

Paleo Solution - 319

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Robb Wolf: Hey folks, six listeners can't be wrong. It's another edition of the Paleo Solution podcast. I'm Robb Wolf and today's guest is Dr. Mark Hyman. He is the founder and medical director of the Cleveland Clinic Center for Functional Medicine and the number one New York Times Bestselling author of The Blood Sugar Solution. He has also recently authored the groundbreaking work Eat Fat, Get Thin. Dr. Hyman, how are you doing?

Dr. Mark Hyman: I'm really so good.

Robb Wolf: Great. That's probably the shortest introduction you've ever had.

Dr. Mark Hyman: It's great. I'm doing great. I've been learning about so much this last year about fat and I had this most amazing week where I actually got to meet one of the lead researchers in this new study called the Minnesota Coronary Experiment, which we can get to talk about. So I'm kind of a nerd and I just want to get to be a nerd. I really like it.

Robb Wolf: Fantastic. Well I've been a huge fan of your work for ages, incredibly excited to see the explosive growth of Functional Medicine. One of the most common questions that I receive is where is a doctor or a healthcare provider that will address my needs in a way that is integrative and has an eye towards this evolutionary medicine template and consistently ascent them to the Functional Medicine that works, so thank you for your work in that.

Dr. Mark Hyman: Thank you, thank you.

Robb Wolf: So Doc, I've been mocking around in this stuff for probably close to 20 years and I've tried to piece together our current health catastrophe looking at everything from farm subsidies and Evolutionary Medicine, What's your take on how we've gotten into our current state of affairs?

Dr. Mark Hyman: Well, it was a lot of different forces at work, right. I call it big food, big pharma and big egg and big government, all basically colluding to promote the industrial food system, which really is driving most of our world's problems today in terms of chronic disease, in terms of economic burden, in terms of social degradation, in terms of national security because our kids are too sick and fat to fight because of global

competitiveness because our kids can't learn in school or they're in bottom of the pile and industrialized countries of Math and Reading.

So we are really doing our citizens a disservice by our industrial food system. Particularly over the last few decades, we've come up with this concept that fat is bad and that the food pyramid in 1992 told us to eat 6 to 11 servings of bread, rice, cereal and pasta a day and fat and oils only sparingly. This came out of the work Ansell Keys in the '50s who basically looked at a bunch of countries and seemed to find a correlation between dietary fat and saturated fat in heart disease. The thing is these were epidemiologic studies or population studies where it was very difficult to draw conclusions about causation. You can look at a correlation, but it doesn't prove cause and effect. If I say Robb, every morning, the sun comes up and you wake up. I wonder if you're causing the sun to wake up. Well, it's a 100% correlation, but zero causation, right.

Robb Wolf: Right

Dr. Mark Hyman: Maybe you'll have a different opinion about that.

Robb Wolf: My wife thinks it's a world...

Dr. Mark Hyman: *[indiscernible]*.

Robb Wolf: Is that way, yeah, yeah.

Dr. Mark Hyman: But I think the point is that the studies actually got hold and this message got pushed forth in a way that was so powerful that the American Heart Association, the American Dietetic and Diabetic Associations all jumped on board. The government jumped on board with him, a government report in the '70s, then that turned into the first dietary guidelines in the '80s told us to eat less fat. Then the food pyramid in '92, 6 to 11 servings of bread, rice, cereal and pasta and fats and oil sparingly and we're off to the races. Then the food industry jumped on board and then we're like, halleluiah we're going to make all these low-fat products. They're full of sugars. You got low-fat tomato soup, which has a can of tomato soup has more sugar than a can of soda. You got low-fat salad dressing, low-fat yogurt, low-fat everything and all of a sudden, we're eating a very high glycemic diet, very low in fat and we now have seen the skyrocketing epidemic in diabetes, obesity where 70% of Americans are overweight, 40% are kids.

I just did a segment on the Dr. Oz show yesterday on liver. We see kids 5 years old with fatty liver from drinking soda, teenagers who need liver

transplants from cirrhosis from drinking soda. This is really criminal and this is all driven off of this concept of dumping huge amounts of these process foods in the market. Our food policies support this are support of food marketing to children, our lack of clear labeling, our lack of dealing with the consequences of sugar in our food supply. We contribute to sugar and soda taxes. We're spending \$4 billion a year for food stamps on soda for the poor. Everywhere we look, the food guidelines and food policies actually support the production of commodities like soy and corn and wheat, which all are driving so much of our healthcare issues.

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Robb Wolf:

I just could not agree more and it's been a challenge for me to figure out how to have my reader and listenership get fired up about kind of the intersection of the politics and economics of this topic. People really like getting abs, but then, when you start talking about farm subsidies and existential threat to our national security, they check out a little bit, but I'd love what you said there and I just couldn't agree more.

Now, you had so much success with your previous work like *The Blood Sugar Solution*. What drove you to write this book and I understand that this was a pretty tough book for you to plow through? Why did you tackle it and why was this one the hardest work that you've done to date?

Dr. Mark Hyman:

Well, the obvious issue is that sugar is driving so much of our healthcare issues and flour and refined starch and carbs. So nobody disagrees with that. I mean there is a 100% consensus that these are substances that cause diabetes, obesity, heart disease, cancer, dementia, like there is no doubt, no debate here. So I think it was very easy to talk about the science behind that. But then I realized, if I don't want people to eat sugar and starch, then what are they going to eat.

Robb Wolf:

Right, right.

Dr. Mark Hyman:

I mean, you can't eat that much protein, so what's the other main nutrient? It's fat, and it occurred to me that while I recommended people to eat fat, I mean, the detox diet was 50% fat. I didn't advertise it like that, but that's what it was. I realized gee, I didn't really cover fat in detail and by the way, I realized my knowledge was superficial. I mean, I studied nutrition for 30 years and I know quite a bit about fat, but I realized I had a lot of questions. I never actually read the papers myself. I was reading conclusions and summaries. I want to know what where are the science papers on saturated fat and refined vegetable oils and what about animal fat and what about meat.

I really was like desperate to know and I thought, geez I'm really realizing I have a gap, then I think most people have a gap and so I really began to address this. When I got into it, I was like, oh my God, I've got guys who are NIH researchers arguing with these Harvard scientists. Like you've got the smartest people on the planet who have been studying the stuff their whole life and have dedicated their life in the study of fat and may have opposite opinions. Some says saturated fat is not the problem and others say it's deadly and others say vegetable oil is something we should all be drinking by the galloon to prevent heart disease and others say it's toxic and harmful and we shouldn't eat it. So I began to realize that there were so many challenges because of people's political –in a sense from a scientific view their political career of like what their position was preventing them to mention telling the truth or if you said low fat is good for 30 years and built your career on it and all of a sudden, you go, oh well, I made a mistake, it's kind of a problem right?

Robb Wolf: Right.

Dr. Mark Hyman: So people don't like to let go of their beliefs.

Robb Wolf: Not everybody is Tim Noakes who will say, hey, I got it all wrong, yeah.

Dr. Mark Hyman: Yeah. I mean, you read some of my early work. I was recommending people to really cut saturated fat. I wasn't saying fat was bad, but I really thought it wasn't like that great for you and so I avoided butter, I avoided animal fat, I eat low-fat things, I mean, I was sort of on that bandwagon. But as I began to read the Science, I realized that we got it wrong and I really talked these to these scientists. I did the fat summit. We had 38+ scientists and people who I interviewed to discuss this issue of fat and to talk about whether or not we actually have it right or wrong.

There was a wide diversion of opinions. I had some scientists saying like Walter Willet that omega-six fats are really fine and they're actually healthy and then we should be consuming more of them and that they reduce the risks of heart disease. And others like Dr. Ramsden and Dr. Hibbeln from the NIH have done some really great research on that, no, that's not actually the story. When you get more nuanced view of how this works, you realize, oh we got it wrong. So we can go into that. I can go into this and sort of what I found on the omega sixes and the saturated fats. Everything else everybody agrees on: trans fats are bad. Except for a few low-fat extremists, most agree that the actual olive oil and nuts and seeds and avocados, all that is great. There is a controversy of things like saturated fat, omega-6s, eggs, those are the big controversies.

Robb Wolf: I was just reading a paper recently. I'm super interested in intestinal permeability and there was a paper indicating that omega-6s increased intestinal permeability via intestinal alkaline phosphatase downregulation which is really important in keeping the intestinal barrier function intact. If we get intestinal permeability then that tends to lead into leptin and insulin resistance and this kind of so cutest but really interesting way. I would love to hear a little bit more about the omega-6s because that's still a contentious topic.

There was a guy in the ancestral health scene a number of years ago, Kurt Harris, super, super smart guy but he was pretty sanguine about omega-6s. So that tennis match seems to continue going back and forth. I'd love he hear a little about that.

Dr. Mark Hyman: He was good with that. He felt they were okay?

Robb Wolf: Yeah, he was nonplussed about it but he was also coming at it from the perspective of getting it from whole foods like walnuts, versus walnut oil and stuff like that, and felt like there were some other cofactors there

Dr. Mark Hyman: Listen, we need omega-6s, right? But you actually want to get it from food like nuts and seeds as opposed to seed oils, right? So I think that's the challenge. I think when I got on the research like in omega-6s, we can dig in. I literally just had breakfast Monday with Joe Hibbeln, who is from the NIH, who has done huge amount of research on omega-6s and the ratio of omega-6 and 3s and have shown how in fact the increase in omega-6 oils has led to not just heart disease but suicide, homicide, violence, depression. He had shown this over and over again through his research. It's very powerful and compelling.

Just this week there was this study published in British Medical Journal which uncovered data and the story in this is fascinating. He had uncovered data that have been literally in a basement for 40 years and was done by Dr. Ancel Keys and his colleague. They were studying whether saturated fat was better or worse than vegetable oil and their assumption was that vegetable oil was better and that we should be eating less saturated fat. So they did a study which you could not do now. 9,000 plus people in institutions, mental hospitals. They wouldn't pass in Ethical Review Board today but they, actually, were able to do the study and it was controlled. They weighed them. They had autopsy data. They looked at their blood work. It was just really stunning and it's data we really can't replicate today.

They found that the LDL was lowered the most in people who took the vegetable oil and. Now LDL was the whole reason we thought saturated was bad because it raises LDL and we thought increased LDL cause heart attacks. Well in this study, the ones who had the LDL lowered the most had the most heart attacks and death. So it completely contradicting to their view and it was lowered by eating vegetable oil so the more vegetable oil, the more that the LDL went down, the more heart attacks they had where saturated fat causes no problems.

So it was stunning and they go as like they must have thought when they got the result to this, they must have thought, "Oh my god, this must -- we must have done something wrong. We're not publishing this data. So now the last 44 years, this NIH researchers knew that some of them -- they knew about the study but most of the data wasn't published. So they actually found the son of Ancel Keys' partner who was now a cardiologist and they said, "Hey, is this data anywhere?" And the guy goes, "Yeah, yeah." I think there's a box in the basement. So they literally discovered this box in the basement.

They went through with all the data and reanalyzed it and they compared to others the other data and they found that in fact, it shows that saturated fat wasn't the problem and vegetable oil was the problem. It corresponds in a lot of other studies where when doctors are saying, it's like they're saying polyunsaturated fats are good. They're not distinguishing between omega-3 fats from fish and omega-6 fats from all these processed vegetable oils. This is corn oil, soybean oil. I mean soybean oil has 10 % of our calories now. It's gone over a thousand fold in 100 years. This is completely unprecedented and canola oil and safflower oil and sunflower oil. These are oils that are high levels of omeg-6s and they are very inflammatory when eaten and out of balance with omega-3.

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So in these studies where they're just like that the omega-6 is alone, there actually was an increase in heart attacks where they combined it with omega-3s there was a reduction. So it's the omega-3s that actually protect you. We know that from any other studies and now it turns out the omega-6s are really the harmful ones. So I think the studies are really in my view weighing towards the problem with omega 6 as being so abundant in our diet.

Now of course you're going to eat them and you can use them but guess what? If you look at what's added to processed food, there's two ingredients mainly, soybean oil, or maybe corn oil and high-fructose corn syrup. Those two ingredients are basic byproducts of the industrial food

system and they are the ones that are driving most of the problem. So if you cut those two things out, you're going to reduce dramatically and it's not that oil you add to your food. It's not your cooking little oil or whatever you want to cook with little sunflower oil or whatever, that's fine. It's the oil that's added by the food companies to the processed food that drives the problem.

Robb Wolf:

That's great and Doc, it seems like we've seen a little bit of a shift. The 2015 dietary guidelines seemed to exonerate cholesterol. It seemed to put saturated fat into a little bit of a different light. Do you feel like things have gotten to a breaking point? It almost reminds me of 2007 The Housing Bubble or something like and things has reached this breaking point where you can't lie to yourself anymore. So are they trying to backtrack a little bit and slowly extract themselves out without some class action suit on par with like the tobacco industry or something?

Dr. Mark Hyman:

Well, I wrote this book before the guidelines came out and based on the data that was out there, and I came to the same conclusions and they read the same studies. Now, they don't include all the studies unfortunately in their review which is sad because there's a lot of their data they just clearly ignored but they actually got all the things right. They got the fact that we should not be consuming as much sugar. They told us to cut our added sugars and less than 10 % of our calories. All the recommendation was to reduce sugar and sweetened beverages. They mostly focused on added sugar.

They also said, we should not worry about total fat in the diet which was like huge turn around. This is after 40 years of dietary advice and the first time that we've been told to forget about dietary fat into and move to total calorie. They said it's not correlated with heart disease or obesity and we shouldn't worry about it. Now, that was a very between the lines recommendation. It was like they came on and said it. They just removed that recommendation.

Second, they removed the recommendation to lower cholesterol on the diet because there's no of correlation between dietary cholesterol and blood cholesterol or heart disease. That's a whole change in our thinking, a pretty radical change. I think it's really important to recognize that scientists have shifted now.

There's a revision in the review of dietary guidelines process. A lot of it is influenced by industry and by certain scientists which is unfortunate but best changing . If we're to include all the data, I think we'll see that as the

next round comes around, they're going to have hard time defending saturated fat which they still are saying to lower.

Robb Wolf: Right, have you checked out the Brazilian food guide recommendations?

Dr. Mark Hyman: Actually no.

Robb Wolf: They're outstanding. It's ironic like I feel like they're 10 or 20 years ahead of where we're at. It actually has very evolutionary biology whole foods feel about it, like it's incredibly sound, reasonable. I would argue it's probably like the best one, written to date that's pretty phenomenal.

Dr. Mark Hyman: Look at that. Can you send it to me?

Robb Wolf: Absolutely, yeah. So doc, if there's still -- as a clinician when you are trying to help someone with a given condition, we always want to try to figure out what was a root causative factor. So I think that that's still where a lot of this debate in the health scene is this ping pong match between, is it carbs, is it fat, is it protein? What's the causative issue herein like you've alluded? We have some very, very smart people who've devoted decades of work researching different ends of the spectrum. What do you feel like the real culprit is in this obesity, inflammation, diseases of modernity, exploding in the last 30 to 40 years?

Dr. Mark Hyman: Well, I think the answers are really what I said earlier was which I think it's the industrialization of our food system. We've outsourced to what they're cooking to corporations and then the foods that they are producing are high in sugar and refined oils and those two things are driving most to the obesity and chronic disease epidemic. I think it's very important for us to recognize that we actually can change that by shifting to eating more real whole food which I know is what your message is all about.

I think as long as we believe that it's difficult, it's costly, time consuming to do that, we're going to be in trouble. I think we actually can come out with, machinations and policies that help empower help empower people to take back their kitchen. I met with a surgeon general on Monday talking to him about how do we change the conversation for people so they can be empowered to eat real food and get off of the food that's in the industrial food system and actually have a more empowered view of their ability to actually to take back their kitchens, take back their health and get rid of these problems.

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Robb Wolf: That's fantastic. So this is maybe a leading question and maybe you've addressed it already but where you at on the saturated fat story?

Dr. Mark Hyman: Well, I spend a lot of time thinking about it and the truth, Robb, I'm a human first and a doctor second and I actually really did not want to be in the situation where I was eating something that was going to hurt me, right? So I was very careful about like wanting to think about eating the wrong fats and I really was scared of saturated fat because of what I've learned and I was like, "Oh my goodness this is not good." So I basically went through the literature in great detail and the first studies we'll look at where were, there's population studies, there's interventional trials, there is blood level of different fat studies so I went and dug into it and I looked.

First there was the Annals or archives in her medicine study which was done, published which looked at...the Annals in her medicine and it was like 72 studies, 600,000 people in 19 countries in randomized trials, observational data with their blood and it was on fatty acids and they found there was no link between total or saturated fat in heart disease. Now that was interesting. Other new health study again found saturated fat was neutral especially in the context of high fiber and lower processed food. Another review Dr. Krauss from Oakland, he's done in a lot of studies looking at 20 reviews of this data and found 21 studies, 350,000 people over 23 years, no increased risk of heart attacks from saturated fat.

The risks seem to be there if it's a low omega 3 deficiency or in the context of what I call sweet fat when you consume carbs and sugar with saturated fat that's bad,-ice cream, French fries, bagel and butter, doughnuts. Those are not good.

But there's been a bunch studies even in the last few weeks that have sort of been impressive around this. One is the study of full fat dairy in diabetes. So they looked not just the sort of dietary record or history but they actually measured the blood levels of basically butter, dairy fat, and they found there was a reduction by 50% the risk of diabetes and those were the most butter fat in their blood.

Another big review of stroke and saturated fat, the lower the saturated fat in your diet, the higher risk of stroke and the higher the saturated the lower your risk of stroke. Then the last study which was just out this week that I talked about which is this Minnesota coronary study that was done that looked at this kind of really surprising fact that the saturated fat

intervention study did better than the study where give them corn oil or vegetable.

Then if you look biology of saturated fat what does it do? It actually lowers triglycerides, raises HDL. I just got my HDL and LDL and my cholesterol done and I've been eating more coconut oil and butter and I want to see what my numbers looked like. My LDL was fine but my HDL went up dramatically to 70 and it used to be when I was running a lot about that but it came down into the 50s when I was older and now it's up to 70. My triglycerides came down even further and so they're under 70 so pretty impressive.

When you look at the effect of saturated fat on your cholesterol, it raises the large fluffy protective cholesterol particles and lowers the small dense particles and it raises the good cholesterol HDL and helps keep you triglycerides down. So in fact the end result is that your total cholesterol to HDL ratio gets better. Your triglyceride to HDL ratio gets better and those are far more predictive of heart disease far more predictive than your LDL or your total cholesterol which is what most people focus on.

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Robb Wolf:

Right. Doc, we've seen a little bit where some folks butter like if their doing the bulletproof coffee, the buttered coffee and stuff like that, we will see some pretty marked increases in their LDL particle count. Do you feel like there's any concern there? I'm a little sanguine about it given that these people typically their triglycerides drop. Their insulin resistance tends to reverse but I mean it is one of those things where you're kind of like well this is really a good or a bad thing.

Dr. Dr. Mark Hyman: Yeah, I actually do worry about it a little bit. I don't think we have all the data. I would love to see studies of oxidized LDL. What's fascinating is that I was talking to Dr. Hibbeln from the NIH about this whole phenomena and he said you know when you eat vegetable oils, you get oxidized LDL and the LDL particle the thing that gets oxidizes is linoleic acid in the LDL particle.

So what is LDL? It's low density lipoproteins and in there is some fat and the fats if it's actually linoleic acid, it actually gets oxidized because it's unsaturated. It's unstable where saturated fats can't get oxidized because they're saturated already with electrons. So from a biochemistry point of view, the danger of cholesterol is when it oxidizes. So I think if we actually-- We now can measure oxidized LDL with the test from LabCorp and I just had mine done and my oxidized LDL was very low even though my LDL was a little higher than it had been because I've been eating

saturated fat and my overall cholesterol is a little higher but it's fascinating to see.

Robb Wolf: Do you know William Cromwell over at LabCorp?

Dr. Dr. Mark Hyman: I actually don't.

Robb Wolf: He's their director of cardiovascular medicine. He consults with our clinic here in Reno a lot, really super cool dude, a PhD in physical chemistry and then went to med school. He really pioneered the development of the NMR technology for tracking lipoproteins and what not and just an amazing guy, also like a 5th degree black belt in taekwondo or something. So he can save your life or take your life whichever way he wants to go. But a super sharp guy and we have talked with him ad nauseum about this stuff and even for him I would argue probably one of the most knowledgeable lipidologist on the planet. The more layers of the onion we peel, there's still more questions on the story.

Dr. Dr. Mark Hyman: What does he say? What does he think?

Robb Wolf: He tends to be a little bit more on the conservative side that if we just see elevations and LDL particle count that that's a red flag but we've also done some pretty cool like coronary calcium scores and some full body imaging and we have some examples of people who were inflamed, insulin resistant, tweaked their diet, their LDL-- Everything improved except the LDL particle count. C-reactive protein dropped, fructosamine dropped, all these inflammatory and glycation markers dropped. But this one thing went up but their arteries looked significantly better afterwards. That one was a curveball for him because he's historically been very much in this mode of we need to treat either by statins or niacin or something like that. We need to treat these any type of LDL particle elevation but we've been peppering him with a few patients that he's been scratching his head but he's nervous. It's that thing again where you do no harm.

Dr. Dr. Mark Hyman: In the calcium scores they did a vascular compliance testing?

Robb Wolf: Right. Yeah. And these things improved with higher fat, lower glycemic load diet but it's a stumper of him. It's interesting.

Dr. Dr. Mark Hyman: Contradicts our whole worldview. Right?

Robb Wolf: Right. And that when--

Dr. Dr. Mark Hyman: It sounds like the earth isn't flat, oh no.

Robb Wolf: I just wonder if there's not some sort of some U curve in there where it's not a linear correlation like if glycemic load is high and you've already alluded this. If we have high circulating blood fats or dietary fat and high glycemic load, we certainly have some problems there. But do those lipoproteins become as significant a factor if we don't have oxidized cholesterol fragments. If our glycation index is low, if our inflammatory status is low, do we have a completely different metabolic state versus somebody that's inflamed eating refined carbohydrates and what not and also has elevated lipoproteins?

Dr. Dr. Mark Hyman: Yeah, exactly.

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Robb Wolf: Doc, where are you on the degree of meat consumption story? I know that you've been on a bit of an adventure with that and your views have changed but where are you on that story right now?

Dr. Dr. Mark Hyman: Here's the thing, I really took a serious look at this because again I don't want to be 120 and I don't want to eat meat if it's going to kill me. So I pay attention. People are saying maybe it turns a little longer and I look at the data and I was like what is the data actually show? What is the quality of the data?

I began to think about it. Guess what? You have the Plains Indians eating buffalo as their main diet and they had the highest number of centenarians per capita of any population at the turn of the century. And then there's Seventh-day Adventist who are part of the Blue Zones on Loma Linda and they lived to be very old. So should you be vegetarian, should you eat buffalo? What's the deal?

I began to look at the issues. Most of the studies on mean that is shows it's harmful were observational studies. There's multiple factors that confound the research that I'll explain in a minute. There doesn't seem to be a lot of biological plausibility. When you eat sugar, it increases insulin and some resistance. You understand the mechanism but it's not clear what's the mechanism is and then they do a lot of food frequency questionnaires. You look at the population, there's the healthy user effect in a lot of the studies. In other words in the women's health initiative, we looked at estrogen replacement for menopause, it contracted the previous studies which were observational. So in the experiment when they gave them estrogen one group gave them, the other group they didn't as opposed to in a randomized way which is

controlled as opposed to just following nurses who took hormones or didn't.

The ones who took hormones are more conscious about their health. They ate better. They exercised more. They took their vitamins. They went to the doctor. So the doctor if you want to be healthy take your hormones. They did. So it was kind of a healthy user effect. So if you're growing up in an area where red meat is bad and you don't eat meat you've a lot of other healthy behaviors. If you're doing yoga every day, having green juices and exercising and eating tons of veggies and you're not eating meat because you think meat is bad, it may not be that you're not eating meat that's problem or the benefit. It may be the fact that you're doing all these other stuff. So that's really important to understand as a baseline.

So then when I looked at the data, the big NIH-AARP study which a half a million people that looked at cancer, heart disease and death and diabetes and they found higher risks in those people who ate more meat. Guess what they're criteria were? If you look at the factors that these meat eaters had their behavior, they had more calories. They exercised far less. They smoked more. They drink more. They ate less fruits and vegetables, more sugar, more processed food and didn't take their vitamins. Of course they had more heart disease.

So when you look at the healthy meat eaters like other studies of healthy meat eaters where they're actually looking at that and they actually have done those studies. So what if you were like a meat eater who shop at a health food store? So your basic context of your diet is overall healthy. These people actually had risk of death cut in half and the vegetarians and the meat eaters were the same in this study so there was no difference. When you look at other studies. There's a lot of observational studies are also negative. There's the epic study of half a million people no association, 1.2 million people on another meta-analysis, no link. A study of 65,000 meat eaters with a raw healthy diet no increase in heart disease. Another study, Asian study, where they did 300,000 people when they had increased meat in the context of a healthy baseline diet red meat actually was associated with a decrease in heart disease and cancer. So it's kind of confusing.

I mean maybe saturated fat is a reason meat was bad. We know now that saturated fat in meat doesn't raise your blood cholesterol. It's mostly stearic acid. And we know that interventional studies using a paleo diet like aboriginal study where they took a bunch of aborigines and put them in-- who are living in the city who kind of eating a western diet and got

diabetes and heart disease and obesity, they threw them back in the bush and eat kangaroo and alligators and nuts and berries whatever. They actually reversed everything in a very short time in 7 weeks. Studies feeding meat in a context of a healthy kind of paleo diet, there are better outcomes or weighed body fat, muscle mass, metabolic rate, triglycerides HDL. They increased a large LDL. Blood pressure went down. Studies looking at other factors like TMAO we can get into, and red meat and cancer. I mean the processed meat I think there's some data that showed that it is correlated with cancer and this repeatedly comes up but the relative risk seems a lot it's between 20 and 30% risk increase. When we actually look at the absolute risk, it's like 1% or less.

Robb Wolf: And that's consuming it every day for like 20 years.

Dr. Dr. Mark Hyman: Because every day you have bacon over your lifetime your risk goes up by 1% of getting cancer. If you have bacon on Sundays, will that stop me, probably not.

Robb Wolf: That's great. I liked how you unpack that.

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Dr. Dr. Mark Hyman: Of course there's also grass fed versus CAFO meats, industrial meat and they're different. The quality is different. They have different process, different levels of essential fatty acids and omega 6 fats and they have much different profiles of nutrients so there's a lot of issues. There's also cooking techniques that matter. If you're high heat, high temperature cooking grilling, those can create toxic chemicals like polycyclic aromatic hydrocarbons, heterocyclic amines agents. But guess what? Grilling your vegetables does the same thing.

Robb Wolf: Right. So basically make soup is the take away.

Dr. Dr. Mark Hyman: Yeah. Soup is good. Stews are good. Hot pots are good.

Robb Wolf: Right. Doc, you coin the term if I'm not mistaken, pegan, talk to folks about that.

Dr. Dr. Mark Hyman: One day I was at this conference and I was sitting on a panel with two friends of mine. One is a vegan cardiologist and one is a paleo doc. They're going at it and I'm kind of laughing. I was sitting in the middle and like you know what you guys I must be a pegan you guys you are paleo and you've vegan and I kind of made a joke about it and then I thought about it. I'm like wait a minute there's a lot more we have in common than we have differences.

Basically if you combine the two concepts you got a really same diet that most people are able to follow which is actually probably what the science shows make sense. So what are the things that they have in common? Everybody agrees in those camps that we should have ideally local, organic, fresh whole food basically real food. Everybody agrees to get rid of processed refined foods. Second everybody agrees with low glycemic die, sugar and flour, refined carbs. Everybody agrees with eating tons of vegetables and some fruits. Everybody agrees we shouldn't be having pesticides or antibiotics or hormones or GMO foods. Everybody agrees we shouldn't be having chemicals, additives, preservatives, dyes or artificial sweeteners all those chemicals. Most agree that we should be having high quality fats like olive oil, nut seeds, avocados, omega 3 fats. There's some controversy about other fats like coconut oil or animal fat.

But everybody agrees we should be having low refined processed vegetable oils. Having olive oil is great. Avocado oil those are great.

We should also monitor our protein intake. I don't think we all should be eating like huge 20 ounce steaks but we should be having good quality protein and there's debate whether it's animal or vegetable but good quality protein and everybody agrees if you do have animal food that it should be sustainably raised, humanely raised, grass fed, antibiotic hormone free. If we have fish then it should be sustainably harvested or low in mercury and toxins. The areas of controversy are basically dairy although both agree that dairy is not great.

Robb Wolf: Which is ironic.

Dr. Dr. Mark Hyman: Right. And so greens and beans and meat and eggs. That's it. Everything else they agree about. So I'm thinking then I go through the data on meat and I talk about we should downsize our meat consumption think of meat as a condiment or "condimeat". Grains, some grains can be okay. Gluten free grains for people if they tolerate and they don't have gut issues or autoimmune issues or they're not so really carbon tolerant. They may have some black rice. I might have some black rice and chicken liver tonight for dinner. I probably will have that once every week or two. And then beans and there's people who worry about beans and lectins but again people who are tolerating them they may be okay to eat beans. And eggs I think there's really little evidence that eggs are harmful. In fact there's many studies that are trying to show the benefits of eggs that they're full of nutrients. They're great source of protein. The cholesterol on them is not an issue. So I think that's sort of the take home and it becomes a very straightforward way of eating.

Robb Wolf: Right. I could not agree more and it's amazing how much gnashing of teeth occurs between those two camps but just look at our political climate right now so I guess it's not particularly surprising.

Dr. Dr. Mark Hyman: I know, right?

Robb Wolf: Yeah. So Doc how do you compose a day's eating? What is a day in a life kind of look like for you? What would you recommend to people when they lay out a breakfast, lunch, dinner and maybe they'll even hit you up for a little bit of your thoughts on intermittent fasting maybe we only do two meals a day or something but how does your day kind of play out?

[0:40:09]

Dr. Dr. Mark Hyman: It kind of depends. When I'm traveling it's kind of different when I'm home. But let's say when I'm home, I'll have one of two breakfast which is I call my fat shake which is basically I take a wide-mouthed jar, I throw in chia seeds, hemp seeds maybe some walnuts. I throw in almond butter, coconut butter some wild blueberry maybe some cranberries, lemon and some kale. I put it in the blender. It my whole food shake. I've got lots of good fats, protein, fiber, very low glycemic and it's awesome. It'll last me all morning or I may have eggs. I may have some lightly cooked eggs with farm eggs or organic omega 3 eggs with avocado tomato slice and I'll pour olive oil on it. So I have avocado fat, olive oil and eggs and that's sort of fatty protein for breakfast.

And then lunch I usually like to have like a lot of veggies. I'll make a combination salad artichokes and lots of crunchy veggies and arugula but then I'll throw a lot of fat. I'll throw an olive. I'll throw an avocado. I'll throw pumpkin seeds and I'll put olive oil. I'll have maybe a can of wild salmon or sardines on it or anchovies.

I read recently that there's a little town in Italy where they had 300 people lived to be over a hundred, they ate anchovies and rosemary every day. So I probably have a fat salad and then dinner I'll have piece of protein, maybe 4 ounces of chicken, fish. I'll tell you about the chicken in a minute but that's a fascinating story, grass fed meat. I don't eat red meat that much but I'll have some lamb I like a lot, fish, occasional I'll have like tempe or tofu and then a lot of veggies. So I made have a cabbage with all these spices and onions and I cooked it with olive oil and avocado oil and I eat half the cabbage basically or I might get two or three sides of veggies, mushrooms and low-glycemic veggies and then if I eat dessert which I usually don't. I'll take a frozen blackberries and I'll throw a can of coconut milk in the blender with it. Not the processed coconut milk but the whole coconut with the fat in it and it's like a

creamy coconut raspberry blackberry ice cream. That's it basically. Sometimes a piece of chocolate.

Robb Wolf: That doesn't sound too rough.

Dr. Dr. Mark Hyman: No, it's not.

Robb Wolf: It doesn't seem like it would really hard to adapt to that. It's remarkably similar to what I do.

Dr. Dr. Mark Hyman: On occasion sweet potato.

Robb Wolf: What are your thoughts on ketogenic diets? Either intermittently for kind of mitochondrial reset or long term for athletes. This is a nut that I try to crack. I definitely run better with a lower glycemic load intake. Cognition is great in that. I do some gold guy Brazilian jujitsu which is pretty glycolytic sport and so it's kind of hard to fuel that exclusively on low carb but what are your thoughts on ketogenic diets?

Dr. Dr. Mark Hyman: I think they're therapeutic. I think it's a hard thing for people to do but it's necessary sometimes. For example if I have a dementia patient, I'll use it. If I have a patient for example who's been a long term diabetic and they really want to get off insulin and reverse diabetes, I'll use it. If it's a patient who's really struggling with weight or lipid issues, I might use it. So I use a sort of a therapeutic diet. I think it's hard for people to follow long time so you do a modified sort of a ketogenic diet.

Robb Wolf: Great. I like. I love it. Doc, I know we could go on for hours. I know you have a meeting popping up here pretty quickly. *Eat Fat, Get Thin* it is out currently, yes?

Dr. Dr. Mark Hyman: Yeah, *Eat Fat, Get Thin*, you can go on Amazon, Barnes & Noble, you can go to our website eatfatgetthin.com and when you go to eatfatgetthin.com you can sign up for the Eat Fat, Get Thin challenge which is awesome. It allows you to get support and coaching where I kind of coach you through it. I have my coaches work with me and we have just a great time and we do in community which is a powerful way to change not just basically on your-- not just on your own but with a community.

Robb Wolf: Great. Fantastic. Doc, it's been a huge honor having you on the show. Just a huge fan of your work. Where else can people track you down on the interwebs?

Dr. Dr. Mark Hyman: They can go to drhyman.com. You have to absolutely see us. It's all there.

Robb Wolf: Great. Doc, hopefully we get to meet in person here at some point but until then, it's been a huge honor having you on the show.

Dr. Dr. Mark Hyman: Thank you. I'm really, really excited actually that we get to talk and go through this together because it's hard to unpack and I think having a long format conversation is really, really great.

Robb Wolf: You killed it. This was great stuff and I learned a lot. I really appreciate you being on the show.

Dr. Dr. Mark Hyman: Thank you.

Robb Wolf: Okay. Doc, we'll talk to you soon.

Dr. Dr. Mark Hyman: Okay. Take care.

Robb Wolf: Buh-bye.

[0:45:11] End of Audio