting the five seconds it takes to do that before you eat. It's a good practice. I don't always do it, but it seems to be good one. Also, identifying a food as a threat, versus something that's not food is also very different.

Teri Cochrane: Exactly. I love that distinction Dave. It's not food. It's sort of like, I don't even associate with it because I don't energetically connect to it. If it's not a food source, I have no polarity, I have no energy around that, I'm not giving energy to it. As opposed to, oh my gosh, I'm going to eat this and it's going to do something to my body. It's already doing something to your body before it enters your mouth.

Dave Asprey: It's funny, most people if you walk outside and you just pick up a leaf and you eat it, you're going to have the worst day of your life if you don't end up in the hospital. Most plants are just out to just kill you. But, you don't walk around going, "Oh my god, I'm surrounded by these things that are laced with poison." You can look at this thing like chicken and be like, "Oh, I have a strong aversion to chicken." You'll probably have a worst allergy to chicken. Like look, I don't eat chicken because it's not compatible with me. It's not that I can't eat chicken. I can eat it, I just don't like the effects. And so, I totally agree with you. Your mental mindset, your language around food matters and I'm just going to have to say it again. Kale sucks and black beans suck because they're not food, not because they're evil or anything. There, is that better?

Teri Cochrane: Much better, I love it, I love it.

Dave Asprey: On that note, I know we're coming up on the end of our interview Teri. Your book is called The Wildatarian Diet. Your website is tericochrane.com. Thanks for walking us through that very important understanding of how mold in our food and in our environment creates bacterial biofilms, that creates amyloids, that creates a viral load, that creates inflammation that starts the cycle again. No one has ever elucidated that on the show and it's important, so thank you.

Teri Cochrane: Thank you. My great pleasure, you're welcome. Great to see you.

Dave Asprey: If you guys liked today's episode, you know what to do. Pick up a copy of The Wildatarian Diet if you liked what you heard and if you didn't like what you heard, well, then you're a bad person and it's okay. You need to do some meditation. Maybe that's not actually the truth, but you could pick up a copy of Super Human. You could leave a review for a book that you liked, whether it was Teri's book, my book or anyone else's book. You could leave a review for the show, or you could tip your Uber or Lyft driver. Whatever you do, show some gratitude today, you like your life. Thank you for listening.