

Paleo Solution -214

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Robb Wolf: Howdy folks, Robb Wolf here, episode 214 of the Paleo Solution podcast. My special guest today is the New York Times best-selling author of Your Personal Paleo Code, Chris Kresser. Chris, what's going on man?

Chris Kresser: Robb, always a pleasure to be back.

Robb Wolf: Dude, I'm stoked, although you've completely destroyed my Twitter feed of late so I'm angry at you man. What are you doing? You're destroying my life.

Chris Kresser: Yeah. It all started with Dr. Oz, huh?

Robb Wolf: [Laughs] Oh, man. So yeah, we, you know—clearly there's some just interesting stuff going on in Paleo land. So dude, tell the folks a little bit about, like I've been able to, from a little bit of a distance, watch you've gone through with all this stuff, with writing the book, the whole process of writing the book and getting this thing launched and doing the travel schedule and everything to support this gig. Dude, give folks a little bit of a background and then, you know, with what you did with all that and then the lead-in with the Dr. Oz show. Then we'll get down to talking beans and beans and more beans so.

Chris Kresser: Yeah, so I mean we'll talk first about Dr. Oz. I think we can put that to rest pretty quickly and then I think there's much bigger issues to talk about, which we can spend more time on as you said so.

Robb Wolf: Cool.

Chris Kresser: Yeah, you know, some people who are listening to this show might not be familiar with me or my approach but I've never really been representative of the Paleo diet. You know, from day one, I've always advocated using Paleo as a starting place from which you tailor your own customized approach to nutrition based on your genetics, gene expression, lifestyle, activity level and goals. I even, you know, refer to Paleo more as a template than a diet because I think that's the best way to look at it for most people.

So the history with Dr. Oz was, you know, I published my book called Your Personal Paleo Code in January and the book is all about this process, how you use Paleo as a starting place, as a basis from which you then expand your diet if that works for you. And can even include some, what I call gray area foods that aren't technically considered to be Paleo like dark chocolate or alcohol or night shade plants like tomatoes or potatoes or full fat dairy and things like that. So last year, Dr. Oz, I think it was last year, correct me if I'm wrong, Robb. But there was the first Paleo segment on Dr. Oz and that was a big deal. Paleo had never really been featured before in a mainstream media outlet and it was Dr. Loren Cordaine and Nell Stevenson. It was the first Dr. Oz episode I'd seen and I think they actually, you know, they did a pretty good—Dr. Oz is pretty favorable to it, you know. It wasn't like the typical caveman, blah, blah, blah, you know Paleo is dangerous. They got to make some really good points and I know it was a really highly rated show.

But the feedback they got from their viewers, from Dr. Oz's viewer was, this is really interesting, I'm excited about it but it just looks way, way too hard and too restrictive and you know I might be able to follow that diet for a short period of time but I couldn't do it for any significant length of time. The plates of food they showed had like a serving of protein, like salmon or chicken and then it had like a huge amount of non-starchy vegetables and then maybe like two or three nuts and two grapes. So for some people that will work of course but for others it's not going to work for any significant length of time.

So the Dr. Oz crew had, you know, read my book, heard about my approach and they wanted to have me on there as someone who could talk about a way of, a version of Paleo that they felt would be more sustainable and flexible and adaptable for their audience. Of course, that's exactly what I've argued for years and what I wrote my book about. So that was really supposed to be the focus of the segment.

Originally, actually the segment was just going to be me talking about my approach to Paleo and I think what was confusing was that they ended up inviting Nell on the show to segment with me and Nell and I have a really different approach to Paleo. You know she was on the first show and she has much more of what I would call a Paleo 1.0 approach and for us to be on there together talking about Paleo was probably confusing to some people.

Unfortunately, that was not something that I had any control over. You know—my part of the segment was about how to, you know—what sorts of things that someone... What they call the high volume meter, which

was actually a phrase that I've never heard before. But it refers to someone apparently that doesn't want to count calories and doesn't want to follow overly restrictive diet, wants to have more variety and wants to be able to expand from like a diet that they perceived to be restrictive. So that's who they invited me to talk to and they felt like I was the right person to do that because of my approach to Paleo and I agreed.

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So as you may have noticed if you saw the segment Robb, the whole thing like in the background the screen said figure out your personal Paleo code. So the segment was never supposed to be about the Paleo diet. I wasn't invited on there to talk about the Paleo diet. So you know the fact that people are really upset that I said you could eat legumes—it's interesting that nobody's talking about dairy, I also said you could eat

[Crosstalk]

Robb Wolf: You know when we spoke previously about this, I think that there's some important background that is worth throwing in here. You really wanted to couch this all in terms of—okay, here's where I ideally start people, which is kind of orthodox Paleo. Then we get folks healthy, move them forward and then we start playing, you know, the reader adoption game and see how folks do and the odds producers weren't down with that because they had just done an elimination diet show, so that would be redundant.

Chris Kresser: That's exactly right.

Robb Wolf: God forbid, we actually send messaging that's consistent. You know, people will just fucking glaze over and check out if it's like wow, okay, I'm getting a consistent message across multiple platforms here so this might actually make sense. But I think it's really important to point out that the way that you couch this in your practice and in your book is virtually identical to the way that I do it, which is—

Chris Kresser: Uh-hum.

Robb Wolf: Let's start—you know, well maybe we're right, maybe we're wrong about a variety of things but here's a safe place to start and then we can start tinkering from there. We can modify carbohydrate levels up or down. We can introduce like you said some gray area foods. But a lot of that ability to send out what I think most people would've liked as far as a consistent message was taken off the table because of the way that the producers

wanted to roll this and you almost pulled the plug on doing the show entirely.

Chris Kresser: Yeah, yeah and that is probably more in background for people to know.

Robb Wolf: And I think it's important background and you know, Chris is my friend and so I feel a little bit of an emotional need to get in and do a bit of defending here but also stay really true to the science and kind of the clinical evidence-based medicine. But when you've worked so hard to try to get a book out and you want it to be successful for a variety of reasons, both including financial success but also because if you've written something that's not complete schlock, if you're successful and you get that out, then it's going to help a lot of people. So there's a, you know, strong desire.

We were close to getting my book on the Dr. Oz show but it was still super early in the Paleo development scene. They wanted to do some sort of a multi-ancient diet show where they would talk about the ancient Egyptian diet and a bunch of other stuff and I was just kind of like, man. I just don't know that I really want to get into that. But, you know, folks should put themselves—try to think about, okay I spent over a year of my life locked in a room writing a book and now, you know, I'm doing all the stuff to try to promote it and then you get a chance to basically go on to arguably one of the biggest daytime TV shows in the world. But, you know, you were so concerned about what the messaging would be that you almost pulled the plug on it.

Chris Kresser: Yeah, at the eleventh hour.

Robb Wolf: Right.

Chris Kresser: And, you know, which then of course would've meant that I would never be asked back there for any future books I write. I mean in the end I basically—so here's the deal, those shows, the segment producer designed the show. They figure out exactly what they want to discuss based on their reading of your book or whatever it is that you're on there to represent, may kind of outline the segment and they create the whole structure of the segment. Then I was free to say, you know, whatever I wanted within the structure of that segment.

At some point during the initial process when I was saying, okay, well I'd like to talk about the importance of personalization, you know starting with this core Paleo approach is the basis of what I recommend in my book. There's a three-step process where step one is the strict 30-day

Paleo challenge as you advocate Robb and Melissa and Dallas and many other people. Then step two is when you reintroduce some of these gray area foods to see if you work of them if you want. You know there's not even the need to do that which I made clear in my book. If you're happy with the initial 30 days, the strict Paleo diet in the first 30 days, you could do that for the rest of your life and thrive. There's no need to introduce foods in step two but some people want to and so, you know, I explain how to do that.

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As you said, they weren't really open to discussing that in detail because they had just done some shows on food intolerances and then also the segment was, you know there's a hard length to the segment and so they weren't willing to expand that. They had other stuff that was going on in the show so and we only had a certain number of minutes to talk about the things that they really wanted to cover which were the importance of not counting calories, which I feel very strongly about and I think the research supports. Then they were of course intrigued by my stance on dairy and legumes that I talked about in my book, which is different from a lot of other Paleo advocates.

So, you know, I stand behind that, I wrote about it in my book and I was willing to talk about it on national TV because I think as we're going to talk about next that the research is behind me on it. So it's not like I went on there and said something that I haven't said in many other venues and conferences, presentations, my book, my blog. You know I wrote a post two years ago about the importance of looking at Paleo's as a template so I completely stand behind what I said. I wish there would've been more context, you know, more opportunity for me to lay out the full context but that's what a book is for. The purpose of a show like Dr. Oz's is not really to educate, it's really like to get people inspired and motivated to learn more and provide the resources or them to do that and it's infotainment, you know. That's the purpose of that show so.

Robb Wolf: That's the best that it is yeah. Right.

Chris Kresser: So anyways let's talk about what I think some of the bigger issues are like are legumes Paleo and is that really the best question to be asking? What does this whole brouhaha that's been going on in the Paleosphere say about just bigger issues about critical thinking and consistency and integrity of how we apply our analysis to the research literature into our own beliefs and ideas because that's what I think is the most interesting stuff is here.

Robb Wolf: And potentially the most damaging if we don't get this right.

Chris Kresser: Exactly.

Robb Wolf: Yeah.

Chris Kresser: If we want to be taken seriously by scientists and in the mainstream medical establishment and even in the mainstream media and that's, you know, I don't think those are primarily goals necessarily but the primary goal is to be healthy and to feel good and prevent disease. But if we really want this thing to have legs and expand beyond a core sort of niche, we need to cross our T's and dot our I's here and there and so I think these discussions are really helpful. Alright so--

Robb Wolf: So let me play devil's advocate really quick.

Chris Kresser: Yeah.

Robb Wolf: So I've oftentimes cited a British medical journal paper that talks about a hospital that had a healthy eating day. A bunch of folks ate some undercooked kidney beans and everybody ended up with pretty severe GI problems. So this has been something that I've kind of used to say well I didn't know that, you know, legumes should really be—even in the gray area foods, I would probably keep them down to the minimal kind of intake, thoughts?

Chris Kresser: Yeah. Alright. Well lots of thought. So first of all that study was a study of a case of food poisoning that happened in a hospital as you mentioned and the reason that that happened was because the beans we're undercooked. What's important to understand about legumes and lectin... Well let's just backup a little bit actually because I want to frame this so it's a little more clear. The main reason—there are two main reasons people suggest avoiding legumes. Aside from the fact that the argument that they're "not Paleo", which means they weren't eaten during by our Paleolithic ancestors.

Robb Wolf: Which takes coffee, green tea and olive oil off the list.

Chris Kresser: Yeah, we'll come back to that. So the main sort of scientific reasons are that they contain lectins and phytic acid, which is also known as phytate. So let's talk a little bit about lectins. Lectins are, you know, there's certainly some research that suggests that lectins are harmful and most of this research has been done in animals. By the way, I should probably mention that lectins are a type of protein that combine to cell membranes and some studies have shown that lectins can impair growth,

damage the lining of the small intestine, destroy your skeletal muscle and interfere with the pancreatic functions. So that all sounds pretty serious, right?

The thing is these studies that are demonstrating harm by lectins are often done in animals or almost exclusively done in animals. They are fed purified lectins from raw legumes, beans or soybeans, and they're fed large amounts of these purified lectins.

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So why might we think that these results are inapplicable to humans? Well studies show that cooking legumes destroys most of the lectins that contain. In fact, there was a paper called Nutritional Significance of Lectins and Enzyme Inhibitors from Legumes, published in an American Journal of Clinical Nutrition, we can put it in the show notes. They found that lectins are inactivated by cooking beans for 15 minutes or pressure cooking them for 7 and ½ minutes. They remark in their conclusion that, in relation to lectins, there seems to be no residual activity left in properly cooked legumes. So that's point number one. If you're cooking legumes, which most people are, it's not very easy to eat raw beans, I don't recommend it. There's not any much lectin left over.

The other thing that Matt Lelonde told me about was that there are components in food like simple sugars that combine to lectins and diminish their toxic effect. So even if there's a minute amount of lectin left after you cook the legumes, it's unlikely that lectin will have a detrimental effect given the number of simple carbohydrates that can bind to those proteins so.

Robb Wolf: Which is what these proteins are designed for is to bind two other molecules. That's --

Chris Kresser: Exactly, that's their sole purpose in life. So that study that you mentioned Robb, was a case where the people in the hospital who got really sick were fed legumes, kidney beans that had not been properly cooked. The number, level of lectin in uncooked or undercooked legumes is orders of magnitude higher than the amount of lectin in properly cooked legumes. So, you know, saying that we shouldn't eat lectins because in one case where in a hospital people were fed undercooked legumes and got sick is like saying we shouldn't eat chicken because some people have gotten sick from eating undercooked chicken and they've gotten salmonella. You know it's the same exact argument. So that's the deal with lectins but...

Oh, there is actually another important point about lectins and that's that if lectin really is a problem then we better eliminate a lot of other foods from our diet because...

Robb Wolf:

Yes...

Chris Kresser:

--yeah according to a paper called Lectins in the US: A Survey of Lectins in Commonly Consumed Foods and a review of the literature, they said, "Lectins are not exclusively found in legumes but are widely distributed through the plant kingdom." In their particular study, they tested 88 different plants and found lectins in 29 of them and in some cases very substantial amounts and this included carrots, zucchini, tomato, cantaloupe, grapes, cherries, raspberries, blackberries, garlic and mushrooms, all considered to be Paleo-friendly foods of course.

They also reviewed other studies, which had found over 53 various fruits, vegetables, spices and other commonly eaten plants that contain lectins. Their conclusion was that exposure to dietary lectin is a frequent and widespread event. So that's another reason that lectin in cooked, properly cooked, legumes should not alarm us if we're going to be consistent.

The only lectin we might want to be concerned about is peanut lectins since peanuts are typically consumed raw and there is some data suggesting that peanut lectin might be harmful. There was one trial showing that peanut oil, lectin in peanut oil may contribute to atherosclerosis by stimulating the growth of smooth muscle in pulmonary arterial cells. But if we're being honest, there's other research including clinical trials in both animals and humans that found that peanuts and even peanut oil could reduce cardiovascular risk factors or did reduce cardiovascular risk factors in those particular clinical trials and thus may protect against heart disease.

So there's some conflicting data on peanuts. You know, my thing with peanuts is because there is some equivocality or, you know, conflict in the data and because there are other risks associated with peanut consumption like exposure to aflatoxin, which is pretty nasty, I do suggest either minimizing your intake of peanuts or just avoiding them. But that does not translate into avoiding all other legumes because they contain lectin.

So phytic acid is another reason that -- you know, we're often told to avoid legumes and that's phytic acid. I've talked about it a lot. It's also known as phytate, same thing, just different way of talking about it. It's

the storage form of phosphorus. It's found in a lot of different plants especially in the bran or the whole of grains and nuts and seeds and legumes.

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The thing about phytic acid is that it binds to minerals, especially iron and zinc, which prevents us from absorbing them. There's also some evidence that it interferes with enzymes we need to digest our food like pepsin, which is needed for the breakdown of proteins and amylase, which is required for the breakdown of starch. It might inhibit an enzyme called trypsin, which is all needed for protein digestion. So once again, I mean when you first hear it, that all sounds pretty bad and it is true that diets high in phytic acid contribute to mineral inefficiencies but it's also true that the dose makes the poison.

There a lot of toxins, things that have toxic effects in plants we eat and anyone here who understands biology knows this because that's how plants defend themselves, they produce toxins. We encounter these toxins in just about any plant that we eat and if exposure to a small amount of these toxins was harmful to us, we'd already be dead, you know. We would have never made it this far.

In fact, there's even some evidence that phytic acid can have some beneficial effects. There are studies that show it prevents the formation of free radicals, which means it's an antioxidant. Prevents the accumulation of heavy metals in the body because it binds to the metals, it carries them out of the body. It plays a role in cellular communication. So the problem with telling people to avoid legumes because they contain phytic acid just like lectin is that there are many other foods in the diet including really Paleo friendly or Paleo favorite foods.

Robb Wolf: Sweet potatoes and --

Chris Kresser: Yeah.

Robb Wolf: Yeah.

Chris Kresser: They contain phytic and quite a bit more phytic acid than legumes. So for example a serving of trail mix, which is, you know, that beloved Paleo favorite, people gobble that stuff down like it's going out of style is likely to have a lot more of phytic acid than a serving of lentils for example. You look at the phytic acid content per 100 grams of food, lentils have between 270 milligrams and 1500 milligrams of phytic acid and there's always a range because it varies from, you know--

Robb Wolf: You mean things in biology

Chris Kresser: --sample to sample whereas almonds have --

Robb Wolf: --aren't the same every single time?

[Laughter]

Robb Wolf: There's not a production line that they don't just all come out exactly the same?

Chris Kresser: Right, if only--

Robb Wolf: Sorry. Sorry.

Chris Kresser: So—no, it's alright. Almonds, probably the most eaten Paleo nut, wouldn't you agree, almonds?

Robb Wolf: Yeah. Yeah.

Chris Kresser: Yeah. So those have a 350 on the low end compared to 270 up to 9420 which is like six to seven times more than lentils have. Walnuts are 200 to 6,700, all nuts really are significantly higher especially at the upper end of the range. Our beloved dark chocolate is 1680 to 1790, so that's significantly more than lentils in about the same [Audio cut out]. Each have around 3500 milligrams of phytic acid per 100 grams. So I hope people don't take this as a recommendation not to eat spinach or Swiss chard. That's exactly not what I'm talking about.

Robb Wolf: Right. So 90% dark chocolate if you want to kick your heels up, right?

Chris Kresser: Yeah. Exactly. So what I'm saying is that, yes we do want to minimize phytic acid in our diet or at least, you know, not go crazy with it. But there are other nutrients in the foods that contain phytic acid that aren't bound to or inhibited by phytic acid. So like in chard and spinach, there'd be a lot of other vitamins that phytic acid doesn't impair the absorption out of it that you're still going to get when you eat those foods.

Phytic acid doesn't leech stuff out of the body that's already in the body. It just interferes with the absorption of foods that you're eating that, you know, that contain phytic acid. So the other thing is it's really important to understand that phytic acid can at least be partly broken down by certain food processing methods like soaking and roasting. I wrote an article awhile back that has also got a lot attention controversial said that

which is called Another Reason not to Go Nuts on Nuts and in that article I just argued what I'm arguing now. It's like hey, nuts have a lot of phytic acid and if we're being consistent here we should admit this and we should take steps to reduce it, you know.

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So that means soaking nuts generally for 12 to 18 hours before you eat them and then dehydrating them or roasting them in a low temperature and that will breakdown a substantial amount of the phytic acid and will make all the minerals and that are present in the nuts more bioavailable. Does that mean you have to do that with every nut that you put in your mouth? No, it doesn't. It does mean that if you do that, the absorption will be more optimal. If you're trying to be as "Paleo" as possible, you will soak your nuts and dehydrate and roast them before eating them.

Along the same lines, you can do that with legumes. Studies have shown that soaking legumes at 18 hours at room temperature or at 140 degrees Fahrenheit for three hours will eliminate between 30 and 70% of the phytic acid depending on the particular legume that you're talking about. So even lentils start out with fairly low amount of phytic acid but if you follow those preparation methods, there's very little left and certainly a lot less than eating unsoaked nuts and seeds and you know, foods like spinach and chard, which there's not much you can do to reduce the phytic acid.

So you know the take away is this, phytic acid and lectins, according to all of the research that I've seen, do not seem to be a concern when they're eaten in moderation in the context of a diet that is nutrient dense overall. If we're going to recommend that people don't eat legumes because of phytic acid and lectin then we need to be consistent and tell them not to eat all of these other foods that contain lectin and phytic acid. We can't have it both ways if we're going to be honest about what the research says. That's where I'm coming from and that's why in my book I've said that after you follow the 30-days strict Paleo challenge and you want to add legumes back into your diet, if you eat them in moderation, if you prepare them properly, if you tolerate them well, which we can talk a little bit more about in a second, then there's no evidence that I've seen that suggest that that would be harmful.

Robb Wolf:

Right. And you know, maybe for a little... So I definitely grew from the Paleo 1.0 camp, like I was Paleo 0.25 camp. Like I was tinkering with and doing this stuff when there were probably about 250 people on the planet that would even know what any of this stuff was talking about. Then over the course of time I've learned and modified my position on a variety of things including like a carbohydrate load and these different

anti-nutrient stories, both you and Matt Lalonde, you know, presented me with information like what you just detailed that I had to modify my position on. But I think that something that is so important for people to remember is we always have this kind of orthodox Paleo spot to start a clinical intervention from and that's still where Chris generally starts his spot, that's generally where I start my spot. That's generally how I eat more often than not.

Chris Kresser: Yeah.

Robb Wolf: But over the course of time, you know like if I go out for some Indian food and there's some chana dal there, I will have probably have a little bit of soup that has some, you know, either some chick peas possibly or maybe some of the dal. If I go to Mexican food I'll have some refried beans and maybe some corn tortillas every once in a while.

Chris Kresser: That's it. You're cut.

Robb Wolf: I'm done. I'm done.

Chris Kresser: You're cut. You are off the Paleo team.

Robb Wolf: Well and clearly I have some sort of an economic—this is one of the things that was killing me on the Twitter thing back in fourth was that there was some sort of an economic impetus for you to recommend this stuff. I'm like, no, becoming a cult leader is the way to become really, really fucking successful. Like actually being balanced and trying to get people to think is almost a guarantee for a mediocre market penetration so.

Chris Kresser: You won't be as successful, that's exactly right. And yeah, go ahead.

Robb Wolf: But you know, I've found that black beans, I don't care if they're soaked, sprouted, blessed, holy water, I have acid reflux from them immediately after eating them. I have it for about four to five hours and so like black beans, I just don't do. Gluten-containing items will still destroy me but I can do some corn, I can do some rice, I could do some other, you know, like chickpeas, like doing a little bit of humus and stuff like that. You know if I'm in a situation where it seems cool to have a little bit of that stuff then I do and I don't suffer any deleterious effects and I get to kick my heels up every once in a while and have something that I don't normally have and, you know, I still live and breathe.

Chris Kresser: Yeah.

Robb Wolf: But then at the same time, if I'm working with someone who has systemic inflammatory issues or some suspected auto-immune problems, then we end up really tightening things up and it's orthodox Paleo until we get those people healthy. Depending on their situation it may be orthodox Paleo everyday all the time if they want to remain healthy.

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Chris Kresser: That's right. And they may never want to, I mean, I don't eat beans or legumes myself and that really spun someone out on the whole Twitter thing.

Robb Wolf: Right.

Chris Kresser: At the end of it, when at the end I said—he said you keep your beans and I said oh actually I don't eat beans or legumes and he was like what the heck? But to me that's not a disconnect.

Robb Wolf: Right.

Chris Kresser: Just because I don't eat something doesn't mean, you know, the evidence doesn't support it being possibly healthy for other people to eat it. I mean that's again the whole point of my book and approach of personalization, I think that's really critical here. I just want to—now let's talk about the other side of the coin. Lest people think that the bean in legume lobby has gotten to me and that they're financing my promotion of beans on Dr. Oz show, which was an implication that somebody made.

Robb Wolf: If only, man. If only.

Chris Kresser: Yeah. Finally, yeah. So there are a few reasons you might want to minimize legume consumption or not go crazy and eat them for three meals a day, so one of those is that they're not particularly nutrient dense compared to other Paleo sources of protein in other Paleo foods. So Matt LeLonde did a great presentation on nutrient density at the ancestral health symposium recently. He showed a chart of nutrient density of foods and organ meats were right up at the top and then you had herbs and spices. You had other meats, shellfish, fish, eggs, vegetables, all of those were well above legumes in terms of their nutrient density.

Maximizing nutrient density is one of the tenets of, you know, a diet that improves health. I mean nutrients are the things that are in food that make our body go and we need them and a lot of people aren't getting enough of them even on fairly "healthy diets". So maximizing the nutrient's density of food should always be a goal and that's one reason why I think legumes should not be a primary source of protein, for example, on a diet.

Another reason that people may want to avoid or need to avoid legumes is because they contain fod maps which are a class of carbohydrates that are poorly absorbed by some people with digestive issues, fructose malabsorption, SIBO, etcetera, small intestine bacterial overgrowth and they can cause gas bloating and other digestive symptoms. So I'm sure we all remember that song, beans, beans, the magical fruit, the more you eat, the more you toot. That's fod maps probably that are causing that for people when they have that response to beans. That doesn't mean that beans are going to kill you or they're toxic. It just means they're going to make you really uncomfortable and probably make your partner, spouse, or people around you, uncomfortable as well. But that then doesn't mean that people who aren't fod map intolerant need to avoid beans for that reason because that's like saying everyone should avoid shellfish because some people are allergic to shellfish. That's not logical so.

Robb Wolf: And it would take onions and—oh my god, I'm blanking it all, like so many.

Chris Kresser: Onions, garlic, all kinds of different fruits that have more fructose than -- lots and lots of different Paleo foods that those will be taken of the table. Again as you said Robb, like we both use strict Paleo as a therapeutic approach, I also use a little fod map diet as therapeutic approach for people with gut issues or SIBO. That doesn't mean everyone needs to be on a low fod map diet. So, yeah, this whole experience just really triggered these things for me because I feel so strongly as you do, Robb, that we needed to be consistent with this stuff or we're not going to be taken seriously. I'm concerned about what I perceive to be a sort of, I don't know if it's a growth or if it's always been there and I'm just noticing it more now but of what I would call Paleo dogma. The definition of dogma is—let's see here, I have it here somewhere.

Robb Wolf: Go pull it up, haha.

Chris Kresser: Yeah. So I mean it's basically a principle or a set of principles laid down by an authority as inconvertibly true. So, you know, it's the idea that one

person or a group of people have a lock on what defines something and you know dogma tends to be rigid and inflexible and once something becomes an article of faith or dogma, it's almost impossible for true believers to change their minds. There's a saying about that that I really like which is you can't fight faith with facts. I mean you can present evidence all day long that proves a particular piece of dogma long but people who believe in that dogma aren't going to change their minds in the face of that evidence because they're just so invested in it.

[0:35:11]

Here's another quote for you Robb, I'm going to ask you to guess who said this, okay? The inability to adopt to new information and hypothesis, to give up old dogmas to admit that you were wrong, that is what separates the scientifically minded from the moronic masses of automatons.

Robb Wolf: I'm going to go with the Kraken on this one.

[Laughter]

Chris Kresser: Was it the last part that was the giveaway?

Robb Wolf: Yeah, the automaton is what got it for me. I was thinking it might've been Carl Sagan but somebody even smarter than Carl Sagan, Matt Lelonde, yeah.

Chris Kresser: You got it. You got it. And you know that's maybe a little harsher than I would put it but kraken's not known for being soft about those things.

Robb Wolf: No. That's why he's the Kraken, you know. He lays waste to whole cities and, you know, he's a being so. You know, I had a little bit of this experience when I wrote what I thought was going to be a two part series on my thoughts on low carb and Paleo. Which, you know, I was basically saying—and it's so ironic again where I'm probably one of the biggest advocates and I'll kind of pat myself on the back too. I would also say possibly one of the most knowledgeable people of implementing to ketogenic or cyclic ketogenic diet for a vast number of different conditions ranging from just blood glucose dysregulation to, you know different brain cancers.

Like our clinic, we do this all the time. I work with people all the time who do this but I tinkered and tinkered with this stuff in the context of like an athletic setting particularly CrossFit and MMA type stuff and I just couldn't get it to work. Somebody smarter than me might be able to but I just couldn't get it to work. So I was looking both at that, you know, what

do we see in the literature as far as carbohydrate restriction and athletic performance and then what do we actually see in the, you know, real world practice. What I found was at the minimum, we needed some sort of a cyclic low carb approach and, you know, for maybe strength athletes and power sprint athletes. Then when we started getting more and more into very glycogen demanding sports that we just kind of know two ways around this and it's interesting the commentary was that I had sold out. Clearly, I had some sort of financial gain and so this thing actually ended up into a three part series because part two just basically became a giant middle finger in the air to these folks, you know, about that stuff.

But, you know, again, we can have some dexterity here and say an orthodox Paleo approach has huge benefit. A ketogenic diet has huge therapeutic potential for the right people at the right time. We're just not like in a stage of diagnostic medicine where we can just do gene micro array on somebody and look at their gut biome and look at the epigenetic signaling and say okay, well you can have, you know, 3.8 exposures of legumes every 48 days and suffer no deleterious effects. Like we have some things that, you know, like if we're playing darts, it gets us pretty close to the center and then it's a practice. You have to tinker and fiddle and see what's going on or, like you said, we can hunker in with dogma and just assume that where we are is as good as it's going to be and that's it.

Chris Kresser: That's exactly right. I mean, I've said this a million times but there really is no one size fits all approach and I feel like if there's one thing that I can contribute in my whole lifetime with approach to nutrition, if that's all successful in getting across, I think it will be a win. Because so many problems that we see come from a lack of understanding that adequately and you know, like Peter Attia for example. He seems to have a lot of success with ketogenic diet and athletic training. So somebody might say oh, well if Peter Attia can do it then I can do it. And then they try it and it's a disaster then they keep doing it and keep on doing it because Peter was successful with it. Peter would be the last person to tell—you know, he'd be the person to say, it's, you know, just because it works for him it doesn't work for everybody.

Robb Wolf: Right.

Chris Kresser: But people get really tied to a certain idea or maybe an authority or someone with their respect who does it a certain and then they don't listen to their own body and their own experience and that causes a ton of problems.

Before we finish, I do want to talk a little about evidence of legume consumption in hunter/gatherers because there is that reason, some people would just avoid legumes, you know, as a matter of principle because they weren't eaten by our Paleo ancestors. That was a big part of the argument going, you know, on Twitter but I think you might have seen this article Robb. Stephan Guyenet posted it back in November and he presented some evidence of pretty widespread legume consumption by both contemporary hunter/gatherers and our Paleolithic ancestors and one of the examples was the Kung San.

[0:40:03]

Robb Wolf:

Which I posted a link to that book yeah. Yeah.

Chris Kresser:

You posted a link to the Amazon. Right. And they relied heavily on legume. It's like the second most important food in their home, you know, diet behind the mongongo fruit or nut. Then there's the Australian aborigines who extensively harvested Nate seeds of the acacia trees which are legumes and then there's evidence that Neanderthal in the upper Paleolithic ate wild legumes like peas and fava beans and early humans are thought to have eaten a much more diverse diet even than Neanderthals. So it's unlikely that if Neanderthal was eating legumes that early humans weren't eating them too.

Frankly, I could really care less whether if they were eaten in the Paleolithic or not and I don't think that's a valid way of deciding whether to eat something. The question we should really be asking is does it promote health? I mean Mark Sisson just posted a really great article about this recently where he said, you know, we can't really even know what was Paleo. There was never one single Paleo diet, it was so diverse and Paleo's best considered to be a framework that informs our further research and study like a context, a construct, a lens to look through. It doesn't prescribe a diet. You know, it's an evolutionary framework that informs our understanding and our further research and that again is I think so important to get across and for people to get because there's just—it's just it causes so many problems if you look at it any other way I think at this point.

Robb Wolf:

Well and not to make it too much of a cop out but if we can use this as a framework instead of a religious movement then you know, everybody gets to be right. It's like, yeah, high carb is appropriate, low carb is appropriate. So long to the degree that you're consuming a diet that is nutrient dense that is meeting your needs, then you're probably pretty good to go and at the point where -- you know there's probably some inflection point where if you consume sparse enough nutrient density

then we're able to start seeing some sort of pathogenesis. Like that seems pretty reasonable.

Chris Kresser: Yup.

Robb Wolf: I don't know what those points are and I don't know what those points are for person A versus person B. Like one person is a recreational athlete who runs a couple of times a week and otherwise sits at a desk. Another person is a CrossFit games athlete and the needs of those two people are probably going to be vastly different.

Chris Kresser: Yeah.

Robb Wolf: So yeah, you know, just using this as a framework to just—I think for so many people like when you're cast adrift and you're looking around, you're like should I be macrobiotic, should I be vegan, should I be this, should I be that. Using this evolutionary framework is a great place to just say hey, let's just look at this stuff and look at this argument about human evolution, here's a great place to start and then we can start working out from there.

Chris Kresser: Exactly and you know, to your point, earlier and just now, there's huge individual variation in how he respond to those stuff. So for somebody, one person, they might be a little more sensitive to the effects of phytate or lectin perhaps and their going to react more strongly to these foods and if you test it out you'll probably be able to track that if you do the kind of experimentation that we're talking about. I recently wrote an article about the potential, the risk for nutrient deficiency on vegan and vegetarian diets and both -- you know, there a lot of comments on that article like something to effect of this. Well I, you know, switched to a vegan and vegetarian diet and I feel way better and so like the question of course for them is what were you switching from?

Robb Wolf: Right.

Chris Kresser: Are you switching from a standard American diet with a lot of processed or refined crappy food and now you're eating, you know, whole fruits and vegetables and other nutrient dense foods? Of course, you're going to feel better. As Chris Master John and Denise Minger have both pointed out, there's a big variation in the physiological factors that will lead to nutrient deficiency on a vegan and vegetarian diet from person to person. So in other words, vegetables and fruits often have like precursor nutrients that can be converted into the more active forms of those

nutrients like beta keratin into retinol or active vitamin A and different people have different rates of conversion of those precursors.

So someone for example who has like a strong rate of conversion for those precursors into the active forms of the nutrients might be able to hang with a vegan or vegetarian diet for a much longer period of time before they develop issues whereas other people who because of genetic mutations or their history have a harder time making those conversions. They're going to develop issues right away. So that accounts for like the wide variety of experiences that you hear people talking about when they switch to a vegan and vegetarian diet.

[0:45:28]

Unfortunately a lot of people don't understand this. So for someone who has followed a vegetarian or vegan diet for a longer period of time and has worked for them, they might just assume that that's how it would be for everyone and that for anyone who's not experiencing that kind of success that there's something wrong with the way they're doing it right?

So it's tricky. There are so many things to consider and a lot of these things are not really well understood by the general public and that's where we get ourselves into trouble.

Robb Wolf: I agree. [Laughs]

Chris Kresser: Yeah. So--

Robb Wolf: Anything else that you want to wrap up with or...?

Chris Kresser: I don't think so. I mean I guess I want to say that my overall stance on legumes I guess would be neutral. I don't think they're necessary. They don't contain any nutrients that you can't get from other foods and often with less preparation and work. There's no reason --you know, there's certainly not a mandatory addition to the diet. But if you want to eat them, if you appreciate the variety of like you were saying Robb, if you're at a restaurant and there's some lentil soup or something like that and you'd like to have it, there's really no evidence that that's problematic according to peer-reviewed research.

Robb Wolf: I like it. I like it. Let me do a quick shot out to our podcast sponsors. PerformanceMenu.com, Journal of Nutrition and Athletic Excellence, MASANaturalMeats.com. CavemenCoffeeCo.com, if you go to CavemenCoffeeCo and put Robb Wolf, you'll get a 10% discount off of your order and also 10% of all those sales go to the farmer consumer

legal defense fund. FrontDeskHQ.com, your mobile-based solution for service-based businesses and I think I'm forgetting somebody but I --

Chris Kresser: Oh, no.

Robb Wolf: --think we're good for this time. We'll double up on them next time.

Chris Kresser: Yeah.

Robb Wolf: But Chris it was awesome having you on. Super stoked for the success you're having with this. I feel for you. Do you remember the Saturday night live deal Low Thor of the Hill People?

Chris Kresser: Oh, yeah. [Laughs]

Robb Wolf: Whenever one of these things pops up, it just reminds me of that. So I'm actually going to stick a link to that YouTube piece on the show notes --

Chris Kresser: All right.

Robb Wolf: --for this so.

Chris Kresser: All right.

Robb Wolf: Alright Dadio.

Chris Kresser: I have a blog post coming pretty soon with links to all the studies that we talked about so. If you want the hard science behind it they can check that out. Appreciate the opportunity Robb, it's always a pleasure and see you at Paleo FX.

Robb Wolf: All right Chris, will talk to you soon.

Chris Kresser: Sure. Bye-bye.

Robb Wolf: Bye.

[0:48:08] End of Audio