

Nicki: 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. You're listening to the Healthy Rebellion Radio. 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. When Robb gets passionate, he's been known to use the occasional expletives. If foul language is not your thing, if it gets your britches in a bunch, well, there's always Disney+.

Robb: Hi folks. We are kicking puppies over here. We're kicking the puppy off.

Nicki: I said, "Let's kick this puppy off." He goes, "Let's kick some fucking puppy." Okay. That's an unusual start to the Healthy Rebellion Radio.

Robb: No puppies were kicked in the making of this podcast.

Nicki: No puppies were kicked. Nope. Nope. PETA does not need to be called. All is good.

Robb: PETA seems to be the least of folks' worries these days. Do you remember when the notion of a PETA attack was actually something that somebody would worry about, and now it's just like-

Nicki: I'm sure some people still worry about them.

Robb: To some degree.

Nicki: It depends on the industry one might be in, I don't know. I don't know.

Robb: So many thoughts around that. Probably none of them we can get into.

Nicki: Wow. And you could also have a PETA attack by eating pitas, pita bread.

Robb: Oh my God.

Nicki: Oh no.

Robb: Folks, do us all a favor and just quit downloading and listening to the show, because as long as anybody shows up-

Nicki: It's early.

Robb: ... We just keep doing this. But if nobody shows up, I'm not going to be like the '80s hair band that should have retired 20 years earlier-

Nicki: Because they have no hair.

Robb: Well, aside from the fact that they just fucking suck, too.

Nicki: Right, right. Yep.

Robb: But if people keep showing up, we just keep doing this. So this is like a mercy killing, basically. This is a cry for help. Stop listening, and then we'll stop doing it.

Nicki: I don't know. I have the giggles today. Yeah. Okay.

Robb: Do we have anything else? It's raining in Montana, which is good.

Nicki: Well, it's raining here, which is fabulous. Woke up to rain. So hopefully that helps with some of the fires going on in the western United States. I don't think it's supposed to last the full day, but I think half the day we might get rain, so that is good. Really cool this last weekend. Diana Rodgers and her son came to visit and we got to go see some bison. We got to go to a bison ranch called Roam Free Ranch, and they are doing regenerative agriculture here in Montana with buffalo.

Robb: And it was awesome.

Nicki: And it was awesome.

Robb: Amazing food, amazing people, and-

Nicki: Sagan, while we were there with them, she said, "Can I have my birthday party here?"

Robb: Well, they get to ride horses, too.

Nicki: They got to ride horses, and yeah, it was a super fun, fun, fun day, but also just really cool to see that operation in action.

Robb: God, again, thinking many things this morning, but that operation was cool and that they've been doing this only a few years, at least in some of the areas that they've taken over, and the change in the grasslands out there is stunning. It was shifting into a largely sage dominant desertified area. Some of the area has been massively overgrazed. Some of the areas have been devoid of animals, of grazing animals, which itself ends up creating this desertified pressure. It's kind of funny. There's some MD online that was giving Diana ad I a ration the other day about some claims within Sacred Cow, and I'm going to have to take that guy to task at some point. We'll probably do it on a podcast. But part of me is just kind of like, "Fuck that asshole," because slowly this story is getting out and the efficacy of this whole thing is becoming apparent.

Robb: Governments are starting to realize what's up. Even though there's a very much a counter narrative within the doomsday story that comes out of climate change messaging from the government and media and whatnot, the benefit of holistically managed grazing animals on desertified areas and producing nutrient dense food for humans and other organisms, that cat is out of the bag. 10 years ago, 15 years ago, it was lunacy, but these folks are doing some work with one of the local Native American tribes, and they're really fired up about bison being on these traditional lands again. It's pretty cool. We have a long ways to go, a lot of work to do, and I'm not really too sure what my point is. You're looking at me like I'm an idiot, and I kind of am.

Nicki: Just letting you wax eloquent.

Robb: It's just kind of cool. I guess the point is, these folks have an enormous amount of work ahead of them. Rachel James in the rebellion mentioned that some people are aware that this year there's going to be some hay and feed shortages for animals in general, particularly in the western states. Some people in Montana have been moving their animals out of the area, because there may not be adequate feed to support them over the winter. Where this is going to get really jammed up, though, is that probably a good

number of animals will be cold this year because of looking forward, seeing the lack of feed.

Nicki: If you can't feed them, it's better to cull them.

Robb: Yeah. Apparently, this runs the gamut from some people will be able to eat this stuff, but a lot of people won't, because we have a massive shortage of processing capacity. So the processors are all jammed up, and this is completely a governmental FDA cockblock scenario, so that's just one thing. Some of it will be turned into pet food, which I guess is whatever, and then some of it's just going to be killed and buried, which all of this is horrific in and of itself. It is indicative of a system that is just massively broken. But the irony in all this is that the giant players, the people that are so massively capitalized, can weather these storms, can weather these ups and downs, even though they are largely the cause of these problems. All of the adaptive mechanisms that a smaller time decentralized operator could use to be able to thread the needle of dealing with this situation, none of those rules apply to the big players. All of these problems are created by the big players.

Robb: God, there's just so many things I want to say, and I keep finding that I can't say most of them because we'll get in trouble. But it is ironic that sociopolitically, a good number of people who historically have been of a bent that I think that they would say down with big this and down with big that are completely in the panties of big this and that. But my rambling point is just that there is a ray of hope. Going and meeting these people and seeing what they're doing, seeing how incredibly hard they work to make this operation function, and the forward thinking that they have 20 and 50 years down the road was incredible. Okay. Moving forward.

Nicki: We're on week three of Summer Strong with the Basis New York team, Sarah and Grayson Strange, and gosh, it's just amazing programming. I'm just finishing up week one. I wasn't able to start on time with everyone else, because I threw out my back and got sick, but I started this past week and I just love, love, love the programming. Just so well rounded. The joint mobility work that's interspersed with the lifts, and just all of the preparation work before even doing lifts, like the warmups. People in the rebellion have commented, "Man, their warmups are long," but they're targeted. They're intentional. They're aimed at specifically preparing your tissues to do the lifts that are prescribed that day. So just big kudos to Sarah and Grayson, and I know everybody who is in the rebellion and doing this program this summer really appreciates what they've put together.

Nicki: We also have lots of really good stuff coming up in August in the rebellion. We've got some meditations lead by one of our rebels, Matt Otto. We have another cooking demo by Jack of Ruston's Boneyard, several live chats, and I'm super excited about this one. We have our friend and mindset coach, Cinnamon Prime. She will be back hosting a seven day workshop on success and accomplishment. So that is all happening in August. All of that is free for members of the Healthy Rebellion community. So if that sounds fun to you and you're not yet a member, you might consider joining. You can do that at join.thehealthyrebellion.com. Okay, hubs. What do we have for your news topic today?

Robb: This one's a biggie. It's a paper called Original Antigenic Sin: a potential threat beyond the development of booster vaccination against the novel SARS-CoV-2 variants, and I'm going to read some. It's actually quite a bit, but all I'll dig into this. A phenomenon called original antigenic sin was firstly proposed by Francis in 1960. This phenomenon occurs in the second exposure of the immune system to a similar pathogen to which it has been previously exposed. In this situation, the immune system progresses to the memory

response, generating cross-reactive antibodies that may not be effective against the new pathogen. In addition, it has been speculated that overproduction of memory B cells could compromise the activation of naive B cells capable of producing efficient and novel antibodies. In this way, OAS can trigger immune evasion of the emerging variants in those who have been affected by or vaccinated against former versions of the pathogen.

Robb: In the context of coronavirus, cross-neutralization is a rare event, but cross-reactivity in antibody binding to spike protein is common in SARS-CoV-2 and SARS-CoV. Furthermore, some degrees of cross-reactivity have also been demonstrated between seasonal coronaviruses and SARS-CoV-2. The impact of OAS in developing vaccines is of paramount interest. The hypothesis of antigenic distance was proposed to explain how the efficacy of vaccines could be influenced by the difference or relatedness of prior vaccinations. This hypothesis is substantially evident in the case of dengue fever-related vaccine research. Once an individual is immunized against a dengue virus variant, the booster shot for the second variant is unlikely to be successful because it triggers only the original neutralizing antibodies rather than an effective antibody for the new variant.

Robb: So this is both a hypothesis paper presenting this idea of original antigenic sin. It also goes by a different term, which I forget. But it is the beginning of a research study looking at if we are seeing this. So this dovetails into some of Geert Vanden Bossche's speculation that immunizing amidst a pandemic could be problematic because it creates a massive evolutionary selection pressure to evade that spike protein, and the most likely outcomes that we would see, if this were to occur, would be dramatically increased number of variants as contrasted to, say, the 1918 flu pandemic, which had effectively little or no variance. The original variant went through the whole population largely unchanged, although there was a little genetic variance.

Nicki: There've been subsequent variants, but during that particular pandemic, there weren't.

Robb: Correct.

Nicki: Just to clarify that, because I know we've had that discussion.

Robb: Yeah. Once it does its global cycle, and also to some degree, what happens is it goes largely not dormant, but it becomes non-problematic. And then the next round of these, particularly with influenza because it emerges from human bird porcine interaction, and part of the reason why it can be gnarly because you get some of these animal viral characteristics. But anyway, so some of Geert's original hypotheses, if this evolution around the vaccine amidst a pandemic were to occur, would be a really massive uptick in variants. Also, we would see people getting sick who previously had not gotten sick, and we're seeing that. But his hypothesis is not the only hypothesis to explain at least some of that. It's possible that kids are getting more sick now because they are just sicker in general. There was a paper that suggested that just kids wearing masks, it causes stress. Their immune function is compromised. There's some degree of bacterial schmutz that they're exposed to, and so that could be a problem. Kids are not exercising like they did.

Nicki: They've been indoors a lot.

Robb: They'd been indoors a lot. Also interestingly, and this paper actually alludes to this, kids used to get lots and lots of colds, and there is a reality that kids have probably experienced fewer cold viruses over the last year, year and a half. But ironically, that

may be conferring less protection against the gnarlier SARS-CoV-2 virus. So not too sure what my takeaway is on this, other than it's a really complex topic. We should have as free and open of discussions as we possibly can. Whenever people make decisions around vaccinate, don't vaccinate, ivermectin, don't ivermectin, it's an admittedly very complex story. It is a very individual story.

Robb: It's probably not news to anybody listening to this podcast. People who were prickly at free discussions have probably self-selected out at this point, but it seems to be getting ever more challenging to talk about these nuances. What is on the horizon is this suggestion that we will need booster shots in perpetuity, and what this paper is suggesting in the research we'll dig into is whether or not that is just going to be pissing in the wind. It may not work at all for this specific the idea of original antigenic sin, which again, it has a different term and I cannot for the life of me remember it. But these are discussions that we should be having ahead of all of the draconian activity that's going to occur in response to these variants and the response, which is just going to be, "Let's double down on everything that we've already been doing for a year and a half and hope that, well, maybe this time it works."

Robb: Because it looks like we're having breakout cases among vaccinated. We're having breakout cases among the unvaccinated. The stop gap measures don't appear to have worked all that well. There's research that suggests that whether you lock down or don't lock down, it doesn't really seem to have an enormous impact on the spread, and that's in part due to the reality that this thing appears to be an aerosolized product. So when you stick people indoors, they're in the most dangerous situation possible for catching the goddamn thing. So yeah.

Nicki: Complicated, and it's a very heated time in history that is only making it more challenging to have these kinds of conversations, because-

Robb: But if you're a COVID acceptor, you're okay.

Nicki: I am a COVID acceptor. Am I okay?

Robb: As are others. I'll dig into that eventually.

Nicki: Okay. Time to move on. Our t-shirt review winner this week goes to Mettie1. She says, "I just love everything about this podcast and the LMNT company. I feel like this podcast and a few others, which I've heard Robb on, have really helped make the shift to health centric focus and not constantly obsessing over weight loss. Thanks for all you do, Wolff family and LMNT company." I loved this one, because so many folks, so many people get so focused on that scale, gets so focused on weight loss, and health is so much more than just that number. Sometimes when you let go of that fixation on the scale weight, it all happens anyway.

Robb: Things just take care of themselves, yeah.

Nicki: Yeah. So I just loved this review. Metie1, thank you, and please send us an email to hello@robbwolf.com with your t-shirt size and your mailing address, and we'll send you a Healthy Rebellion Radio t-shirt. The Healthy Rebellion Radio is sponsored by our salty AF electrolyte company LMNT, and one of the coolest things we hear about LMNT is how it's helping people to finally ditch the more sugary drinks in their diet. So I have two customer reviews that I wanted to share, one of them from Kate. She said, "We ordered the grapefruit, watermelon, lemon habanero, and chocolate for the first time, and we love them all. I used to be a pop drinker, and these drinks have totally replaced that

unhealthy habit." That's just super, super cool. Another one from Joan. She says, "I was really reluctant to give up my Powerade, thinking I would be drinking some bland, disgusting, no taste saltwater. Boy, was I mistaken. Bring on the LMNT and forget all that sugary taste." Super cool.

Nicki: I know a lot of people rely on Gatorade and Powerade during the hot months, and it's just nice, the message of LMNT that you can still have great taste, you can still have something that helps you during whatever activity you're doing, and it does not have to be loaded full of crap and sugar. Anyway, when you choose the LMNT value bundle, you can buy three boxes and get the fourth box free. You can mix and match your favorite flavors. You can find that at drinklmnt.com/robb, that's drink L-M-N-T dot com slash R-O-B-B.

Robb: R-O-B-B.

Nicki: R-O-B-B. Okay. Let's move on to our first question this week. It's from Nate. He says, "Hi, Robb. My wife is wondering if A2 milk would be better for our son than nut milks. I couldn't find anything on your side about A2 milk, but searching online have found that it lacks A1. We give our kid nut milks for calcium, but have been reading that nut milks are estrogenic, so we're looking for other calcium sources. I read *The Paleo Solution* 12 years ago, and I know how you treat a dairy in the book. My gut feeling is that A2 milk is from cows where A1 has been bred out, but it is still dairy and should be avoided. Any thoughts on A2 milk, and if it is better than regular dairy?"

Robb: Yeah. Some folks like Chris Masterjohn, Chris Kresser, which I put some links in here, have really gone deep on this. I linked to a paper, Milk proteins and human health: A1/A2 milk hypothesis. And the older, I guess, is it older breeds? Different breeds of cattle have the A1. It has to do with the structural components of the casein protein. Goats, camels, sheep, other animals have this A2 protein, and it definitely seems to be less immunogenic, less pro-inflammatory. So I think it could be a good option for folks. As to whether or not it's better than nut milks, I would assume it is. I mean, the only reason why nut milks have any nutrition in them is that it's added to them. There's really not anything that comes out of these concoctions that are native to just wringing some water through pulped almonds, so.

Nicki: And frequently, nut milks have added sugars. I mean, maybe you're doing unsweetened ones. And then they're very, very water intensive to grow.

Robb: Yeah. We talked about that in both the film and the book *Sacred Cow*. So if you're consumed about resource allocation, the nut milk story is just jaw dropping. So I think it's worth a shot. That said, lots and lots of people, this is one of the things that the vegans kind of get right, which is that you can find a good number of people culturally who don't really consume dairy ever, and grow strong and tall and lean. So if an A2 version of milk works well, then by all means, give that a shot. I think that eating as broad a diet as people can, while suffering as little downside from glycemic load or immunogenic problems, that seems to be a great way to make a decision around things like this.

Nicki: Okay. Our next question is from Alex. He's a lean mass hyper-responder with type one diabetes. He says, "Hi, Robb. Thanks for your podcast with Bill Cromwell and specifically for the deep dive into lean mass hyper-responders. Actually, I wish the deep dive was even deeper, hence the discussion and questions below. I'm a 50 year old male, and I've been following low carb, progressively from low carb to mostly keto, to mostly red meat with occasional vegetables and berries for the last six years. I developed type one

diabetes when I was 33, after 13 years on the standard American diet and 20 years on the Soviet Union diet, whatever that was. I'm pretty active. Kettlebells a couple of times a week, tennis a couple times a week, and soccer a couple times a week.

Nicki: "To play back your frequently asked question, how do you look? How do you feel? How do you perform? I look great. I'm 5'11", 165 pounds, very lean and with toned muscles. I feel great. I play soccer with a number of 20 year olds and I'm able to outlast many of them in terms of my energy and fitness. I didn't get into sports until my late 20s. What I'm describing is not different at all from other lean mass hyper-responders who seem to be actually feeling and performing even better. Okay, fine. Looking better too. So clearly, lean mass hyper-responder is a phenotype, which on the surface seems to be selecting for great health and the athletic performance at the expense of our ability to survive during ice age, since we can't store enough fat to save our lives. At the same time, we all have high LDL, a dubious metric that the pharma industry is obsessed over because of the correlation it has with the health of a completely different phenotype. Is it even desirable for lean mass hyper-responders to have a low LDL?"

Nicki: "Now, this doesn't mean that I don't take you, Bill Cromwell, or Peter Attia seriously. I do, and hence I'm concerned. So is there another evolutionary trade off? Is the payoff for our excellent health and performance is that we will all die early from the heart disease? Assuming that high LDL is definitely bad for us, what sort of changes in lifestyle, nutrition, or medication would you recommend? For me personally, keep in mind that I have type one diabetes, my average HBA1C went from 6.7 to low 5.7, And my average LDL went from 149 to 361 after switching to low carb. Is it possible to achieve both low A1C and LDL? Thanks again."

Robb: So I think we'll back into this. Is it possible to achieve low A1C and LDL that would make Bill Cromwell and pretty much anybody else happy? Yes. Some of the things that we see around that situation, more monounsaturated fats, deleting dairy fats in particular. For whatever reason, milk fats seem to, in some individuals, drive cholesterol and lipoprotein, very high LDL lipoprotein. This is one thing though that is a niggling bugger for me. Folks need to get a goddamn LDLP number. Just saying, your LDL cholesterol doesn't really tell us much. you could be discordant. You could be concordant. That 361 may be really terrifying based off of how the lipoproteins play out, and it may be so ho-hum that this is a completely non issue. So folks, please, for the love of God, either get the LDL particle number individually or go through the Precision Health Reports folks and get a full, comprehensive report for about the same amount of money, and something that actually tells you what the fuck is going on. Pick your poison on that.

Robb: But again, just reporting, if you had an Apo B that's kind of helpful, because it's a surrogate for LDL particle, but again, we've got something really good and easy to pull from there. Alex mentioned that he's been a type one diabetic for a long time. Within that Bernstein diabetes solution world, when Dr. Bernstein sees people with elevated cholesterol and lipoproteins in general, he assumes that to be a mild subclinical hypothyroidism, and almost universally, they end up administering a little bit of Synthroid or Nature Throid or something like that, and they do some tinkering, and the lipoproteins come into a good level with that. They also do a little bit of fiddling, more monos, maybe ditching some of the dairy fats and whatnot.

Robb: But some very smart people, smarter than myself, have suggested that the lean mass hyper-responder is nothing more than a bunch of pretty lean active people who were burning the candle at both ends and also eating very little carbohydrate. And part of the response is a little bit of subclinical hypothyroid, which before the development of statins and some of the cholesterol sequestering drugs, one of the treatments

attempted to deal with high cholesterol was putting people on low dose thyroid medication. But if your thyroid isn't actually low, that just causes other problems. But this is something that again, if you do a little searching, Dr. Bernstein hypothyroid cholesterol, you'll find resources around that. This still does, Bill Cromwell makes a very compelling case that although insulin resistance itself can and does feed into the cardiovascular disease process, he also makes a very compelling case based off of some of the MESA data available, that there is an inflection point in which at some point, insulin sensitivity, ceases to be cardioprotective When lipoproteins are still elevated. Now, some other people, who's the British doctor that-

Nicki: Malcolm Kendrick?

Robb: Malcolm Kendrick, he makes the case for the vascular endothelial damage model, that there still needs to be an injury process. He doesn't subscribe to the notion that just simply having elevated lipoproteins are going to inherently cause damage to the vascular endothelium, that the whole thing is a process in which the endothelium is damaged and then lipoproteins get involved, and then that creates the atherogenic plaque, and then we feed forward. I don't really know where I am with that. I guess I'm kind of in the spot where I hope Malcolm Kendrick is correct, because it would provide a bit of a get out of jail free card for a whole lot of folks who are not hypertensive, don't smoke, exercise intelligently, but still have these lipoproteins a little bit on the higher side. But I honestly don't know.

Robb: Bill Cromwell is about 10 times smarter than I am and has been doing this stuff a long time, and he's pretty emphatic that knock those lipoproteins down and good things happen. We do have some interesting data out of, say, the familial hypercholesterolemia crowd, where those folks put on a statin or other cholesterol lowering drugs survive longer, significantly longer. Statins specifically end up having a lot of other potentially beneficial effects. They're anti-inflammatory and have some tendency to stabilize non calcified plaques, and so you're less likely to have thrombotic events. So there's a bunch of complexity there, but I don't know. I don't know. I do think that it's worthwhile to look into, and to do little bit of tinkering and fiddling.

Robb: Again, first stop I would do the Precision Health Reports cardio metabolic panel. It's 150 bucks. Then we really will know what we're talking about, when we're still dealing with these surrogates of just cholesterol and whatnot. It's so easy to be hoodwinked by that, for both good and ill, and so I would recommend that as a starting place. I would definitely look into the work from Dr. Bernstein around the possibility that there is subclinical hypothyroid occurring here, and then look at the quality of the fats that are being consumed. Maybe more monounsaturated fats. If there's much in the way of dairy being consumed, maybe even mitigating that, and then recheck and see what happens.

Nicki: Okay. Our next question is from Christina on, I'm going to butcher this pronunciation, fucoxanthin and CLA, which is conjugated linoleic acid for fat loss. Christina says, "Hi, Robb and Nicki. I've been a fan and have followed since 2011. Started my health journey with your book, Robb, The Paleo Solution, and it changed my life forever. Now I'm a science nerd. Anyway, what are your thoughts on CLA supplements used for inhibiting fat storage, and also for helping to rid the fat in the cells? It seems to be a craze with certain companies selling it with a ton of testimonials that this stuff really works, but I'm very skeptical. Also, how about fucoxanthin? Does it help with brown fat creation within the body? How beneficial are these two types of supplements when it comes to eating, your body, and fat loss? Thanks for all you do."

Robb: So CLA is good stuff. It has a ton of different actions. It actually has a mild, very mild, but non-trivial effect in muscle mass accretion when people are exercising. The Fucoxanthin I wasn't really familiar with and did some research on it, and it's another one of these marine-derived carotinoids. They're really cool, and this is one of the things that makes me a little crazy about some of the more over the top folks in the carnivore scene. "All plants are poison and they're all trying to kill you." Well-fed pastured animals have non-trivial amounts of carotinoids and different phytochemicals. Granted, it goes through the animal's system and gets detoxified to some degree, and then ends up embedded in the fat and whatnot, and then we consume it. There's a similar story here.

Robb: This fucoxanthin is interesting. It's a very powerful antioxidant. It really seems to have some interesting effects in mitigating photo aging, so sun exposure. This is something that we see a lot with these marine-derived carotinoids sources, and this plays into maybe a little bit of the aquatic ape theory of human evolution. But these critters that live at that ocean land interface are exposed to stunning amounts of oxidative stress. You've got the sun, you've got the water, you've got actual chlorine being produced from the photolysis of sodium chloride in the water. It is a gnarly environment. This is also one of the reasons that cancer researchers look at that tide pool interface for novel molecules for cancer research, because anything that can figure out how to live in that environment day in and day out is very robust, super adaptable.

Robb: So the fucoxanthin is interesting. It does seem to enhance uncoupling proteins in white adipose tissue. I didn't get the sense that it does anything for increasing brown adipose tissue, but it does seem, brown adipose tissue is interesting and that it will pump calories through it, mainly fat, and produce heat. This is part of the reason why kids seem to be able to tolerate cold water emersions and whatnot. The brown adipose tissue will really ramp up, and you can burn a lot of calories through that. There's a lot of oxidative damage that occurs there, and this is where having something like the fucoxanthin or some mixed carotinoids in your diet makes some sense, because it helps mitigate that. Although a ketogenic state up-regulates your glutathione, and that's also a potent antioxidant.

Robb: So who knows? I don't know. Maybe you need them, maybe you don't, but it doesn't turn you into a brown adipose fat burning machine, but it does seem to induce the white adipose tissue to act as if it were brown adipose tissue, and it's basically spinning some calories away. At the end of the day, I don't know how profound this is relative to getting totally on point with your protein. Love him or hate him, Layne Norton really, in my opinion, of all the work that he's done, he hammers that point home that all other things being equal, when people get adequate protein, this kind of magic happens, and I am in full agreement of that. Dr. Gabrielle Lyon is in full agreement of that. She had the same postdoc professor as Layne did, but they've taken somewhat different use of the world. But one area that they have very similar overlap is this protein centric focus.

Robb: So if folks aren't eating adequate protein, then CLA or fucoxanthin or anything else short of methamphetamines really isn't going to move the needle for folks like that where you've got to start, because you will find spontaneous satiety, you will find high nutrient density, and good stuff happens from that. And then if you wanted to layer in some of these other things like the fucoxanthin, or make sure that you're getting either some pastured dairy or a dedicated CLA supplement seems fine. There are other health benefits to it. Maybe it provides some small percentage point additional fat burning, but this has got to be overlaid within the context of all this other stuff being buttoned up. Good sleep, some degree of movement, some resistance training, and adequate protein.

Nicki: That makes sense.

Robb: We've had some very lengthy responses today.

Nicki: Yeah. Long winded.

Robb: I'm starving and I just want it to be done. Yeah.

Nicki: All right. Well, it's time for the Healthy Rebellion Radio trivia. As always our Healthy Rebellion Radio sponsor drink LMNT is giving a box of LMNT Recharge electrolytes to three lucky winners selected at random who answer the following question correctly. Robb, how many months does it take for the foreleg of a deer to decompose?

Robb: Well, we don't really know yet, because we have several of them around the property, and the dog every once in a while will just go grab one and pick it up and run around. He won the lottery and he's so tickled with himself, and these goddamn things refuse to rot and go away.

Nicki: We talk about this frequently, because when we moved here, he found this deer foreleg and it literally does not go away. It is the same.

Robb: It's been rained on. It's been snowed on. It's had hot, it's had cold.

Nicki: It's been chewed on.

Robb: It's been chewed on by multiple animals.

Nicki: He'll pick it up and race around literally he won the lottery. He is the happiest dog. The only time I think I saw him happier was when he caught one of our chickens back in Reno when he was six months old, and he thought he was hottest kid in school.

Robb: The hottest dog?

Nicki: The hottest dog, yep. So anyway, that's when I was thinking of trivia questions. The foreleg-

Robb: Just was a good one. Why don't I pull a Greg Glassman and say, "Nicki, it's unknown and unknowable. I love you, kid."

Nicki: Okay. That is answer then for this week, and if we ever do find out, we're going on five months now and it's not decomposed.

Robb: It hasn't even changed.

Nicki: I know. So we will update if, in some number of coming months, it does finally change. But the answer for this week's trivia is unknown and unknowable. To play, go to robbwolf.com/trivia and enter your answer, and we'll randomly select three people with the correct answer to win a box of electrolytes from LMNT. The cutoff to answer this week's trivia and be eligible to win is Thursday, August, I think it's the fourth. I didn't put my date in there. Nope. August 5th. Thursday, August 5th at midnight, and we'll notify winners via email and announce it on Instagram as well. This is open to residents of the U.S. only.

Robb: If folks contact us, they must write in the voice of Greg Glassman.

Nicki: All right, fourth question this week is from Phoenix on bile reflux, gallbladder, and general woes. "Dear Robb and Nicki, I've been a listener and reader ever since the holy cat stays in college 10 years ago. Three years ago, I needed gallbladder surgery. I had very few side effects as I eat pretty healthy, but I was also struggling with alcohol and in a difficult relationship. Both got the boot around seven months ago, but due to personal stuff with the breakup, I was under a huge amount of stress, and suddenly I had bile reflux. It's a frigging nightmare. I now take sucralfate and a bile binder, but they are horrible to time well, because I need a small snack when I wake up or else I'm queasy. Red meat and pork often set me off with heartburn. I used to eat tons of veggies, but too many of those hurt my stomach now.

Nicki: "I know I need more protein. It feels like one extra bite is the difference between puking at 3:00 AM and being okay. I'm 5'5" and am out of shape, 150 pounds. I feel like a tick with a chunky belly and skinny limbs. I just had blood work done and my white cell count and platelets are low, 2.4 and 50, and my cholesterol is on the higher side, but my glucose and A1C are normal. I don't know what to do, plus my emotional trigger for sobering up was my ex's drunken behavior. No more ex, and I'm trying to find healthy outlets for my ADD slash depression tending mind so I don't hit the bottle. Are there any recommendations you might have for physically rebuilding? Thank you from a long time fan, Phoenix." This is a tough one.

Robb: This is a tough one.

Nicki: And first of all, having some grace for what you're going through, it's a tough situation, right? You can have all the aims and goals in the world of moving through, and it just takes time.

Robb: Yeah, and this may sound crazy, but finding a good jujitsu school and joining that. The community if the place is well-run, if you have a Straight Blast Gym anywhere near you, that would be awesome. If not, there are other good schools out there, and we've talked about what constitutes a good school.

Nicki: I think that's a key point. If martial arts is not anything that you've ever wanted to do, it still might be something to just check out. But finding something with some physical component and community built in I think can go a long way in keeping you motivated and keeping you going. I mean, we saw that even with running the CrossFit gym. The community is what keeps people, and it's easy to quit a regular gym. You sign up at any Globo Gym, and you go for a little while, but there's nothing keeping you there. But when you join a community, a gym-based community, you meet people and-

Robb: They care about you, you care about them.

Nicki: It's a bright spot in your day, because it's not like you're going in anonymously and just sitting on a machine and repping out whatever the weights are. You're going there, people are talking to you, you're having conversations, and you feel more connected. You feel needed. You feel like you're contributing. All of these things can really, really help when you're in a low spot.

Robb: I agree. Jujitsu, mixed martial arts, Thai boxing, the Ido Portal stuff, more and more people are getting certified and opening gyms and the Ido Portal kind of gymnastics and movement-based activities. It's good old CrossFit. If you can find a gym that has their head screwed on straight and doesn't do stupid shit, I would really think about that as a beginning point, because I wonder about the stress. She mentioned the ADD, depression type stuff. I think that that would go a huge leap towards addressing at least

kind of that psycho-emotional stuff. On this other side, with all the GI issues, you got to track down a functional medicine practitioner, do some testing, and do some tinkering. This is just going to be a fair amount to unpack.

Robb: Our good friend, Clark, has just wrapped his MD and he's in his residency, and he's done a couple of posts in the rebellion about he's historically eaten a ketogenic diet, but he started experiencing some bile gallbladder issues, like some gallbladder spasms and some different things like that. So he's had to figure out a not specifically ketogenic way of eating, and he needs a little bit of starch in the mix to be able to make all that work, or a little bit of fruit. He's found a spot that works for him. He has good glycemic control, but he's not beating on his liver and gallbladder. So those kinds of GI related problems have abated, and this is while he's going through his residency and he just wrapped up medical school. So that stress piece is clearly a big factor. The fact he's in residency, his stress piece is not going to be in the rear view mirror for quite some time. So you have to do some mitigating strategies around that.

Robb: But I would poke around, try to find somebody, even if you have to consult with someone online, [Dr. Ruscio or someone like that, get some help on that. Everything that I start thinking about is an algorithmic tree where it's like, "We start with this, then we go here and we go there and we need feedback." It's totally beyond the scope of providing some suggestions there other than really pay attention to the foods that set you off, and try to mitigate that. I will say that veggies, God damn it, haven't really been my friend all that much. I've noticed a lot of gut related issues that have resolved being very selective in the veggies that I eat. I used to get dairy acne like crazy, and if I don't eat veggies with them, I can eat a lot of dairy and I don't really get any acne anymore. It's really weird. It's really, really weird, but it is what it is. So at a minimum, pay attention to how you're reacting to things. I really like your notions around tackle that social support piece, find a gym, find a community.

Nicki: One other thing that just popped into my head is grab a copy of Emily Fletcher's book Stress Less, Accomplish More. Even if meditation has seemed like something that you couldn't do or wouldn't do, give that book a read and just give it a shot. I mean, you have mentioned that you're under a huge amount of stress, and there's just not anything I know of that can help more instantly than doing a twice daily, 15 minute meditation. I know that two times a day might sound like, "Oh my gosh, how could I ever do that? How could I ever fit it in?" It's really trivial when compared with how you might be feeling, if you're feeling depressed or whatnot, it can really, really help.

Robb: Great suggestion.

Nicki: And then the only other thing that is popping into my head, and I don't know who said this originally, and you used to say this a lot when we were running our gym and we'd be in a rough patch. Maybe we didn't have the number of members we needed or just things were hard, and we would just say, "There's no way out but through." So it's just one day at a time, one foot in front of the other. Phoenix, you can do it. Yeah. One day at a time, and keep us posted.

Nicki: Let's see, I think this is our final question this week from Sarah on diverticulitis. She says, "Hi, Robb and Nicki. My husband ended up in the hospital last June with what eventually turned out to be diverticulitis. This came completely out of the blue, as he'd always had a pretty stellar gut beforehand. After he was discharged, he did not have the recovery rate, we expected and eventually ended up on a second round of antibiotics and a liquid diet again. The standard recommendation after diverticulitis is to gradually increase fiber content, and a diet low in fiber is cited as the cause of it. This was definitely not the

case for my husband, as he was eating a lot of fiber before his hospital admission. After some dietary experiments, we have since realized that he can now only tolerate a very small amount of it, or he ends up in pain.

Nicki: "His current diet consists of white rice for carbs, traditional home cooked dishes minus the vegetables, he's from Southeast Asia, plus beef and fish. Unfortunately, he still hasn't managed to regain all of the weight and muscle that he lost. For some context, he's in his early forties, about 5'10", and weighs about 143 pounds. He's very active, works out regularly, and has a decent amount of muscle on his upper body. Do you have any recommendations on the most suitable diet for him to follow? He also can't tolerate dairy. Is there anything he should definitely avoid? He's tried some weight gain powders recently, but they seem to cause him pain, as does some forms of physical exercise and movement. Is there any way that he can fully recover from this?"

Robb: Man, we're today the poster child for the carnivore diet, but this is one of the things that, so I didn't have diverticulitis. I had ulcerative colitis, but there's a lot of similarities. I mean, gut inflammation, and to some degree it's this location versus that location. Removal of grains and legumes definitely went a long way towards improving my gut health. I think it saved my life, basic low carb paleo approach, but I ate lots of vegetables. I had still what I understand now to be symptoms of gut inflammation, the super high gastric motility rate where things would come out largely the same way they went in. But I mean, when I would make us a meal, I would cut up a head of cabbage and cook it and we would eat pretty much the whole thing as part of a stir fry or something like that. We were eating a mountain of veggies.

Robb: For me, it was crushing me. When the whole notion of a carnivore diet really started getting on my radar, initially it was like, "Well, this is exactly the thing that I've been fighting against paleo being seen as," because we had that asshole doctor in Chico that was like, "Well, that's just the guy that recommends the all meat diet," which at that point I didn't. And then as time has gone on, I kind of do. So I think that the trick with this stuff, the question is, can he get back to healthy? I think he can, but this is just where some degree of experimentation is going to have to come in. Some of the attachments that we have, I used to really enjoy broccoli and kale and cucumbers, whatever. I can handle some tomatoes, I can handle some really well cooked asparagus, some other things. I do pretty well with fruit. This summer I've done a fair amount of fruit, and I've done okay with that, so long as I stay within certain lane lines. But I think that this is really a story of just figuring out what does and doesn't work.

Nicki: Maybe keeping a log. I don't know if he's willing to do this, or if you're doing most of the meal prep and if he's home, you can track what he's eaten, when he feels like he's got a flare up or he's got some stomach pain, and then look back. What was the thing that you ate prior to that? And then just track that for a while and see if you can't eliminate the things or put your finger on the things that might be the most problematic, and then eliminate those.

Robb: Love it. Yeah. I mean, I think that that's where y'all are with this. It's possible that something like a fecal transplant could address the problem. I'm totally mixed on probiotics. Sometimes they work for folks, sometimes they don't. There are some of these amazing companies like Seed that seem to have these great products. I've tried all of them, and none of them did much of anything for me, so I'm the hard luck case that doesn't seem to respond to much of anything, other than figuring out the foods that do work for me and focusing on those and minimizing the ones that don't work for me.

Nicki: And Sarah, you mentioned that he's active and works out regularly. Making sure that he's doing strength training for that muscle. She's mentioning, I think he's maybe needing more calories, because he's trying weight gain powders, but he's not tolerating those. Do you have any suggestions for things he might tolerate that could give him more calories? I don't know if would nuts or nut butter be appropriate here, or would that be inflammatory to the gut?

Robb: I don't know, I don't know. That's where he needs to play with it. I don't do well with almonds anymore, but I'm fine with macadamia nuts and okay with pecans. So I don't rely on any one of those extensively, because I don't want to get further to a point where I can't eat them at all. He could be pounding down all kinds of calories, but if something irritates his gut, he's not really going to absorb it well, and he's going to be miserable in the process. So I think the real key here is to whittle down what is it that he can do well with, and then slowly over time, as things heal, he may find that he can add some more things to the lineup. You just have to pay attention to that. Yeah.

Nicki: Okay. All right. That was the fifth and final question for this week. Thank you guys for joining us. Remember to check out our show sponsor LMNT and grab that value bundle. Buy three boxes, get the fourth free. Check that out at drinklmnt.com/robb. That's drink L-M-N-T dot com slash R-O-B-B. R-O-B-B. Any other final closing thoughts for today?

Robb: I have none.

Nicki: I know, you're hungry.

Robb: Yeah.

Nicki: Okay, we'll go eat.

Robb: Bye everybody.

Nicki: Bye everybody.