

**Robb:** Howdy, wife.

**Nicki:** Hello, hubs.

**Robb:** Seems like I've seen you here before.

**Nicki:** Once or twice.

**Robb:** Yep. Anything new? Anything exciting? Got anything to share?

**Nicki:** Just no, moving is a B-I-T-C-H and just getting all of our to-dos done. It's just a process.

**Robb:** Indeed it is.

**Nicki:** Like they say, you chop wood, carry water.

**Robb:** Yeah.

**Nicki:** Got to get her done.

**Robb:** Indeed. I guess with that we'll get this podcast done.

**Nicki:** Okay. Let's see.

**Robb:** Most awkward start to a podcast ever.

**Nicki:** Always, always, we'll win that award. Okay. Our question to kick this week off is from Bryce on the topic of carbonated water. Bryce says, "I just listened to Wired To Eat and loved it. I'm not too far off from this diet. I'm pretty fit, but too frequently I make exceptions which I think are totally sabotaging my efforts. I'm still curious about your thoughts on carbonated water without added colors and flavors like Topo Chico, La Croix ..."

**Robb:** La Crotch.

**Nicki:** La Crotch, that's what we call it.

**Robb:** It's still good stuff, but ...

**Nicki:** "Perrier, et cetera. I have one of these every couple days, more as a treat than anything. Robb, what do you think about Topo Chico and other non-flavored, carbonated waters?"

**Robb:** You know, when I contemplate the potentiality bordering on certitude of the implosion of civilization, two things I'm very concerned with. One is how will I get coffee? And two, how will I get bubbly water? So, I mean, as far as derailing something, every once in a while you hear something that's like, "Oh, I had bubbly water and then I had to eat a whole cheesecake," and it's like, "Well, where did the cheesecake come from? You're not supposed to have that in your house anyway," so I think bubbling water is great. I'm not sure if Topo Chico has much in the way of minerals but I know the German "Gervolshesteiner" water, whatever, has a lot of magnesium. I think those things are great. It's a nice way to break things up.

**Nicki:** It's great with some lime juice.

**Robb:** Pretty good with some element in it but you've got to be careful because that shit will bubble over.

**Nicki:** Bubble over like a volcano.

**Robb:** Yeah. I can't find anything really to fault with it, so yeah.

**Nicki:** No, and you don't have to have it every couple days. You could have it every day.

**Robb:** We often do.

**Nicki:** As we often do.

**Robb:** And we've lived to tell the tale, thus far.

**Nicki:** Yeah, thus far. Thanks Bruce. Let's see here, our next question is from Austin. "Robb, have you seen the study about a gluten enzyme? This is an enzyme that apparently neutralizes or has the potential to neutralize the inflammatory effects of gluten. I'd love to hear your thoughts on this. If you've talked about it in the podcast already, point me in a direction. Otherwise, what are your thoughts?"

**Robb:** Yeah, it's interesting stuff. I guess you could say it's neutralizing it. The aspergillus niger enzyme is a prolyl endopeptidase which has the ability to chop up the gluten protein. Gluten proteins and some similar proteins are very rich in proline and the way the structure is put together, most proteases ... most of the enzymes that break down peptides and peptidases, proteases, they have a tough time getting in there and acting on gluten and similar proteins. It's almost like a prion in a way. It's just difficult to break down. What appears to be the case is that if you were celiac or someone ...

**Robb:** See, this is where it gets a little bit tricky, if you have non-celiac gluten sensitivity, and so maybe your problem is wheat germ, a glutenin and not gluten. Then this may or may not really help you. It might help ... I'm not sure about the efficacy of attacking wheat germ or glutenin versus gluten itself, but if you provide that enzyme and you get a pretty low dose, like what would be consistent with just kind of cross-contamination. You know, like a steak gets grilled on a grill that had some toast on it or something like that, it's probably okay.

**Robb:** What it doesn't allow you to do is as a celiac, go sit down and eat a gluten containing pizza and come away scot-free. So that's one piece of the story, and it's really interesting because one could ... There's this whole story in the kind of gut microbiome and our ability to digest different things that is very dependent on the gut flora. So, there was a fantastic study. It was a clinical intervention in children with celiac disease. They demonstrated that they had villous atrophy. You know, the damage to the intestinal lining, and then they did a fecal transplant on these kids, ostensibly with microbes that have this prolyl endopeptidase that's in them.

**Robb:** Never really 100% sure, because you have to actually sequence for the gene and not just the species, and all that type of stuff, but in theory, it had the potential hardware to do this, and I believe seven out of the 10 kids, upon subsequent gluten challenge, showed no villous atrophy after that, and no signs and symptoms of reactivity. So it is really interesting, and one could make the case that a lot of our ability to digest a wide variety

of substances probably should be augmented from ... excuse me, a healthy gut microbiome, which is ever more challenging.

**Robb:** With processed foods, we lose gut diversity. With antibiotics, we lose gut diversity, and it's unclear how exactly you get those back. It may be that all of us are going to need to take a poop capsule that's harvested from the one remaining person that's healthy on the planet, and we need to do that once every six months or once a year or something like that, but, I mean, these gluten degrading enzymes have some efficacy. You can't be a knucklehead in using them, and then there are some other approaches, like the fecal transplant, that show some really remarkable promise for people.

**Nicki:** Okay. Let's see, our next question is from Charles on ancestral modes of consumption for psychoactives.

**Robb:** That's a mouthful.

**Nicki:** "Hey Robb, I'm a never smoker, as my doctor calls it, and intend to stay that way, but this week I'm experimenting with a very low dose nicotine patch. Got 21 milligram clear patches and cut into eight to 12 pieces, one per day during daylight hours, intentionally avoiding the nicotine rush I found with gums and lozenges. Jury is still out overall, but so far it seems to help improve ADHD, intermittent fasting and persistent low mood.

**Nicki:** "But that got me thinking. For ancient hunter-gatherers, what would the usual modes of consumption be for such medicinal plants? Aside from smoking, 'Hey, let's light this stuff on fire and breathe deep.' 'Great idea, cough, cough, gag,' which is indeed attested in the historical contact record. My guess is tobacco, coca and ..." is that cat?

**Robb:** Mm-hmm (affirmative).

**Nicki:** "In their weaker, pre-agricultural breeds, would be chewed and spit. Maybe Mary Jane? Again, the weaker, natural version, would be an herb to go with fatty meats. Yerba mate and ordinary tea, we know, have been drunk in a hot water infusion. Then there's coffee and chocolate, which are more recent. Maybe part of our modern problem with drug abuse isn't the drug itself, but rather how it's been bred and prepared incorrectly, much as it is with food. This is all speculation though. Have you given the matter any serious thought?"

**Robb:** Yeah, I've noodled on this a bit. I wouldn't consider myself an ethnobotanist by any means, but have tinkered with psychoactive substances throughout my career and have found nicotine to be really beneficial for focus. It helps with some GI related issues. On this addiction story, I really should dig this up. Again, I forget where the study was performed, but it looked at addiction rates in ... or addiction propensity for ... This was not food. They were looking more at nicotine and cocaine and stuff like that, in indigenous peoples, and they also did some interesting experiments in animal models. What they found is that in the animal models, if the animals had a very enriched, engaged environment, as close as they could get to a legit free living, natural world, the tendency to want to go take a sip out of the cocaine laced water was kind of trivial.

**Robb:** The mice would check it out once in a while but it really wasn't a big deal, whereas when the mice were bored and in a non-stimulating, enriched environment, they couldn't get enough of this stuff. And so I think a lot of the tendency towards addiction of all kinds, whether it's video games or food, although food acts in kind of a different way because there's kind of an underlying survival mechanism there. You know, optimum foraging

strategy plus palate fatigue, kind of overlapping, and then the fact that people really do engineer food to be more-

**Nicki:** Overeat.

**Robb:** Yeah, propensity to overeat, there's maybe a little bit of a different story there, but by and large ... And this is kind of a weird thing, because you can wax nostalgic about our hunter-gatherer past and you forget disease, infections, murder, tribal warfare. You know, infant mortality. There's some super gnarly stuff, but also-

**Nicki:** Poisonous bugs.

**Robb:** Poisonous bugs, but there's also studies within the Kung San, within the Hadza. These people are generally ... they appear to be very happy and content. I remember there was a Huffington Post piece talking about a guy going to spend some time with the Hadza, and there was like an 11-year-old boy that was sent from the tribe to go meet this guy. When the guy met the boy, he said, "Hey, how long have you been waiting for me?" And he said, "Not long." He was like, "Okay," and then as they talked more, he said, "Well, how long were you there?" He's like, "About four days." The guy was like, "Well, that seems like a long time." He's like, "No, not particularly long. We didn't know exactly when you would be here."

**Robb:** For a modern person waiting four days, they would lose their fucking mind. I probably would, whereas ... and again, you don't want to overly romanticize this stuff, but there's something that's just different about being comfortable in your environment that ... "I'm waiting for this guy and I've been here four days." I don't know how long it would have been considered long. Like a week, a month?

**Nicki:** Three weeks, yeah.

**Robb:** Yeah, I don't know, but the kid was basically just kind of hanging out there, and that just speaks to a very different kind of mental state and processing and all that. There's all this literature that suggests just being out in nature is very restorative to people. When I did the I, Caveman show, it was very difficult on a lot of levels, but one of the coolest things about it was that there was no multitasking. When you needed to do something, you did that one thing, because you couldn't multi-task in this scenario. Like if you screwed something up, then it might take you twice as long, and I really went into that thing with a ... which a lot of my castmates did not, but I really went into that with the mindset of, "What if this really was the way that I had to live the rest of my life? How do you play this game then?" It made you think about injury and-

**Nicki:** Feeding your family.

**Robb:** Feeding your family and stuff like that, and so you really had to focus, so I think so much of this kind of addiction story is really kind of a malaise with modern living. It's interesting because specialization has allowed us to ... Matt Ridley, The Rational Optimist book is amazing. It talks about how specialization has arguably allowed us to improve our standard of living and, in theory, work less hard even though we seem to be working ever harder and longer hours and all this stuff in the quest for the accumulation of stuff, and you've just been reading Mark Manson's book ...

**Nicki:** Everything Is ...

**Robb:** Thought.

**Nicki:** Thought. It was great.

**Robb:** He touches on a lot of this stuff. Do you have any thoughts around this?

**Nicki:** I mean, just to tie into what you're saying, he just talks about ... He actually does a really interesting job of explaining child versus adolescent versus adult psychology, and the desire as a child to only seek out pleasure and avoid pain ... Well, actually, all people do this, but as you age and you go through adolescence, you learned kind of how to bargain and negotiate around things, but then the adult does things just because it's right to do. He also makes the point that one of our big problems in society is that very few people are reaching-

**Robb:** Adult.

**Nicki:** Adulthood, regardless of your chronological age. This kind of psychological distinction, not many people are actually reaching that.

**Robb:** And there's a-

**Nicki:** But we're consumed with distracting ourselves, and marketing and all of this stuff, it's all about distractions and an addiction to something is also ... It's sort of keeping you-

**Robb:** To tie into this, Jocko Willink talks about discipline is freedom, and to some degree, this thing of doing something because it's the right thing, not because you're acting like a child or an adolescent, there's a certain freedom in that because the tyranny of options kind of disappears. It's like if you're going to get up and you're going to work out and you're going to do that by hell or high water, then there's ... just the tyranny of options kind of disappears. You don't have to spin out about, "Oh, do I do this? Do I do that?" You just do it.

**Robb:** And not to get too far field, but Nicki and I were talking about the Mark Manson book and I mentioned that this ... Hopefully I can actually tie this back in and make sense of it and not sound like we're on an acid trip right now, but one of the main distinctions between modern dogs and wolves is that modern dogs stop their cognitive development in an adolescent stage and that's what makes them docile and subservient more easily than humans, and this is why wolves make very dodgy pets, because they grow into adults and they've got their own kind of agency in a way that dogs don't have that, and so this is a whole interesting thing, too, that I think lacking the sense of agency and the sense of purpose in life can be very challenging. The monotony of life, of benefiting from specialization but at the same time just like, "What, I'm going to do this thing for another 30 years?"

**Robb:** Like, I really enjoy doing all this health related stuff, but some days I'm kind of like, "Do I really want to keep doing this? Do I want to deal with knuckleheads on the internet just nitpicking every little detail but then contributing nothing to the process?" And there's a whole kind of internal thing that I need to do with that to keep motoring along with it, but it's interesting, and again, we maybe got a little bit far field on this, but my sense in digging into this stuff is that the addictive qualities of so many substances seems to be more an outgrowth of a life that's just not very fulfilling. Although I might put alcohol in a different category.

**Robb:** Where alcohol has gone, it tends to really screw up societies, but it's an agricultural product, and so it's interesting. I don't know about how marijuana and all this other stuff kind of fits into that, but it is interesting that addiction tends to be lower in both animals and humans that have an enriched, engaged environment and some of enrichment and engagement is actually this process of becoming an adult with a sense of agency and purpose and to some degree, some discipline, and some something that matters to you. For some people it's kind of religious purpose, for other people it's different things, but I think that all of those tend to fill kind of a psychic void that we're otherwise trying to pile in with buying stuff that we don't really need or different substances that kind of take us out of the moment, stuff like that. But, good question, and really interesting stuff.

**Nicki:** Well, and Mark makes the point, too, that there's just pain that's inevitable as part of life, but one of the things that we as humans have the ability to do is choose your pain. It's not like in hunter-gatherer days or when there was a big plague or famine. Life sucked. There was a lot of shit that happened that you really couldn't choose otherwise, whereas now if you have a crappy job, you can say, "I've had enough of this job," and you can usually get another one or change your circumstance in some way. You can choose to go the gym and have some period of pain while you're working out, or you can choose to sit on the couch and binge on Netflix and have the pain of your body deteriorating under you. So, there's choices. Pain is a part of life but you can choose ...

**Robb:** Other options. Again, I don't know-

**Nicki:** This is super off topic.

**Robb:** Maybe a little off topic, but it's actually kind of interesting to me because it's not protein, carbs, fat, so we'll talk a little bit more about it. You turned me on to Emily Fletcher's Stress Less, Achieve More, the meditation book. Just life changing thing, we've talked about it multiple times on the podcast. I keep bringing it up because it's changed my life, and I am very grateful and want other people to get in and maybe give it a shot and see what it can do for them, but a fascinating outgrowth of doing this daily meditation practice, which I've tried a zillion different things. None of it stuck. I don't know if it was the right place, the right time or just Emily laid this stuff out in a way that was appealing to me, but the long and short of it, this is just kind of an interesting aside, but I've found just the interaction upon social media to be almost repugnant at this point, now that I'm doing this-

**Nicki:** Meditation?

**Robb:** Meditation stuff. I love interacting with people, but I find that I would much prefer being in ... like I'd go over to the keto gains Facebook private group or I'm on the Henry Akins Facebook private group, just where before I would just kind of crack out and scroll through the feed. "Oh, there's a hot chick. Oh, there's somebody working out." I can't stand that now.

**Nicki:** You avoid it.

**Robb:** I just avoid it, which is kind of cool. It's actually freed up some time, and I don't even think I was that bad relative on the spectrum, but I was devoting some time to that. Now it's not just I don't devote time to that, it is like a rash that I get, even contemplating doing that. So that's a whole interesting thing, and it's like have I

changed/ Have I enriched my life because the meditation makes me appreciate the moment more so that not only I don't want that other stuff, but that distraction-

**Nicki:** Well, the scrolling is also an addiction.

**Robb:** It is an addiction, and I just notice it in a way now where I'm like, "I don't like this at all. I don't want it in my experience at all," and it's a very intriguing thing because a big chunk of the reach that we will have with this very podcast is going to go out via social media channels like Instagram, which are predicated on this whole thing, so it's an interesting experience for me and I'm, again, trying to figure out how I navigate that so that I can continue to provide value to people, but do it in a way that doesn't make me just disgusted with my life. I sit there and I think, "Well, gosh, I haven't done a shirtless selfie in a while, so I guess I should do that, because you get a ton of fanfare and more people follow you and ostensibly you'll be able to sell more shit to them and everything."

**Robb:** Then I'm just kind of like, "Fuck that, I'm not doing that. I'm going to have a conversation with my wife about some questions that people cared enough to write them and send them to us and hopefully get some value add from it." So it's interesting, but that is kind of ... I think was arguably an addictive feature of my life, where I would check ... You know, you get up in the morning, it's like, "Well, I've got to go do my business." Grab your phone so you can occupy that time while scrolling Facebook or Instagram, and it's like, I just can't even contemplate doing that now, you know? So it's-

**Nicki:** Another perk to meditating.

**Robb:** Yeah, yeah. Anything else we can beat that one to death with?

**Nicki:** I don't know. Charles, thanks for the question.

**Robb:** Yeah, Charles is like, "Oh my God, that's the last question I ever ask."

**Nicki:** I don't know that we answered it.

**Robb:** Yeah.

**Nicki:** Okay. Let's see, our next question is from Leo on vegan vitamin D3. "Hi Robb. I just wanted to ask, how do they make vegan vitamin D3 supplements?" Vitamin D3 is a cholecalciferol ... as cholecalciferol is an animal product and it is created from cholesterol, isn't it? How do lichens or other sources produce it? Is it the same form? Is it bioavailable in the same way?

**Robb:** Oh man, I should've done a little bit more digging on this, but you can ... So for mushrooms, particularly mushrooms that get exposed to UV light, will produce D2, I believe, which doesn't work as well as D3 but can be inter-converted to a degree, and some of these other supplements, they may just take the vegan source, like D2, and then tweak them to be D3, but it's interesting. You know, like DHA, even though we usually associate that with an animal based form, ultimately its main origin is from algae, and so certain types of algae are quite rich in DHA, so there are some of these things that, again, we usually ascribe to just being kind of an animal source that can be plant sourced.

**Nicki:** Okay. That was a short one to make up for the long, rambling response to Charles. Let's see. Okay, our final question this week is from Keenan. Gut dysbiosis concerns on keto.

"Dear Robb, I appreciate very much your non-dogmatic approach when it comes to tackling information regarding very low carb and keto dietary approaches, i.e. who are you? What are your performance needs? Are you sick and busted up? A hard charging athlete? Et cetera. That's why I feel you're the best person to ask about this, as you aren't inherently biased." That's a very nice compliment.

**Robb:** Very nice compliment.

**Nicki:** "I have a family history of cancer, depression, mental illnesses, addiction and adult ADHD. I haven't been diagnosed with any of these issues, though I definitely deal with unevenness in mood and focus. Besides my interest in preventing any future health issues for which I might be at risk, I've found that a very low carb, high fat diet just seems to suit my brain the best. I'm less irritable and anxious, my sex drive is fine, and most importantly for me, my focus and attention is just totally on point.

**Nicki:** "I've tried a multitude of eating styles, but very low carb is the only one that finds me springing out of bed in the morning with the birds chirping and excitement to get to work each day. I call it nature's Adderall, except I don't have any crazy stim-mania. The only thing holding me back from maintaining this approach is a nagging worry about the hypothetical implications of long term, very low carb as it pertains to GI microbiome diversity, potential dysbiosis risks, mucin production, thyroid problems, et cetera.

**Nicki:** I've read as much as I can find from the experts I tend to trust in this field like Attia and D'Agostino but I've yet to find anything that definitively quells my worry of causing some sort of damage from which it might be difficult to come back. Do you think the long term risks might be overblown? I do take Prescript-Assist and raw potato starches, potential mitigators, but I don't know if very low carb is taking a step or two back from my gut bugs, and I'm very concerned about treating them well.

**Nicki:** "I always suspected gut problems being at the root of my late father's alcoholism and his myriad of inflammatory problems. Some of these worries have prevented me from staying in keto for longer than about a month at a time. Every time I start phasing a larger amount of carbs back in, however, there's a mild and annoying accompanying brain fog and up/down cycle seemingly irrelevant of the dietary source.

**Nicki:** "I understand that these questions get vetted and you're busy, so no worries if this one doesn't make the cut. I sincerely appreciate everything you and your team have done for my health and the health of my family, as well as the awareness you're raising regarding even larger political issues we're facing. Sincerely, Keenan."

**Robb:** Awesome. Awesome. It's nice to know that what we're doing matters, even if it's one person. Man, so I guess first out of the gate, even after all that praise, I don't think I'm going to have a definitive answer to this, and so it's a complex topic and I have to say it's been an interesting ride for me because even though I have been primarily known as the paleo guy, I was the paleo guy that always leaned much towards the low carb side of things, and man, I tried and tried and tried to get the kind of Boyd Eaton, Loren Cordain ratios of paleo to work and it just really didn't work for me. I didn't feel good, I had gut issues, brain fog seemed to be up and down.

**Robb:** I tried every iteration of the stuff, and then smart people like Paul Jaminet raised these questions about ketosis being problematic long term. Like the loss of the mucin layer in the gut because of lack of dietary carbohydrate and the gut bacteria would say, "Well, if you're not going to feed me, I'm going to eat the gut lining," and then you lose this kind



of ... effectively like a mucus layer that is the real barrier between your body and the feces that is moving through it. There's a mucus kind of layer there, and so I tried resistant starches and safe starches, and man, I really gave it the old college go and I just felt terrible on it.

**Robb:** I tried everything. I did the potato starch and I feel okay for a couple days and then it just absolutely crushed me, and I think we've talked about a couple of times the Sonnenberg lab, and they have some concerns around mono-cropping your gut microbiome around one type of fermentable carbohydrate. So if you were to supplement with something, Dr. Perlmutter has a product through Garden of Life?

**Nicki:** Garden of Life.

**Robb:** That is a super diverse fiber blend. It has citrus peel and acacia root and all this stuff. If I were going to do something, I would probably do something like that, that has kind of a broader spectrum kind of deal, but there have only been-

**Nicki:** I think you said before, too, swapping it out. Like doing some of the-

**Robb:** Yeah, rotating.

**Nicki:** Yeah, rotating it, so you're not doing the same-

**Robb:** Same thing all the time. Yeah, I think that makes some sense, and again, I would just kind of pressure test it for do you look, feel, perform better and all that type of stuff. Particularly when you have this baseline of feeling really, really good when you're on very low carb and then feeling significantly not good when you're not. It is a really interesting question, though, you know. Is there some ... something that we're giving up down the road for some gain that we have now? And I just don't know that anybody can answer that. There are some preliminary studies that suggest that very low carb diets, although they change the gut microbiota, they don't necessarily change them in a completely dysfunctional way.

**Robb:** There's some pluses and minuses but some of the way that the gut changes would generally be associated with beneficial flora, but even some of the ones that are considered to be not as beneficial, the researchers acknowledge that within the context of a low carb diet, it may not matter. Things may change in that scenario, and again, for most people, we see improvements in blood lipids and blood glucose control. Not everybody across the board, but by and large we tend to see that, and something that's frequently forgotten in this story is that if you construct a low carb diet properly, things like artichokes and avocados and asparagus and stuff like that, you can get a remarkable amount of fermentable fiber and very low glycemic load.

**Robb:** So I've kind of had this notion that ... try to eat your way out of ketosis using very low glycemic, low carbohydrates which means that you're just going to be eating a ton of [inaudible 00:30:59], but Keenan, I appreciate the kind words and the faith that you have in us on this, but at the end of the day, I don't think that anybody has been able to put a definitive pin on this, because I think to some degree it depends on the person, depends on the circumstance. I tell you, it's really fascinating, some of the research around, say like the carnivore diet, that is interesting, and ketosis in general ...

**Robb:** So, one of the big benefits that are sold around fermentable carbohydrate is that we release butyrate and propionate and malonate and these short chain saturated fats,

which is super cool. They appear to have these great signaling properties and whatnot, and they're ostensibly feeding some of the gut microbiota and also the cells lining the epithelial cells and what have you, but what's interesting is in the state of ketosis, betahydroxybutyrate, which is just a slightly modified version of butyrate, it translocates into the gut and it feeds the gut microbiota in the epithelial cells, so that's a whole interesting thing that nobody was really considering, nobody was talking about. So maybe the endogenous state of ketosis is feeding the gut in a different way.

**Robb:** Then the real mindblower flew by me not that long ago. A whole bunch of the amino acids can be fermented or converted into the short chain saturated fats and are and tend to be preferentially driven that direction in a low carb environment. So, the more we scratch around this stuff ... Man, there was a paper that I was reading just a few days ago and it made this case that the most important thing that you need to do, like where mistakes occur in science is on the first page, in the first paragraph, in the assumptions.

**Robb:** If the assumptions are wrong, then the whole thing goes completely sideways, and this is where I think this evolutionary health, ancestral health, paleo diet model is incredibly powerful as a hypothesis generating tank, but then we need to go out and then tinker and fiddle and see what the results are and whatnot, and most of the big gas, most of the big mistakes that have kind of occurred there, were an outgrowth of wrong assumptions, and it's not because people are bad but because you had an idea and you pressure test it and it just doesn't stand up to scrutiny. Your hypothesis ends up being false or there's some other nuance to it or something like that.

**Robb:** One thing that comes to mind is Stefan Lindeberg idea around dietary lectins and their potentially causal role in metabolic syndrome. He has the whole Kitava study that he talks about this, and it's really beautifully done, because he starts with kind of an anthropological observation. People in the West have rates of diseases that are different than this kind of aboriginal culture. Then he does an epidemiological study. Then he does a study in animals, so he's got an animal model, and then he does a study in humans. The thing is very consistent and it really makes a case that these dietary lectins could be the underlying problem.

**Robb:** But then a paper came out that suggested that a cellular carbohydrate, refined carbohydrate, is actually the driver for all of this modern Western metabolic syndrome type stuff, and that fits all this story too. There was a great question asked around this, but it was asked in a way that wasn't specific enough to delineate whether lectins are the cause or whether acellular carbohydrate was the cause, or it may be a combination of both, or in some people it may be lectins and in another people it may be a dense ... a cellular carbohydrate.

**Robb:** So, where we start with assumptions is a really important piece to this whole story, and again, I kind of side with some folks like Dr. Shawn Baker. We can get so out in the weeds with mechanisms and mTOR and all this stuff, and I think it just ends up being kind of bull shit at some point. We know for a fact that if we just don't overeat, if we exercise, if we sleep well, if we're generally feeling good, that good things are going to happen, and it's difficult to do anything else that's going to be any better for us, you know? And so that's kind of where ... and maybe I'm saying all this stuff to make myself feel better, because I'm in a very similar situation. I tend to feel my best when I'm at that kind of Perry ketogenic level and I've tinkered with that and found that I feel even better when my protein intake is higher.

**Robb:** I've even kind of foregone a lot of the vegetable intake that I used to do because I noticed that my digestion was even better with certain types and the removal of others and making sure it's definitely cooked. So really focusing on that clinical outcome of do I look, feel and perform better, has been my primary driver.

**Nicki:** Okay. Awesome. I think that was our final question this week.

**Robb:** Sweet. Anything else we need to tell people about?

**Nicki:** I don't think so. I hope everybody's having an awesome summer.

**Robb:** Indeed, indeed. Stay hydrated with drink elements and-

**Nicki:** Send us your questions at [RobbWolf.com](http://RobbWolf.com) On the contact page.

**Robb:** And still, I think, at least for a while most of my activity on social media is going to be over at Instagram. Might have some interesting developments around that topic here in the not too distant future, so, yep.

**Nicki:** All right guys.

**Robb:** Take care.

**Nicki:** Thank you.