

Paleo Solution - 238

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Robb: Howdy folks, Robb Wolf here and I am very excited and a little bit out of my element because today I have on the show Jimmy Moore the founder of livinlavidalowcarb.com author of Cholesterol Clarity, author of the new book Keto Clarity and Jimmy this just has me all upside down and backwards because I'm used to you interviewing me. What the heck has the world come to?

Jimmy: If you think it's bad for you, think about me being on the other end of Robb Wolf now getting to grill me.

Robb: Good times. It's either fantastic times or clear sign of the end days one or the other or both. So how are you doing?

Jimmy: I am doing outstanding man. Life is good. You put information out there. You help people. It's just kind of what we're all in this for.

Robb: Absolutely and you and I have both been slugging that out for a very, very long time so that is absolutely what it's all about. Jimmy so what lit a fire under you to do – now you did Cholesterol Clarity which was a very successful book, helped a lot of people, definitely provided a lot of insight and do the nuances of cholesterol micro proteins then you shifted gears and wrote Keto Clarity. Why Keto Clarity? Why not just low carb but uber low carb book?

Jimmy: Yeah, so when people started talking about ketogenic diets, they were kind of equating it with low carb or equating it with Atkins and the more I looked into the subject of ketogenic diets, it went so much further than just those simplistic terms. I think Atkins did a lot of great things to promote what could be a ketogenic diet in a lot of people but his message was low carb and then unlimited fat and protein to satiety. That was kind of his plan.

But the problem was a lot of people interpreted that to mean that chicken breast is a health food so they go out and buy the crappy Tyson chicken, please don't do that but they buy that stuff and they think

they're eating low carb which they are but they weren't necessarily getting the fat burning benefits of being in ketosis.

So when I look to find a book that it was explicitly about ketogenic diets and ketogenesis, it didn't exist Robb other than maybe a couple that were weight loss oriented and then of course the epilepsy books that have been out there which we have strong evidence for that a ketogenic diet helps with.

So it didn't exist so I say well I know everybody in this space. Why don't I go find those people, interview them, do research and write that book? And so that's what Keto Clarity is.

Robb: Nice and it's safe to say that part of this was inspired also by your own journey because you had maybe some jibs and jabs as far as too much protein, inadequate fat and not really getting the type of satiety and kind of weight lost that you wanted off of just a standard low carb diet. Is that kind of a safe characterization of maybe about 3-4 years ago when you started playing with a lot of this stuff?

Jimmy: Yeah exactly. In 2012, I was in a bad place. I was back over 300 pounds again still nowhere close to the 410 I was a decade ago but still bad and I needed to do something and I was frustrated I was having trouble sleeping. I wasn't getting the quality of life things that I thought I should be despite eating 30 grams below carbs a day. Why am I stuttering on Robb Wolf's show? I never Sutter on my own show. You got me nervous dude.

Robb: It's a different deal flipping stuff around I tell you.

Jimmy: But yeah, low carb was not working by itself. Now does that mean that low carb is no longer the effective strategy for Jimmy Moore? I don't think so. I just think it meant I needed to tweak and turn some things and I know that's your message too. If something's not working like how I change it and shift things around and move things around and try new modalities. And I was trying everything. I was putting safe starches back into my diet, see if that helped, it didn't. I was just doing all these different things and finally I read The Art and Science of Low Carbohydrate Performance, Volek and Phinney's book, very famous in the low carb world and it talked about measuring for blood ketones.

Now at that point, I had never heard of blood ketones. Now this was on Robb Wolf's radar screen probably many years ago but for Jimmy Moore it was kind of revolutionary so I went and got one of those very expensive – the meter's not expensive, the strips are.

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Robb: Yeah. It's like a crack dealer. It's free buddy and then the strips are you basically mortgage your house and sell your kidney for them. Yeah.

Jimmy: You have to write a New York Times bestselling book to be able to afford – I'm just kidding. So I went and got the meter and yes spent all that money and decided you know what, I have a blog. I never hide Robb. That's kind of one of the criticisms people say well he just hides all the problems he has. No, I'm probably one of the most honest bloggers you'll ever meet probably to a fault because I share everything good bad ugly and I was like well let's put this to the test.

And originally it was only going to be a three month test of this nutritional ketosis where I measure blood ketones, blood sugar and weight. Every single day morning and night and sometimes every hour on the hour I was like very obsessed about doing all these testing and I saw immediate results.

And when I say results I mean well beyond weight loss everybody likes to focus on the weight but to me the brain health benefits, the mood stabilization, just a lot of the kind of side effects of ketosis that people don't really talk about was what mattered the most to me and still matters the most to me today which is why we wanted to put those in Keto Clarity.

So this was a very personal thing for me that it went well beyond simply cutting carbs. Protein came into the picture, finding that I was consuming way too much protein and what's funny is I had heard that word gluconeogenesis way back in 2006 for the first time at a medical conference I was at with my co-author Dr. Eric Westman and I heard that word then but it just didn't click that even lower than I thought that the gluconeogenesis – and it's going to vary from person to person.

Some people can get away with more protein than others. I found that because I'm so really sensitive to low carbohydrate it makes total sense

that I would also be sensitive to having too much protein because we're trying to eliminate the glucose or at least bring it down as far as we can so the ketones can become the predominant fuel and then consuming even more fat.

I mean I was eating a 55% fat diet Robb and by all measures and anybody would say yeah that's a high fat diet but it wasn't high enough. And I found I had to increase it even more to be able to see the therapeutic effects I wanted.

Robb:

And you know Jimmy it's interesting. Something I've observed over time and I actually maybe you've been a participant in this problem oddly enough. So say like you've got the Loren Cordain orthodox paleo type diet. It's pretty balanced macronutrients. It's not quite 40-30-30 but it's not far off that. You don't add a ton of extra fat to the plan but you know that's kind of the deal. Let's just say it's about 33.3% of each one of the macro nutrients plus or minus a little bit.

That thing works really well for a lot of people but I found that there's been the contagion as it were from one ideology to another. So what I found that kind of took the Cordainian paleo diet and kind of broke it was trying to appease the higher fat Weston A. Price camp and include dairy and butter and all the rest of these type of stuff and that ended up taking something that worked for a lot of people that's kind of Cordainian orthodox type diet kind of broke it trying to make it fit within the parameters of Weston A. Price.

And what's interesting is that I think that free paleo really kind of launching on the scene and you know when low carb was more the term when Mike Eeds was kind of more the spokesperson for what would pass like paleo and low carb we're talking about probably 2004-2006.

What's interesting is what I've observed is that the low carb camp kind of got poisoned or influenced by this notion of very high protein that comes out of the paleo camp and it ended up kind of peeing in the pool of that ketogenic approach and it's just interesting. You know it's fantastic on the one hand that we have all these different ideologies. We have these different kind of technologies I guess for lack of a better term of ways that we can apply nutrition.

But then at the same time when you start smearing them all together and really don't have a clear distinction about what it is that you're testing because really it's an individual test then it all kind of morphs into something that apparently doesn't work that well. If you take Cordanian paleo, stick a ton of outside fat in with it doesn't mean to work.

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If you take a ketogenic diet and you start eating really large amounts of protein like would be typical and normal and potentially healthy on a Cordanian type paleo diet the thing doesn't work. And so that's where – and like I've always tried to be a bridge builder. I always try to have a big umbrella. But I think we can still do that without punching each other in the nads all the time just because we have a different approach.

But I think that it is an important distinction to make that there are kind of metabolic paradigms that we need to kind of stick to if we're going to give something a fair go.

Jimmy:

Right. And I love the lines of demarcation that you're outlining there Robb because some people say well paleo's low carb. Others say no, paleo's not low carb and I know I've heard you say paleo's agnostic. It doesn't really care about what the macronutrients are.

One thing I think that paleo has done very well to those of us in the low carb world ketogenic world is you've turned us back rightfully so to real food. And I think that was such a missing element back in those 2004 the Atkins food craze that happened and I even still today Robb have these discussions with people about Atkins m&m's and I'm going really? I don't think that's optimal for your health. Let's talk about it.

And I think that would've never happened but for the influence of the paleo community and I'm very grateful and often give you guys credit for pushing us in the right direction. So I think we're like those cousins that see each other a couple of times a year and you know, you kind of learn new things about them but you don't really know them really well.

We need to kind of get together and have family reunions a lot more often so that we can get to know each other and build from each other because I think the low carb world hopefully is making the paleo world a lot more abundantly aware that macros maybe after real food, macros

matter for some people with certain conditions and then the low carb well has to learn from the paleo world that real food matters and that vegetable oils and grains are not real food.

Robb:

Right. Right. And trying to gets your – stay on your carb a lot and using a piece of wonder bread as one dose of 20 grams of carbs you get that day as a pretty good misallocation of resources. Yeah. Totally. And that's just been an ongoing bugger for me because – so I wrote a post my thoughts on low carb and paleo. It was supposed to be a two part series. I got so much blow back on this thing and it ended up being a three part series I remember.

Part 2 was basically me just telling everybody to go pound sand but it's a – if you – and this is one of the things that's so frustrating for me. If one can form an argument that a ketogenic diet doesn't have incredible therapeutic potential for a vast assortment of neuro degenerate diseases potentially breast colon, prostate cancer, glioblastomas, astrocyte, brain tumors probably some other cancers both preventative and possibly adjunct therapy that might be incredibly therapeutic for mitigating the dilations effects of chemotherapy and radiation, traumatic brain injury for our police military fire personnel, for people who've played contact sports.

There are huge therapeutic potentials just within that sphere alone to say nothing of weight loss, to say nothing of I'm still large in that camp that if we had somebody who was very metabolically broken heading towards type 2 diabetes possibility type 2 diabetic, if we don't yet know if their beta cells are still functioning in their pancreas I still think that really dropping carbohydrate intake it just makes sense.

If somebody has the genetic disease PKU where they don't clear phenylalanine out of their blood what do you do? You put them on a low phenylalanine diet. You have an individual that is not metabolizing glucose properly for whatever reason whether it's sleep disturbances, gut dysbiosis or whatever if they have toxic levels of glucose in their system why don't we control that drearily? And I just can't figure out where the controversy is with that. Can you help me on where the controversy is there?

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Jimmy: I don't share that controversy so I really don't know firsthand. I've just observed it. I've been kind of the one that takes the brand of a lot of those arrows because I'm so prominent online with the LC next to my name and I'm all about people finding what works for them. I'm very centrist in that realm. People have often pegged me as well you're the low carb guy. You want everybody ketogenic. I don't really care how anybody eats to be honest with you.

I want people to be healthy. And if that means a safe starch is filled paleo diet, go for it. If that means a vegan diet and you can see all of your blood markers get better doing that, go for it. I'ma be your biggest cheerleader. I think kind of the tit for that that happens are people like to be right Robb and we could all be right.

Robb: You know, it's fascinating to me that you can have a Levis store, a lucky jeans store and then an American apparel store all side by side.

Jimmy: And a Buboe's store.

Robb: Yeah. I'm just thinking about jeans manufacturers for my analogy here and you could go in and you could try on a pair of each one of those manufacturers' jeans and figure out which one makes your ass look best.

Jimmy: Right.

Robb: And you would be cool with that. And now people will look down their nose because they'll be like Levis, that's pretty 1970's or whatever but fine, whatever. Everybody's always going to find something to look down their nose. But that's really – I use the analogy of trying on sweater, trying on a pair of jeans, it's with the internet, with social media, we have the ability to give people a remarkable amount of information, possibly an overwhelming amount of information but at a – it's kind of like okay what have you been doing?

Okay, standard American diet. Bad sleep. No exercise. Okay. Let's address your sleep. Let's get some fruits and vegetables in there, some whole protein and let's drop your carbohydrate level down to like 100 grams a day. How do you do? Well I do okay. I don't do that great. My blood glucose is still bad.

Okay lets drop your low carbohydrate down to about 20 a day, 20 or 30 a day all from vegetables, drop your protein down to about half a gram to 3 quarters of a gram per pound of body weight and up your fat and let's see how you deal with that, make a lot of the fat from MCT oils. Oh man I feel amazing. I have clarity with my cognition that I've never had my whole life; this is the bee's knees fantastic.

Jimmy: Bee's knees, I haven't heard that one before. I always get new ones from Robb Wolf.

Robb: And let's say that same person then they discover cross-fit and they start going to cross-fit and this is something they wanted to talk to you about because I know Keto Clarity you talked about athletic performance and this is still something that I struggle with. Let's say this person starts going to cross-fit and they start developing some things that look a little bit like adrenal fatigue.

And so we say well, let's dial that fat down. let's pop the carbs up post work out and see how you do with that and maybe your carb intolerance has been addressed such that the exercise now produces insulin sensitivity so that we can throw some post workout carbs in more days than not. And you do pretty well with that.

I just don't see where anybody needs to get their panties bunched about any of that stuff. It just seems like a flow chart and we can – again it's kind of like on Robb's house of paleo it's reputed and it's Jimmy Moore's you know – I see it like an old western street front. It's Jimmy Moore's mercantile of low carbohydrate and so you kind of bounce from one to the other and figure out what works. I really don't see any real drama with that but I guess lack of drama doesn't really keep people titillated.

But within your book, how did you guys address the athletic performance piece? I've mainly seen the folks that are doing well with legit kind of nutritional ketosis and athletic performance. They seem to be on very much that long aerobic oriented kind of long duration stuff. I've had a heck of a time figuring it out how to make it for like a cross-fit scenario and MMA type scenario.

Jimmy: Or even an NBA basketball player like LeBron James who famously went low carbohydrate this summer. I think it's going to be your mileage may vary. You've got to tinker around with things. I know one of my experts in

the book was been Greenfield and he said he did all out ketogenic diet in preparing for his triathlons and he found that it was better if he cycled the carbs in and out based on training days, basing on race days but still not going carb wild on the pasta and the grains and everything like would be typical exactly.

So yeah I think it's one of those things you got to tinker around. I've talked to plenty of definitely the endurance athletes are the ones that see the best results from this. A cross-fitter, I'm not going to bemoan you if you have a sweet potato after your workout because you're using it strategically for I guess rebuilding and adding that insulinogenic effect.

The positive effects of insulin for once, people always talk about the negative effects but they do have some positive effects and that's one of them. So I'm totally in favor of people trying that if that's going to help them and what's interesting Robb is a lot of people that do that that are in a fat burning state or ketogenic state is they'll do that post workout. They may lose ketones for a period of time but then they come back very quickly. So it's not like you have to do one or the other. You're looking at the best of both worlds if you're tiring to do it for athletic performance.

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Robb:

Right. And for years, so it's interesting when I found out my mom had celiac and all these interrelated autoimmune diseases, interestingly the first book that I picked up kind of related to this stuff. I found Loren Cordain and Art DeVany online which this was '97 '98 so not a lot of material from those guys at that time.

This was when Art still had his original evolutionary fitness easy up on the internet and everything which I still think is genius. Loren had a few papers out. But the first book I read was an Atkins book and interestingly the Atkins book actually alluded to grains being problematic with autoimmune disease and all kinds of gastrointestinal issues. So ironically Atkins was actually pretty savvy to a lot more of the peripheral health issues than what he's generally giving credit for.

But went ketogenic initially and it was literally like the first time in my life that I felt like I was not living in a world that my head was not scuffed with cotton 4 feet deep. It was as if the rest of the world had to migrate

through a layer of cotton to get into my experience and I had brief periods prior to going ketogenic at that point.

if I was on a backpacking trip and had been starved for like 8 hours or something, these really random things where I would have just kind of a moment where it was like the clouds parted and the rays shown down on me and I didn't feel like crap. And I just assumed that feeling foggy headed, having words dance around on the paper that I was looking at, I figured out after all the stuff that I had some dyslexia that was probably gluten and insulin related that ended up resolving itself when I went this way.

But it was ketogenic for a pretty good block of time then I found a book by Mauro De Pasqual who's an MD in Canada who's been a world champion greco roman wrestler power lifter has worked with lots and lots of high level athletes and he ended up recommending a cyclic low carb diet.

So you would do an induction phase of 10-15 days and then on the weekends you would do kind of a carb load and then if you based off your activity level, if you weren't recovering enough then you would do a mind week carb load or maybe a post workout carb load and then get back into kind of a ketogenic state.

I really enjoyed eating that way and I'll be honest with you, my most disliked element of that was actually eating the carbs from low carbohydrate didn't really look forward to it all that much.

Jimmy: Because of the hunger?

Robb: Not really. I would still usually get a little bit of a carb rebound off of it unless it was a post workout kind of scenario like I would feel a little foggy headed versus – it didn't really turn into hunger but it was just...

Jimmy: Cravings.

Robb: Not really hunger, not really cravings. But just – I just didn't feel as sharp when I was motoring along in the ketogenic state. But at that time I was doing some weight lifting, doing some capoeira which are demanding but they're not usually demanding and it was when I started doing these cross-fit stuff that the wheels fell off the wagon without approach

because that stuff is so glycogen demanding. I just couldn't figure out how to support that activity without doing a more or less constant titration of carbs.

Jimmy: So the trick is to find out how many carbs will give you the amount of glucose you need for that kind of glycolytic activity but not more.

Robb: Right. Right.

Jimmy: And that's going to vary from person to person?

Robb: Yes. I agree. And it's funny. With the new baby right now, so I've been mainly doing some Brazilian jujitsu, trying to compete in some old guy Brazilian jujitsu and I've been doing work more carb, I'm actually going to give another kind of cyclic low carb attempt to this because my training volume has actually dropped off and I'm going to try to establish an aerobic base wild titrating carbs down and then get back in and start rolling again and see how that does and play around with what I feel like if I do an hour long session and I feel like it was a 7 out of 10 what's my carb reefed, needs based off of that and still play around with that.

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Because I got to say I feel pretty good doing what I've been doing eating more carbs but the bugger for me is that when I got hungry I get hungry. It's a little bit back to that thing again where it's like I get the heart palpitations, sweaty palms and all that like when I think I was legitimately insulin resistant. But when you have shifted your body to run on glucose and that glucose becomes scarce, your body gets pissed.

Whereas if you are in that legitimate ketogenic state, Peter Attia has a fantastic analogy with this which is the normal person is like tanker truck that carries gasoline or diesel that has run out of gas. Its primary gas tank is out of fuel but yet it's carrying like thousands of gas tanks worth of fuel but it just can't access it. That is a really interesting analogy for me and when I have tinkered with the ketogenic stuff I got to say I'm just not hungry. I feel good. My cognition is good. Performance has been dodgy you know but it's something that I'm still really curious about trying to fiddle and thinker that stuff.

Jimmy, you know the resistant starch deal, have you played with that and see how that faces your blood glucose levels? I've talked to a lot of people we had, Dr. Blazer online a couple of weeks back which I felt that was one of the best interviews I've ever done. He was just an amazing guy...

Jimmy: I'm trying to get him myself.

Robb: This gut biome story is so fascinating and one of the things that does seem to occur with a low carb diet is we do seem to see a pruning back of the gut biome. What are your thoughts on that and how have you tinkered with that?

Jimmy: So we address that in Keto Clarity and it is one of the things I agree with you Robb that I think we need to keep a very close eye on. It's still very early on in the resistance starch data that's coming in but what's coming in is very compelling. I have not personally tried it yet because quite frankly I'm doing well. If it ain't broke, don't fix it. So I haven't personally tinkered with it.

I know my wife Christine has expressed an interest in doing it. We were over at Tom Naughton's house earlier this year and he had her try some of the potato starch and the probiotic and everything and the next morning her blood sugar have dropped by 15 points into the 80's and it's always been upper 90's. I interviewed Dr. Ron Rosedale about this and he gave some rather interesting thoughts.

I wanted to get your thoughts on this, about resistant starch and the reason it works to lower blood sugar is it's actually raising insulin levels and what we should be doing is measuring for the fasted blood insulin levels to see what's going on there, the blood sugar dents really tell you the whole story. What do you think about that?

Robb: It could be. I mean it certainly could be what's something that lowers blood glucose levels is insulin so it certainly could be a – I know one of the guys that has been very active in posting over Richard Nicolai's site has – and I believe he's a type 1 diabetic. He's mentioned over all better kind of blood glucose control throwing in the resistant starch. There are some interesting...

Jimmy: Steve Cooksey?

Robb: It wasn't Steve. It was somebody else but I know Steve has played with that also and seem to report some similar findings. There is something and because of new baby head or just the fact that I'm getting older or maybe because I'm not ketogenic, my brain's not functioning optimally, I forget the story with this but there is a second meal effect where if you ingest a reasonable – it's almost a hormetic effect.

If you ingest a reasonable amount of carbs at meal 1, if you consume even more carbs at meal 2, you will have a lower total blood glucose level. You'll have a faster clearance of that second meal than if you would have no carbs at the first meal and the same amount of large carbohydrate meal at the second meal.

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So usually people are taking out a reasonably modest amount of starch although that's somewhat subjective when you think about the idea that you're trying to stay under say like 20-50 grams of effective carbohydrate per day and then you're doing 30 grams starch in the form of potato starch but then you know how much of that gets metabolized by the gut bacteria and never even cease the light of day on the pancreatic side I'm not sure about any of that stuff so.

But there are you know the potential that you're getting a little bit of an insulinogenic effect that kind of make sense which I think that would be consistent with actually the second meal effect. I guess still the long term question is that good, better and different for what the individuals goals are?

Jimmy: Right. Exactly. And you know on the feeding the gut flora issue another issue that came up with Nora Gedgudas when I interviewed her for Keto Clarity. The non-starchy vegetables can feed the gut flora just fine. And so that's kind of the argument that you need starch to do it and even Dr. Rosedale noted you know the resistant starch it's half starch that's resistant but the other half stills impacts you. So it's not without fault.

So why not just feed it the fibers that it wants can you get the fiber from non-starchy low, carb vegetables and will that suffice to feed the gut flora. That's a great question that I think we should be asking

Robb:

And I don't know if you saw or listened to the episode I did with Ken Ford from the Institute of Human Machine Cognition. He's involved with a bunch of DARPA research where they did a piece the enhanced war fighter looking at a ketogenic diet and or ketone-esters or MCTs to aid with folks in the military, folks who are at altitude and what not.

And so I asked him about resistance starch and it's interesting Ken has been like deeply ketogenic for I think close to 10 years now. And monitors very, very fastidiously. What's interesting to me a couple of people that I know that have been very, very successful with ketogenic approach and are athletic, the couple of features. They monitor consistently, they make sure to be, what Ken does is if he is not above say like a 1.5 blood ketone level, he will supplement with MCTs and I believe he was using a ketone salt at one time.

But he will get his blood ketone levels up around like 2.5 to 3 and then he's able to hit his workout and he feels great with that and again he's been motoring with this for a decade and seems to do great. I threw this question to him you know, what do you think about the resistant starch storing and he said you know it's interesting but he kind of eluded to the same thing..

He's like some kind of an evolutionary biology perspective, doesn't make sense that this singular type of starch, this singular type of carbohydrate is going to be the end all, be all for fermentative you know bacteria in the gut. That there's probably a big spectrum of fermentable carbohydrate which there are. And you might be able to get significant benefits from a variety of these starches or a variety of these fermentable carbohydrate.

I think it is still safe to say that we're getting a significant change from the gut bacteria that we see and a pretty omnivorous mix diet versus a more ketogenic diet. But again, even Ken pointed out that Peter over at hyperlipid, he's of the opinion that you should prune that gut bacteria back like it's a cockroach infestation and smash it down. And you know ketosis is a fantastic way to accomplish that.

I get to one of those things that you know the more, you know it's funny when you interviewed me I forget if it was your last show of the year maybe 2010, 2011? I forget which one it was.

Jimmy:

Light years ago.

Robb: It was a long time ago and you asked me like so what's the next step for all these stuff now? You know thinking about it like oh men the gut bio. You know the gut microbiota and sure enough this stuff really has exploded. It's honestly it's where I've kind of stepped off the train. It has reached a level of complexity that I just kind of watched everybody else talk about it, I don't even really read the literature much anymore because it's seems to be so many exceptions, not really any rules, no heuristics, no simple rules of thumb to throw to people. And this is a fantastic example of that very story. Is it pathogenic to have a low gut biome diversity and load due to a ketogenic diet? I don't know.

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Jimmy: Let's see the data. Yeah I would love to see that. And when Robb Wolf steps out of the conversation about health, you know it's very com...

Robb: You just see me become old and broken at that point. You know I just try to follow Dr. Ruscio is really on top of that stuff with a number of other people.

Jimmy: He's spot on.

Robb: Yeah. Really on top of that stuff. So instead of trying to figure out the primary research I just go to them and say so doc, what's exactly the story in this? This is still one of those things that it's a blind alley for me. I'm not really too sure what to make of all that.

Jimmy, in the book you talked about lipoproteins and what not. Do you have any sense – I know a number of people who are in nutritional ketosis that they see their lipoprotein count go up. But yet their inflammatory markers are zero. Their insulin resistance index is like zero. Everything else that would be the precipitating factors for cardiovascular disease seemed a reverse.

Rocky Patel has a great story and I think he actually shared it in Keto Clarity where he was eating a pretty standard American diet, was chubby, it was insulin resistant, had a carotid into a media fitness scan and he looked like he had the vasculature of like a 60 year old and he's like 32, 35 something like that. Young guy. But his lipoprotein count, his LDLP, was man, it was low then comparatively. Then he went ketogenic and the

LDLP went sky high but yet his CRP went down. All his other inflammatory markers went down, insulin went down.

Went back for another CIMT Carotid Intima Media where they do an ultrasound and they looked at the carotid artery in the neck and the calcification was reversed and he had the arteries of a 16 year old.

Jimmy: Right.

Robb: That stuff just confuses the hell out of me.

Jimmy: Well and what gets me about it Robb is how we throw to use a phrase that you use at Paleo Effects this year, throwing the baby out with the bathwater, by obsessing so much about LDLP being the be all end all parameter for making a determination of someone's heart health risk. Why are we ignoring triglycerides? Why are we ignoring HDL? Why are we ignoring HSCRP? Why are we ignoring fasting blood sugar and fasting insulin levels? A1C? All of these things that get measurably better when you go ketogenic and yet okay yeah I have 3,000 LDLP but my small is less than 200. Why is this a bad thing?

Robb: Well you know it's funny and I need to get this guy on the podcast soon, Dr. William Cromwell. He's the chief medical officer for an outfit called LipoScience. And these guys were really the ones that pioneered the whole NMR analysis of lipoproteins. And he's come out to Reno a couple of times the risk assessment program is really tightly tied to LipoScience. And using the technology they have, they have a new screen coming out called the DRI the Diabetes Risk Index which is really fascinating and appears to be predictive of Alzheimer's and Parkinson's and a number of other issues.

Actually I can give you a measure of where the pancreatic data cell burn out is in individual that's insulin resistant heading towards type 2 diabetes. So this guy in my opinion is probably the smartest lipidologist in the world. Most of the lipidologist who are out talking about these stuff now learn lipidology from Bill Cromwell.

And when I talk to Bill about these stuff, he's still largely feels like this atherogenic process is a gradient driven issue. The more lipoproteins you have the higher the likelihood if you have more LPPLA2. If you have some other apo-protein variance then they can be more atherogenic. But he

fully admit therefore modifying all these other insulin resistance issues, modifying systemic inflammatory issues like c-reactive protein, fibrinogen and what not.

That it changes the story. We just don't know exactly to what degree it changes its story. And what I've been trying to do in our clinic is to shift this around so that if we have somebody that has lipoproteins that have elevated but yeah everything else is going in a very favorable way. Let's go check their carotid intima media thickness and you know get a coronary calcium score on them.

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And then it's still but there isn't good data on that like there are not good big trials on that that we can really go back to and so it's kind of a guess what Bill Cromwell has largely relying upon are some very robust, very, very well conducted studies that seem to indicate that lower lipoprotein levels correlate directly with decrease rates of cardiovascular diseases, decrease cardiac events.

But we're still talking about the different population then somebody who is eating a ketogenic diet and has potentially you know altered lipoprotein levels. And also these people have elevated insulin and gut permeability and all these other stuffs. Bill is interesting. He's pretty savvy with the effect of thyroid on lipoprotein levels and stuff like that. So he has a decent kind of functional medicine background but it's another layer of the onion that I don't have a fantastic answer on.

Jimmy:

Well it's another reason why we call for even more research to be done in a ketogenic state. Our people that are in a ketogenic state because I think these are the unanswered questions that until they are answered, it's all a guessing game. I mean nobody knows what any of these means.

One of my experts in Cholesterol Clarity was a lipidologist, Dr. Tom Dayspring. And he is just adamant that it's all about the LDLP as well. He's been out there kind of trumpeting that cost but then I've had him on my podcast, what about people in a ketogenic state? Like I don't know what to do with you people. We need answers because people are concerned.

And you know going out and saying LDLP is the only marker you should be paying attention to. I'm going that's a bit short sighted when we're

able to do all these other things. I mean I have a 3,000 LDLP right now Robb but I have a heart scan that says zero. I have a clear CIMT. I have CRP that's 0.5. I've got triglycerides in the 40s, HDL in the 70s. I mean A1C at 5.0. I'm not worried.

Robb:

Right, right. It's interesting and so more of what I've been trying to shift things towards you know if we have a questionable situation in getting, looking at the arterial health as best we can with that CIMT. Gosh I had another thought on that. My gut sense could be wrong. My gut sense, but I think if we reduce all these other inflammatory markers but the lipoprotein count is high, I still think that the effect is favorable with regards to reducing cardiovascular disease risk. I couldn't be wrong with that. I think that's the case.

But let's say it's not. Let's just for the sake of argument let's say it's not. We are however in different individuals, we are reducing the likelihood of multiple types of cancers. If the individual has had traumatic brain injury then there's [Cross-talk] there. So there is also a reality that this is a game with the baby in the bath water story. Who is the person? What are their particular needs?

And maybe the cost benefit story is like well maybe we have some cardiovascular disease considerations. But we've got an improvement on this access over here. So we'll do what we can to have – sure up this access over there. But my gut sense is that if somebody runs well on ketogenic state even if their lipoproteins go up then so long as all these other cofactors are falling in line then I think that we're probably at a net positive. But again you know it could be wrong if we are then we'll modify that.

It's interesting though these folks in the lipidology, they will say that you cannot reduce lipoproteins by more than about 5 to 10% with dietary interventions. In our program in Reno doing typically it's kind of a low-ish carb paleo you know somewhere around like 75 to a 150 grams a day, 20 at the bulk of the carbs post workout or what not.

We've had people who came in with elevated lipoproteins from over insulin resistance. As the insulin resistant reversed, then the lipoproteins we've been able to drop them by half. So they go from say 2,500 down to 1,100 or even lower than that.

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And so in the folks that we've shown that to Bill Cromwell, Tom Dayspring, they were just shock by that. And so there's a lot of moving parts on that stuff. When you really start playing at the outer edges of the story with ancestral diets are it kind of a more orthodox paleo diet or something that's nutritional ketogenic in flavor. We're talking about metabolic stories that there's just not any good data on. We just don't see that stuff well represented in literature at all.

Jimmy: And then the lack of data do we throw it out? And I say no. I say at least look at it, try it. There's no harm because what we're talking about at the end of the day is real food. That's awkward talking about here. And there's people taking you know powerful medications to try to deal with some of these issues that perhaps nutrition could help with.

So it certainly not something going back to your genes analogy, nobody is going to say oh if you try on those pants you're going to cause great harm to your buttocks that will never be repaired. No. You got to try something and if it doesn't work, move to the next one.

Robb: And we're definitely trying to figure out on our side. So the flip side of this is that we've have people come into the clinic. They start eating kind of paleo-type approach, blood, everything improves. This is kind of to the point that we already said I'm just repeating myself. But every damn thing improves except LDLP. LDLP goes up.

Jimmy: And APOB.

Robb: And APOB and we're kind of like wow, what the heck do we do? We've been trying to get in now and start looking at some genetic variance like APOE44 genotypes versus the 33 and you know all the rest of these things. And it seems like the 44 people, there might be a good argument for those folks to do what we call kind of paleo-Mediterranean which would be actively trying to reduce saturated fat intake after trying to increase monounsaturated fats.

It's fascinating. Those people are very, very high risk of developing Alzheimer disease specifically which is this glucose metabolism issue which again would kind of steer me towards like well why not something

that looks kind of ketogenic but it seemed like these APOE44 genotypes do not respond well to a ketogenic state in general.

Again, this is where it just gets confusing as all get out and becomes really a story of customization and you know this is where the big picture of heuristics kind of break down as like well when you can look specifically at what you individually have going on before we can make further recommendations there.

Jimmy: And I hope that's the theme song of the future of health care Robb is we stop looking at patients as a lemmings and look at them as snowflakes. So that we now treat them each to their own metabolic needs and knowing that you got different things in the tool box you can choose from, from ketogenic to starches in your diet paleo. I mean there's so many modalities that work here. Let's don't stick to one. I think that we've seen that doesn't work with the dietary guidelines that come out of Washington. Let's use all of these tools and keep them in our arsenal to help most people.

Robb: Yeah, yeah. That makes sense. That totally makes sense. Well Jimmy, what didn't we cover? What else do you want to talk about with Keto Clarity?

Jimmy: We certainly had a fascinating conversation. There's so much great information that we shared in the book about how to make this practical because that's the other thing that was missing when I was looking for something that showed me how to do this and how to track and how to you know. It didn't exist.

And so this is certainly going to be I hope one of those books that will be a resource for people that if they just don't know anything about how to do this we show you how to do it. We give you a shopping list. We show you recipes from some of your favorite paleo authors. We give you a meal plan and we say okay here's how you make it work.

And so I just encourage people that are interested in it, give it a go, see how you do. And if it doesn't work for you after 30 days move on. Nobody's going to be mad at you. But you gave it a go and you saw how you felt in it. And then you know what a ketogenic diet is like. So again, don't throw the baby out with the bathwater. Let's see how it works for you.

Robb: I like it, I like it. Jimmy thank you for coming on the show and thank you for having had me on your show so many times.

Jimmy: I had to get you back man.

Robb: I always enjoy bringing down property values over there. It's always a pleasure for me.

Jimmy: It's always very well listened to so thank you for all the great work you do in the greater health community not just paleo but you're doing really yeoman's work and I've heard so many great positive things about the work your doing in Reno. Keep doing the great work and we'll keep supporting you man.

Robb: Awesome Jimmy. Well take care and we'll talk to you soon. And folks definitely check out Keto Clarity. We will have links to the book on the download page for robbwolf.com or just pop that thing in silly old Google and track it down. Alright Jimmy takes care. We'll talk to you soon.

Jimmy: Alright man.

Robb: Okay. Bye.

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