



THE FAT SUMMIT

Separating Fat From Fiction

Transcript:

Interview with Dr. Josh Axe
draxe.com

Interview by Mark Hyman, MD
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Dr. Hyman: Hey everybody, this is Dr. Mark Hyman. Welcome to the Fat Summit where we separate fat from fiction. I'm glad to have as my guest Dr. Josh Axe who's in Nashville, Tennessee right now. He's a certified doctor of natural medicine, clinical nutritionist and has a doctorate in chiropractic. So he's a well-trained dude and he has the same passion as I do, which is to use food as medicine to help heal chronic disease and he's done this in practice, he does this through his online work, in the media. He's just a prolific writer, thinker, educator about this whole topic of using functional medicine and food as medicine. He's started one of the world's biggest health clinics called Exodus Health Center; he's got an awesome website, draxe.com, tons of visitors, tons of resources on fitness, natural medicine, healing yourself from chronic disease. I just I love the work you're doing. It's really, really great. And I'm so excited that we get to have this conversation because I know you've fought a lot about diet and you've fought a lot about fat and you've written a bunch of books and I want to sort of talk about that later on in the program. But I really want to start out by talking about the evolution of your thinking about fat and where do you sit now? And some of the challenging topics are saturated fat and animal fat and things that are sort of on the edge of what we think of as, "Ah well, it's okay maybe, nuts are good, fish is good," but like some people don't even think that, by the way. But, where do you kind of land on all this, how did the evolution of your thinking change over time?

Dr. Axe: Sure, well actually for myself sort of growing up and...My first introduction to health was really more the fitness industry. I had a mom who was my gym teacher at school, a dad who was a semi-pro water skier and then some mentors growing up they were, they kind of did the body building thing, or they just worked out a lot, not necessarily...he did body building she didn't. But they were really fit. So that was my first introduction. So when I started eating healthy, Dr. Mark, for me, it was more of that actually low fat diet. I can remember going and eating egg whites and oatmeal plain for breakfast, and then canned tuna and broccoli for lunch, and then brown rice and chicken for dinner. And I mean the good thing was at least it was real food but it was definitely more of that low fat mentality, eating to five to six times a day, eating a certain way. And I remember getting to the point, this is actually was when I was an undergrad and finally I just kind of almost broke down and said, "I cannot eat another plain chicken breast," everything tasted so bland.

Dr. Hyman: You take the fat out it doesn't taste so good.

Dr. Axe: There you go. You take the fat out you take the fun out, right? So it was one of those things where I just got to the point where I'm like, "Man, I got to spice things up," and so that's when I really started experimenting in the kitchen. I was entering, actually I started taking nutrition classes, and first off,

everything I learned at the time was wrong because when I was at University of Kentucky, I hate to say it, but they taught at school and all this nutrition classes low fat. But as I started doing research for myself, reading on the Internet looking at some of the new starters coming out, I started realizing what, we need fat. Fat is an important part of our health and reading a lot of the studies not just on fat being healthy and a lot of the research at the time on fish oils, omega 3's, but even on things like butter and coconut oil and saturated fats being good. And so my mentality is I do think it's about balance. I think that there are certain, I'd say dietary systems today, even such as the paleo diet or ketogenic diet that might say, "Just eat a bunch of fat." I think that some people's body types might be able to handle that, others' may not. So I'm not necessarily under the impression that just eat all the fat you want all the time, especially if it's like, "Hey just eat bacon fat and eggs for every meal," because I actually know people that do that.

Dr. Hyman: Not a good plan, not a good plan.

Dr. Axe: Yeah, I agree with you on that. But I think in general we need good fat. It makes up a good portion of our cell membranes and our cells. And so I'm a huge fan of the right type of fat.

Dr. Hyman: So you kind of went through this evolution where you were working out and being healthy and eating low fat and then started incorporating fat. What did you find for yourself and what did you find in your patients?

Dr. Axe: Sure. Well, I'll kind of start off telling you about my favorite patient and that's my mom. When I was very young, actually when I was...

Dr. Hyman: The gym teacher?

Dr. Axe: The gym teacher. And so this is what was crazy, my mom was my gym teacher at school. She was a swim instructor, really into fitness. But at 40 years old she was diagnosed with breast cancer. And at the time, again, I think I was in seventh grade and I remember getting this news and being somewhat devastated and then her going through the traditional side. The traditional medical system, she went and had a lumpectomy, she went through chemotherapy, she got very ill and praise God, after going through all that, she was diagnosed as being cancer free. But after she had gone through chemotherapy, she spent half her life in bed. She was diagnosed with Hashimoto's Thyroiditis, Chronic Fatigue Syndrome, got put on antidepressant medications, and was very sick. And then 10 years later, actually at this point I was actually working as a nutritionist in Orlando and going through Chiropractic College and she called me and said, "I've got bad news, I've been diagnosed with cancer again." And I

said, "Okay." And I flew home and fortunately I had been connected with some of the top doctors in the country and we spoke with her oncologist and said, "We want to try something natural." And he said, "Okay, well I'll give you three or four months and then come back." And so we changed everything about what she did. We started juicing vegetables, started doing loads of probiotics, bone broth soup and just a very, very clean diet. And one of the things she was having, Dr. Mark, she was having an average of one bowel movement a week.

Dr. Hyman: Oh my God.

Dr. Axe: That had been going on for years.

Dr. Hyman: Oh my God.

Dr. Axe: So we changed all this and we had her actually start increasing fat. She did a lot of avocados, she did some coconut oil, and we did the protocol actually called the Budwig Protocol of getting some probiotic rich goat milk kefir in her diet. We started doing all of this, went back four months later, we did a CT scan and the oncologist called us two days later and said, "This is incredible," he said, "I've actually not seen this before, but he said the tumors had shrunk in half." He said, "I'd like to see you again in nine months." We went back nine months later. At that point she was almost in complete remission. Today it's been about 12 years.

Dr. Hyman: Twelve years, what kind of cancer was that? Was that a recurrence of the breast cancer or a different cancer?

Dr. Axe: Ah, yes, recurrence of breast cancer.

Dr. Hyman: Unbelievable.

Dr. Axe: And so anyways, today she's actually in her mid-60s, she said she feels better, or 63 she just turned here a few weeks ago. She said she feels better now than she did in her 30s. And so I really took a lot of what I learned through that experience and researched and studied.

Dr. Hyman: Wow, that'll wake you up.

Dr. Axe: Oh my goodness, yeah, I mean it did. And I tell my patients this today, Dr. Mark, I tell them, "I'll take care of you like I would my own mom." And that's really my focus now on with what we teach on my website draxe.com and what I'm teaching people in terms of getting whether it's quality

fats in their diet or other types of nutrients, I think obviously diet is critical especially and you see this, I'm sure you've had family members that have been sick and especially when it's a family member, I mean you will spend that much more time doing everything you can to figure out what's the right solution here.

Dr. Hyman: That's true, so true. So let's take a walk down each of the fats. Let's start with the hard one, which is saturated fat, right? Because it's the one there's most controversy about and we know recent guidelines have changed and people are accepting that fat isn't the worst thing for heart disease, it's not total fat but saturated fats still the bad guy. Or weight loss we know maybe that low fat diets don't work as well as high fat diets, and we're sort of accepting that. But we're still worried about butter and we're still worried often about coconut oil, which is kind of having this huge surge in this country in sales and the question is what's going on and what are people thinking and what do they know and tell us about it?

Dr. Axe: Sure, well, I think what happened before people had much research, Dr. Mark, I think what we tend to do is say, "Well, if you eat fat, it makes you fat or if you eat an egg with cholesterol because it has cholesterol in it, that means it means it raises your cholesterol." Well that's not what the research says and we know that also a lot of the research can be biased today, depending on who's doing the research and who's funding the research.

Dr. Hyman: This is true.

Dr. Axe: So I think early on that did create some confusion but now we have enough third party research out there really and a larger body of evidence showing us really what we need to know. So for instance, starting with saturated fat, there are obviously many different types of saturated fat but what I think when you look at something like coconut oil for instance, you've got lauric acid, you've got capric acid, and you've got caprylic acid. One of the first benefits of those is that they're antimicrobial in nature, which obviously, if somebody's eating a lot of sugar...

Dr. Hyman: It's a natural antibiotic.

Dr. Axe: It is. It's acting in that way, it's good for as many people are referring to now the microbiome. So in that way it can be beneficial because it's not going to feed the overgrowth of yeast. Also, it's actually very easily digested and metabolized. If you look at other fats, typically they have to be processed by the liver and so your liver has to do quite a bit of work in order to digest the fats. Well the great thing about saturated fats, especially coconut oil is your liver has to do almost no work; your body doesn't have to produce much bile at all with

the coconut oil because it's mostly those medium chain triglycerides. So really it's easy on the body and, Dr. Mark, that's essentially what I try and teach people. My biggest expertise is digestive health and the best thing you can do for your organs is let them rest because they are so bombarded today with the amount of food we eat and other chemicals coming into our system. So just letting your system rest so the less work your organs have to do, the better. So that's one of the benefits of something like coconut oil, is really if you're comparing it to other oils, your body typically has to do less work. Saturated fats, another important aspect about them is saturated fats make up more of your cell membrane than other types of fat.

Dr. Hyman: Yeah.

Dr. Axe: So for that reason as well, if we talk about the principle you are what you eat, that's really true for saturated fat per se.

Dr. Hyman: And what about the fact that saturated fats raise cholesterol or that they are linked to heart disease?

Dr. Axe: So my thought is I think there are varying bodies of evidence on when you're looking at that. Because I know that I've seen some studies, actually there's a large study done on women at Women's Health Institute and they found that the women that actually ate more saturated fat had lesser amounts of heart disease. But I think it does depend on the amount and the person. I think it does come down to balance.

Dr. Hyman: Yeah.

Dr. Axe: I'm also a big fan of studying Chinese medicine. If you look at Chinese medicine, somebody who has let's say liver disease or an issue like that, their body isn't going to be able to process or digest fats as well and so they may need to have a little bit more of a limit on that versus other people may not. So I think a lot of it does depend upon the person. But I think...

Dr. Hyman: Well, it's functioning medicine, right? We're all different. Its patient centered biochemically individual, genetically unique, okay? Those are the principals that we adhere to, which is that it's not one size fits all.

Dr. Axe: Yeah, and I think that's one of the big things people need to take a look at.

Dr. Hyman: Yeah, so then you do recommend people eat butter then?

Dr. Axe: Right, so I'm a big proponent of organic as well. I do recommend butter. I would say if I kind of had to put them in order, number one, I typically do recommend coconut oil. Number two; I would say I actually recommend a lot of ghee, a lot of clarified butter I think is good for a lot of reasons, specifically organic.

Dr. Hyman: What does that do? What do you think that does? Because using Ayurveda, which is a natural healing system, what's the benefit of ghee?

Dr. Axe: Ghee, when you're looking at it it's going to have a higher profile of just saturated fats. If somebody tends to be intolerant to casein, that's another thing, we have some many people that have gluten sensitivities. One of the cross reactors or actually the second most common allergen along with...

Dr. Hyman: Is dairy.

Dr. Axe: Is dairy and the protein casein. So the good thing about clarified butter is it's really just the fat. You're not going to have any lactose. You're not going to have any casein there. So I think in terms of lessening sort of those allergens, that's I would say one of the bigger benefits.

Dr. Hyman: Yeah, and so people have a little bit of that and then balance is the key. Not overdoing it.

Dr. Axe: I think so. I think a tablespoon is a good serving size for most people. A tablespoon of coconut oil or a tablespoon of ghee or butter is good for any...I think it works like sugar. I mean people haven't talked about fat in this way I don't think necessarily but I don't think sugar is evil. I don't think it's the devil. I don't think it's like some people today are, "You shouldn't have a single ounce of sugar." I've heard some people that are really preaching that message. I think your body can metabolize so much sugar, that's probably a serving or two, a serving of fruit. But the same goes for fat. Your liver can handle so much and your organs can handle so much. But if you're a person that's...and again getting a little bit off into functional and Chinese medicine here, if somebody deals with a lot of anger and stress, those things really build up on the liver, anger and frustration, if somebody has a lot of that going on, that's going to overstress their liver. Their body isn't going to be able to handle as much fat as maybe someone else could who's, hey, somebody who would never react to it.

Dr. Hyman: Well let's talk about that because there are patients I hear who say, "I eat fat and it makes me kind of nauseous, or if I'm having MCT oil or coconut oil." And I often say this, "It's probably because your digestion is not that great." And you really talked about leaky gut, you have programs on it, which is

a key concept in functional medicine and you work to help people to restore normal function. So what in terms of gut health and gut repair and gut support could you offer someone who wants to eat a little more fat but is having trouble with it?

Dr. Axe: Sure. Well I think there're several supplements that help. I know that you have seen thousands of patients, Dr. Mark, who has had their gallbladder removed in surgery. And so for instance with that taking light paste enzymes is great. Light paste helps break down fat. I also think ox bile is a very good supplement for those people who are having trouble with fat digestion. Along with that, it's supporting the liver. Milk thistle, about 150 milligrams twice a day of milk thistle I think can be beneficial. And then certain foods help with digestion. Beets, dandelion greens, artichokes are all really great for supporting those organs. And then if you look at the basis of Chinese medicine and what organ suggestion, it's going to be sour foods are very nourishing to the liver. Doing sauerkraut is great, doing a true homemade yogurt or kefir can be great, or even a little bit of apple cider vinegar, just a tablespoon in water with your meals I think is beneficial as well. So if somebody is really struggling with fat digestion, I think, again, the sour foods, bitter is also good, especially if somebody has candidiasis maybe that's a charred or even a lot of different types of herbs like turmeric. All of those can really support...and those are the foods we don't get, right Dr. Mark? It's like we get plenty of sweet, we get plenty of salty, and those sour and bitter flavors really help with the digestion of fats.

Dr. Hyman: Well that was beautiful what you just said because you kind of without actually saying it you showed us how food can be medicine, right? This is the key concept that you really talked about. Can you talk more about that because what you're saying is instead of taking this drug or this drug for your digestion, you can use this food or that food to help you digest your food better and to heal your gut? That's a kind of novel concept.

Dr. Axe: Sure, yeah. And I'll take this into approach as the first one is we've made things really complicated. I was reading a lot about...again, my past three years has been doing a lot of studying in both Greek and Chinese medicine. And when they prescribe food...when we read about the father of modern medicine, Hippocrates, who was famous for saying, "Let food be thy medicine," he actually had a very specific protocol for how he recommended foods. It was based on symptoms you were having or certain foods or symptoms you have, they're either caused by too much dampness or too much dryness, too much heat or too much cold. And that was it. It was that simple system. So we know bitter foods are very drying to the body. So if somebody has candida then you need to do a lot of drying foods and warming foods and warming foods are obviously things like cayenne pepper, lamb actually is very warm and chili. So

you want to dry and warm foods if you have candida, versus let's say for instance you have a lot of gallbladder liver issues and you tend to have a lot of heat in your body, you want to do foods that are cooling like cucumbers and foods that are sour like sauerkraut. And so it really depends on the condition of that person.

And Chinese medicine has something called five elements of nutrition where they really look at that person in that way. But I think a lot of times people have really overcomplicated things in using food as medicine. I think it's a lot simpler than people realize. I'd say in general, if somebody is struggling with leaky gut, as I mentioned earlier, I think the best diet is a diet that is easy to digest. And this is why and I think, Dr. Mark, you've seen this big trend in bone broth and collagen consumption and I think one of the reasons for that is it's already in its amino acid form, the body doesn't have to break it down. That why it's good for people with inflammatory bowel disease is hey, it's broken down. Why do those people, why do they do coconut oil and ghee first? Again, your liver doesn't have to do that much work; they're the easiest to digest. And similar thing with carbohydrates, is doing things that are not raw vegetables you want to do things that are steamed vegetables, pre-digested or broken down, easy to digest. So I think when somebody has leaky gut, which I believe is the root cause of adrenal fatigue, a lot of food sensitivities today, even in ways if you look at some of the research on leaky gut, a big part of that is being caused by unbalanced of microbes, good and bad bacteria and microbes in the gut. I'm sure people have referenced this but studies on mice and finding that the microbes determine weight loss and weight gain. I mean it's...

Dr. Hyman: Yeah, independent of calories or exercise.

Dr. Axe: Right.

Dr. Hyman: So you take the poop out of skinny mice, put it in a fat mouse and they actually lose weight and vice versa, you can take the bacteria out of a fat mouse, put it into a skinny mouse and they gain weight, independent of calories.

Dr. Axe: It's amazing. Yeah.

Dr. Hyman: It's pretty stunning, right?

Dr. Axe: It is its stunning. And so I know people don't...it's not the most appealing probably thing to talk about but as you and I are discussing, I mean you can look up fecal transplant online, I know I wrote an article on it and it is...I think we're going to see a lot more of that type of research in the future. But as we

were saying, I believe that health really does begin in the gut and so eating a diet that is again, high in things like collagen and bone broth, high in steamed vegetables, high in foods high in probiotics, I think it's essential for not just healing your gut, but also...

Dr. Hyman: Long term health.

Dr. Axe: Long term health, weight management and in fact I'll tell you this, Dr. Hyman, with my mom, my mom before even when she was a gym teacher or after she was diagnosed with up and down with her weight after she was diagnosed with, after she went through her rounds of chemo. And when we put her on this diet, which was basically a diet that was nutrient dense and easy to digest, she lost 20 pounds in 30 days.

Dr. Hyman: Amazing.

Dr. Axe: And never gained it again. So I think this is one of the things I love about what you teach, Dr. Mark, and I've read your articles for years, I've followed your work with the Institute of Functional Medicine in really teaching people...what you teach and what I teach with weight loss, it's not...we're not teaching people to eat to lose weight.

Dr. Hyman: No, not at all.

Dr. Axe: We're teaching people to eat healthy and the byproduct is weight loss.

Dr. Hyman: Yeah, I actually never tell people to lose weight. It's a side effect of eating the right stuff. And that's why I say, if you choose what you eat you don't have to worry about how much. If you just choose the right foods your body just knows what to do and self regulates.

Dr. Axe: Yeah.

Dr. Hyman: One thing that you touched on I want to come back to which I think many people have been hearing about or maybe not familiar with, which is bone broth. I know you've talked a lot about it, you have collagen available on your website and I'm very curious about this whole trend and phenomena of bone broth and why it's happened, what people are using it for, and what are the benefits, and are there risks to it?

Dr. Axe: Sure. Well I think when you're looking at collagen; first this kind of surprised me. So we sell supplements off draxe.com, by four times our number

one selling product is collagen protein. And we have a grass fed form of collagen and it's great, but that surprised me even more that probiotics and some other things. But it's because it works. I mean we have...there's some really good research on collagen and what it's made up of mostly is proline and glycine and it also does have some glutamine and arginine and amino acids. And proline when you see proline, it's really the building blocks of certain tissues for your skin and for your gut. And so if somebody wants to heal leaky gut or a digestive issue, we know proline is beneficial and glycine and similar thing for even helping things like cellulite. And I remember growing up...

Dr. Hyman: Oh boy, you'll sell a lot of stuff if you say that.

Dr. Axe: But I look at growing up...so when I got sick, Dr. Mark, my mom used to give me chicken soup and ginger ale and first off, it probably had a bunch of noodles and MSG in it and this ginger ale probably had a bunch of sugar, so I probably would have got sick an extra week because my mom, and she loves me more than anything, but where did she get that? Well she probably got it from my great grandmother, who was actually having...when somebody got sick, they gave them real ginger, a real ginger tea as well as bone broth. And bone broth is great for the immune system. As you've heard quoted and you've quoted many times that 80% or so of your immune system really is located in your gut. So if you want to strengthen your immune system, you really need to start with your gut. So proline, glycine, those amino acids in bone broth, they're the building blocks of healthy cells in a way. And so it's important for gut repair. There's some really good research on it helping gut health, there's good research on helping arthritis and joint issues, also helping with skin and beauty. In fact, that's really where the marketing and sales for collagen started, was through selling it in actually beauty products for proline and actually increasing collagen production in the body. And I don't think a lot of people know sort of necessarily all the details of this with collagen but there are actually different types of collagen. If you're looking at beef broth, or you're going to make broth at home and use beef bones as type I and III collagen, which that type of collagen is most usable by your skin. So if you want to get thicker hair, healthier nails, healthier skin, and beef bone broth is the best because it has type I and type III. Chicken collagen, which is mostly from cartilage, that's the highest in type II collagen, which is best for the joints and gut repair. And another type of collagen people...

Dr. Hyman: Really, so chicken soup is better for your gut than beef broth?

Dr. Axe: Exactly, yeah.

Dr. Hyman: That's interesting.

Dr. Axe: The beef is coming mostly from the marrow in the bone, that type of collagen, versus the chicken which is mostly from that cartilage, which is higher in the type two. And this is interesting, I saw a recent study on fish collagen, which is made through essentially slow cooking fish heads and bones and I know that doesn't sound appealing to everybody but it actually...they compared it to beef and chicken collagen and they found that fish collagen, which typically is labeled piscine collagen, that actually collagen has the greatest effect that your body naturally starting to produce its own collagen increasing your own collagen production.

Dr. Hyman: Wow, fish soup?

Dr. Axe: Fish soup, exactly. So those are the most common types of collagen today. Now most people just do a beef collagen in terms of sales but I think we're going to start seeing chicken collagen and some of the fish collagen more on the market. And I make my own chicken broth all the time.

Dr. Hyman: How do you do it? You just buy a chicken and cook the whole chicken?

Dr. Axe: So yeah, so in order to get, let's say, I remember every Thanksgiving my grandma made the gravy out of. You get that little bit of liquid and of course she'd ruin the good broth by adding all this flour and stuff in there, but when you cook a turkey in the oven, that little bit of fluid at the bottom, that's broth. Now the best way though, if you want to get a larger amount of broth and really get larger therapeutic benefits, what I do is I go to my local farmers market here in Nashville, Tennessee, I buy typically chicken feet and chicken necks. I put them in a crock pot and this is so easy. I know sometimes for people that might seem overwhelming like, "Wow, making my own broth, that sounds really complicated." It's the easiest thing in the world. You get these chicken parts, you put them in a crock pot, you submerge it in water and you cook it for 24 hours.

Dr. Hyman: What do you add, anything?

Dr. Axe: Typically what I do is I add...the most important ingredient is about four tablespoons of apple cider vinegar. Apple cider vinegar actually helps pull out some of the amino acids and minerals. So that's one of the things you do. But I typically also add in carrots, celery and onions and sometimes garlic. And that's another thing, if you want healthy joints, you get some of the onion and garlic in there, you're getting some good sulfur compounds. But yeah, so what

we typically do is we make a real chicken soup with it so we just sort of remove the bones at the end and then bam, you've got a chicken vegetable soup.

Dr. Hyman: Amazing. And then you filter it, or you just remove the...

Dr. Axe: No, we just remove the bones.

Dr. Hyman: So how much should people drink a day, like a glass or two cups?

Dr. Axe: I typically recommend two cups a day just depending on someone's health goals. And this is great, especially if somebody has had again damaged joints. Let's say they have an ACL tear or you sprain an ankle or somebody does have a severe digestive issue...I've actually had, Dr. Mark, one of the things I've done in my clinic over the years is when somebody came in who really had some severe health issues I started them on a bone broth cleanse. And so I would have them just do bone broth/soup every meal for three days and sometimes two weeks.

Dr. Hyman: Wow, like a fast you mean?

Dr. Axe: A fast yeah, and the results were incredible in what they saw. But for most people...

Dr. Hyman: Don't people get hungry? It's basically like fasting with no...

Dr. Axe: Well I mean again it really depends on the person but typically if it's just broth, it would be three days. But that was rare. Most people we would just have them do the soup, so pretty much it's broth, vegetables and chicken. Those three things: broth, vegetables and chicken for several days. And really you can stay full on that. You can get quite a few calories. It's repetitive, so not everybody likes eating the same meal every day.

Dr. Hyman: Then what would you see happen?

Dr. Axe: Oh my goodness, I mean it was so many people, especially people with inflammatory bowel disease. I mean we saw just tremendous results in terms of symptoms improving, inflammation dying down, chronic pain going away, especially people who had chronic joint pain. And I think there are a number of reasons, one it's so healing. Number two, we've removed the gluten and some of the other things that were causing a lot of the issues to begin with. Yeah, but we saw some really and still see really strong results with that.

Dr. Hyman: And the beef bone, you're not worried about lead or anything like that from the beef bones?

Dr. Axe: Well you're right. So with beef versus chicken, and I think we're going to start seeing some people worry about this, with beef bones you are going to pull out minerals and part minerals are metals. And so you're going to see certain minerals that are higher now they're organic. For instance if somebody is concerned with arsenic I think our body was designed to deal with metals.

Dr. Hyman: It is.

Dr. Axe: But only so much. So I do think with toxic exposure today in large amounts beef bones, especially non organic this is...why I only recommend organic as well, but even organic bones are going to have some metals in them.

Dr. Hyman: Sure.

Dr. Axe: So it could be something for somebody to be concerned with but the truth is there's really no research on it right now so it's kind of just speculation on beef bones, how much of an issue they could be.

Dr. Hyman: Someone could just send bone broth into the lab and see how much lead there is.

Dr. Axe: Yeah, no...

Dr. Hyman: I've done Chinese herbal concoctions to see how much lead there is and you could do it, I think it will be interesting.

Dr. Axe: Sure, it would, absolutely.

Dr. Hyman: But you also sell collagen, so tell me about that. Is that different? Is that as good? How do you use it and how much?

Dr. Axe: Sure. So with collagen or collagen protein powder, of course bone broth, making it yourself in a crock pot, for me that's always number one, right? I mean food is food and so that should be number one. A collagen powder is a really simple and easy way to get more of those amino acids proline and glycine and glutamine into your diet in let's say a smoothie. About one heaping tablespoon is going to be about six to seven grams of protein. And so what I have most of my patients do is typically two tablespoons a day in a smoothie or in some applesauce. Typically a super food smoothie for breakfast, they'll do a couple tablespoons in there. And basically what it is hydrolyzed collagen. Most

the time if you're looking at a collagen supplement, they're taking it from...well I should say it depends on the quality. Some of them, the cheaper brands of collagen, they actually get from the hooves of let's say cattle. But higher quality they'll take from the hide, so they'll actually take the skin of the animal which has...our skin we know has the highest levels of collagen so they'll actually take the skin and grind that up and essentially that's where collagen powder, a higher quality will come from, is from the hide.

Dr. Hyman: Amazing. Incredible. That's a whole new thing. I actually have bone broth in my book and I've written about the benefits of it for gut and I think it's really useful. I jump to keeping your gut healthy and staying healthy. So let's sort of go back to fat for a minute.

Dr. Axe: Sure.

Dr. Hyman: I think the other thing that I wanted to get your thoughts on was about the whole polyunsaturated omega-6 fats. Because there are whole groups that are saying they're good for you and you should have more vegetable oils. And another are saying they're really not that good for you and they actually cause inflammation. What's your take on that?

Dr. Axe: I have a few thoughts. My first one is that the most important thing by far is to not eat processed omega-3 or omega-6. Because I even think, Mark, I would really...

Dr. Hyman: What are processed omega-3s?

Dr. Axe: I think a lot of the fish oils today I think they've probably been hydrogenated; they're not in their original form. If you look at, in fact, I just read a study on this where...and this is surprising, they did a study on salmon. It was either salmon or mackerel, I read a couple studies but they actually went and looked at okay, we know we're not supposed to heat up polyunsaturated or at least they're very sensitive. But when they actually looked at fried salmon and mackerel, it really didn't change or oxidize the omega-3s because of the protein matrix and some of the other things that were protecting it. Those antioxidants, which is amazing. If you look at a lot of the fish oils today that don't have that what's found in its food form I think they're very sensitive. So I think there are probably a number of fish oil supplements out there, I would guess 90+% that really are not worth taking. They might be doing more harm than good.

Dr. Hyman: The good ones usually have antioxidants in them.

Dr. Axe: Exactly. You're going to see maybe astaxanthin or rosemary oil, I totally agree with you on that. So I think that that's something to be aware of. The omega-6, I think they're probably not as harmful if you're getting it in food form, but...

Dr. Hyman: Like nuts or seeds, you mean?

Dr. Axe: Exactly. I think it's been proven it's important, having that balance of whether it's a one to one or one to four ratio of omega six to omega three. I do believe that's still important and something to pay attention to. So I think on really focusing on getting more of the omega threes because people naturally get more of the omega six, it's important to keep tabs on that. But I'll tell you, one of the worst things I see happening today, a lot of people are going to the health food store and getting chips today and getting different supplements and they are loaded with sunflower and safflower oil. I don't care if it's natural, it is one of the worst things we're doing today.

Dr. Hyman: I see that a lot Josh. I see people eating "healthy" foods at a healthy food store and it's actually full of pretty nasty ingredients. Looking at some great new chip that my friend had brought to the beach the other day and it's 100% avocado oil, which sounds good, then you turn the package over and there're like all these different types of processed corn meal, like maltodextrin and xanthan gum and all these weird compounds that really aren't part of our food supply that have been extracted from these foods we're eating. So I think we have to be careful about that and I think like, you said, if you can get it from like whole chicken soup, it's better than some processed form of collagen. If you can get it from seeds and nuts and plant foods your omega sixes, or even from animal foods that are grass fed, they all have omega sixes. It's better than actually taking these extracted oils that are highly refined and processed and have been shown to potentially be a risky thing. So tell us about your book, 'Eat Dirt.' I'm very curious about that. Tell us about that because I want to give you a chance to explain that.

Dr. Axe: Sure. Well one of the things that I've tried to teach my patients for years, Dr. Hyman, is that bacteria can be good, and microbes can be good. I think we're going to start seeing a lot of information. We've already heard the microbiome being talked about it's going to be talked about more and more and more. But these microbes are essential for your gut. Not just bacteria, but viruses and parasites and fungi and yeast. Actually those can benefit the body. We've even seen supplements like saccharomyces boulardii and a lot of people don't realize, but these medicinal mushrooms like reishi and cordyceps, these are beneficial fungi so these are all crucial to our health. And my mom, I actually thought of the book title, my mom moved down to Florida, I was down

there visiting her and my mom even growing up, when she was going to make something like mashed potatoes, we would take a scrubbing pad and we would scrub the skin off, like she wanted it so clean. Like my mom and my grandma were germ freak. Have you ever seen What About Bob? That was like my grandma, like every door you opened you have to have a tissue and you sanitize everything. So that was me and my family growing up, it was like this over-sanitization.

Dr. Hyman: Right.

Dr. Axe: And my mom was like scrubbing her carrots. I'm like, "Mom listen, just leave a little bit of dirt on there." I'm like, "You don't need to scrub it." In fact I was doing some reading and finding out that there are microbes that line carrots and in fact that you see some of those little dark spots, they actually help break down polysaccharides. They actually help you digest your food, some of that soil there. So that really is the principle behind 'Eat Dirt,' is I teach people...

Dr. Hyman: Don't wash your vegetables?

Dr. Axe: Well so again, hopefully people will read the book to understand and not take everything I say literally. But in the book 'Eat Dirt' it really is about ways to...the premise is five ways to heal leaky gut by really getting more good microbes in your diet. So we really go through ways to sort of...first off, I go over stop with the antibiotic overkill and I go through ways that's happening and give them natural replacements, using things even like essential oil based products and natural things, apple cider vinegar and things people can use for natural cleansing. And then in the book really getting into some surprising things that people may not realize can really boost their microbiome. In fact, eating raw local honey, the reason it's beneficial is it contains local pollen. And local is actually important. That local pollen works in a way as sort of a natural immunization to get your body used to the different things it may be bombarded with in terms of allergens. So eating raw local honey is a way to eat dirt. Eating medicinal mushrooms, like the fungi. In fact spirulina and chlorella, they're not really just algae. They're called cyanobacteria, there're a type of good probiotics in there. And so really I go through simple and easy ways to heal leaky gut and really to boost the health of the microbiome and gut with some I think quite a few surprising things people may not realize.

Dr. Hyman: What are the most fun tips for people?

Dr. Axe: Well one of the...man, this is a side note but then I'll answer that question. One of the other recent articles I think was interesting, there was a recent

physician from New York, it might have been from Columbia, and he came out and he said he thought it might be beneficial to take newborns and roll them around in the New York subway. I'm not sure if you saw that quote. But that might have been a little extreme but his point was...

Dr. Hyman: Maybe on the farm.

Dr. Axe: That's more what I'm thinking too. I think the farm is a much better option than a New York subway. But it was an interesting study because they went and looked at the actual dangerous microbes on the subway and the amount was less than 1%. It was such a small portion they said if you really did do that you'd probably be fine. So it was just one of those things showing not that you should do that but that we probably are over-reacting to certain things.

Dr. Hyman: Yeah, I mean we know that people who grow up on farms actually have less asthma and allergies and eczema and better immune systems and less auto immune disease, why? Because they're growing up in a dirty place. There's dirt, they're playing in the dirt, they're with those animals, and I mean that's a whole different ecosystem. People who live in the developing world and who are from the Amazon jungle, indigenous people, they actually don't have any autoimmune disease to speak of, they don't have these inflammatory diseases that we typically have. They have "very dirty diets" in the sense that they're not washing their hands all the time, they live and breathe and eat the dirt. So eating dirt is a great concept, I love that.

Dr. Axe: Yeah, and one of the sort of case studies we do in the book, we look at a tribe called the Unami Tribe, and looking at their diet and what they consume and they actually, they said it's probably the most untapped or sort of segregated tribe in the world today and they said their life span is very impressive and they looked at what their diet is and basically it's venison and fish and plantains and a fermented cassava drink. They made their own fermented beverage.

Dr. Hyman: Cassava, that's a probiotic.

Dr. Axe: And they also said that they noticed when they were eating, they actually got dirt, plenty of dirt in their diet. One of the researches was talking about the soils based organisms, the soil based probiotics that might even be beneficial and what they're consuming. So it was an interesting study. But yeah, in the book we really go through raw honey, I even talk about grounding the benefits of walking barefoot. Getting into...I'm trying to think of some of the other things...

Dr. Hyman: Do you recommend soil as probiotics?

Dr. Axe: Do what?

Dr. Hyman: Do recommend soil based probiotics that people are using?

Dr. Axe: I think in the right dosage they can be beneficial. Those types of probiotics, if you look at like bacillus subtilis or bacillus coagulans, those bacterium don't take residence in you. But they do help out according to several studies; they do help out with still balance or with pathogenic bacteria. So I think there is some validity to soil based organisms, for sure.

Dr. Hyman: Great. Is there anything else you want to share with us about your views about fat, about your book about your website, anything else?

Dr. Axe: Yeah sure, just a few last things here. I just want to encourage, Dr. Mark, I'm a huge fan of your work. Obviously everybody's been listening to these great interviews, but I think the overarching principle is use food as your medicine. Food can be your greatest form of medicine or your greatest form of poison. So I can almost tell immediately with some of my patients if they are going to see great results when they came in because the people who really who didn't see as good results typically they started worrying about everything they couldn't have. They'd say, "You're telling me I can't eat this," versus the other people started...the best patients would say, "Okay, I'm going to start eating like an Olympian." In fact, I had a chance to work with some of the Olympic swimmers, really interesting because I worked with a guy named Peter Vanderkaay, he's a multiple Olympic medalist and he was always coming up to me saying he was like, "All right Dr. Josh, what do I need to eat right when I wake up or right after work out? Can I..."

Dr. Hyman: He wanted high performance.

Dr. Axe: Exactly, like, "What do I got to do to get a split second faster?" So I started teaching my patients I said, "Stop asking what you can get away with and let's start asking what do I need to eat to be the very best I can be?" And so really think about food in that manner. Ask that question, what is the best thing you can possibly eat today, I think it's crucial. And so and if anybody wants to check it out, I've got some great articles. In fact, I have a free eBook available right now on my website, it's a \$25 value, and it's called 'Super Food Super You.' I've got another free eBook on essential oils and some other things. And again, they're free if you want to check it out there on draxe.com. And I've got articles on bone broth on there and some other things if you want to check that out too. But again, the last piece of advice here with fat is don't be afraid of fat. Get the right fats in your diet. I'd recommend number one some good saturated

fat in the form of coconut oil and maybe some ghee butter. Number two; get some of those good monounsaturated you're going to get in a pure organic extra virgin olive oil, some avocados and maybe some spread of almonds. And get some good polyunsaturated, add some salmon into your diet, some grass fed beef; ideally those wild caught fish are the best. And some chia and flax, that type of thing, but get some fats.

Dr. Hyman: Pretty simple.

Dr. Axe: Pretty simple, I agree.

Dr. Hyman: And so we're all saying the same thing, it's so great to hear. So great to have you Josh. Thanks for joining our Fat Summit and good luck in all your work.

Dr. Axe: Awesome. Thanks Mark again. And huge fan of what you do so I appreciate you having me on.

Dr. Hyman: Of course.