

Announcer:

Bulletproof Radio, a State of High Performance.

Dave Asprey:

You're listening to Bulletproof Radio with Dave Asprey. I've invited Dr. Cate Shanahan back on the show today. She was on hundreds of episodes ago talking about how she had transformed the Lakers' diet so they could include more fat and they performed much better, but now, she has a new book that just hit the *New York Times* list. It talks about the kind of fat that's in our bodies that is at the root of inflammation.

Dr. Cate is really legit. She spent 18 years working as a physician and a nutrition specialist. She and I are going to go really deep with you on what different fats do. We don't agree on everything, but we agree on almost everything. If there's a knock-down drag-out battle, I'll probably lose. Cate, welcome to the show.

Dr. Cate Shanahan:

Thanks for having me back on, Dave. It's been too long.

Dave:

I actually just realized this. You were on really early as well around Bulletproofing the NBA. NBA. Then, we talked about vegetable oil. You and I are both long standing for more than a decade saying, "Vegetable oil is dumb."

Cate:

We're vegetable oil blood brothers. Yes.

Dave:

Yeah. There you go, except you don't like to put that on our palms and shake because that would be worse than just blood. Before we get into the Fatburn Fix which is your new book which thank God is not another dirty keto book, if it's fat, eat it. If it's not a carb, eat it. Then, these people get all inflamed like the original Atkins people. You and I are 100% agreement, gee, does it matter? But why are you such a fat fan? How did you get here?

Cate:

Well, it was a very long interesting journey. I was not born a fat-loving doctor. I was born the usual like the usual doctor, but I was an athlete, and I started to really dive deep into fats partly because I had to question everything that I learned in medical school about nutrition because I think your listeners know very well that doctors don't learn a whole lot about diet and nutrition, but what we do learn is wrong. We learned that fat makes you fat and salt causes hypertension, cholesterol clog your arteries.

Most of the things you're going to hear at a doctor's office are myths. Partly for that reason, a lot of doctors don't even bother giving people diet advice because we can't get into it. We're not excited about failure, and we've seen this kind of advice fail ourselves. It's sad, but I was always into biochemistry. And before I went to medical school, I actually went to Cornell to study biochemistry.

When I had my little revelation, I have my rebirth as a doctor because I was really sick and I couldn't get better, so I had to learn about nutrition to get better. I learned it was really all hinged on fat. Everything about the awakening that I had hinged on the idea that I was so sure because I've

learned it in medical school that saturated fat was bad, and animal fat was bad and animal products were generally bad.

But I had to do this deep dive into the biochemistry of it all to realize that was radically wrong. I had you just become really expert in the chemistry of how our body processes fats and how our body stores fat. When I was working with the Lakers, I was helping them understand some of what my reawakening had involved which is that it's not that fat is bad for us. It's that these processed fats and the vegetable oils are bad, and everything you make with them is bad, but natural fat is good. And that is actually the best fuel for athletes even if they're not cardio athletes, even if they're team sport athletes.

The body when we eat carbs or when we eat protein, well, we have to store energy as fat. The most prevalent fatty acid we store it with is basically your high octane doubled. It's two of them stuck together, but then, we desaturate it right in the middle to form a kink. It's a double bond there. It's easily broken. If you're fat adapted, your body, well as soon as that big fatty acid gets into a cell, it goes right into another specialized chamber, and the cell breaks it in half. Now, it can go straight into the mitochondria and be burned really quickly.

The whole reason that dietitians say that fat is not good for athletes. It's not the ideal fuel and sugar's better is because they don't know this one fact. If they just understood that this speeds up the whole process makes it such a better fuel faster than sugar, in fact, in terms of being able to get energy from it from the point of entry into the cell, then, all of sports nutrition would have to be turned upside down.

Dave:

But, I actually was a trainee getting a study approved with an IRB, the Institutional Review Board, to prove whether or not liquid was good for athletes. What I was going to I was going to give half the athletes drinking water... or sorry, drinking bottle full of gasoline, and the other half full of water and see which one's perform better. Then, we could see whether liquids were good for them or not.

Apparently, someone knew that was a stupid idea. Yet, that same Institutional Review Board would be happy to say, "Let's study to see whether fat's good for you." But are you telling me Dr. Cate that different fats do different things in the human body?

Cate:

Yes, they [crosstalk 00:06:07].

Dave:

How dare you say such a thing? I am offended. What application does this have for all of these what the health game-changers only eat vegetables and their accompanying vegetable fats people?

Cate:

Oh, my gosh. It is so crazy that we are insisting that humans, animals, humans eat fats that came from seeds instead of fats that came from other animals.

Dave:

Ourselves choke on those fats, don't they?

Cate:

Especially in the amounts that we consume them now. Here's where everybody gets confused. I don't mean like everybody, but I mean the people that stand behind canola oil and seed oils and [crosstalk 00:06:52].

Dave:

As long as they can stand before they bent and wobbly. Sorry. That's what happens when you eat that way.

Processed oils change your body fat

Cate:

They do age quickly, yes. It's an age accelerant. Absolutely. All kidding aside, that's true, but the craziness is that we do need a little bit of these polyunsaturated fat in our bodies. We do just like we need a little bit of vitamin A, and our bodies need to contain a little bit of sugar in the blood, but that doesn't mean we need to eat a ton of sugar. Well, it doesn't mean we need to eat a ton of processed seed oils to be able to get the right amount of polyunsaturated fatty acids, the Omega-3s and the omega-6s.

But when we get as many as we're getting, it's like we're changing the recipe to manufacture humans, specifically our body fat. ~~Our body fat is actually the biggest organ in our body. If you're overweight, it can weigh 100 pounds. It can weigh 200 pounds by far and away the biggest organ in our body.~~ And nobody's talking about what's in it. What's it doing? What's in there? What's in that fat? What kind of fat is in there?

It turns out that you can do is you can find out easily. You just do a biopsy and send it off to a specialized lab. Our doctor can't order this test, but researchers have done this. They found that modern body fat is up to 30% polyunsaturated fatty acid. Okay. What does that mean? Well, it's putting it in context, a hundred years ago before seed oils, the body fat percentage of PUFA, polyunsaturated, I'm going to say PUFA from now on, so I don't tongue-tied, is used to be somewhere between 2 and 3%, maybe as much as 5% because it would vary depending on what a person was eating, but nowhere near the 30% that you can find today. As a range even stay on the low end, it could be like 15% unless a person is specifically avoiding these things.

But the average person somewhere around to 20 to 25%. Now, what does that mean? Well, that's the million-dollar question. So what? Well, what it means is we've been living in this giant experiment for one thing because we've started eating fats that we know are great for seeds instead of fats that are great for animals. That's a huge experiment. Anybody who says I'm promoting a fad diet, no. This is like the opposite of the fad diet. It's the antidote to this experimental fad diet that we've been on.

Bad fats kick up inflammation

Dave:

One of the things that I really dug into from an anti-aging perspective for Super Human was, look, we've got to control inflammation in the body. One of the big things you do is the type of fat you eat. This goes back to your very first book. This goes back to the first Bulletproof Diet book from 2014, but there's some new science that come out around mice. It's like the fate of fats when you eat that.

I did not know this. In fact, the research I even published when you and I wrote our first books, this was in mice, but it's likely true in humans, but they looked at the deposition of the type of fat and where it went. What do you know? If you eat seed oils, the percentage of seed oil in your body fat goes up radically, but your brain will always pin the amount of saturated fat that's in there, and your heart will do different things. There's sort of ideal ratios for different cells, but if you want to really change the ratio of fat in your body, just eat some seed oil, and your white fat becomes full of seed oil way faster than anything else. These people who are coming up with 30% of their fat being from seeds because well they went on a healthy plant-based diet. Sorry, guys. Those words actually are like military intelligence. They don't actually exist, but oxymorons for all of us.

The difficulty there is a lot of people don't understand what happens with PUFAs in your body fat, that subcutaneous fat. What do they do?

Cate:

They are pro-inflammatory. They make your body fat inflamed essentially. What does that mean? What does it mean to be inflamed? Well, for one thing, eventually, once the percentage gets high enough in your body fat, it causes your fat cells to be unable to properly divide. Well, what? That actually sounds like a good thing, right? I'm sure that has been used to spin that unpolyunsaturated fats are good because they prevent fat cells from dividing. You get in the way of what your body wants to do. It's always bad.

If your fat cells can't divide, if you're still in the process of gaining weight, then where does the fat go? Well, in your arteries. That's what happens actually. Literally, that's what happens. Your fat cells essentially become incontinent. What's happening is, yeah, you've got transporters that will bring in fat, but then at the same time, the fat cells are like, "Oh. I can't take anymore. I can't divide. I don't have any room." They export them right afterwards. This is why you find that when people have fairly advanced type-2 diabetes, their fatty acid levels in their blood are high even though their insulin levels are high.

This is like a geeky topic, but it's important if you're into low carb because in the low-carb world, all the emphasis is on carbs obviously. It's the whole world. It's named after that. They talk about insulin like it's the cause of everything. Insulin is the cause of insulin resistance. Insulin is the cause of the problems with your fat cells.

Dave:

What happens if your insulin is really low, Dr. Cate?

Cate:

Yeah. If you don't have enough insulin and you need it, you have type-1 diabetes.

Dave:

And your odds of dying from all-cause mortality go up from low insulin more than high insulin, right?

Cate:

Yes, absolutely. We can't ever blame something that occurs naturally in our body for long because every time we've done that, whether it was cholesterol or saturated fat, it turns out we've been wrong, but polyunsaturated fat, they don't occur naturally in our body. We have to eat them.

Dave:

Well, you said they do in very small amounts. You're saying the body doesn't manufacture them. That is totally true, right?

Cate:

Yes.

Dave:

That's why they're called conditionally essential, but if you eat a piece of cow, you'll get enough of them basically. You don't need much at all other than maybe some EPA or something?

Cate:

Well, yeah. You do need the PUFAs, and the cow piece that you eat has to be fatty right or have some cheese, or dairy fat is also going to be a great source of this stuff. It's not hard to come by. You don't have to supplement if your body is healthy and your diet is balanced, but getting back to the incontinent fat cells, what happens when a person got too much PUFA in their fat cells explains a lot more than all these insulin theories. It explains why a person reaches as Dr. Nadir Ali who's a really great cardiologist who realize he also went through kind of like the looking-glass like I did and realized everything we learned about nutrition is backwards. He's coined this term which I love, your personal fat threshold.

He says after you get to a certain amount of percentage of body fat, you become insulin resistance, and your fat cells can't hang on to fat, and it spills out-

Dave:

Body fat threshold not how much you can eat threshold.

Cate:

Correct. That's very important distinction in your body fat. That's important because different races seem to have different thresholds. If you're Asian, you seem to have a lower threshold before. You'll become diabetic, but everyone, no matter your race, the problem is the seed oil consumption. You reach that personal fat threshold faster, and your fat cells become incapable of hanging on to fat and preventing it from spilling into your arteries faster, the more seed oils are in your diet because these PUFAs are pro-inflammatory. They prevent your fat cells from dividing. This is one of the many problems that they cause.

The Fatburn Fix that you talked about could be better engineered to cause metabolic problems. They get this pass from Harvard which is where most of the doctors, the official doctor thought comes from because they are essential. Like you said, the body can't manufacture them. We need to eat some. The conditionally essential are the long-chain fatty acids. If we eat the short chain fatty acids, we can turn them into long-chain fatty acids which our brain needs. We definitely, definitely need to have these things in our diet, but we don't need more than we need. That's where all of this experiment began because back in the 50s, we discovered, "Oh, we need some of these things."

Well, if we need some and they're in our brain, more is better. If we eat more of these things that build our brain, how can that be bad? That is about the depth of the whole thought process. And, PS, there was a huge, huge conflict of interest in going any deeper into that thought process because Procter & Gamble was funding the American Heart Association starting in the early 1950s. Procter & Gamble, manufacturer of [inaudible 00:16:51] made from cottonseed oil, one of the first seed oils to be produced and the industrial process perfected. You take this semi-science like quasi-science well if some

is good, more is better, and you take conflict of interest from industry producing these things. And 50 years later, you have a nation that is unhealthy because we're eating what we think is healthy fat. Isn't that crazy?

Dave:

It definitely changed my life when I figured this out. I did lose 50 pounds of the 100 pounds I had to lose. Geez, this is back when I was in my early 20s. You see you get a low-carb conference a long time ago. There's all these incredibly fat people either three, 400 pounds. You're going, "This is like the worst conference ever. This clearly doesn't work. But then, you talk to them like, "Oh, yeah I used to weigh 500 pounds, and now, I'm only 300 pounds. I love it." But there's other 100, 150 pounds. It won't go away no matter what I do. Clearly, I'm still eating too many carbs because I ate four carbs yesterday, four grams of carbs. Tomorrow, I'm only going to eat two grams of carbs, and I measured my cream cheese, and it was a little too high. I call that sort of the keto trap even where, look, it doesn't work. That's the dirty keto aspect of it where, oh, just eat whatever fats.

You could eat fried pork rinds fried in canola oil which they do sometimes for God knows whatever reason, and say, "There, I did it," and it's not the same as undamaged fats, higher saturated fat diet. There are fundamentally different things, but they get all munched up in people's minds. It's one of my big concerns with modern keto as it's evolved in the past six or eight years, it's that people are just eating the wrong kinds of fats and, oh, deep fried Brussels sprouts. That's keto. I'm like, "No." The F word is fried. And even if, let's say, you fry it in ghee or coconut oil, what's that going to do?

Cate:

Well, not a lot bad because those are very stable saturated fatty acids.

Dave:

They're stable mostly though, but when you are getting one of those things, is it really 100% saturated?

Cate:

No. Of course not. No. If you deep fry and use it over and over again, then that's where you get into the most trouble, absolutely. Even with the healthy fat. Even with the healthy fat.

Dave:

Even with the healthy fats when you fry with the healthy fat, it becomes less healthy. If you're going to live on that in deep fried cream cheese balls which I admit I have done in the early 90s and if I lived on him, but like, "Oh, that's a keto food." The problem is that you will get the inflammation over time in part because of the high temperatures and acrylamides and the damage, but if you already heat it up one time and do it, it's different. You can eat bacon. Just don't fry the crap out of it, right?

Cate:

Yes. The low-carb world has a lot to offer. There's a lot of great recipes, and very smart doctors there, but they make actually the same error that everyone else has been making which is, well, if instead of if some is good, more is better, if less is good, none is better.

Dave:

Might just be true of animal products as well. I will tell you, eating too much meat is bad for you. The data is overwhelming and clear. Too much of those types of amino acids from animal-based proteins are bad for you. By the way, too much plant protein is also bad for you. Then they say, "Well, eat none." Guys, there's a dose that's in the middle.

Cate:

You're cueing me up now to plug my other book here, Deep Nutrition, because it's like, "Okay. Well, what do we eat?" Clearly, there's got to be some rules. It can't just be look at one thing and say, "Oh, well, that's bad, so let's never eat that," or look at another thing that's been associated in some poorly done study with problems and yadda, yadda and on and on, but there are rules. With the first book, Eat Nutrition, what my husband and I... because my husband helped me write the first one, so it's really wonderful writing in there. It's fun to read. People tell me all the time they read it to their children, believe it or not. Yeah. All we did was it occurred to us that we didn't need to start from scratch with nutrition science. That's the position that the American Heart Association wants us to take and believe. It's the position that Harvard has, is that we didn't know nothing about nutrition prior to scientists getting involved with their white coats and isolating things from food and studying them and isolated cells on petri dishes. That's science.

But no. My husband and I we say, "We step our foots down," and we say, "Absolutely, there's another kind of science." That is the art of raising healthy children. That's what people did. That's what people, like, if we didn't know how to raise healthy children, there wouldn't be humans. We have to respect that recipes that are traditional that have been handed down from generation to generation. There's something very important happening there. What my husband and I did was we would just analyze old cookbooks and old recipes to look at what every single one of them had in common. We found that there were four things. We call those the four pillars, and we write about them and what they are. Those are the rules. And the rules don't come from nowhere. They come from generations of success.

Dave:

Let me ask you something there. By the way, I love your mindset. My first book was on pregnancy and nutrition to build healthy babies starting from a day zero or day negative, nine months, however you want to call it.

Cate:

Better.

Dave:

If you look at different genetics, you mentioned earlier, for instance, people from China or of just Asia or China. Was it specifically Chinese because there's different subcategories of an Asian have different genes.

Cate:

However, the similarity in terms of where they seem to beget metabolically and healthy is at a lower body fat percentage. You can kind of [crosstalk 00:23:15] together in this case.

Dave:

Okay. From that perspective and then in a recent show I did, we actually talked about how if you are from the western part of Africa, you have certain genes around heart disease that are substantially higher than average. By the way, it's the same if you're from the far Scandinavian countries, but if you're from Central Europe or other parts of Africa, you don't have these.

What that means is you got to go back and say, "What did your ancestors eat?" But if you are from, say, western Africa, you're eating your pounded roots like cassava that generally my northern European ancestors, I have that gene. My ancestors didn't have a lot of pounded cassava. I don't know if they're eating like dead fish or something, but whatever that comes down to, are those rules the same for all of us or is it more? You have to look at what your body needs.

Cate:

Well, there's some slight customization, but not much. For what we call the four pillars, they're broad categories. Every single diet can be contained within these broad categories. There are things like fresh food, food that hasn't been even heated because heat destroys antioxidants, and it destroys vitamins, heat-sensitive items. That's a big broad category. Another one is fermented food. Well, everybody now, a lot of us rely on probiotics and stuff, but we used to ferment our food and have it living bacteria in there.

Dave:

What about the other two categories? We got the raw stuff, the fermented stuff. What else?

Cate:

Meat on the bone by which I mean including the actual bone and the ligaments and even the skin and, of course, the fat when it's suitable, like, not cow skin necessarily, but-

Dave:

Basic cracklings, pork skin.

Cate:

Yes. The reason that the skin and the joints are beneficial and even the bone being in like a soup that you boil to make stock out of is because these are special factors in there that are a combination of protein and sugar. It's not in a macro category. It's a category all by itself.

Dave:

[crosstalk 00:25:28] like chondroitin and hyaluronic acid or-

Cate:

Yes, because they are mixtures of amino acids and sugars. They act like signaling molecules as do collagen hydrolysis. It's really good for your collagen-based tissues because it actually acts like a growth factor to make your fibroblast pump out more collagen.

Dave:

What do people say or what do you say to people say, "Oh, yeah. Well, there's been vegetarians and whatever part of the world." There's never been vegans anywhere for very long because they get infertile. Sorry, guys. Let's just face facts. They try and be vegan for two or three generations. There

won't be no babies. Problem solved. But vegetarian, you can do it, but they're not getting their collagen. How are they doing this [inaudible 00:26:12]?

Cate:

Right. They're not. There haven't been pure vegetarians for generation after generation. When I ask folks who are born or raised in India, "Okay. Tell me about does it mean to be a vegetarian," and they're like, "Well, we include three chickens." When we say things, we had to be very careful about our terms because, first of all, even in this country, we know vegetarian means many things. It means you might eat fish, for example.

Dave:

Well, at that point, I'm a lacto-ovo, beefo, porko vegetarian. I feel very good about that, but end of the day, if you're eating only vegetables, you're not going to get the fats, but if you're vegetarian, you're eating egg yolks, and you're eating butter and cheese. Suddenly, your fatty acid ratio looks a lot more like a human's and a lot less like a vegetables.

Cate:

Yeah. You can do the macros. You can get healthy fats. You can have a very healthy metabolism without eating... You can be vegan, but I'm not convinced that you can have healthy children for three generations if everyone has been vegan.

Dave:

Hold on a second. You're not convinced?

Cate:

No.

Dave:

What do you really believe, Cate?

Cate:

I think it would be bad. If you are vegan and you're pregnant, you really want to read a little bit more about traditional diets and epigenetics because I believe actually that you could be putting children at risk. You wouldn't be getting the healthiest child.

Dave:

I got sworn at, at the Milken Conference in Dubai recently. I was on a panel talking about health. I said, "Well, look. We don't have to worry about the vegan diet because it reduces fertility and it makes it harder to have healthy kids. It shrinks kid's brains. One of the members of the royalty who was in the room swore at me publicly. We had a really good conversation after. He's like, "But [inaudible 00:28:22]. I had kids." I'm like, "Yeah. But it's kid's kid's kid's epigenetics." We both walked away from it laughing about the whole situation because we disagree, but man, I have 1300 references in and five years writing a book on fertility when my wife who's a medical doctor wasn't fertile telling you the reason we got fertile was we got our fats right, but, oh, I have a pretty serious question for you about a certain kind

of fat. Wait. Hold on. Before we go to that question, you gave us three of the four pillars. What's the fourth pillar? It's got to be like fiber or some kind of carbs.

Cate:

It's the farthest thing from fiber. It's organ meat.

Dave:

Organ meats, because Eskimos don't need any of that stuff or Inuit or any of the very far northern tribes, and they can live without that. All right. I got you.

Cate:

Because it deserves its own category because we don't consider it edible, basically. In America, we feed it to our animals. We make carpet backing out of it, but it is so essential to optimal health because liver, for example, is one of the best sources of B vitamins and bioavailable iron.

Dave:

Liver's gross. Can we just agree?

Cate:

Yes. You can make anything gross. You can make anything gross but if you know what you're doing, you can also make anything taste good. That's the reason that we lost our taste for it in this country because it's harder to make taste good. It's one of those things though that if you grew up eating it, you have a special love for it because it reminds you of your childhood. Your body knows that it was good for you.

Dave:

My wife is like that. You give her like a chicken liver pate, and she goes crazy. I'm like, "That's horrifying. How can you want to eat that?" I'm holding my nose. What I do is I just take dried liver capsules, and I'm okay with that, desiccated liver. That's what my kids do as well because even though we gave them liver since they were little, after they were three, they're like, "Actually, this doesn't taste good. We don't care that you gave it to us." Maybe, even though I'm good cook, maybe I'm not a liver master. That's fascinating. Those are the four things. Okay. The four things, to recap for listeners, give me just what are the four things that every healthy diet on the planet throughout all of history includes. What are the four? Just what are the four things that every healthy diet on the planet throughout all of history includes. What are the four?

Cate:

Fresh food, fermented and sprouted food, meat on the bone, organ meats.

Dave:

No carbs.

Cate:

Bam.

Dave:

Many of them may include carbs, but they don't all include carbs.

Cate:

No. I mean exactly. You could have carbs in there or the macro is like another dimension of a way to describe food. They can coexist or they can be excluded from each other. You do not need to eat the macros and necessarily... I mean, actually, we do need to eat certain amino acids and certain fatty acids, but the amounts, there's so much flux in there. As long as we're actually eating whole foods and we're the four pillars, it's hard to go wrong unless you're on a really restricted diet. I almost said island because getting ahead of myself. When people moved to islands or when people are living sort of on a food island like... What was that tribe that everybody was talking about like 10 years ago in the Paleo world? They ate a lot of potatoes in Peru or somewhere.

Dave:

Is that the coconut oil and starch people who smoked all the time?

Cate:

No. It was like some in the Andes, I think. They were way high in a mountain. There were not a lot of foods that grew there. Potatoes were one. Basically, they had to have restricted their diet because they had been chased up the mountain. What nobody was talking about was that they were physically a lot smaller. The adult men were four-foot tall. That's what happens if they're still following four pillars, but their macros were radically different. They didn't get enough protein. Nature is really smart. It's programmed to make the next generation have less bone mass, so their height was less and they just preserved the ability to be healthy with less by making people smaller. It's not that they're bad or they're not less healthy. They can be fantastically healthy, but they just have to be smaller. Does that matter? Well, yes and no.

It does matter. Possibly why they were so isolated was because they would lose the fist fight if they were fighting against somebody who was physically bigger, so they had to basically isolate themselves. That's how you get these extreme diets that where people are still healthy and you can use them in these examples, I wish I could remember the name of the tribe, but everybody was talking about it back in 2012 [crosstalk 00:33:30] starches and everything like that.

8 Oils That Will Wreck Your Health

Dave:

It's one of those things where if you came from that tribe and those are your people, you probably are going to do well on a higher potato diet for real because your production of energy was optimized for that stuff. If you try to go eat some completely other diet, you might just thrive on it or it might not work at all for you. That's the learning. That's what it feels like is missing a lot of the time. Let's get in some oils. There's eight oils that you say in your new book that you're saying these are the worst ones. These are also the ones that you say, and I agree with you, by the way, increase your risk of getting inflammatory conditions from COVID. What are these eight evil oils?

Cate:

Well, I call them the hateful eight. They are three C's and three S's. We have corn, canola, cottonseed, soy, sunflower, safflower and then the other two which you mostly find in restaurants are grapeseed and rice bran oil. The reason they're all bad and hateful is because they are mostly polyunsaturated.

They're way too much polyunsaturated to be processed, which they are. To remove from the seed, then, they have to be refined, bleached, and deodorized. That's another reason why even healthy fats that have been used over and over and over again, this gets me to another thing that you brought up earlier, the processing strips away the minerals and the vitamins that stabilize these very unstable fatty acids in the seed, that nature puts in there so that when we eat whole seeds, I'm not saying that eating corn or soy is going to give you toxic fats.

I'm saying that eating soy oil and corn oil will though because these fats are unstable, and they deteriorate. Even in the bottle, there's 5% of unnatural fats in the bottle. You're eating these things that are really very highly toxic. They have long names like 4-hydroxynonenal, but they are known carcinogens. You're eating them in like gram amounts on a daily basis. It's a miracle that we can even exist on these things, but that's why we have like this three-generation thing that's happened. Now, it's the third generation where these things have been in the food supply. The generation born in 2000, basically, they're predicted to develop diabetes and have a shorter lifespan than the generation prior to that for the first time in modern history.

Dave:

I'm counting on my grandkids to just kick ass. That's all I'm saying, not that I have grandkids, but if I ever do many, many years from now, given what I fed my kids and what I was eating long before that and my wife as well, maybe we've turned that around for at least a few of us. When people read your books, when people just tune in on this whole movement, I think that there are going to be some people who are fantastically long-lived 50 from now, and it's because of the stuff we were doing now. And it will become a very serious and an unfair advantage. If your parents ate the right stuff, but it already is right now. If your parents ate healthy stuff, you're healthier.

It's a multi-generational thing. It's totally not fair. You don't get to pick what your parents ate when they were carrying you. You don't get to pick what your parents fed you when you were young. It's a big issue of equality where quality food should be available everywhere. It definitely isn't. Even where it is available, many people don't choose it because they don't know any better. That's just wrong.

Cate:

Yeah. Exactly. It is wrong, and we're lied to. This is what makes this whole issue political because the reason that we talk about that we have all these lies that doctors learned that polyunsaturated oils are healthier than saturated is because in the 70s, I think, with the Nixon administration, they were worried about food shortages. They tied the USDA, the government guidelines of what you people should eat to what we could grow more of so that we would simply have more calories to be able to feed more people.

It's all a quantity over quality political choice. And the US government decided that we want quantity over quality. We need more and more and more. That's the structure of capitalism, and you have to lie to people though to get them to buy into that because if you are telling people the truth that olive oil is one of the healthiest plant oils, but we only have 3% of the planet that can grow it versus humungous percentage of 100 times that much that can grow the hateful eight seed oils, the canola, the corn, the soy oil, you have to start lying to people about what is healthy to sell it to them. That's what happened.

Dave:

Here's what's particularly noxious and evil about that because of my work as founder of Bulletproof, I've had the opportunity to meet CEOs of some of the world's largest food and beverage companies out there. And many of them, we've had these kind of private conversations that are, "Hey, how do I get people to pay even one cent more for something that has a healthier oil or has a healthier profile," because right now, if I make my atrocious junk food sugar bomb with bad fats, whatever you want to call it, if I increase the cost by one cent, I lose market, and people will buy something else. There's this race to the bottom.

What is really happening there is that if we had it written down and acknowledged in science because it's true not because it's economically useful, that, oh, these saturated fats are useful and healthy and these other fats or not, we could have by now hybridized or even genetically engineered canola and corn and all these things to make olive oil or to make any other kind of oil that we wanted, but instead of doing that and helping to bend our food crops to our will via natural or even unnatural means because, hey, they already do that. I'm not advocating for that [inaudible 00:40:03], we've just grown more of the crap.

That is why these scientific lies and those are lies we know 100% these polyunsaturated fats, these eat more vegetable oils, the people who say that, there's a special place in hell for them. There is because that's what the science says, the science that studies health. It's sort of rare major, but anyway. I'll get off my soapbox, but I'm with you except what about soybean lecithin which is a fat and sunflower lecithin which is a fat? Are those bad too?

Cate:

Well, they can be. Yes. The reason that they can be is because the soybeans lecithin is going to have the same fatty acids as soybean oil. It's just that people don't know what lecithin is. The fat is a triglyceride. There's three fatty acids. Lecithin is an emulsifier. That's why it's added to foods. It makes mayonnaise. It keeps the consistency nice and smooth. It helps air stay, air and oil emulsion that is mayonnaise. Lecithin is made out of two fatty acids instead of three.

When you say soy lecithin, you are probably actually adding a much more expensive product. You're probably not going to be adding that much of it. Thank goodness. Well, it's not healthy. I wouldn't recommend it. It's not at anywhere near capable of doing the damage that the seed oils are. That's why I like to keep things as simple as possible and simpler. I say just really look for the eight seed oils.

Dave:

You're opposed to lecithin, in general.

Cate:

Well, soy lecithin.

Dave:

What about sunflower lecithin then? Is there any other kind of lecithin? There's no cow lecithin [crosstalk 00:42:00].

Cate:

Eggs, egg yolks. There's lecithin in egg yolks. I don't even know if they use lecithin because egg yolks have so much emulsifying property themselves that they just use egg yolks. That's what traditionally mayonnaise was made of as the emulsifier in mayonnaise. When we started saying, "Oh, low cholesterol

and stuff like this," we wanted mayonnaise without egg yolk. We used soy lecithin ironically which is not as healthy and possibly pretty not healthy.

Dave:

Well, there's all kinds of other problems with soy and contamination with glyphosate and things. I did find when I was doing research on specifically the myelin sheath, the lining of the nerves and the brain and even reducing fatty liver is that lecithin deficiency can be a real issue and the recipe for Get Some Ice Creams, like, "Wait. Raw egg yolks and butter, cooking oil and all these things and you blend them up," it's called Get Some Ice Cream. It's on the Dave Asprey blog. It's there because you eat it and an hour later, like, "I think we should go to the bedroom," because the body says, "Look. Yeah. I got everything I need to have a baby including all those saturated fats." You've had this weird effect that has been documented by hundreds and hundreds and hundreds of people are responding to those post going, "Oh, my god. It worked."

But I am okay with adding sunflower lecithin. You got a tablespoon of that to something. It does improve the flavor, but it seems like neurologically in limited doses, if you store it in the fridge and it's not damaged, you're going to get those essential fats. Is that too far off or you're still like, "No. That's a waste of time?"

Cate:

Well, it depends where you're at. If you aren't able to make lecithin in your body because you have so much... This is actually an assumption. One of the reasons that you can't make lecithin is because you have enzyme damage due to extreme inflammation, high PUFA, seed oil consumption. That can derange a lot of different processes in your body, one of which certainly could be the ability to make lecithin.

Dave:

Okay. It could also be heavy metals. It could be mold toxins. It could be Lyme disease although that's usually toxic mold, but it could be a chronic autoimmune, something bad is happening so that would take you off. Then, you would supplement. Is that what you're saying?

Cate:

Definitely, definitely. If you need lecithin you need it, and if it is processed more carefully than your standard seed oils, then it, hopefully, wouldn't have the toxic forms or the fatty acids that you're actually eating instead of the natural forms of the fatty acids. I'm sure there's a way that you can analyze that to see if that's happening. You can put anything through the right kind of NMR analyzer to see what is the components of the polyunsaturated fatty acids, how they broken down at all. Is your process starting with the linoleic acid that one of the common PUFAs in soy, and is it ending with that or is that linoleic acid breaking down and you're actually getting some of these toxic things? You can actually measure that if you want to. It's probably not cheap, but if you do that, then, you can know what's happening and what's in there.

That's a very important question that I think could be a huge boon to people who do want to make these more easy shelf-stable like kinds of products for people who just don't want to be bothered with cooking. At least, you could you can start measuring how is your process holding up or how are the fatty acids holding up to your process? There are easy ways. There's analyzers. You can test so much stuff so quickly these days. If manufacturers would do that and want to be like the better version of a processed food, then you can simply do that, but there's another whole other option. That is just use animal fat as we've been ignoring the fact. It doesn't all have to be olive oil. It could certainly be just

tallow, beef tallow. That's what used to be and in McDonald's French fries, it was so common in restaurants in the deep fryers. It's much more capable of standing up to the processing. It's probably a lot more shelf-stable certainly than canola and soy and corn and all that sort of thing.

Dave:

Then, again, though, Cate, back when they used to do that, cows eat grass. If you will use modern tallow from industrial feedlot beef, man, that just isn't really good for humans. The fat ratios are off. The animals were mistreated. There's antibiotic residues. It's environmentally destructive. They're mean to the animals. It doesn't work. How are people supposed to get this stuff? You can't get beef tallow. Let's be real. There's hundreds of thousands of people listening to this. Where do they go to get good fats?

Cate:

Well, where I work, the company I work for, most of the employees are definitely not anywhere where they can access those kinds of good fats. The fact is [inaudible 00:47:13] I mean seed oils are not that bad for you that they are still better than like the... I don't want to advocate for the industrial food chain, but I can't tell people that they should be vegetarians. I just tell them do the best that you can. Some of the best fats out there are the dairy fats because that is regulated. It's not going to be as healthy as if it were grass, but it's regulated by the animals, not by the mammary glands.

The proportion of PUFA in there is not as high as the proportion in the beef body fat because just like us, if we eat too much polyunsaturated fatty acids, our body fat is holding stuff. Same with the cows although they have a much more sophisticated digestive tract and it can help a little bit so that they're not going to be as much of a mirror as our body fat. They can eat more PUFA and still have less than their body fat. Would you pay more for steak that tasted twice as good? I would. I mean [crosstalk 00:48:21].

Dave:

Only [crosstalk 00:48:22] as much, so I have to pay the same amount. Order the smaller steak. That was better for you. You live, right?

Cate:

What is better for you, it tastes better because flavor is nutrition. Chefs are the original nutritionist. That's why the nutrition is all about respecting chefs and respecting culinary in old-fashioned recipes. A recipe could be really short a traditional recipe, but there's a lot of wisdom and knowledge and skill buried in that. That is the body of nutritional science that doctors used to respect, but if we come full circle and come back and say, "Oh, yeah. If you want to really be into health, don't go to dietitian school." Don't be a dietician or nutritionist. Go to culinary school and just focus on using real whole food ingredients because that's what everybody used to do.

Dave:

Oh, man.

Cate:

Need to do.

Dave:

You're reminding me the birth of the Bulletproof Diet came from looking at fertility and nutrition and then something called molecular gastronomy or modernist cuisine which is where they take all these laboratory instruments. Though I've had in my house for 20 years, but they use them to make the food taste good without carrying one crap about how good it is for you. You eat most modernist cuisine, you will feel like crap the next day, but it would taste so good. It was probably worth it. I said what would happen if I took those things and temperature control and oxygen flow and air flow and all that.

The goal was food that makes you feel amazing, No. 1 and No. 2, taste good. We're much in alignment on this stuff, but you can use the tech to enhance and protect and support the flavor and what the food is supposed to do for you. That is very much in all of your work it's built into it. I think you've been right the whole time which is cool, but I never talked about that idea of taking tech instead of it have to be a bad thing saying maybe it can actually support the goodness. The tech shows you that farmers food has more stuff in it. [crosstalk 00:50:27].

Cate:

And use the tech to make the soil healthy and use the tech to figure out what animals really thrive on and use the tech to do the real legit kind of nutrition science which starts with the soil.

Dave:

Yeah. It shows us the ancestral stuff works. That's what the tech always shows. That's why I, of course, I'm going to measure the soil and see, "Oh, am I building more soil?" If there isn't sheep pooping nearby, the soil doesn't work as well. That seems like science. All right. I have one more question for you in our interview. You said when you were on [inaudible 00:51:01] recently that the COVID virus is taking advantage of our pro-inflammatory high-PUFA diet and that if we had quit eating this stuff five years ago, no one would get sick from coronavirus except for a few extreme autoimmune people. Do you stand by that?

Cate:

Yeah. Absolutely. Well, because for one thing, it's not the coronavirus itself that's killing folks under 65. It's not that virulent of a virus. What's killing people under 65 is their own immune systems that are working against them. That's happening because of years of eating seed oils. When you're sick, you stop eating the seed oils. The PUFAs that have built up in your body fat get released into your bloodstream where they promote massive amounts of inflammation. That's how we get people dying who are young, might even be normal weight and apparently healthy, but they are not metabolically healthy because the underlying condition, they talk about underlying conditions in coronavirus like diabetes and fatty liver and overweight. Well, the underlying condition underlying all those conditions is having body fat, full of high PUFA seed oils from a lifetime of thinking those things are just fine for you to eat, not realizing how toxic they are.

Dave:

Well, on that note, thank you for being a guest on the show, and thank you for your new book. I think that people who listen to the show are going to totally, totally love reading *The Fatburn Fix*. And, guys, if you like the sort of things that are in the Bulletproof lifestyle that come from different people, there's a summary of knowledge here very specifically around fat types that is missing from your Paleo diet. It's definitely missing from the world of keto. And Dr. Cate's nailed it, and it's easy to read. Check out *The Fatburn Fix*. It is not the same sort of recycled of eat lots of kale or whatever sort of thing. That's not what we're talking about here. Check it out. Thanks, again, Cate.

Cate:

Thanks, Dave. It's been fun talking to you as always.

Dave:

You, guys, know, if you read a book and you like the book, you go to Amazon and you take about two seconds to leave a review that says what you thought of the book. Actually, if you don't like the book, you can leave a review. If you've liked Dr. Cate's FatBurn Fix, leave an honest review because like all authors, she actually checks them just like I check my reviews because it tells us what we did right and what we didn't do right, but I'm telling you this book is going to get a lot of good reviews.