

[Nicki:](#) Are we still calling this the Paleo Solution Podcast?

[Robb:](#) Are we rolling?

[Nicki:](#) We are rolling.

[Robb:](#) We are noodling on a rebrand and part of the reason why we're noodling on a rebrand is that we're shifting probably 99.99999% of our stuff to Q&A. The author interview stuff, people generating books like I think we've really mapped that experience and folks were okay with it. It's cool, but what we found is that people have specific questions about their individual needs and that that's probably the place that we shine the most. Every once in a while if we find somebody that has some really cool stuff, like there are a couple of researchers have some amazing work that they've done that I definitely want to interview at some point. So we'll weave a little bit of that in but mainly we're shifting this around to a Q&A format and so we are thinking about some sort of rebrand. So we'll think about that. And I do have my cup of happy.

[Nicki:](#) It's my cup of happy. But you're using it. That's okay.

[Robb:](#) Well you won't let me use the cup that I usually use because of what's on it.

[Nicki:](#) All right let's get going with question number one. It's a question from Rob. Electrolytes the whole time. Rob says, "Question for you that I can't seem to find an answer to anywhere else. Do I need to continue to consume the high levels of electrolytes the entire time I'm on keto? I'm still doing it twice a day, drink mix with about 2300 milligrams of sodium, 350 milligrams of magnesium, and 1200 milligrams of potassium."

[Robb:](#) Yeah so in general if you're on a ketogenic diet, and this is one of the features like if childhood epilepsy, ketogenic diet kind of scenario, they will be on a sodium enriched diet in particular and then try to get the magnesium of potassium as much as possible from dietary sources but the sodium is really the linchpin to that. I will say that over the course of time usually those needs decrease to some degree but there's just a ton of variability built into that. Somebody on a low carb or ketogenic diet needs more sodium. Period. But then anyone who is exercising, exercising in heat and humidity, the American council support medicine guidelines put the sodium needs between seven and ten grams per day for an average size person. So what we're finding and this is completely self serving because we're selling LMNT and so yeah it's a completely self serving statement. But a ton of people are really under supplemented in sodium. And so that's the longer answer. The short answer is yeah if you're on a lower carb diet, you're generally going to need to supplement over the long haul.

[Nicki:](#) Especially if you're training.

[Robb:](#) Especially if you're training or doing any type of. And again heat and humidity. I just got back from doing a training camp, Brazilian jiu jitsu down in Costa Rica. It wasn't blazing hot but it was 85, 90 degrees non air conditioned facility.

[Nicki:](#) Three hours of training at a time.

[Robb:](#) Decent humidity three hours. And the folks that were not staying on top of the electrolytes supplementation specifically sodium were having bad cramping issues. And

then when they addressed that not only was their cramping decreased but their fatigue and whatnot was improved so. Yeah.

[Nicki:](#) All right. Next question is from Joseph on genetic testing. "Rob and Nicki, I was wondering which genetic testing brand you recommend."

[Robb:](#) Man I'm honestly not super well versed in this stuff. I know that 23 and me has been selling our data to like the FBI and CIA or something like that.

[Nicki:](#) Is that real?

[Robb:](#) Yeah it's real. It's a non fake news deal. But I figure at this point I mean just coming back into the country, like they scanned me and like body cavity searched and everything so I don't know that I can.

[Nicki:](#) No escaping anything.

[Robb:](#) There's no escaping. I think just a basic 23 and Me is pretty legit. I think that they generally do a good job and then there's going to be a question here I think next on FTO polymorphisms. Once you get that basic report out of 23 and Me and it's kind of cool for the ancestry and stuff like that. Like I've connected with some second cousins and some cool stuff like that. But then you can export that data into different platforms like Ronda Patrick's Found my Fitness, DNA Fit is really quite good also. That one definitely looks more at kind of sports and performance metrics like are you fast or slow twitch. Do you tend to oxidize fatty acid or carbohydrates better. It goes pretty deep on that and does a reasonably good job. So I would start with just 23 and Me. Or if there's another option out there that they are not selling your information to the government, and you're into that tin foil hat kind of gig and trying to protect your individual identity and information, then search out one of the others but 23 and Me is just nice API. It's easy user interface. All that type of stuff. So yeah.

[Nicki:](#) All right, so this next question is from Justin on FTO polymorphisms. He says, "Hi Robb and Nicki, my wife and I both did our 23 and Me years ago but just recently ran it through Dr. Ronda Patrick's genome analysis tool. We both have FTO polymorphisms that put us at highest risk of obesity specifically from saturated fat consumption. And it looks like high levels of saturated fat by itself even caused insulin dumps with this particular polymorphism. I did not even realize this was possible. I thought this could only happen with refined carbs. This is something that varies population wide, but since we know that we in particular have this polymorphism, I have some questions about how to tackle this to feed my family of four with foods that are right for us. Currently we're just doing a paleo diet and I've lost 40 pounds. And I'm down to 198. I run about five miles a week. There isn't a particular weight or strength level but for my height, 5'10 it seems appropriate to be closer to the 160 to 175 range. Since we're trying to do this as a family and I have young kids, I'm not trying to put anyone on a diet. Just make sure they're eating good foods when we're at home where we have the most control of what's around."

[Nicki:](#) "The paleo template is working very well for us but with this new information I want to make sure we're optimizing our food choices. My question comes in with foods I thought were very healthy and now I feel like maybe healthy or benign for the general population but likely should be avoided by my family. For example, coconut oil, MCT oil, pastured beef, pork, dark chocolate. So three questions, should we be avoiding the above mentioned foods and shoot for higher levels of mono and poly unsaturated fats

mixed with fish, chicken, turkey, and 93.7% beef? What is a good target number of saturated fat in a day with this gene poly morphism for an adult to keep insulin levels healthy? And finally since cutting those saturated fat levels down is going to cut a lot of calories. Should we be increasing carbs, mono poly unsaturated fats, protein, or mixed make up the difference. Thank you for your time."

[Robb:](#)

Holy smokes that's a lot of stuff to unpack. So the first one should we be avoiding the above mentioned foods. One thing that's important to take away with this stuff is although so like this FTO polymorphism definitely has some implications for like lipo proteins, the potential saturated fats don't benefit insulin sensitivity, all of the studies that have been done are still typically within the context of a mixed western diet. Nobody is pumping folks with paleo type foods through this process. So do we get the same gene expression under those circumstances? And I think that that's a valid question to ask although we do see some folks whether on the low carb side of paleo or straight into keto they have some squirrely stuff happen. Some elevated inflammatory markers. What I would do with this is actually get a baseline of what your lipo proteins and your lipo protein insulin resistant score is and we'll put a link to that in the show notes. You can get that ordered through specialty health folks that we work with here in Reno.

[Robb:](#)

But if you are insulin... let me back up with that. Doesn't really matter where you are. But within that insulin resistance score, the lipo protein insulin resistance score in general lower is better in this regard. So but if you're already 20 then like cutting it to 10 isn't really going to be that big of a deal. But if you have an LPIR score of 80 then yeah we want to really look at stuff. But what I would do is get that as a base line so that then any tinkering that you do we actually can know that it's benefiting you or potentially not benefiting you. You've already lost a bunch of weight which we know for a fact regardless of everything else that's improved your insulin sensitivity. It's decreased inflammatory markers, like that's just a guarantee. But if we're going to do additional tinkering then I would strongly recommend getting that LPRI score as a baseline. And again we'll plug that into the show notes. I don't remember off the top of my head so I would use that as a baseline and then all of these recommendations from there the good target for an amount of saturated fat for a day... I wouldn't even know where to go with that.

[Robb:](#)

I guess some of the even Cordain backed guidelines are somewhere between like eight to twelve percent of total calories and if you're reading on the leaner side of the protein spectrum, more fish, more monounsaturated fats. That should be reasonably easy to get and yeah I mean if you are cutting so the third question if you got the saturated fat levels you probably will need to replace those calories to some degree. And just play with that again. Maybe you add some more paleo type carbs. Maybe you add more mono unsaturated fats. I probably about 60% of my calories from almonds right now. Blue Diamond Smokehouse almonds no less because I love the smoky saltiness. But again I would make the case that the tinkering is less important than having a baseline so we can assess what the tinkering does. Because that LPRI score again you will know what your LDL particle count is which is critical in that kind of cardiovascular disease story even though it's not straightforward and simple at all.

[Robb:](#)

It will tell you help us your insulin resistance score and then based off of everything that you do then we can assess that. And I think that this is one of the really dangerous things that happens where people say go do this. And it's like well how are we going to assess whether or not that does anything for us, either good or bad. I've always liked how do you look, how do you feel, how do you perform. And then look at bio markers of

health and disease. And we've been recommending that since like 2007 when we first started going on the road doing things and over the course of time our ability to do that under the hood look at specific bio markers that give us some good feedback has really improved. So the things that you ask Sarah are great questions. I don't know which one specifically to do. All of them are fair game. Increasing monos, increasing carbs, decreasing the saturated fat levels, the saturated fat in coconut oil will almost certainly provide a different stimulus on that FTO gene versus say like the 85% lean beef. And certainly different than butter and cream.

[Robb:](#) So those are all things that you can tinker with and once you have that baseline then we can actually do some good assessment.

[Nicki:](#) What effects they're having.

[Robb:](#) Yeah.

[Nicki:](#) Okay. Next question is from Chris on keto and labs. "Hey folks, as a 38 year old male I was curious your thoughts on a free T3 and testosterone plummet on a low carb or ketogenic diet. My thoughts are maybe not enough carbs. Or because of the appetite suppressant effect of the diet possibly not enough calories. I know tracking might shed light but curious if there was an obvious solution and common finding here. P.S. all other markers have remarkably improved."

[Robb:](#) Tracking, that's madness. Why should we know where we are to figure out where we want to go. That's crazy talk. So you know the drop in T3 and just T3 in general is not surprising on a low carb or ketogenic diet. It may not in some situations we've seen that it may be consistent with some clinical problems. But also again self serving to some degree we've noticed that a remarkable amount of the problems that pop up related to low carb and ketogenic diet is whether it looks like kind of hypothyroidism or adrenal fatigue like HPTA axis dis regulation is inadequate sodium and inadequate electrolytes. And then once people address that, three years ago I would have been much more reticent to recommend low carb or ketogenic diet to a various cross sections of people and just working with Tyler and Louise at keto gains. They just don't experience all these crazy problems that everybody else does because they are neurotic on having appropriate calorie levels so to Chris's point we don't want to be low carb and hypo caloric which is why we do actually need to track and that's why it says keto master class/lab. So if you're doing the keto master class we tell you to track that damn stuff at least for a while.

[Robb:](#) So we do need to establish a baseline but then they are neurotic in tracking electrolyte levels. And I think that that ends up addressing most of the issues. So if we drop carbohydrate intake we don't need as much thyroid because the thyroid is critical in carbohydrate processing. So whether or not that is manifesting in what we would characterize as like hypothyroidism like being cold, dry brittle nails, dry brittle hair, all that type of stuff. That's something that we need to keep an eye open for and then similarly with the testosterone levels, we find that a lot of people the testosterone levels may drop but then it appears that the androgen receptor sites improve in efficiency so you may not need as much. So this is again where I would default back to some clinical manifestations like are you still waking up with some wood. Are you frisky? Do you maintain muscle mass? Like all that type of stuff. And for women, kind of the analogous thing. Like is libido okay? Are you feeling fatigued and lethargic? Or do you have good energy and you're motoring along? But again I wouldn't immediately ascribe

problems to the low carb diet. I would ascribe problems first to potentially having inadequate sodium and electrolyte levels and then kind of going from there.

[Robb:](#) And if at the end of all this unwinding and tinkering, the person legitimately is just not functioning as well as they would like on a low carb diet. Like they have clinical manifestations of like low thyroid and low testosterone. Then by all means start reintroducing some carbohydrate into the mix. 50 grams a day is a start. Run with that for a couple of weeks. Maybe add 20 more grams a day. And play with that and usually that addresses things. But again I've been surprised and this is why it's good to have a coach and why I work with Tyler and Louise with my stuff because they're very knowledgeable with this stuff particularly on the coaching implementation level. I really under valued how important the sodium and electrolyte story was. And when I address that then a bunch of the problems that I had were addressed.

[Nicki:](#) But bottom line tracking.

[Robb:](#) Tracking.

[Nicki:](#) So we know that you're getting enough calories in the first place like Rob said under eating calories and low carb.

[Robb:](#) Low carb plus low calorie is a great mix for breaking someone.

[Nicki:](#) And if you're doing, you didn't say whether or not you're doing much training. And if you're training hard and if you're not supplementing with sodium that can get you in some hot water.

[Robb:](#) And again within all the stuff what is keto so for me throughout the course... and still going to work on my training update for year 47. I still have that in the works but I've been noodling on some pieces to that and one of them is that I just kind of naturally periodize my carbohydrate intake throughout the week. So Monday tends to be a pretty low intensity day as far as training. I might make it to the gym and do some low level cardio. I mean literally it's like 140, 145 beat per minute type stuff. I might lift some weights but it's low volume, low intensity. So on Mondays I'm pretty low carb. Like probably around 50 grams max for the day because I just don't need more. Tuesday I coach jiu jitsu but it tends to be a very skinny class and so that day also tends to be pretty low carb. Wednesday I will either lift weights or do some conditioning and it usually is a little bit friskier on that day. It just kind of naturally plays out that day and also Thursday can be a pretty hard day of training. I coach that class but it seems like more people more big people, more crazy people show up for that day.

[Robb:](#) So Wednesday I start ratcheting things up, maybe about 75 grams of carbs. On Thursday it will vary as to how much I have based on the training day. But Friday and Saturday are like get after it days. Those are my hard training days and those days the carb intake may hit 120, 150 grams for those days. And then Sunday is kind of recovery day and I actually drop the carbs on that because I find I recover better on the lower carb side of things because it's not a glycogen issue. It's kind of a systemic inflammatory issue. So I kind of naturally periodize carbs throughout the week. But I'm still always in ketosis. So even this notion of what a ketogenic diet is, people need to be more flexible with that. And I do find spots where I need more carbs to kind of have that low gear and to not feel kind of systemically blown out afterwards.

[Nicki:](#) Okay. Let's see. Our next question is from Roberto on Omega six from nuts and avocados. "Hey Robb, just wanted to say I'm a huge fan and I've been following your podcast and blogs since 2011. I really appreciate the research and information you're putting out there. Anyways, my question is regarding Omega six from healthier sources such as nuts, seeds, egg yolks, and avocados. I used to consume a large amount of almonds and olive oil to maintain my weight, but stopped after reading Dr. William Land's work on Omega six and Omega three. I started going down the internet rabbit hole and before you know it I am at Ray Peat's forum where everyone claims any amount of Omega six will send you to an early grave. Since I am a follower of popular opinion I switched most of my fat intake to highly saturated almost instantly felt worse. After a year on a high saturated diet my glucose was constantly higher, cholesterol levels increased and I looked like shit. I wasn't as lean anymore and felt sluggish throughout the day. I'm really tempted to switch back to more of a monopoly fat type diet but there seems to be so much biochemical evidence against it."

[Nicki:](#) "Walter Willet seems to think it's not a problem, but Dr. Lands." What do you?

[Robb:](#) Pedatarian.

[Nicki:](#) Pedatarians. Chris Master, Jaminet, et cetera make such good cases although one could argue that most studies vilifying omega six are actually showing the negative impacts of industrial seed oils instead of natural sources of Omega six. What are your thoughts?"

[Robb:](#) Man it's a really good question. And it pops up a lot and Roberto kind of hit it with that I really think that the studies are basically showing that industrial seed oils suck and other sources of Omega six are just really not, how do they say it, person of concerns. A molecule of concern. I talked to Matt Aland about this episode a lot and where this really becomes a big deal is if you have an adequate EPA and DHA as a baseline. Then these issues become a bigger problem. But then beyond that, and you know it's funny because I vilify epidemiology on the one hand and then jump in and use some epidemiology but consuming nuts and seeds just like whether you're paleo or vegan or fucking whatever, like nuts and seeds are pretty darn good. I think getting a variety of those and not being really super set in consuming too much of one variety even though I ate a shitload of Blue Diamond Smokehouse almonds. I eat the pants off those things. But I am just so unimpressed with the clinical and this again like we've talked a fair enough about labs and John Welbourne has looked at this where if he's followed more of the super high saturated fat, low polyunsaturated fat intake and he feels like shit.

[Robb:](#) His blood values go kind of sideways. His good friend, Tom Inkladon which Inkie is kind of crazy. He's crazy dude, super smart, but again and again he's found that people that are really top heavy on the saturated fat like they end up just systemic inflammatory deal and like bad glucose disposal and everything. And so yeah I'm unimpressed with the argument to avoid nuts, seeds.

[Nicki:](#) Clearly you're not feeling good. You're not looking good. So clearly for you it makes sense to make shift. And try to get to where you're feeling great in the morning. Your body composition is where you want it to be. Your numbers look good. I mean that in equals one scenario.

[Robb:](#) Yes, yeah, yeah. I think that there's a lot to be said with that and again you know a way that you could get a really nice baseline on this is looking at that LPIR score which provides a marker of systemic inflammation called Glyc A which is so much better than a sea reactive protein. I'm going to have Dr. William Cromwell on. He will be one of the



people that will probably interview a serially. Something I've noticed like Mike Rousha, there's just a couple of people that provide so much value for folks when they listen because they're just fucking on point and people always get something. So instead of a random grab bag, like in the interviews. I'm noodling are going to be more a curated process of people that just consistently provide value to the listeners and are really on point with stuff. So William Cromwell is going to be another person that will come on and talk about specifically why a glyce is so powerful as a marker of systemic inflammation. And again this is something that you can experiment with maybe you take a baseline out of your ray pedian kind of scenario and then alter it for a month, two months.

[Robb:](#) And then get a reassessment and I'll go out on a limb and say that if you're LPIR score improves, if your insulin sensitivity dramatically improves, if your glyce A improves, if you look, feel, and perform better I'm going to go out on a limb and say that that's probably a net win all things considered.

[Nicki:](#) Okay. Let's see. We got a question from Casey. A question about evolution to Nicki. "Hi Nicki and Robb, always love to listen to the Q&A podcast and I can't stop noticing how Robb likes to geed out so how did you guys actually meet? What was Robb's pick up line? I'm sure there is a story there.

[Robb:](#) We're going to have to fire [inaudible 00:25:20] for letting this one make it in the Q&A.

[Nicki:](#) Okay. Let's see here.

[Robb:](#) Do you want me to give the run down on this?

[Nicki:](#) How did we actually meet? So I was working in a coffee shop in Chico. Has finished school in San Diego, moved back closer to home to Chico. And the first time I met Robb the door to the coffee shop, the little bell on the door jingled and I looked over and in comes this guy with a tank top on with big muscly arms and.

[Robb:](#) Yeah because I'm huge. Just as a reference she was vegan at the time so anybody that had an ass, legs, or the remotest amount of muscle looked like some sort of body builder.

[Nicki:](#) So yeah, tank top, muscly arms, and then tapered acid wash jeans.

[Robb:](#) The tapered acid wash jeans were standard jeans and they look tapered because again I add ass and quads. And so I actually fill them up instead of just these Popsicle sticks walking around in hemp baggy pants like the rest of the guys you hung out with.

[Nicki:](#) So yeah so he comes up to the counter and says, "Do you guys roast your own beans?" So I guess that wasn't really the pick up line but that was the first sentence.

[Robb:](#) Hey I'm just moving here from Seattle, and I literally I drove more or less non stop other than getting gas. I peed in a bottle. Went from Seattle to Chico. Chico was where I did my undergrad and I was moving down there to open a group in the fourth cross fit affiliate gym in the world. And that's where I met John Frankel. And so the very first human being that I exchanged words with after being out of Chico for nearly seven years. Was my future wife, Nicki. Those are big arms Violetti.

[Nicki:](#) He asked if we roast our beans and I said no.

[Robb:](#) Well she said no. And then she went back to talking our other misanthropic friends.

[Nicki:](#) And then he asked do you know where.

[Robb:](#) No I said do you know who else in town roasts their own beans. And she said Cal Java. And then went back to talking to her misanthropic friends. I said do you know where they're located and she said across the other side of town.

[Nicki:](#) Now I was not that big of bitch. Just saying.

[Robb:](#) Former clients and former employees would argue with you.

[Nicki:](#) Robb's version of the story. Yeah. So anyway so that was our very first meeting. That summer, and that was like in April. And that summer I kept getting emails from Robert Wolf. I had signed up for this group mailing list because I had done some [inaudible 00:28:03] in San Diego and was wanting to get into it also. And Chico so I started getting these emails all summer long and then one email was talking about the mystery from Seattle coming down to do a big workshop. So I show up at this workshop and Robb is there. And turns out he was co teaching the classes with one of our friends Jeff OG. So started doing [inaudible 00:28:27]. And then I guess I invited you to the first thing, right?

[Robb:](#) Nicki invited me to a vegan pot luck which I ate before attending that. And then.

[Nicki:](#) So we went to a vegan pot luck.

[Robb:](#) And not long after that, maybe about six hours after that Nicki was pretty sure that I was a serial killer and so you'll have to meet us in real life and focus more on the rest of the background on that.

[Nicki:](#) We won't go into it right now but.

[Robb:](#) You'll have to play us with some margaritas.

[Nicki:](#) It was, I had good intuition based on the circumstances that this was not a normal guy.

[Robb:](#) Nicki has commitment phobia.

[Nicki:](#) That I should run far far away. And when I told all my close friends they said oh yes run far far away.

[Robb:](#) Nicki has commitment phobia.

[Nicki:](#) No it has nothing to do with that. There might be a shred of truth to that.

[Robb:](#) The commitment phobia was a multiplier applied to some very non deft actions.

[Nicki:](#) Not deft is a very smooth way of saying it.

[Robb:](#) Yeah.

[Nicki:](#) So yeah.



[Robb:](#) So yeah there was nothing cool or slick or anything about my MO. Really the thing that I had going for me is in Chico there are about five women for every one to two men. And that's really the thing that I had going for me. So but yeah KZ if you want the rest of the story, or other people want the rest of the story, couple margaritas and we'll unpack the rest of the story. But guess sorry that we've been gone bit. I've been working on two books simultaneously. The first keto book is off to the publisher under the first draft. I'm working with Diana Rogers on a sustainability book which I am going to be riding away on that. So we've been pretty pretty hopping.

[Nicki:](#) So keto master class students and just anyone in general, we're turning all of the material in that course into a book and it's going to be super super cool.

[Robb:](#) We have a massive amount of additional information and so for keto master class students if you're kind of like why wouldn't I buy this thing. I did... I've been thinking about a longevity book for a long time. And I actually took the bulk of what I've noodled on putting into a longevity book and put it into that because writing two books at once made me decide I never want to write a damn book again in my life. So it really digs into M tor, fasting, like the pluses and minuses like I don't want to toot my own horn too much but nobody has dug into that stuff on both the molecular level and also on the kind of macro application level. I haven't seen anybody do it. So I think it's going to be a very good book, very practical. But then also for the geeks out there, if you're kind of like well I've checked all this stuff out. Like I put a ton of arterial into the cholesterol and cardiovascular disease, implications of a low carb ketogenic diet and I went really deep on that. And then I also got into M tor, IGF, the pluses and minuses of autophagi and fasting and all that.

[Robb:](#) I feel like I did a very thorough treatment on that. Those are in an appendix. So even the flour map of the book is a little bit different. We kind of jump in with the how to and then we cover the more technical science at the end in the appendix. I'm hoping that that will lead to not a massive pissing match with my publisher so hates the science and technical stuff and just wanted everything to be like eight days to paleo lab. And so I'm hoping the fact that the technical stuff is in the back that they'll kind of give a little sign off on that. It won't be a shit fight on that. But that's what we've got going on.

[Nicki:](#) Yeah. So that's coming out early next year and then the sustainability book with Diana.

[Robb:](#) More like June, July.

[Nicki:](#) Summer of next year. So that's kind of.

[Robb:](#) Cool. Yeah. So keep the questions coming in. We're back in the hot seat to do this. Love the questions and thank you all for your support. We'll talk to you soon.