

Nicki: Hey Hubs.

Robb: And the answer is no. Nicki asked me if I had anything funny to say before we rolled, but I don't.

Nicki: No, just want to pluck random hairs that are falling out of-

Robb: You're shedding.

Nicki: Am I?

Robb: Yeah, you're heading all Sinéad O'Connor over here.

Nicki: Don't think I'm going to go with that direction.

Robb: Well babe, nothing compares to you.

Nicki: All right. Let's see, let's jump in with our first question from, actually Wade's Army, do you want to tell folks about Wade's Army?

Robb: Oh man, our dear friends John and Kate Welbourn, they had twin girls, seven years ago.

Nicki: Yup.

Robb: And the girls were friends with another-

Nicki: One of Kate's really good friends from college.

Robb: Yeah, well you know this story better than I do.

Nicki: Yeah, one of Kate's really good friends from college had a set of boy/girl twins. And the boy, Wade, ended up with neuroblastoma. So they started Wade's Army to fundraise and get awareness around neuroblastoma, and it's a wonderful wonderful non-profit, and every fall they do a big fundraiser and workout.

Robb: And the neuroblastoma people are pretty cool. When I was first approached to help with this I wrote a bit of a critical email saying that not enough effort is put into prevention and investigation of alternative therapies like hyperbaric oxygen, ketogenic diets and whatnot. And I got an email back from these folks and they said they were wide open as far as diversifying what they looked at, all that they were interested in was moving the ball forward on this stuff. So they appear to be really wonderful people, even at that neuroblastoma research side of the story.

Robb: And then John and Kate are super passionate about it. It's one of the only philanthropic things that I feel comfortable contributing to it at this point, everything else seems like kind of a-

Nicki: You never know-

Robb: Smoke and mirrors deal, so yeah.

Nicki: Also your money doesn't go exactly where you think it's going to go, but it definitely does with these guys. So anyway, just thought I'd explain the shirt.

Robb: So check out Wade's Army if you feel inclined to donate to them, please do.

Nicki: Yup. Okay, we'll jump into our first question from Alex on oxalates. "Rob, what is your perspective on oxalates, is there any merit to what people like Dr. Williams Shaw, Sally Norton and Elliot Overton say about the evils of oxalates, or can we all keep eating spinach and almonds? Could this be the explanation as to why some people who go full carnivore benefit from eliminating all greens?"

Robb: So maybe the easiest thing to answer there is the last point, yeah this is almost certainly one of the reasons why folks that go full carnivore finally address that niggling underlying issue that keto and paleo, although benefiting sometimes to some degree, doesn't fully resolve. And it's interesting, you could make the case that we should be able to handle oxalates just fine, and when you look at some of the gut microbiota of the [huds 00:03:07], for example, they have oxalate metabolizing bacteria. And then there's also issues around adequate calcium intake and can mitigate some of the deleterious effects of oxalate, basically keeping it sequestered in the feces and it moves out instead of getting moved in.

Robb: But the results are the reality that we should have bacteria that can help us deal with oxalates. Generally in westernized populations we don't. And this is some of the conundrum that I think we face at large is, whatever reason, the way that our westernized diet is altering the gut microbiota, we are losing the ability to deal with more and more foods. And to some degree like keto, low carb, zero carb, carnivore, it's kind of like the last spot that people end up that they can still deal with things. And it seems like fruits to some degree is less of a problem. Some things like white rice or different starchy components may be for different people are less problematic. Mushrooms may be less problematic.

Robb: But a lot of these things that are historically thought of as being health foods and super foods like spinach and kale and all that stuff, they really cause a lot of problems for some people. And it's interesting again when we think about this from the evidence-based nutrition folks and it fits your macros folks, or what have you. We really should be able to deal with this stuff better than what we do. Nobody, as far as I can tell right now, is entirely clear about how we can restore the gut microbiota.

Robb: I was at the evolutionary medicine conference that [inaudible 00:04:57] puts on each year, and Erika Sonenberg from the Sonenberg Lab at Stanford was there and we were talking about this stuff. And there's kind of a reality that when you look at the gut microbiota over generations, and they've done this in mice and we've also seen this in humans. It's getting more and more narrow as time goes on, which is not good. It's a multi generational problem. This is the point that I wanted to make about the, it fits your macros folks and some of the evidence-based nutrition folks, is that it appears that any inclusion of westernized foods begins and accelerates the loss of gut microbiotic diversity.

Robb: So this whole notion that you can have a little bit here and there, maybe a fucking lie, or it may be completely misinformed, ill informed if we're thinking about the gut microbiota as like this extra genomic information processing center where we've got more genetic diversity in our gut than we have in the totality of humanity. And that stuff is being lost over time, and there's a case to be made that no amount of westernized

foods are really safe in this regard. I'm not stating this as fact, I'm stating this as a little bit of a hypothesis. But if the hypothesis is true, that the inclusion of virtually any amount of westernized foods starts moving us in a direction of a more curtailed gut microbiota, then what the fuck are we going to do about that?

Robb: And how are people going to modify their recommendations according to that information? And again, the information that comes out of the Sonnenberg Lab is very interesting in this regard, and there's definitely a lot of people that, myself included, like somebody held my feet to the fire about all the almonds I was eating. And fucking lo and behold man, I think some of the final kind of gut related stuff that I had was from eating these nuts. And I've tinkered with soaking and sprouting and getting the ghost of [inaudible 00:07:10] priced to lay hands on my sprouted fucking stuff. And it's better, but it's not great. Like I do better without them.

Robb: And so I'm kind of in this mode of carnivore plus coffee and fermented food. It's kind of where I'm at and doing really well with that. Like I feel really good, my digestion is good. But it's interesting, I've shifted to a more curtailed, less diverse food intake, but I feel better. But then there's an argument to be made that I'm probably tuning my gut microbiota to a more narrow frequency band, but I'm just stuck at this point. I don't know what else to do, I've done like every probiotic prebiotic. I won't name any of them because I don't want to throw them under the bus, because it didn't work for me doesn't mean they won't work for someone else.

Robb: But it's a really interesting complex topic. And I know I'm getting totally out in the weeds here, but on the one hand I think that we have people maybe in the ancestral health scene, some people that sell a degree of knowledge on this topic that is bullshit. Like they can claim this kind of magic divination that oh if you have this profile then you need to do X, Y, Z. And I think that that's horse shit. But then on the flip side I think that the evidence-based nutrition folks are dismissive of this topic to the point of eventual legal ramifications or something. Just moral ramifications if nothing else. Like they too approach this story with this remarkable degree of certitude when it's a brand new topic, there's so much more that we don't know than what we do know.

Robb: And I think at the end of the day the most important thing that folks can do is have kind of a rubric for if you are sick, what is a way that we can get you healthy? And then we start trying to iterate and move from there. That was a short question with a very very very very long answer.

Nicki: All right. Our next question is from Paul on living well to 100 and beyond. "Robb and Nicki, I'm definitely one of the original six listeners and credit you many times for changing my life and educating me to the point that I helped other people change their lives. Okay, I'm 62, in very good shape, and have a smoking hot younger wife that I would love to make it to our 50th wedding anniversary, which would make me 107. So the question is, what test do I do now to make sure I have the best chance to achieve this goal and hopefully correct it if something is wrong?"

Robb: Man. What do you think? What would your-

Nicki: Tests?

Robb: Yeah. Singular test. So I could make a case for the whole LPRI score, to look at where one's insulin resistance versus sensitivity metabolic health, metabolic flexibility. It also gives you insight into systemic inflammation, mainly from GlycA and a couple of other

elements in there. So this is something we use in the advanced testing within the clinic here in Reno. It's incredibly valuable for being able to assign kind of a metabolic risk number on folks. And if we get an improvement ... Let's say the higher the number the kind of worse things are.

Robb: If somebody does the LPRI score and they get a number of 85, and we move them to a 45, almost from like a life insurance actuarial table perspective, we can assign a risk mitigation based off that change, which is basically the underpinning of most of the work that we've done. So as an external test that LPRI score I think could be really really valuable for establishing a baseline and trying to track that over time.

Robb: Now beyond that, from my perspective, I-

Nicki: Muscle mass, like how much muscle mass are you carrying?

Robb: Muscle mass. Yeah. And some of these benchmarks of a double body weight deadlift. A body weight and a half back squat, body weight and some change bench. Maybe a body weight standing press. Your weight plus 50 to 72% of your weight in a weighted chin or pull-up. Maintaining muscle mass and then maintaining some degree of metabolic engine both in the aerobic and the anaerobic areas, I think is about as good a bet is what you're going to get with that as far as some reasonably objective measures that would correlate with effective aging.

Robb: It's a great question, and people can complicate this stuff. Like I used to be a little bit of a fan of looking at telomeres length and then some recent research that I read really poured some cold water down my back on that one. And so that's interesting, so the whole telomeres length story is not nearly as compelling as what I once thought it was.

Nicki: Okay. Paul, you'll have to check-in in 10 years increments and let us know how you're doing.

Robb: Yeah, keep us posted man. Yeah.

Nicki: Our next question is from Jake on Olympic weightlifting. "Robb, thank you for the podcast it's great. I know you're very busy, but I was wondering how you would suggest approaching a healthy diet for Olympic weightlifting? I'm 35, 5'9", 185 pounds, and around 18% body fat. This is a rough estimate using the keto gains website. I want to compete but not looking to sacrifice my health and would like to lift into my old age. You mentioned that you competed in power lifting when you were younger, and I thought maybe you would have some insight into the subject. I currently intermittent fast roughly 14 hours every day, my diet is protein from a variety of meats, carbs from lots of fresh veggies, fats from nuts, coconut and olive oil. No sugars unless family holiday. My goal is to lose some body fat but maintain my strength. I tried to go full keto, no carbs, and my strength plummeted. Thanks again, sorry for such a long question."

Robb: Man, so what are the main questions with this? Like he wants to compete, he wants to lean out.

Nicki: How would you structure a diet for weightlifting such that he's obviously strong and able to perform.

Robb: Right.

Nicki: And can lose some body fat.

Robb: Yeah, so on the keto topic, I would venture that Jake probably didn't get enough sodium and electrolytes in general. There is a reality that the first-

Nicki: Well and he said, no carbs too, so there's also he could potentially have some carbs post training.

Robb: Yeah. I think there's different ways of skinning that for sure. One thing is if you do go keto, you got to be very aggressive in supplementing electrolytes in particular, sodium. Beyond that, but keto is by no means the only route to losing body fat. And so you could still use the keto gains macro nutrient calculator to help you establish a baseline of caloric intake, and then you just tweak it a little bit. Like if you make sure that you do the keto gains recommended protein intake which is about a gram, gram and a half of protein per pound lean body mass. And then it's going to make a recommendation around your carbs and fat. The carbs are going to be set automatically at about 25 grams per day. If you want to add ... Let's say you want to run 100 grams of carbs a day, so you're going to add 75 grams of carbs, you're going to delete approximately about 30 grams of fat.

Robb: Like you could do the numbers on that, but that's kind of the approximate ballpark on that. In that way you've got to really slick way of quickly figuring out what a recommended caloric intake is, make sure you're benchmarked on your protein, and then just adjust the carbs and fat appropriate to what you're doing. And you would still probably benefit from an eye towards proper electrolyte supplementation.

Nicki: Okay. Thanks Jake, our next question is on low carb and sleep from Angel. "Hi Robb, thanks for answering our questions. When I eat low carb I tend to wake up at 3 am and have a hard time falling back asleep. However, if I have some carbs, like a small bowl of rice or a sweet potato during dinner I generally sleep through the night and wake up naturally a little after 6 am. I usually go to bed around 10 pm and eat dinner around 6 pm. The problem is, when I eat carbs during dinner I gain weight over time."

Nicki: Overtime, or over time? I don't know. "Eating low carb helps me lose weight. Is there a reason for the interrupted sleep while eating low carb? I searched online and some people say it's due to noradrenaline, I don't know what that is and I'm wondering how I can improve my sleep while eating low carb. Thank you very much for your knowledge."

Robb: Do you want to tackle this one?

Nicki: I mean the sodium one is the one that's popping out for me.

Robb: Yeah, for sure. When folks shift lower carb even from basic paleo type carb levels they definitely notice an increase in adrenaline, noradrenaline, cortisol, these hormones are being released kind of in a compensatory effort to retain more sodium. It's kind of an indirect work around, but it's registering as a stress. The low sodium environment, there's a downward spiral where you shed sodium, then you shed potassium, and then all hell kind of breaks loose. And so this is another scenario where really being on point with electrolytes is critical and you have to hit that at least five grams of sodium plus the potassium and magnesium each day.

Robb: What we find though is that if folks are generally eating a whole food based diet, then you pretty well on magnesium and potassium. They might need a little bit of

supplemental help there. But they're really deficient in the sodium. And so this is one of these things that just, it's like magic. If you are staying on point with the electrolyte supplementation, you either do bouillon, you do a home brew, or you get something like Element and it fixes this problem remarkably quickly.

Nicki: Mm-hmm (affirmative).

Robb: Yeah.

Nicki: Okay. So electrolytes, Angel, and then report back, let us know how you do.

Robb: Yeah, that'd be great.

Nicki: Okay, final question for this week is from Mike on the paleo diet. Mike says, "Going back to your first book, what are the main things you would revise or add if you ever did a revision?"

Robb: Well the funny thing is we did do a revision. There is a volume two-

Nicki: The paperback.

Robb: -it's a paperback version.

Nicki: Just updated slightly.

Robb: I mean there wasn't a massive amount that we tweaked. So I had some pretty aggressive fish oil recommendations in the first book, which I modified over time. Thank you for the people that burned me at the stake about getting that one wrong, I was largely following people like Barry Sears and other folks, that information seemed credible at the time. On that fatty acid...

Nicki: The omega three profile in grass fed beef?

Robb: Yeah. So to that fatty acid topic, Diana Rogers and I had been working on this sustainability book and movie called Sacred Cow. And it's interesting because we've had pretty massive pushback from the vegan community. The vegans. Which is not surprising at all, but I tell you one of the more surprising places that we get a shocking degree of pushback, and very vigorous and very ill informed unfortunately, is the really go getter paleo ancestral health crowd that insist that grass fed meat is the only grass fed, grass finish is the only way to go.

Robb: And Diana and I tackle this in the book and we're also going to be doing a series of blog posts and other support material where I really dig into the literature on this. But the reality is that, so as a baseline, the bulk of ruminant animals, whether it's cows, sheep, goats, camel, whatever. They're grass fed for the most part, there is some grain finishing. Now, the thing is, is that I probably am suffer ... What do they say, like when you raise kids like you get back what you were...

Nicki: You get back what you put out as a kid.

Robb: -as a kid. And so I'm sure I sowed a lot of the seeds of my frustration on this now. Because early in the story there was a sense that the fanning acid profiles of grass fed

meat were remarkably better with regards to the omega three, omega six balance than grain finished meat. Around 2009, 2010 though, Mat LaLonde really did the deep dive into this stuff, and he was like, no man that's not the case at all. There's very little difference when you get right down to it.

Robb: And I got into a pissing match on the interwebs, on social media, shocker, with a woman who is a master's degree in chemical engineering, and she insisted that there was a difference in the protein.

Nicki: Grass fed vs grain fed.

Robb: Of grass fed versus grain finished meat. And I said, show me one paper. And she went through all of this magic and mysticism and flailing and all kinds of appeal to odd authorities, but could not produce one thing that suggested that the protein content, nor really the fatty acid content was significantly different between grass finished and grain finished meat.

Robb: Now from a sustainability perspective, there's a great argument for doing as much grass finishing as possible, but even in that story, there's a reality that to the degree that we do continue to grow wheat or corn or rice or whatever, the leftovers in that scenario is not technically grass, but it is something that animals can be finished on. And it is used that way, and it's a very smart utilization of resources because otherwise that is cellulosic material just builds up and it degrades very slowly. It maybe oxidizes instead of composts and all that type of stuff.

Robb: So there's really compelling reasons to have a middle ground in this story, and not be complete zealots about it. There is no compelling case from a health perspective that the fatty acid profiles are different. And so that's a big one from the book that I probably sowed a lot of erroneous information really advocating for grass fed meat, but the reason why I've been advocating for grass fed meat, even with the knowledge about there's not that big of a difference from the health perspective. There is a significant story there from a resource management sustainability perspective.

Robb: So that's going to be a fun one to unpack over the next 10 years.

Nicki: So the fish oil, the fatty acid profile in grass finish versus grain finished beef. Anything else?

Robb: No, otherwise, paleo solution was pretty on point. You know, making recommendations around sleep, getting out in the sun, lifting some weights, doing some sprinting, not letting your internal dialogue eat you up, that whole the stress chapter. Like the finance piece and everything. So that stuff's kind of stood the test of time, and honestly got recycled and updated significantly in *Wired to Eat*. Like it's still those things are kind of ... I would argue kind of universalities in this story, yeah.

Nicki: Okay.

Robb: Is that it?

Nicki: I think that's our last question for this week, yeah. Thank you guys again for your questions, you can submit them at Robbwolf.com on the contact page.

Robb: @dasrobbwolf for Instagram, which is about the only place I'm hanging out these days.

Nicki: We drip these questions out there. Also on YouTube, this episode is sponsored by Drink Element, the electrolyte drink mix that has the sodium that you need if you're on a low carb or ketogenic diet.

Robb: It has what plants crave.

Nicki: Brawndo.

Robb: Brawndo.

Nicki: Thanks guys.