

Speaker 1: It's time to make your health an act of rebellion. We're tackling personalized nutrition, metabolic flexibility, resilient aging and answering your diet and lifestyle questions. This is the only show with the bold aim to help one million people liberate themselves from the sick care system. Welcome to the Healthy Rebellion radio.

Speaker 1: The contents of this show are for entertainment and educational purposes only. Nothing in this podcast should be considered medical advice. Please consult your licensed and credentialed functional medicine practitioner before embarking on any health, dietary or fitness change.

Robb: Howdy, folks. Welcome to another addition of the Healthy Rebellion Radio.

Nicki: Good morning, Hubs.

Robb: Good morning, Wife. How are you?

Nicki: I'm good. How are you?

Robb: Good, good. Before we launch into the live call, I've just got kind of a cool little newsy piece. If folks don't follow SuppVersity, they do some great work. They have a website, SuppVersity.Blogspot.com. Also, they have a very active Facebook presence but they just do a great job of kind of curating important research and they did a curation in two pieces on this. One, low carb requires at least an extra 0.12 grams per kilogram of extra protein. This is super in line with the work that we've done with Ketogains, Bill Lagakos has talked about this quite a bit. I got to give some props going back, Paul Jaminet made the case, gosh, ten years ago that the standard ketogenic diet recommendations are too low in protein, for the most part.

Robb: If you're doing that for body composition specifically, with some peripheral health benefits, then we definitely want to focus on getting that additional protein, which again is not a ridiculous amount. It's the difference between, say, like doing 125 grams versus 150 grams. The 150 grams is going to benefit the individual quite a bit more. Then also you need a lot more salt. If you don't want the hypovolemic deal, like getting dizzy from sitting to standing, the additional salt, and again that is pretty consistent within the recommendations. Phinney Volek, lots of people have been talking about that. As is the case, it's very easy to overlook the sodium LMNT and electrolytes in general. We will put a link to this SuppVersity piece and folks can check it out.

Nicki: People who have been listening to you for a while and following you or following Ketogains will be familiar with this need for extra protein. Any new listeners who are doing a keto or a low carb diet and might be following kind of the more, I don't know, is it conventional keto recommendations to focus on the fat, like all the fat bombs?

Robb: Yeah, like these four to one, three to one. Yeah, where it's like you're super anxious about not getting too much protein because of gluconeogenesis....

Nicki: For fear of getting out of ketosis?

Robb: ... and stuff like that. Yeah, yeah.

Nicki: So people focus on all the fat just to make sure that they're in ketosis but often that doesn't lead to the best outcome with regards to body composition.

Robb: It's not great body composition and I think that that's because one could make the argument that ketosis is a little bit glucose hungry, even though we're shifting to fat as a primary fuel source. We do convert protein into glucose for a whole variety of reasons and so we probably need a little bit more to be able to maintain anabolic signaling and maintain muscle mass and whatnot. It's important on the body composition piece from just kind of like a molecular building block standpoint.

Robb: The other side of that is that people get darn hungry without adequate protein. I was just talking to you about a person that I'm doing some private consulting with and this person has been struggling in general with really over-the-top hunger and shifting out of lower carb keto eating, kind of doing some binge eating. We just really increased the protein by about 15%, 20% and now the person is reporting that they need to set a timer to remind themselves to eat and they've already leaned out and they're starting to make better body composition changes. This was someone who was pretty sophisticated with this stuff, was not the first rodeo, but we all miss these pieces. It only took Tyler and Louise a year to get me to up my sodium appropriately so we always ignore our coaches and-

Nicki: Hopefully we don't but sometimes people are a little more stubborn than others.

Robb: You have to in the beginning, just to create some drama and excitement within the relationship. Yeah. You have to ignore your coach for a while but anything else before we launch into the live calls?

Nicki: I'm going to read our show sponsor but I think we're good there. This episode of the Paleo ... The Paleo Solution. I did it. I was wondering if that was ever going to happen.

Robb: That's going to be a tough one. Yeah.

Nicki: This is a tough one. Let me start over.

Robb: We have a lot of repetition on that.

Nicki: This episode of the Healthy Rebellion Radio is brought to you by our share sponsor Elemental Labs. Robb just was talking about the needs for salt with a low-carb diet and if you haven't tried the electrolyte drink mix that is LMNT Recharge, you should. In full transparency, we cofounded this-

Robb: A stunning endorsement.

Nicki: We co-founded this company after recognizing the benefits of proper electrolyte intake, particularly for people eating a lower carb diet. If you add hard training into the mix, a hot environment, your need for electrolytes really goes up. How do you use electrolytes, Robb?

Robb: Is this like if you were a tree, what type of tree would you be?

Nicki: No, I-

Robb: Do you want electrochemical conduction? Do you want do I snort it versus inject it?

Nicki: No. Just before training, after training, what types of training.

- Robb:** Got you. Got you.
- Nicki:** We moved to-
- Robb:** Practical applications.
- Nicki:** We moved to Texas and it's hot AF here in Texas so ...
- Robb:** Yeah. I noticed that I actually do really well getting up straight out of the gate and just having an electrolyte right out of the gate. When we lived in places that were not as hot as the sun, then I would get up in the morning and do that with a bone broth and add sodium to it but I definitely do one straight out of the gate. Just seems to set things up well and then I almost always do one pre-training, about 20 minutes pre-training.
- Robb:** Interesting thing with that is ... You can kind of overdo this but as you start exercising, it down-regulates your fluid loss at the kidney level so you can kind of buffer yourself like plugging the exit hole on a balloon or something like that. You're keeping that fluid in there so it's available for fluid balance, for decreasing of relative cardiac output exertion and also it's available for sweating, so for just temperature control. I will definitely use it first thing in the morning and then also for sure pre-training. My strength training is pretty low volume, not that much to speak about, and so one is enough. If I do jiu-jitsu I might do two or three throughout the course of a two, two-a-half-hour training session. Yeah.
- Nicki:** Okay. If you guys are interested in checking out LMNT Recharge and haven't done so yet, you can do so at DrinkLMNT.com. It's Drink L-M-N-T dot com.
- Robb:** I recommend drinking them out of mason jars so you look like a hillbilly.
- Nicki:** All right. We are excited because this is our very first live call ...
- Robb:** It looks like people have actually called.
- Nicki:** ... today so we're going to start jump into our live calls.
- Robb:** Awesome. Caller, are you there?
- Jack:** Yes, I am.
- Robb:** Hey. Who are we talking to?
- Jack:** Hey, this is Jack.
- Robb:** Hey, Jack. How are you?
- Nicki:** Hi, Jack.
- Robb:** Where you calling in from?
- Jack:** [inaudible 00:08:20] West Virginia.
- Robb:** Nice. Nice. Not too far away from us, a little bit.

Jack: Yeah. Yeah. Hey, I'm kind of starstruck. This is amazing. Thank you for doing this.

Robb: You know what, it may be the hottest mess, biggest train wreck that we've ever tried but it seemed like fun so we'll give it a shot.

Jack: Yeah, yeah. That's great. Yeah. Really I probably have a number of questions but my, I guess, two-part question about poop. I've been doing paleo for a long time and I'm strictly gluten-free, 100%. It wrecks me and I have picked up the keto Masterclass and I've been doing that for the last couple months. I've been feeling great, lost of weight, looking good. It caused a bit of diarrhea I think and it seems like, from my experiments, that dialing up my carbs, paleo or not, kind of help with that. I guess my question is should I be sticking that out more and just kind of grinning and bearing it or is that an indication that really my system is saying to me, "Oh, you need to be eating more carbs?"

Robb: That is a really good question. You know, it's funny. I'm in a I guess somewhat similar scenario, although for me it was no matter what I ate I just tended to be a little bit on the loose side. When you look at this stuff, generally things get looser if we have a higher percentage of methanogenic bacteria and they produce methane and that tends to accelerate gastric throughput and so things don't hang around long enough to reabsorb water and minerals and so we get a little bit of that whoosh effect. I guess part of what I would dig around in this, have you played around with some different soluble fiber sources, some of the really low glycemic load carbs? I'm assuming that keto is maybe a cognitive boost for you, maybe better blood sugar levels in general but maybe some cognitive boost because it also kind of boils down to ... Like Nicki is sitting here next to me, she feels the same whether on keto or not and so if she had GI distress from keto then I would say there's not really an upside. Is there an upside otherwise for you for doing keto?

Jack: Yes. As long as I'm not overdoing carbs, really binging on them, I don't have too much of a problem. I think for me where I feel really good with keto is that my appetite management is outstanding. I can be in a caloric deficit and I don't feel ... I guess in some senses it's cognitive because if I go hypocaloric with eating carbs then I might get a little cranky but yeah. I feel fine hypocalorically with keto and to me that's probably the biggest benefit.

Robb: Man, that is a tough one. I would try really cooking your vegetables well. I've tinkered with doing some things like instead of doing coconut oil I do coconut flakes because there's actually more fiber in that and all that type of stuff so you've got a little bit more ... just providing a little bit more substrate for the gut microbiota to have something to play with and then the thing that, for me ... I've talked to Diana Rogers and Chris Kresser and a couple other folks, I started tinkering with just a little bit of Imodium, about two milligrams in the morning, two to four milligrams in the evening, and that was just a total game-changer for me.

Robb: I could see where suggesting a dietary protocol that then requires an over-the-counter medication to manage the GI issues is maybe dodgy but for me it was kind of ... I really do have to eat this ketogenic way to feel my best. The blood sugar rollercoaster I get on is just so gnarly that there's just not really any negotiating there. Folks like Paul Jaminet have made some good cases where you just find a really low glycemic load approach and then supplement with coconut oil or MCT oil specifically so you're still goosing that kind of fat adaptation. You're goosing that side of ketone body production but whatever other benefits that folks are getting from carbohydrate and that substrate, that that's

actually going on for you. Another alternative could be the MCT approach to all this and I don't know if you read Wired to Eat but even if you go into a bookstore and grab a copy, we detail in there how to go through that process, doing a low glycemic load diet in general but then supplementing with MCTs to make that keto side of it propped up.

Jack: Yeah, I go through stages where I get into supplements and then I just say, "Screw it," and I get rid of all supplements except for vitamin D-3. I did try MCT back in 2012 so maybe I should give that another go around.

Robb: Yeah.

Jack: Yeah, I hear you.

Robb: Yeah, yeah. The things that I could see would be options for tinkering, definitely looking at finding the lowest glycemic load carbs that you can find, things everyone like jicama and berries and also you probably have a sense of what things work better for you anyway. Maybe it is some white rice that is cooled in the fridge overnight or something. Some people notice that they start pooping like champs with that type of resistant starch but you kind of zero in on the carbohydrate sources that you do best with and then supplement with that MCT to see if you get that same kind of appetite blunting and cognitive benefits.

Robb: Then the other options is maybe tinkering with a little bit of Imodium and just kind of see how you do with that. I spoke with some of the folks from the Sonenberg Lab who do all of the really intense gut microbiota research, like they have people living with the [huds 00:15:33] on, sampling their poo and sequencing it and everything and I was talking to her about my scenario and she made the case that even though ... I just feel a ton better with the Imodium than without and she said without a doubt that changing the way that my gastric emptying is happening and the way the transit time occurs is absolutely altering my gut microbiota and she would make the case it's probably altering it in a favorable way.

Robb: If we look at traditional medical practices, there are things like the product Atrantil has a bunch of different herbs including mint oil, which are known to slow gastric emptying and can help with IBS. Those might be some things that you can tinker with.

Jack: I have actually, after listening to the episode with Mikhaila Peterson where I think you mentioned the Imodium. I went out and bought a big bottle of it and I took two in the evening, two in the morning and then I didn't poop for four days.

Robb: Okay, maybe-

Jack: I tend to be a hyper ...

Robb: Okay.

Jack: I'm a hyper-responder when it comes to stuff. I should've known better so I dialed that back and I've been taking one in the morning and one in the afternoon. One milligram seems to help. Do you have any concerns about taking that on a long-term basis? I guess you're suggesting that it's going to change the microbiome so maybe you could take a course of it for a month, then try to dial that back and not take it and see if it helped, right?

Robb: Exactly. Yep. It's interesting. When you dig around in the IBS literature 15, 20 years ago, using something like Imodium was very, very common and then it really seemed to kind of fall out of vogue and I don't really understand why because it's super safe, it's generally well tolerated. Clearly if you overshoot that dose, you're going to have a few miserable days waiting for things to move through but it is, again, kind of a perplexing thing for me where it's like should I need to take this stuff long term? Again, this is kind of going back to my own experience. This is definitely the stuff that has worked best for me and I had just noticed after I had a round of food poisoning ages ago that I used some Imodium at the end of that, that I felt really good and then I went off of it and then I felt less good and it was a good five years later that I finally said, "Oh, okay. Maybe I just need to get back in and check that out."

Robb: Yeah. That's a very circuitous answer to I really don't know if it's ultimately a good thing to do long term. I'm probably a year and a half, two years into it and so far so good for me but, again, individual variations. We really don't know but the literature suggests that it's probably safe over the long haul, even though they do say don't take it for extended periods of time but I think that they're also very concerned about masking much more severe problems like ulcerative colitis and an active infection and stuff like that.

Jack: Okay. [inaudible 00:18:58] that it will actually decrease the permeability of the intestinal permeability? It almost makes me wonder if there's going to be some add-on, additional benefits. Maybe my allergies get better or definitely seems like a promising protocol.

Robb: Yeah. Chris, Squatchy has been hounding me to do a big writeup on this and so I'm going to get in and look at all of the literature on the potential that Imodium has for improving intestinal permeability problems, for decreasing lipoproteins and cholesterol. There's some really interesting stuff to it and so I will, once we get this next phase of this podcast launched, get into that and do a really thorough writeup on that and provide some protocols where you could do some A-B testing as you go forward and see how you're doing with that.

Jack: Cool beans.

Robb: Awesome.

Jack: Hey, Robb, Nicki, thank you so much for the content you put out. I really appreciate it.

Robb: Hey, thank you.

Nicki: Awesome, Jack. Thanks for calling.

Robb: Keep us posted on how you're doing.

Jack: All right. Will do. Thank you, guys, very much.

Robb: Take care.

Nicki: Bye.

Robb: Bye-bye.

Jack: Bye-bye.

Robb: Hey, caller from 6-0-5, you are on the line. How are you doing?

Greg: Hey, guys. I'm doing all right. My name's Greg. Good morning for you guys there.

Robb: We're still in the morning, a couple more minutes.

Nicki: Yeah, good morning, Greg.

Robb: Where you calling in from?

Greg: I'm currently actually in Vegas area.

Robb: Nice.

Nicki: Nice.

Greg: It's kind of early morning for me.

Robb: Very cool.

Greg: Sorry, I missed out on the first part. I'm not sure what the protocol would be for asking the questions but ...

Nicki: Just jump-

Greg: Do I just jump in?

Nicki: Just jump right in. Yeah.

Robb: Just throw it right in. We have no protocols yet at all. We are making this up as we go.

Greg: Oh, perfect.

Robb: Yeah.

Greg: Okay. I'm in grad school right now and I kind of recognize that I probably have some stress in my life but I've just had horrible bowel movements my whole life. Every time you talk about it, I get excited because it seems like we're identical. We're like bowel buddies. I don't know if that's good or bad.

Robb: We definitely have a poop them emerging today for sure.

Greg: Yeah. I would say in any future podcasts, if you start talking about your poop I'll be happy.

Robb: Awesome. Awesome.

Greg: I've had bad digestion my whole life. I feel like I've been a hard gainer, if you will. Any kind of mass gain, I can eat a whole bunch of calories based on ... I've had a metabolic test done before and building off of that, if I just eat calories for gain nothing happens

except for I just poop more throughout the day. Lots of undigested material, Bristol stool chart, usually it's a six. I played with Imodium but it seems like it works until it just doesn't and then I want to say it was stress-induced but then I've had times where I didn't have time to study for a test and I had to go in blind and I had the best poop and then I did great on the test but it just doesn't seem to really ...

Robb: Correlate with anything.

Greg: ... pinpoint with stress.

Robb: Yeah. Yeah.

Greg: Yeah. I went through a general practitioner, first time ever really, and had blood work done and I have those numbers in case you want them. Then I had an ultrasound done on my abdomen. I've actually recently had a CT scan but I don't have really results for that. The ultrasound showed, yeah, an inflamed liver and some fatty deposits and then my cholesterol is elevated, so a total of 243, HDL is 64, triglycerides are 81, LDL with a calculated number of 161. Glucose fasting was 83 and I think I did a longer term fast because I remember you guys talking about kind of a higher protein fat diet, you may need to extend your fast a little longer for maybe a more accurate cholesterol profile so I think I was at 15, 16 hours. Then my protein, albumin, globulin, everything else on the test, I was within normal parameters. TSH was normal. They had results to test for H pylori because it seems like I randomly have these pains or gnawing sensations in my gut area so the person was trying to figure out whether or not I had ulcers based on H pylori so that was negative.

Greg: Yeah. I'm a 30-year-old guy. I am sedentary obviously. I'm in grad school. I'm sitting for eight hours a day but I try to have micro workouts in every day. I try to run three to four times a week. I lift heavy weights at least three times a week just randomly but I'm kind of concerned about the fatty liver and also could this be coinciding with digestion stuff? The back and forth, is it a chicken and egg kind of thing? Any insights?

Robb: Dietarily, where are you roughly with your nutrition?

Greg: I use Cronometer to track everything and basically I feel better when I'm lower carb. I definitely feel better but I'm pulling a 20/20/60. I'm trying to at least, 60% fat, 20% carbohydrates and 20% protein. It's difficult for me to hit carbohydrates. I'm able to hit protein. I go for at least 130 grams a day. I'm 180 pounds. I'm trying to keep that. It's taken actually a lot of work to get to 180 pounds at six feet tall. Yeah. Then fat, I'm full all the time is what I feel. I eat and I'm full so I don't stuff myself but fat ... I don't hit my markers for fat or carbohydrates. I'm trying to get about 170-ish grams a day of fat and I usually come in probably around 110 and carbohydrates, if I really work at it I can get about maybe 130 grams but I'm definitely hitting a protein goal.

Robb: Got you. Compositonally we're-

Greg: 130 grams.

Robb: We're pretty paleo'd out, 100% gluten-free, dairy-free.

Greg: Yeah. I don't do grains.

Robb: Okay.

- Greg:** I don't really go for the gluten-free bread, anything, they don't really work for me. Pretty much grain-free, usually lower carb. I had a lot of vegetables, at least one big salad a day and cooked vegetable mostly. I do eat a lot of vegetable matter. If I look back in my diary, it's usually cabbages-
- Robb:** Have you ever tinkered with dramatically reducing vegetable intake?
- Nicki:** At least omitting the salad. Some people don't do well with the raw greens at all.
- Greg:** Yeah. I've been hearing you guys talk about that more. It just doesn't seem like a rhyme or reason.
- Robb:** It sounds like jumping on a train to Crazyville but this is where I started learning a lot of stuff out of the carnivore scene and we still don't know what I caught recently but I got some sort of a gut bug and I was reacting to everything that wasn't protein and then even within the protein, if I smelled chicken or pork, it was just nauseating to me. It was beef or lamb and that was it. I've gotten better. It took two months and I did a lot of tinkering and then I slowly reintroduced vegetable matter but the veggies are ironically the thing that just seems to ...
- Nicki:** You do much better with them, Robb ...
- Robb:** ... derail things.
- Nicki:** ... when they're really, really, really cooked.
- Robb:** Mm-hmm (affirmative), like nuked.
- Nicki:** It might be something, Greg, that you try just omitting the salad and eating only well-cooked vegetables just for a time period and see how you do.
- Robb:** I would even cut that back to maybe a half a cup per meal and then just absolutely cook the pants off of it, like turn it into ... Cook it to liquid, basically. Kill it with fire.
- Greg:** Okay.
- Robb:** Yeah, I would ... Yeah.
- Greg:** I think you mentioned the pork. It seems like pork definitely bothers me on a regular. Yeah, kind of just on the regular pork bothers me. I don't have a huge salad anymore. I definitely did. I remember you guys talking about [inaudible 00:28:19] saying that the raw vegetables may be an issue and so I would say right now maybe 25% of my vegetable intake is raw but the most that I have to cook, I'll cook kale and other cabbages and root vegetables in a cast iron pan. My fiancee doesn't like it because I make them kind of mushy. She likes to have them ...
- Robb:** Al dente. Yeah.
- Greg:** ... a little bit crunchy so we'll make separate plates. Yeah. I'll definitely give it a shot. I can double down on that for sure. Should I stop chasing the Bristol stool chart? There have been times where I had the Imodium and I pretty much ate the same stuff and I had movements where I didn't even have to wipe. It was just kind of like a make sure

kind of thing and then it'd disappear and never happen again until sometime later. I really like that when my whole life it's never been like that. It's work to go to the bathroom and then get out of there kind of thing.

Robb: Right, you feel like you need a shower. Yeah.

Greg: Yeah.

Robb: Yeah. Yeah.

Greg: It concerns me because I want to lift weights more and it's like is this affecting recovery and whatnot if my digestion is so crappy? Then ...

Robb: Yeah. The direction that I'm learning is almost by hook or by crook anything that we can do that improves our digestion I think is probably going to be a win in the long run. We could be wrong about that, like doing things like ginger or mint oil which also slow gastric transit time in somewhat similar ways to Imodium. Those things have been used in traditional medicines for ages and even you can find ER docs that you come in with an upset stomach and they're like, "Go get some ginger capsules and suck it up." I would lean towards anything that is generally going to improve digestion and, again, this is very much my experience, very N equals one, but even while I was sick with whatever that horrible gut bug was, once I got dialed in, even though it was just kind of carnivore, my recovery was really good. I had good cardio. I felt like I put on some muscle mass but this is also kind of the case so long as my digestion is just generally good.

Robb: I would do some tinkering to just try to get that as consistent and clockwork as you can and that might mean really dialing down the veggies and some of the carnivore folks, Sean Baker, Mikhaila Peterson. Sean Baker in particular because they've had so many people on their podcast talking about this process where people went from really quite sick to just being healed and healed from some really remarkably challenging conditions. If that's something you wanted to tinker with, I see the risk being pretty minimal and the upside being pretty significant because I suspect that your energy levels would be better, your ability to absorb nutrients would be better. Bathroom visits would be more enjoyable.

Greg: Yeah. If I'm doing carnivore, am I supposed to limit spices? Is it kind of along the autoimmune protocol where certain peppers or-

Robb: You know what I would do is a graded process with this. First, I would just dramatically reduce vegetable matter and try to identify the things that you know that you generally do better with and there are probably some things you do worse with and really cook those things and maybe give that about a two-week run. If that's not working, then we can think about some sort of a carnivore approach. Maybe I will change this over time, although I think carnivore is an amazing tool. It has great therapeutic potential, I'm not super comfortable recommending that that's the first stop that people make in their tinkering so I would just try reducing the amount in general. Again, maybe about a half a cup of cooked vegetable matter breakfast, lunch, dinner, and just see how you do with that and really, really cook it well. Then if things don't go well or not as well as you would like, then we can tinker with some of the carnivore.

Greg: Okay.

Robb: Awesome.

Greg: Do you think that this type of eating would help out possible nonalcoholic fatty liver as well or is this a totally different animal?

Robb: It could and here's the thing with that is if you have an inflammatory response in the gut, that can cause a release of lipopolysaccharide into your circulation and that inflammatory response can absolutely feed into a fatty liver. Other things can feed into fatty liver also but that definitely is one mechanism that that could occur from. This could be kind of a one-stop-shop trying to address all of that stuff for sure.

Greg: Okay. I found one research article addressing nonalcoholic fatty liver and supplementation with a probiotic and a prebiotic. It was over 16 weeks and I think it was a double-blind as well. One group, they got a placebo and they improved but the other group that had the prebiotic fiber and the probiotic, they improved their markers for [inaudible 00:34:25] fatty liver but if I'm just looking for any questions I may want to ask, I'm supposed to see a gastroenterologist this week as well. I'd rather not walk out of the office with prescriptions for something when this is something that possibly could be taken care of with diet and lifestyle change.

Robb: Right, right. That I don't know but I think that you've got at least some decent framework to be able to tinker with for sure.

Greg: Okay. Do you see any problems with a choline supplementation or do you think that might help with the liver?

Robb: No, choline is a fantastic idea because it's helping on that fat metabolism for sure and just having liver in the mix as part of the dietary regimen and then supplementing with choline, I can't see any downside to that.

Greg: Okay. I started AIP probably three years ago and I did Whole 30 as well and I figured out at least egg whites were an issue so I just cut out eggs entirely and then I just now started eating liver in the past year. I was just curious if that total lack of egg yolks and liver, would that cause my liver to be messed up where it's a continued chicken and egg with the inflammatory response to the digestion?

Robb: It's tough because choline demands go up when we're dealing with lipopolysaccharide at the liver in the detox process so, again, in kind of peeling the onion, if you have some sort of gastric upset, which I would say getting the whoosh factor, we've got something inflammatory going on there most likely. If we figure out how to deal with that, it just seems like everything else kind of falls into lockstep from that, maybe not every single thing but it seems like stuff moves in a very favorable direction for sure.

Greg: Okay. Really quick last question, you used to be a competitive power lifter. Did you have bowel issues then and did it change how you trained or, as you look back, would you change?

Robb: I was a teenager then and, looking back, I definitely had some reactivity to food but I could still eat gluten then. Looking back, I know that I definitely had a lot of brain fog, I had a lot of hypoglycemia so definitely if I could take my current understanding and apply it to being youthful, I could've really smashed some stuff. I competed in the 181-pound weight class and I could've probably been 10 pounds more muscle at the same weight if I knew then what I know now. I was moving some pretty decent loads as it was but I definitely ... Over the course of time and getting some things like giardia, that just

kind of beat my digestion down but I definitely, in looking back, I always had some carb reactivity where I would get the hypoglycemic event and have that thing go on.

Greg: Yeah.

Robb: Yeah.

Greg: Okay. If I have any flareups, per se, when it's just bad, should I just back off on the weights or even the little amount that I do?

Robb: My training is very non-exhaustive so that's definitely another piece of this. Your primary thing right now is getting through grad school so all of this other stuff is just facilitating surviving that process. A couple of things with that. One, hopefully this tinkering with the vegetable matter ends up improving things but even beyond that, you only have so much capacity for adapting to stress and grad school usually takes folks just about to the outer limits of what they can handle anyway so the training needs to be supportive of just making it through that process and not make such powerful inroads in your recovery that you're crushed from it.

Greg: Okay.

Robb: Yeah.

Greg: Just kind of keep it in maintenance phase for a while.

Robb: Absolutely. Yep.

Greg: Okay.

Robb: Awesome, man.

Greg: I definitely appreciate your guys' time and the YRD and the AIP stuff has definitely helped me out. I've seen improvements but yeah. If you ever want to talk about poop in the future, I'll be looking forward to this podcast.

Robb: We will be here again, assuming people keep calling in and they want to listen to this stuff, so yeah. Awesome, man. Keep us posted and either give us a jingle after you've tinkled with this or just shoot us a followup email about how reducing vegetable matter, how did that affect things? Was it good? Was it bad? Did it not do anything? It's important to know that followup stuff.

Greg: Yeah. I'm assuming it would be a good idea to keep off the statins. The doctor's like, "Your number don't look very good but [inaudible 00:39:45]." I just am worried about the pressure of that but I'll let you guys know what happens.

Robb: Cool, cool. Again, being in a mild caloric deficit is kind of magic for offloading fatty liver so that wouldn't be the worst thing to do for a period of time for sure.

Greg: Okay. Okay.

Robb: Yeah.

Greg: I can do that.

Robb: Awesome, man. Okay, keep-

Greg: Thanks a lot, guys.

Nicki: Thanks, Greg.

Robb: Thank you. Take care.

Greg: Take care.

Robb: Bye-bye.

Nicki: Two poop-related questions back to back.

Robb: We know our poop, or at least that's the theory.

Nicki: That's the theory.

Speaker 6: Hey, is this Robb?

Robb: This is Robb and Nicki, yeah, man. Welcome to the Healthy Rebellion Radio. How are you doing?

Speaker 6: I'm good, man. How about yourself?

Robb: Good, good. We are just figuring this thing out so it's kind of a hot mess right now but thank you for calling.

Speaker 6: Okay, yeah. It beeped so I figured it was just a leave a message type deal.

Robb: No, no. It's a beep and start laying it on us. Where-

Speaker 6: Yeah.

Robb: Where are you calling in from?

Speaker 6: What was that? I'm calling in from New Jersey.

Robb: Nice. Nice, okay.

Speaker 6: Yeah. I discovered your videos or your work, I guess, from YouTube a few years ago because I've been dealing with post-concussion syndrome for a while now so I've been on and off this ketogenic diet and the reason it failed in the past is because I'm a pretty young and lean guy so it's hard for me to get enough calories. I guess I was just wondering how unhealthy, if at all, is it to be in a caloric deficit while trying to recover from a brain injury?

Robb: Oh man. This is super relative and how long is the caloric deficit going on? At some point we starve to death from that or you lose a tone of muscle mass and organs. The duration is certainly going to be a factor. How long ago was the main TBI that occurred?

Speaker 6: I guess I had my first one probably about six years ago but I just had a bunch in between. The first concussion I had it took me maybe four or five months to recover and then they've just gotten worse with every one. I probably didn't take enough time and the last one was the worst one. It was about maybe 13 months ago and I'm still dealing with the symptoms from it.

Robb: Man. Are you seeing anybody for the cognitive behavioral therapy to help on that side of this equation?

Speaker 6: No, I haven't. I've been to so many different neurologists and it seems like no one has many answers for me right now when it comes to post-concussion syndrome so I've been doing so much research and trying to figure it out.

Robb: The things that we're pretty sure help with this whole process, a ketogenic diet of some form and there's different ways of going about that. If total caloric load is an issue then we could just do kind of the lower glycemic load diet in general and then just add a lot of MCT oil to the mix and that is probably going to be sufficient to produce a lot of the benefits that we get here. High dose fish oil, really high quality, EPA, DHA, some of the literature is suggesting eight, 10 grams a day although that seems a little high because there's some metabolic choke points so I would honestly recommend more along the lines of about four grams of total EPA, DHA a day. Has some great literature on it. Making sure that your sleep environment is buttoned up and then this CBT, the cognitive behavioral therapy, those things have some really solid literature supporting their efficacy and beneficial outcomes so that would definitely be something that I would at least kick the tires on with what you have going on.

Speaker 6: Okay. How do you feel about the carnivore diet with all of this stuff?

Robb: I'm continually amazed and surprised by the benefits that folks get out of the carnivore diet. I don't think it's the right fix for everybody. There was a guy that popped up on one of the main carnivore forums and he posted a picture of his gums and apparently he had scurvy because of vitamin C deficiency so ...

Nicki: Wow.

Speaker 6: Oh, geeze.

Robb: Yeah, that's not moving things in a good direction. You are wanting to repair and improve connective tissue, which vitamin C is a critical factor in but then clearly not everybody gets that. What was he doing or does he have a certain genetic predisposition that carnivore just wasn't a good fit for him?

Robb: I think in general the benefit that we really see with traumatic brain injury is just the utilization of ketones as a primary fuel source because if the brain has any inflammation, it tends to be localized insulin-resistant and so then there can be a substrate deficiency, a lack of energy going to the brain which is a terrible scenario for the neurons healing and being healthy. That is the real benefit of whatever form of ketogenic diet that somebody approaches so there's a zillion different flavors of carnivore.

Robb: Some people do quite high protein and they seem able to motor through intense physical activity and I suspect that's because their body is converting the protein into glycogen and they're able to motor through that. Clearly they're also pretty well fat-adapted but then there are also approaches to the carnivore diet where folks are really

following more of a Ketogains or even a classical keto ratio where the protein is moderate to low and the fat quite high because they are really noticing a significant cognitive benefit from the high circulating ketone bodies. I think that that's where, man, you just have to do a little bit of tinkering around that to see which one is going to work best for you.

Speaker 6: Okay, yeah. This is all really interesting, the way diet has been just really healing people. I also have an autoimmune disease, which is why I have been really trying to figure out this whole diet thing and I'm on a bunch of carnivore forums, keto forums, paleo, all of that stuff. It's definitely been an interesting journey just trying to figure it all out.

Robb: It's no joke. It got on my radar maybe about 12 years ago, really significantly, and the work that I did for naval special warfare and within the SEAL community, those guys get exposed to anywhere from low to severe TBI exposures constantly, constantly and there's a lot of different professions where folks are exposed to TBIs quite a bit and they aren't even aware of it. It's definitely something that we're becoming more aware of and clearly it really impacts your life and it can be really challenging to get some forward progress but tackling the nutrition and, again, if you do some poking around on the cognitive behavioral therapy and post-concussion syndrome TBIs, I think you'll see some really fascinating research there. This stuff can be really powerful when used in conjunction with a smartly-formulated diet of any kind but ketogenic in particular with some pretty heavy emphasis on omega-3s in that diet.

Speaker 6: All right. Awesome. I really appreciate your input. Oh, one more question. I got these concussions just from wrestling and jiu-jitsu and stuff and that's pretty much what I've done my whole life and I want to get back on the mats but I notice I always end up coming back too soon. It's not that I hit my head. It's like when I get my heart rate up, all of my symptoms come back so should I do this diet and try to fix the inflammation before raising my heart rate first? I'm not really sure which order ...

Robb: Yes.

Speaker 6: ... to do things with the whole healing process.

Robb: Yes. That is a great question and if you do some poking around on the interwebs, I still have a PaleoFX talk, Robb Wolf TBI where we go through a case study with a young guy that was in our jiu-jitsu school that got a really severe TBI and he would experience the same thing, high work output. He would basically go into a syncope, like just kind of pass out. It took a good year and what we did is we kept his training weight lifting and kind of aerobic-pace only and so I did a little bit of jiu-jitsu with him because I'm super mellow and I had nothing to prove and I was there to help him but even then he was a young dude and it was always hard to kind of reign him in. I would basically let him maul me but it took a couple of years, about a year and a half, and then he really was able to get back in and do some significant training and he's pretty good now.

Robb: I think what's occurring there is that localized inflammation makes the brain a little bit insulin-resistant and then when your blood sugar drops due to hard physical activity, then you don't have the energy substrates to keep you going and that's where you either need to be keto-fueled and/or we need to give that whole process more time to heal before we get you back in. Also when you get back in, adopting something like the Henry Akins Straight Blast Gym approach to jiu-jitsu, which is just basically trying to be fat and heavy and lay on people. Totally non-athletic and it's a different way of doing it but it's great for a variety of reasons but it would be particularly good for this scenario.

Speaker 6: Yeah. Anything to get back on the mat at this point. I feel like I've been so lost without it. Seeing that case study is really good news for me.

Robb: Yeah, yeah, yeah. Hang in there, man. If you make it New Braunfels, you and I can roll and I will go slow and we'll keep you in the cardio realm.

Speaker 6: All right. I'm looking forward to it. Thanks again, man. I really appreciate it.

Robb: Absolutely. Hey, man, circle back up either in email or call back in a month or two and let me know how you're doing and let me know what you tracked down on the cognitive behavioral therapy side of this.

Speaker 6: Okay, definitely. Yeah. I'll let you know.

Robb: Okay. Take care.

Nicki: Bye.

Speaker 6: All right, man. Bye.

Robb: Bye-bye.

Nicki: Okay, let's take our next caller.

Robb: We've got some folks in queue.

Nicki: We will get to all of you so hang in there and listen, put on speaker phone.

Robb: Caller from the 503 area code, you are on the Healthy Rebellion.

Alex: Hey, what's up, Nicki and Robb? How you guys doing?

Nicki: Great.

Robb: Good, how are you doing?

Nicki: Who do we have here?

Alex: Things are good. My name is Alex and I'm calling in from Denver, Colorado.

Robb: Nice. Nice. How's the weather there right now?

Alex: It is nice and sunny, surprisingly.

Robb: Very cool. Very cool.

Alex: Yeah, yeah. Awesome. One of the questions that I had is probably a little bit different than you guys would typically field. Robb, I've been following your work for a really, really long time. In fact, I now work as a nutrition coach but why I even got into it was because I read the Paleo Solution years ago and it's the very first time I ever fully understood some of the science behind why things worked. It was entertaining. It was somebody I could relate to who also did jiu-jitsu and kickboxing and kept it light-hearted

and fun. First and foremost, I just want to thank you because now I've been doing this for about five years and-

Robb: Awesome, man. Thank you. Thank you.

Alex: It really helped me to find my passion and dive into it but one of the things that I've been really curious about is kind of as my stance has evolved a little bit over time on nutrition, one of the things that I've seen, Rob, is you've continually evolved your own stance on things. You're always on top of the research and it's one of the things that I've always admired and it's one of the other things that I saw a lot of other people in the paleo space never really do. They kind of put their stake in the ground and then ignored everything beyond that is what I kind of felt like they did whereas I felt like you were always willing to pivot. It almost showed more of an emphasis on getting it right than being right in many regards in terms of always being willing to pivot, always being willing to say, "Hey, you know what, new research is out that proves something a little bit different than what I previously believed."

Alex: I was wondering what is it that you felt like allowed you to do that and allowed you to be able to make those pivots when so many other people were unwilling to? I feel like that's a big part of what has allowed me to continually come back and always relate to what you're talking about is you seem so non-dogmatic about things in many regards whereas a lot of other people, like I mentioned, it's like it's one way of doing it and this is the only way to do it and if you don't do it that way then you're just stupid or something along those lines.

Alex: It seems like I've seen these multiple different evolutions of you and changing your stance on things and I was just kind of curious, what do you feel like allowed you to continually want to make those pivots? It shows, in my opinion, a pretty big disillusion of ego to be like, "Hey, you know what, I didn't 100% have this right. This is what the new evidence has presented us." I would just love to hear your thoughts on overall your evolution but then also, on top of that, what allowed you to be comfortable making that evolution when so many other people stayed stuck in the first phase.

Robb: Yeah, yeah. Thank you for acknowledging that. I really do work hard to try to stay relevant with this stuff. It's a good question and I guess at a core, I really do still, after all this time and crazy internet stuff and everything, I really like helping people. I really genuinely, I get a little dopamine hit from ... This is part of the reason why we want to do this call-in show because Nicki and I sit in our fucking office alone and we look at each other like, "Does any of this shit matter?" Just being able to connect with someone and hopefully spending 20 years doing anything, like if you've been a plumber for 20 years you're probably pretty fucking good at it and so-

Alex: I hope so.

Robb: Yeah, you would hope so and hopefully you grow and evolve but I guess at a core, I've always been more focused, to your point, on helping people than in protecting some sense of my ego but also you look at me like I'm a hot mess. I have terrible hair. I'm near-sighted. I can't believe my wife married me so I already won the lottery so I'm pretty good on all that stuff. That drive to want to help people I think is a big motivator and when we first opened our gym, 85% of people did great on my basic kind of moderate to low-carb paleo diet recommendation but about 10 or 15% of people, it failed them and it just abject failed them so I had to get back in and like, "Oh, well, some

people probably do need some carbs and, wow, some people do way better on higher carbs and lower fat."

Robb: As time has gone on, we've discovered things like personalized nutrition and one person doesn't have the same glycemic response so for me to be able to serve those people, I think that one of two things happens. You either stick a stake in the ground, and I see this with a lot of folks maybe in the evidence-based nutrition scene where they've got a cadre of figure competitors that they do well with but they have no success with GI problems, autoimmune disease, helping people with TBIs. They've really carved out a niche and that's cool but then anybody that, because of their individual makeup, if they don't fit with that process then the person has the problem, not the process. I really see a problem with that.

Robb: I try to understand the area that I have some competency in and I'm very, very quick to refer folks out. I've been lucky to attract ... I think another key piece to this story is I've really tried to surround myself with people that are smarter and better than I am at a variety of things, people like John Welbourn, Mat Lalonde, Chris Masterjohn. I ask those guys questions all the time and then I really go out of my way to provide attribution from what I learned from those folks. I don't want to be the smartest person in the room because that means there's nothing left to learn and I'm kind of like buck stops there. I look around at myself and I'm like, "Fuck, if I'm the authority on this, we're screwed. We need better than this."

Robb: My friends, Mat Lalonde, when he came on the scene-

Alex: The Kraken.

Robb: The Kraken.

Nicki: The Kraken. Yeah.

Robb: The insulin hypothesis still had some cache. Gary Taubes and the insulin hypothesis had some cache and I was very, very beholden to it as like, "Man, this is very compelling. My experience seems to really reflect this," and when Mat first got in he was like, "Yeah, this makes sense." Then as he got in and really started looking at the literature on it, he's like, "This doesn't hold water, man. This is a problem here. There's a problem there. There's a problem here." Having some really good friends that held my feet to the fire about staying true to the research instead of trying to bend it and change the narrative to fit what I was promulgating.

Robb: It's kind of cool over time the way that this stuff has played out as being flexible with it, I feel like we're able to help a lot more people. Being able to sit down and tell someone, "Hey, the way your genetics are, you are wired to overeat. That's just baked in the cake and you're not a bad person for wanting to do that. We need to figure out a plan and that plan is going to be some whole unprocessed foods with an emphasis on protein," and if you do well with carbs then maybe we can run a little bit higher carbs. If you don't do so well with carbs like myself, then we'll run a little lower.

Robb: Then if you have some specific GI issues or autoimmune disease, then we can keep getting more granular and more granular but we can start from a very big macro level and then work our way in and get very specific to an individual's needs and none of it really needs to be particularly dogmatic. The really cool thing is that we can get in and tinker and experiment and we can say, "If you're at A and your goal is to go to B, then

we can put together some recommended course of action and then we can evaluate that for efficacy," and so it makes it super transparent. jiu-jitsu and kickboxing and stuff like that are interesting in that they're very similar. There's no magical death touch to it. You just have to log the time and do the experimentation and then you get to a spot where you've got some truth. You've got some personal truth with it.

Alex: Yeah. I think that one of the things that I've always found that I've found pretty interesting is I feel like people like to major in the minutia of what's different instead of kind of looking at some aspects of what's similar so it's like ... Personally I love Michael Pollan's kind of pithy quote, like, "Eat whole foods, mostly plants, not too much." I'm like, "Oh yeah, I don't know anybody who could really ..." Obviously pending any kind of special cases where the person has extreme GI issues, maybe a lot of plants isn't a good idea but for your average person who does not have a special case, I feel like that really gets to it with flexible dieting, evidence-based nutrition or paleo or keto or veganism.

Alex: I feel like we just end up bickering about the minutia and it ends up being instead of looking and being like, "Hey, what are the things we can all agree upon that most people aren't already doing?" We end up bickering about this other shit that doesn't really make that big of a difference at the end of the day. It's like whether you're having 50 grams of carbs or 75's probably not the end of the world. It's like, "Hey, are you eating vegetables?" Let's just start there. That's always been kind of where I've come at it from.

Robb: And feel good with it. Is it working well for you? When I spoke at the ... I think it was Low Carb Denver, I was talking about how there's this product Doritos Roulette, which is these chips that have extremely hot, medium and mild chips all in one bag and when I saw that, I'm like, "Oh my god, they've got a mixed palate experience all in one bag. This is genius." I emailed these folks and I was like, "Hey, does the distribution of hot versus medium versus mild, does it follow a power law, blah, blah, blah?" I didn't expect any response. This was from Frito-Lay or something and I got this email back and the gal was like, "Hey, first, the scientists here love your work and they refer to it all the time and, yes ... "

Alex: How cool is that?

Robb: Which was super cool but the people that are making hyper palatable food are super well-steeped in the neuroregulation of appetite, in topics like optimum foraging strategy and they use this to make food more hyper palatable. Then when we swing around to the gatekeepers, our physicians and our dietitians and, again, I would kind of lump a lot of the kind of evidence-based nutrition folks in this thing, talking about the neuroregulation of appetite, you look like you sprouted arms out of your head or something like that. The gatekeepers don't get it. The folks that are profiteering from our illness really get it.

Robb: Then I kind of did some finger-wagging to the folks at the low carb thing. I'm like, "While all this is going on, we as a low-carb community are bickering over whether 30 grams versus 50 grams of carbs really constitutes ketosis. This is fucking ridiculous. We are getting destroyed by these other entities that are using the same methodology that we understand but using it in really, I would say nefarious ways but they're just making a product and it's an awesome product and people love it and they figure out how to get people to eat more of it." We need to figure out how to change our messaging so that we're not bickering over that minutia, to your point, and really focusing on helping as many people as possible extricate themselves out of this broken system.

Alex: Yeah. You were the very first person I ever heard speak about the neuroregulation of appetite and how the hyper palatability of food drives overeating and that was the very first time I ever looked at it and I'm like, "Oh, shit. Food volume, hyper palatability of foods, no wonder Denise over here thinks that she might be eating 1,800 calories but she's eating closer to 2,700 or 3,000." I'm like, "Wow." It was... you very first learn about it ... I still need to read Stephan Guyenet's book The Hungry Brain. I've heard it recommended by literally every single person under the sun-

Robb: It's phenomenal. It goes so much deeper. It really explains the neuroregulation of appetite, soup to nuts, whereas my book introduced it and put it in kind of a user-friendly format. For somebody like you who's a practitioner in this space, that's a must-read. Yeah.

Alex: Yeah, absolutely. Yeah, man. Thanks so much for your time. It's a question I've always had because, I'll be honest, I started off super heavy paleo-based and low-carb ketogenic and fasting and all this kind of stuff and I actually interestingly enough got a super bad staph infection from jiu-jitsu and had to go on oral and topical antibiotics and couldn't quite go back to the whole keto thing. It wrecked my gut afterwards so started to tinker with a higher-carb, more moderated-fat diet. Suddenly I started to lean out, started to feel better, all these kinds of things. I started to kind of dive into more of the evidence-based side of everything and kind of get steeped in that community but you were always one of the people that I continually followed because I always resonated with your message from the paleo community but I always saw you shifting and pivoting and being willing to change your stance as new research came out and just always being willing to almost focus on being right instead of ... Not focus on being right but focus on what's right instead of being right.

Robb: You're-

Alex: I was always ...

Robb: You're wording it well. I think one of the things that I saw to my girls where I'll tell them, "Oh, you were right and I was wrong," and they kind of ... They're a little taken aback. What I say to them, and I think most of it goes over their head, is if I was wrong and then I figured out I was wrong, now I have an opportunity to be right and that's one less minute of my life that I spent dumb.

Alex: Yeah.

Robb: Yeah. Some things, I'll drag my feet a little bit and I need a little convincing and stuff and then other things, I'll pivot more speedily but it's kind of cool. Over the course of time, immunogenic foods are a thing. Appropriate glycemic load, it's a thing. Neuroregulation of appetite is probably where the rubber hits the road in helping people really affect overall diet and lifestyle change and so those are some things that I think have kind of stood the test of time. Yeah.

Alex: Yeah. It was just cool because I went through and did a nutrition course recently and they were like, "Who's somebody that you follow from the path from when you very first got started in nutrition that you still to this day follow and agree with?" You were the person who I listed and they go, "Tell us why that is," because it was an evidence-based nutrition course. I was like, "He's been very egoless in his stance on nutrition. He's been focused on what research says. He's been focused on what's right in terms of what's right in the greater scheme of things, not being right himself." I was like, "For

people like that, yeah. I'm still going to follow them because they still have a lot of really great things to say and a lot of knowledge to give out to people that I myself don't have."

Alex: It was interesting because that was ... You're one of the only people that I honestly still follow from the paleo community because so many of them have gone so far off the reservation or have been unwilling to shift and pivot when new stuff has come out that to see your continual evolution and being willing to pivot and all these kinds of things has just always made it really fun to follow and just see kind of the different phases that you've gone through. I just wanted to hop on here today and kind of chat with you a little bit about it because it seems rare in the low-carb, paleo, ketogenic community to see somebody who's willing to go through multiple evolutions and be willing to go back and kind of re-correct or be able to be like, "Hey, you know what, I wasn't 100% not his but now this is what we know," and it's just been cool to see that throughout the years.

Robb: Thanks, man. I'm honored. Thank you. Thank you.

Alex: Appreciate it. All right. You guys have a phenomenal rest of your day and thanks so much for your time.

Robb: You, too. Take care.

Nicki: Thank you.

Robb: Bye-bye.

Alex: All right. Bye.

Nicki: Okay, let's see here. Our next caller from area code 516.

Robb: Welcome to the Healthy Rebellion. How are you?

Will: I'm doing well, guys. I'm Will from New Orleans.

Nicki: Hi, Will.

Robb: Hey.

Will: I probably came across a low-carb, high-fat approach to dietary regimen from the Standard American Diet roughly a year ago now and it's come with incredible results, both in how I feel and also not the least of which importance is aesthetically. It's been a welcome transition and a lot of it was thanks to you guys so I really appreciate that.

Robb: Awesome. Awesome.

Will: Excuse me if maybe this has been covered already. I just probably called in roughly 25 minutes ago and I know you guys have been going live for about an hour but I'm 31 years old. I had never had a lipid panel done until roughly four weeks ago and upon which my cholesterol was exceptionally high. I don't know if that could be an input of maybe my body is hyper fat-adapted at the moment and that could skew the results. I know a standard lipid test could be extremely misleading. As a result of that, I was prescribed a 40 milligram statin, which I don't want to necessarily just accept, so my

question would be what do you think would be a valid course of action to maybe get to a better solution and understanding some of the nuance in my situation as opposed to just accepting a medical recommendation, which I'm not necessarily even trying to oppose to be counter-cultural. I just want to get to the right answer.

Robb: Totally. Totally, no. We are working on some better resources to help folks navigate this whole story. I'm on the board of directors of a lipidology clinic in Reno and this is a topic that comes up a lot. Folks will go from a Standard American Diet, shift to low-carb, paleo, keto, they feel way better, they look way better and then we look under the hood at their lipidology and for some people it looks amazing and then for other people you're like, "Oh my god, that's a train wreck." The unpacking of that, first we really do need to get something called an LDLP, an LDL particle count. Did you get that performed as part of the lipid panel?

Will: I don't believe so. I think I had the really standard American healthcare version where I got a handful of statistics and amongst them was my triglycerides, my LDL and my HDL but no nuance to those.

Robb: Okay. Okay. We definitely need to get you through a process that gets that LDLP looked at because you can have folks that appear to have high cholesterol, specifically LDL cholesterol, but they have low lipoprotein count and these people are at no risk for cardiovascular disease or no increased risk. You have other people that have what appears to be normal cholesterol levels but they have exceptionally high lipoprotein count and the Mesa studies and whatnot suggested those people are at exceptional risk for cardiovascular disease, particularly if there's insulin resistance as a part of this whole story.

Robb: Knowing that LDL particle number and honestly doing some other things like the LPIR score, which is offered LabCorp and is new and virtually no doctors are really on top of this stuff, it can give us a really good picture of where someone is because if someone is super insulin-sensitive, we may not be worried about their lipoprotein count until it gets to 1,800, 2,000 and we start kind of raising a little bit of an eyebrow about should we do some followup stuff? Within that story, a lot of folks find that they can drop their cholesterol and lipoproteins just by shifting their fat sources. If they remove dairy fat and use more olive oil or even things like lard, some people will find that their cholesterol plummets precipitously. Have you been doing a lot of butter or cream or anything like that?

Will: Yeah. I would say I'm definitely slightly heavy on the dairy side.

Robb: Okay, okay. That's some low-hanging fruit and it sucks because stuff tastes good and it's super convenient so it's hard in that regard but if overall that ketogenic state or lower-carb state is overall worth doing, like you just feel better and you look better and everything, then that's one place to tinker. Another place to tinker is just introducing even about 50 grams of starch or carbohydrate from fruits and vegetables, maybe 75 grams. You kind of titrate it up so that you're still basically in mild ketosis but for some people that whole enzyme pathway, the HMG co-A reductase pathway, it's involved in both ketone synthesis but it's also involved in cholesterol and lipoprotein synthesis. For some people, if they have very high levels of ketone bodies, those can get retro-engineered into cholesterol and lipoproteins. For some people, a really robust state of ketosis can drive up lipoproteins.

Robb: Then there's another layer to this thing, which ideally let's say you reduce your dairy intake and then your lipidology looks amazing or you reduce your dairy and add a little bit of carbs and your lipidology looks amazing. Some people it still doesn't. They're still in this spot where it's like stuff is kind of high. Then on that pharmaceutical side, within our clinic, they will recommend five milligrams versus 40 milligrams of something like Crestor and every other day. It's such a tiny dose that in theory it shouldn't even do anything but one of the main features that appears to be of benefit, to the degree there is benefit from statins, is an antiinflammatory effect. If you're eating a largely antiinflammatory diet, it appears that you don't really need that much more of that effect out of the statin and so you really get a robust lipid lowering experience.

Robb: Then you have to kind of weigh and measure that against does that negatively impact your energy levels because it can suppress CoQ10 production. Do you experience any kind of cognitive issues? Do you have problems recovering from exercise? Then that's where I think at the end of the day, where I am, if I was at a spot where I just had really catastrophically high blood lipids but the only way that I felt good was on keto, then I would get in and do some things like a CIMT, a carotid intimal media thickness, scan and also a coronary calcium scan just to try to establish where am I today in that disease process and use that as a benchmark and then track that over time. We've seen people that have remarkably high lipoproteins and cholesterol levels that it appears their coronary calcium and CIMTs improved with those high lipoprotein numbers and then we have other people that clearly they are experiencing atherogenic progression and we need to make some decisions about where to go next.

Will: I would add two followup questions to that. I would say is there a central source by which you can find physicians that are likely to be open to this sort of testing or is there just even a Lab Corps or a Lab Quest through whom you could book with your insurance this type of testing? That would be number one. Number two, would understanding ... My blood pressure's totally normal and my fasting glucose is relatively low. Would having those factors be more favorable, maybe diminish my likelihood of being higher risk for cardiac disease?

Robb: Yeah. Yes. I'll tackle the second question first. It's interesting, the atherogenic process only happens on the arterial side of our circulatory system so clearly pressure and non-laminar flow and the damage that can occur from the pressurized side of our vascular bed is a factor in this. Also, when you dig around in the literature, cardiac events seem to correlate really tightly with serious blood sugar elevations and depressions, like we get a big high and then a low and it seems the slide into hypoglycemia post a large-carb meal may be an inflammatory trigger. In my opinion, and I think the literature supports this pretty well, if we have low normal blood pressure and good blood glucose regulation, without a doubt we're at a lower likelihood of cardiac complications, including stroke.

Robb: This is where, getting to your second question, anybody that is a board-certified lipidologist should be well-steeped in this stuff. Oftentimes these people go way down the rabbit hole. They're looking at all these kind of wacky polymorphisms around hemachromatosis and familial hypercholesterolemia so they're real well-steeped in that and sometimes it's hard to pull them back up to the 30,000-foot level to just get some basic, "Hey, doc, should I delete dairy?" Or something like that.

Will: Right.

- Robb:** You can always go through the specialty health clinic. I think if you do some searching, like Robb Wolf blood test specialty health-
- Nicki:** We can put a link in the show notes as well.
- Robb:** Yeah, yeah. You can go-
- Will:** That'd be great. I appreciate it.
- Robb:** Yeah. I want to say it's like \$300 to do their basic deal or something. I forget offhand.
- Nicki:** I don't remember. Yeah.
- Robb:** You get a really well-researched, written report. You get dietary recommendations. You get followup recommendations and that would really provide a great snapshot into looking at this stuff so that you can better understand what is your legitimate risk profile right now? Again, I guess circling back to that second question again, if somebody is insulin-resistant, then they may want their LDL particle count to be below 1,000 and they're going to try to get it there by hook or by crook but if that person improves insulin sensitivity, then they may be able to let the lipoproteins go up to 1,500 or 1,800 before we see the same type of risk profile.
- Robb:** The basic takeaway with this is although paleo and keto is not a guarantee of an absence of cardiovascular disease progression, an individual that is insulin-sensitive versus insulin-resistant has a very different risk profile relative to someone who is insulin-resistant without a doubt.
- Will:** All right. Good to hear. I really appreciate all of your input and hope you guys have a good rest of the day.
- Robb:** Thank you.
- Nicki:** Thanks.
- Robb:** Thanks for calling in.
- Nicki:** Thanks so much. All right. Caller-
- Robb:** Keep us posted on that, too.
- Nicki:** Caller-
- Will:** Will do.
- Nicki:** Caller from 704, thanks for your patience. You've been waiting. We're excited to hear your question.
- Speaker 9:** Hello and thank you guys both for being here today and all the work you do. I got in earlier and you guys were talking about the traumatic brain injury and this is kind of going the other way on that. I [inaudible 01:20:32] don't know where but I've got way too much lead in my body and I'm looking at chelation and I'm just wondering if you've got any ideas or input on the best way to get lead out of one's body.

Robb: Man, this is definitely not my wheelhouse. I don't know if you know Grace Liu, she's a pharmacist in the kind of ancestral health scene. She is super well-informed on the EDTA chelation therapy protocols and whatnot. I've seen some pretty favorable research on this from the perspective of ... Chelation's been used in a lot of different circumstances, like some people have claimed that it can be used to reduce coronary calcification by basically aggregating and removing the calcium out of plaqued arteries, which I don't think the literature really supports that but I think that there's pretty solid literature on using different methodologies within, again, the EDTA and some of these other chelating agents. That definitely seems to be the way to do it and also it seems to be a process that you need someone that really knows what they're doing and it needs to go slow, like you can get some kidney toxicity, some liver toxicity from pulling that stuff out of the body so it needs to be kind of a slow, graded process.

Speaker 9: I appreciate that, man. It's been kind of a weird ride. You get the serious brain fog so the thing that forms your decision making isn't working so it gets pretty hairy trying to navigate that space but I appreciate. I'll look at Grace Liu and thanks for all you do and I hope you guys have a great day, today.

Robb: Hey, you, too. Thanks for calling in.

Nicki: Thank you.

Speaker 9: Yep.

Robb: Bye-bye.

Nicki: All right. I think that's a wrap. Thanks for listening to another episode of the Healthy Rebellion Radio and be sure to check out our show sponsor, LMNT Recharge at DrinkLMNT.com. That's Drink L-M-N-T dot com and please subscribe if you're liking the show and leave us a review on iTunes or wherever you listen to your podcasts. Finally, if you want to check out all that's happening over in the Healthy Rebellion community, go to Join.TheHealthyRebellion.com.

Robb: See y'all soon.