

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 1 million people liberate themselves from the sick care system. You're listening to the Healthy Rebellion Radio. The contents of this show are for entertainment and educational purposes only. Nothing in this podcast should be considered medical advice. Please consult your licensed and credentialed functional medicine practitioner before embarking on any health, dietary, or fitness change. Warning: when Robb gets passionate, he's been known to use the occasional expletive. If foul language is not your thing, if it gets your britches in a bunch, well, there's always Disney Plus.

Robb: Welcome back friends, neighbors, loved ones.

Nicki: Welcome to another episode of the Healthy Rebellion Radio. It's officially spring.

Robb: It is officially spring.

Nicki: And today actually we had some amazing on this morning which was luxurious.

Robb: It was pretty nice and it was also, I had a great day at jujitsu and-

Nicki: You were indoors.

Robb: But I was indoors. And if my greatest complaint today is that I had to be indoors on a sunny day in Montana doing jujitsu with people that I care about, then my travails are not too bad.

Nicki: Life is good. Life is good. Yeah.

Robb: This was definitely one of those days where I'm like, "Man, I wish we had a palapa outside to do some jujitsu outside."

Nicki: Do you even need a palapa?

Robb: Well, you just need something. You don't want like direct sun on you most of the time and stuff like that.

Nicki: Right, right. You just need outdoor mats that I guess wouldn't get ruined in all weather scenario.

Robb: Something like that.

Nicki: Something like that.

Robb: Yep.

Nicki: Yep. Let's see here. What else do we want to share? We are in the middle, as you all know of our internal strength model program from Sarah and Grayson of Basis Health & Performance New York. So that has been going quite well. Lots of people are feeling things in their bodies, in their toes, in their feet, in their hips, in their shoulders that they haven't felt before in a good way. So lots of good stuff going on in that course inside the Healthy Rebellion community.

Nicki: And then we are only a few short weight weeks away from our next Rebel Reset. So our spring 2022 Rebel Reset will kick off on Friday, April 15th. That's our kickoff call. Then we'll do a week of seven day carb testing for those that want to optionally participate in that. And then following that will be day one of the 30 day Rebel Reset. So excited for that. Always a good time. The t-shirts from the January one just came out. We did a new design this year, and I don't know if our podcast listeners know the t-shirt thing, it's something that is earnable, is that a word, earnable?

Robb: Well, basing things around merit these days is dodgy, but yes, it is earnable. Yes.

Nicki: Well, okay. Well that's your-

Robb: That's a horse of a different whatever.

Nicki: I don't think we want to go there, but yes, we do have a little carrot that we put out in front of all the folks that join the Resets. And if folks complete a handful of things that we clearly lay out at the beginning, then they are eligible to get one of our 30 day Rebel Reset t-shirts and the January ones have a new design from our 2021 ones. And so 2022 t-shirts are... People have just gotten theirs from the January reset.

Robb: I'd say all of our shirts have been pretty cool, but this January one was-

Nicki: People like it.

Nicki: I had a big grin when I got it. You feel awesome.

Nicki: The design looks really cool and they're soft and cozy. So anyway, we will be doing a spring t-shirt as well. Just throwing that out there. Okay, so I think that's all on the housekeeping topics. I know for our news topic, we wanted to talk about a podcast episode. You listened to the full thing. I kind of joined you part way through. So I didn't get the full episode. I know we ended our last episode of the Healthy Rebellion Radio in sort of a downer mood.

Robb: Yeah. And it's interesting because we were talking a bit about the potential loss of the dollar reserve currency.

Nicki: Reserve currency.

Robb: And a number of people, I was actually pretty tickled with this. A number of people wrote or pinged me in various ways to comment about that. One was like, "Hey, I'd never even thought about this. This has never been on my radar." A few folks pushed back on the idea that the US could lose reserve currency status, basically that we are still the cleanest dirty shirt and the cleanest dirty shirt by a staggering degree. And so the potentiality of the dollar losing reserve for currency status was low according to some of these folks. And this podcast Danger Close with Jack Carr and he had on a demographer and Peter Zeihan.

Nicki: Geopolitical strategist is his title I think.

Robb: There you go. I think I first listed into him on a podcast about a year ago exactly. And it was on The Pump Podcast. So he definitely travels in these kind of finance and where finance bleeds over into politics and stuff like that. And he looks at so much of the way that the old is laying out from demography, like how many young people do you have? How many old people do you have? How many people, people do you have? And just

kind of goes forward from there and apparently has made some very prescient predictions. He actually, in a 2016 book that he wrote, suggested that Russia would invade Ukraine this year.

Nicki: In 2022.

Robb: In 2022. And laid out a remarkable, apparently this guy is in real hot demand because a number of the things that he's laid out, I wouldn't say he's new to this scene, but he needed some time for the things that he suggested might be happening to happen and a bunch of that shit's happening and it's happening at a pretty good clip. And he has a really interesting take on the world.

Robb: One of the reasons why, or maybe be the primary reason why Russia is invading Ukraine in addition to like the NATO stuff and trying to get Ukraine into NATO and some pesky things around that, but fundamentally the Russian people are on a population decline and falling off a cliff type population decline. China is similar. A lot of the world is similar.

Robb: A lot of Europe is similar. And some people would cheer that because they're like, "Oh, the world has too many people." And maybe that's true, maybe it's not, but for sure he who does not live, does not pay taxes. And so it can create a lot of demographic problems later. And the show that I listened to last year, he talked a lot about China and that China wouldn't really take on this like quote superpower status the way that many people suggest, because they're facing this super gnarly demographic bulge.

Nicki: Because of their one child policy.

Robb: Because their one child law policy is now catching up with them. And there's just no way to get out ahead of that. They're going to have a massive aged population and a too small younger population to just work, to just do the things that need to be done.

Nicki: Didn't he say that Chinese population would be like 50% less-

Robb: By 2050.

Nicki: By 2050, yeah.

Robb: Holy shit. Yeah. We have links to that show in the show notes. It's a very interesting topic. And I think at this point, our main purview is health and getting a million people out of the sick care system and all that stuff, but at this point, because of our networked world, like everything influences health and although he was more optimistic in many regards compared to say where we were with regards to loss of dollar reserve currency status and whatnot. At the end of this show with Jack Carr, Jack asked him if there's anything that Peter is really concerned about. And he became very somber and he essentially said that a billion people are going to starve to death over the next few years because of supply chain issues, because of these disruptions in fertilizer production, and just on and on and on to staying after thing after thing.

Robb: And that's a pretty big deal. So it was interesting in that it was very optimistic from a United States perspective. Although it'd be really interesting to get his take on the rise of totalitarianism, like okay, maybe we maintain reserve currency status, but we have a social credit score. And if we sneeze out of tune, then we can't go buy groceries and whatnot. It'd be really interesting to get his take on that stuff.

Robb: But it was a somber feel to his predictions around the food thing. So, again, I just think it would be a valuable thing to listen to. He looks at things in a very different way and part of the reason why I like folks like Brett and Heather and why I liked early, early on people like Art Devaney and even Loren Cordain is that people who have a good grasp of the material at hand, they are trying to articulate to people, they can create models, they can share what those models are and make predictive incursions into our lives based off of these models and the predictions that they make. And I think that's really valuable. It's something that's real and is true and there might be some important takeaways from what this guy has to say.

Nicki: For sure. And he's written several books, but his fourth book, his newest book is coming out in June. And the title is *The End of the World is Just the Beginning: Mapping the Collapse of Globalization*. So even the title has an optimistic ring to it.

Robb: Yeah. And that's an interesting point because, and we've talked about this a little bit on the show, Nicki and I talk a lot at home when we are talking to each other, which is most of the time-

Nicki: We do that?

Robb: We do, and I have this sense that... It's kind of weird, like on the one hand, if we don't nuke ourselves, if we don't end up in some sort of totalitarian cul-de-sac and whatnot, I think the world is going to be very different in that things are going to decentralize. I've made commentary that I think the United States is too goddamn big.

Robb: It's just the sensibilities of the coastal folks are so out of step with the people in the flyover states that it's just hard to imagine how that whole thing continues to work and function because it's not really working and functioning right now. In some ways it would be good if there was some sort of amicable separation such that we still liked each other enough to have mutual trade and protection assurances and stuff like that and don't let it devolve to a point where we just absolutely hate each other. But decentralization seems to be this really key thing, and it's going to change a ton of things. It could be really good. It could put more of our food sovereignty and our health sovereignty back in our control.

Nicki: Local community-

Robb: Our local community control.

Nicki: Yeah.

Robb: There could be some really interesting experiments and opportunities there. There could be massive dislocation and changes along the way. I am not a fan of the concept of socialism, but I've oftentimes quipped that I would almost rather just be in Australia or New Zealand versus in the United States, as we thrash around.

Nicki: Not during COVID.

Robb: It's like, do you want to be there during the transition, or do you want to be there when cake gets baked? And it's kind of like, okay, you've got a social credit score and they've got you by the short hairs, but it's like a society just completely coming unhinged at the roots is a whole other thing. And I know I'm just like off the weeds now.

Nicki: It reminds me of a different podcast we listened to a couple weeks ago, the one, it was like, it's not a podcast we listen to regularly. We just were shared the episode and Daniel Schmachtenberger was the guest and he talked about there being like, was it three potential outcomes of all of this, one like an AI powered kind of tyrannical authoritarianism and, or a like massive decentralized chaos or we need this like cultural revolution where...

Robb: We find our higher selves.

Nicki: We find our higher selves and we are able to go above and beyond all of this infighting and othering and tribalism that is just tearing us apart. And you want to hope that we have it in us to do that, but sometimes it's hard. You see stuff online and it's hard to believe that we could do that.

Robb: I think it's preposterous. We should definitely work towards that. The folks who have the... If anything, I think it could provide a softer landing on the backside, assuming that we end up... So this is an interesting thing too, and I'm glad you mentioned that. There's just been multiple people coming at this from very different directions, and they basically are painting a picture of either a largely globally centralized, tyrannical, governmental entity, maybe it's not the whole globe, but I don't see China in Russia playing along with Europe and the United States, but anyway, you've got this centralized, tyrannical social credit score type model, or you have this just borderline insane decentralization, like all the jokes about libertarians, it's like go to Zimbabwe or whatever for libertarian, because there's literally no law or whatever. There's jokes around that.

Robb: So any way, I just think it's interesting that a lot of smart people are seeing similar things afoot. And to the degree that I think this whole healthy rebellion concept has some merit and some value, I think it's in making us aware individually about the need for our health and welfare and security, and really a powerful need to build community in IRL, in real life. The online connection is great. The online piece is phenomenal for getting resources and information oftentimes in topics that we're just not subject matter experts and that's fantastic. But then at the end of the day, either way that this moves forward, whether it's decentralized chaos or centralized authoritarianism, it's going to be local communities that really soften those transitions and define what type of world we have on the back end.

Nicki: We'll link to that other show too because I do think it was-

Robb: The Schmachtenberger.

Nicki: Yeah.

Robb: It was good.

Nicki: I didn't care for the host. Like he was a little bit-

Robb: That host was pretty annoying.

Nicki: ... annoying. But Daniel spoke most of the time. And if you aren't familiar with him, he has been on many, many podcasts, but most notably Joe Rogan with Tristan Harris, Tristan being one of the guys featured in, and I don't know if he had a hand in producing it, but the social dilemma movie. And so, yeah, we'll link to that episode as well.

Nicki: One really interesting thing that he talked about in there is how we have the technology to be able to do some really fascinating things with regards to elections and who we have representing us as city, states, country.

Nicki: Why do we elect one person to represent us on a whole host of topics, which that individual is in no way an expert across all of those domains when you could foreseeably have this person who's an expert in energy. We want him making decisions or her making decisions on things related to energy. Do we want to do more nuclear? What do we want to do with energy and then the other person education, et cetera. We don't need one representative making these decisions or having a vote and representing us across like-

Robb: Every decision and every topic.

Nicki: ... all of these disciplines that they have. There's no way they can be an expert or even informed well enough to do that well.

Robb: It's really brilliant stuff and it's more brilliant than term limits and rejiggering the United States Constitution a little bit so that maybe you have like a one six year term for a president, the presidential election run up lasts a month and it's all publicly funded. There's a bunch of stuff that we could do that would fix things, term limits as a minimum. And we're so incredibly unlikely to do it. And this is the interesting thing is that even the folks that are in power right now, they've got to have some sense that there's an expiration date on what we are going through here. And it should, even though say like the Nancy Pelosi's, the Mitch McConnell's, these people who are literally-

Nicki: The octogenarians.

Robb: ... literally dinosaurs.

Nicki: I saw a picture of Nancy Pelosi who looked like she was like 16 in like a ball gown standing next to JFK.

Robb: JFK. Yeah. Which tells you how long she's been in this scene. And on the one hand you could say, well, that's a long life of public service. And when we look at the way that this country was founded, it wasn't supposed to be that way. It was supposed to be like, shit, it's my turn to be in this absolute clusterfuck. Okay. I'll do it because somebody's got to, and for the love of God, I want to go back to my farm or my business-

Nicki: Well that George Washington.

Robb: Exactly.

Nicki: He did not want to be the president. All he wanted to do was farm. And he did it out of service to his country because his countrymen were asking him to do it.

Robb: Right. And so-

Nicki: So instead of having career politicians, have people who are experts in a domain that do some period of service and then go back to their domain. Anyway.

Robb: And all this, the Schmachtenberger piece made the case that we have the technology and interestingly blockchain could be a part of all this stuff where even our governance

is decentralized, where it's not necessarily House of Representative as we know it now. We could elect people, okay, we have an energy sector and an education sector and healthcare and then we could elect people more specific to these granular needs and actually have some scientists involved with determining is nuclear energy a good idea. Are we all in on wind and solar and whatnot?

Nicki: And I know you're like, oh, it's never going to happen because we're just in successful of like tribalism and otherism. But if you just are of the opinion it's never going to happen, then no shit, it's never going to happen. So I think we need to change our... The more people that are aware that this is a possibility, the more people can then spread the message and people might not even know what other alternative to our current fucked up reality exists. But if there's a glimpse of something that could be better and they actually know what to push for and what to champion, then there's actually a chance.

Robb: It's true. And again, and I don't know, well, I don't know so many things, but just simply getting to term limits in the United States would be amazing. Some term limits and some ability, which the term limits alone would I think block a lot of the capture that has occurred between academia and politics and also industry and politics. Yeah. But it's good stuff. And I think that-

Nicki: But Hey, then we've got that good old stakeholder capitalism that good old Klaus Schwab is bringing to the world.

Robb: And there you go. I think all of this stuff is important for people to put a few CPU cycles too. I've always been interested in some of this politics stuff and markets and everything, and I've always had a feeling that the chickens were going to come home to roost on this stuff. I just honestly thought I would be planted before it actually started coming to be. And it looks like all this shit's going to really play out over the course of my lifetime fortunately, or unfortunately.

Robb: And again, most people come here or have gravitated here for specifically health related stuff, that's great and I'm very honored for that and I take that seriously, but there's no part of your health that isn't going to be politically controlled and mandated at this point. The decisions that... It'd be a significant impact on your health if we end up in a nuclear war with Russia, even if it's a limited exchange.

Nicki: It's a significant impact on our health if we can't grow enough food to feed our communities.

Robb: Yeah. And these are the topics that are starting to pop up. And I don't think that we're goofy in discussing it when we look at the way that the disaster of COVID has been handled in just a... Yeah, yeah. I'm thinking like 50, but so many things we were told it was a conspiracy theory and then it ended up being absolutely true in like a full court press on the cover up and whatnot. And this is going to be the fight with all of this stuff. Climate change is still going to be this major driver of not wanting to do smart things with food.

Robb: Interestingly, one of the big things that we should be doing right now if we are potentially facing shortages of fertilizers, we should have as many sheep, goats, and cows grazing as we can on grass. This virtually free thing and we're not going to do that and we're not going to do that for a host of reasons. And it may end up having some really catastrophic impacts on everybody. But at a minimum, getting more people to think about and talk about this stuff creates the opportunity to move forward.

Nicki: Absolutely. Okay. We done there?

Robb: Better be or we really are going to be down to six listeners, so, yeah.

Nicki: Okay. All right. Don't scroll too far. All right. The Healthy Rebellion Radio is sponsored by our salty AF electrolyte company LMNT. If you feel run down and need a little pick me up, don't reach for the caffeine, reach for LMNT. Electrolytes, particularly sodium, might be just the thing you need to help you motor through your day. If you feel like you're tired or dragging, give LMNT a try. It's a natural energy booster with no caffeine, no sugar, and they taste pretty darn good. And I also have some amazing news. I was told that grapefruit salt is on the horizon. It's making another appearance this year in the not so distant future. I'm not going to give any dates right now, but I will say that it's not too far out.

Robb: And it absolutely is going to be a limited time offer again. People thought that we were fucking around last time, "Oh, you'll bring it back." And no.

Nicki: It is limited time. We are producing more than we did the first go around because we know that it was a very popular flavor-

Robb: But once it's gone, it's gone.

Nicki: But once it's gone, it's gone. But we will let you all know as we get closer to the release date on that. And I do think that value bundle subscribers will get first dibs or they'll get early access. I was told they will get early access compared to the general public. So those of you that are subscribed on the value bundle, extra perk for you. Anyway, grab your LMNT electrolytes at drinklmnt.com/R-O-B-B.

Robb: Cool.

Nicki: Cool. You ready for questions?

Robb: Let's do it.

Nicki: Our first one is from Joe on fermented beet juice. Robb, I've been a huge fan forever. In my quest to play super dad into my 40s, I have taken to eating a lot of fermented veggies for a ton of reasons, including flavor, taste, texture and convenience. I like to make my own mixes in glass jars. Lately, I have fallen into a beet and green cabbage mix. I was wonder the fermented beet/kraut juice packed the same blood flow benefits through the nitrate mechanism claimed by beet supplements. By the way, it is really a simple and fun process. Get a jar, shred the cabbage and beets with whatever is handy, sprinkle and salt, pound the mix into a jar after it sits about 30 minutes, let time do its thing. I like a three week sit. If you want it krautier, wait longer. As it sits as long as the mix is below the brine, things should turn out pleasant. I also do a kimchi style kraut that is bananas. Looking forward to your response and thanks for all you do.

Robb: Yeah, I really wasn't sure what the story was on this because I remember there was some question around goitrogens, goiter causing substances in cruciferous vegetables like cabbage and stuff like that. And I thought that was minimized with fermentation, but Chris Masterjohn set me straight on that and apparently it's made worse. So goitrogenic foods can be made worse when they're fermented. And this is just like any type of preparation, there's pluses and minuses. When we cook food, generally it makes it more digestible. And fermentation is kind of a method of cooking. More digestible though can also mean that some things are relatively destroyed where other things are

more enhanced. Interestingly, I did find a paper, the effective fermentation process on levels of nitrates and nitrites in selective vegetables, which the funny thing about that is the thing that gives you the benefit in vegetables are nitrates and nitrites, which are the same things in say-

Nicki: They're going to kill you in salami.

Robb: ... salami and all that stuff. And this is where looking at cell culture as a completely informative process is kind of a waste of time occasionally because these are the same constituents that provide benefit in theory from different vegetables, beets being particularly high. The long and short of this is that in things like cabbage, the nitrates and nitrites, which help to produce the nitric oxide and the vasodilation benefits are reduced to about 50 to 70%. In the case of beets, they're reduced about 90%. So they're dramatically reduced. I still think you're going to get some benefits. I think a shorter fermentation is probably going to have a lesser impact, but clearly those nitrates and nitrites are being metabolized in some way because they are not in existence any longer at the end of the, or greatly reduced amounts at the end.

Nicki: Okay. We'll link to that paper in the show notes, Joe, so if you want to check that out. Our next question is from Chad. He wants to know if there's a genetic test for stroke or neurological disease. Quick question, is there a genetic test to indicate a stroke or other neurological disease? White brain matter disease are more likely in certain people. If someone has a family history of strokes, what can you do for wellness, or excuse me, what can you do for wellness to reduce or prevent a stroke?

Robb: So, pretty short question but there's a lot going on there. So on the stroke side, the main thing that I found with regards to genetic testing is that there's a strong relationship between atrial fibrillation and stroke. So we also need to remember that there's different types of strokes. There's thrombotic strokes in which the vessel walls burst and there's damage to the brain from that. And then there's occlusive strokes, a little bit more similar to a classic heart attack where an artery gets blocked. And so there's that stuff. And I'm sure that there's different genetic predisposers, we have a question coming up next about high blood pressure. High blood pressure definitely is one of these stroke batters-

Nicki: One of these markers.

Robb: Yeah. One of these things that you, which is one of the things to modify. I'm trying to think of how to tackle this. There is much better depth or much better understanding of genetic markers related to Parkinson's, Alzheimer's and dementia and there is an outfit fullgenetics.com. I don't know how good this testing is. 23 and Me does some degree of screening and you have to sign this thing basically saying I'm okay with finding out whether or not I have higher genetic likelihood of developing Parkinson's, Alzheimer's, dementia, because clearly that can be kind of a disturbing and upsetting thing to discover, mainly relates to APOE4 genotypes is the big chunk of that.

Robb: Although there's like 37 different things or 37 different genes that have been linked into some degree of susceptibility around neurodegenerative disease. So the things that you can do to improve your odds of keeping your marbles till you croak and whatnot, normal glycemic load, healthy blood pressure, and healthy from an ancestral perspective, not the norm that's walking through the doors of medical clinics, low inflammation, moderate stress, enough stress to keep you engaged, physical activities, circadian biology. All the shit that we all talk about. This is one of the things that I find a little bit both perplexing and funny is the things that are good for gut health are good for brain

health. The things that are good for brain health are good for heart health. It's almost never a trade off in this regard.

Nicki: Right. Because evolutionary speaking, why would there be something that was great for your brain that gave you a heart attack? The whole point is to try to keep you alive.

Robb: One thing that's maybe a push pull in that story is this topic of APOE4 genotype and say like ketogenic diets. And there's a individual in the ancestral health space that is super negative on ketogenic diets and actually has misrepresented ketogenic diets in a variety of ways like had a report about why ketogenic diets were bad. And in the report cited a child who had died as related to a ketogenic diet, but the child had been on a ketogenic diet. And I think I mentioned this in a podcast a while back, but I want to start mentioning it more. The child had been on a ketogenic diet, got off the ketogenic diet, was on a ladder and then fell off the ladder and died. And the child had been on a ketogenic diet for epilepsy. But somehow this individual who has a PhD in the appropriate biomedical background cherry picked this thing and then presented it as if the ketogenic diet was the cause of death.

Robb: And part of what this person and other folks like this, and I'll grant that there's some concern around this, but these folks are really, really concerned about ketogenic diets for APOE4 genotypes because APOE4 genotypes have both an enhanced cardiovascular disease risk, but also a neurodegenerative potentiality there.

Robb: So that's a situation where it's like we could make a pretty good case that a ketogenic diet might be quite beneficial for mitigating neurodegenerative disease potential, but then we might be doing a little bit of a trade off on cardiovascular disease potential. There was a study recently though that really showed that lower carb diets in general, also ketogenic diets fare really well for the APOE4 genotype. Again, I don't think everybody is going to do great on that all the time. I think something like a modified Atkins with a low glycemic load, and then maybe the addition of some MCT oil could be a fantastic way to manage that. But by and large, the things that foster health generally foster health at each one of these like suborgan systems. So that, he had the question about can you screen for stroke versus the neurodegenerative diseases? And also, what can you do about it?

Nicki: Try to make yourself as healthy as possible, just take steps in that direction, regardless of where your starting point is, start doing what you can to lower the inflammation in your body, lower your blood pressure if it's higher than what it should be or what you want it to be, move your body, get sunlight.

Robb: All that stuff. Yep.

Nicki: All that good stuff.

Nicki: Okay. Final question this week is from Scott on salt and high blood pressure. Hey, Robb and Nicki, love the podcast. I'm a longtime Healthy Rebellion/paleo solution listener going back to the early days. My wife and I own Hammock Coast CrossFit, and we are big fans of LMNT and use it frequently, especially in the heat of the summer here on the South Carolina coast. My wife's favorite is the chocolate flavor over frozen berries and chocolate muscle milk for a dessert every night. Sounds yummy. Got an electrolyte question for you though. Dr. Rick Johnson was recently on Peter Attia's The Drive podcast. They discuss how fructose drives metabolic disease. Layered in there, he says salt can be a really bad player in this to drive up blood pressure. I know there is nuance here, but it's beyond my level. We recommend LMNT and electrolytes to our athletes,

some of which may have metabolic disease and therefore hypertension. Should we be more careful about recommending this? Would love your perspective. Thanks and keep up the salty talk.

Robb: Yeah. So we have long made the recommendation that if an individual is already hypertensive, they probably shouldn't supplement generally with something like LMNT. Now that said, if the individual is out exercising in the heat and they're becoming hypovolemic and hyponatremic, they're getting dizzy and super high heart rate because they have low blood volume currently, then you need to address that, which adding in some amount of electrolytes and water is going to be a smart thing.

Robb: So it's funny because you could have an individual who is generally hypertensive and the vast majority of hypertensive issues are related to metabolic syndrome. It is one of the primary characteristics of metabolic syndrome and hyper insulinemia, not everybody with metabolic syndrome and elevated chronically elevated insulin levels have high blood pressure, but a remarkable number of folks with metabolic issues also have high blood pressure.

Robb: It's also worth mentioning that there are folks out there who have, as per their doctors recommendations, eaten a low sodium diet, and they have hypertension from inadequate sodium levels because this is a stress and it increases renin and angiotensin and catecholamine release is elevated. So it's a massive stress. And that stress is trying to goose the body to hang onto more sodium. These people, their hypertension resolves when you give them more sodium. So this is another one of these things where there is quite a lot of nuance on this. The, what's his, Rick Johnson was that-

Nicki: The guest on Peter Attia's, yeah.

Robb: It's really interesting material. And I think it's important in many ways, but it's also, it seems to be almost exclusively lab animal based, and then epidemiology based. There's very little human, direct human data that's attached to it. And in his discussion of the whole topic, he makes the point that folks are consuming these large amounts of sodium amidst the process or amidst consuming highly processed, hyper palatable foods, and which tend to make us overeat and all these types of problems.

Robb: So the best understanding that I have of all this story is, and I just did a talk which we're going to be releasing here pretty soon, sodium, does it deserve a second shake? And we kind of dig into this a bit, is that for the vast majority of people, somewhere around three and a half to five grams per day is a reasonable low end on the sodium intake. And it may be an upper bound too if the individual's not particularly active, fairly sedentary. Athletes need more, possibly double that amount of sodium. And we also need potassium and magnesium. Those are critical factors in making this whole thing work. Low carb folks, fasting folks need more sodium.

Nicki: Well, I'm reading his thing and obviously he owns gym and he is working with people that are there to get in shape and potentially lose weight if they have weight to lose. And a lot of people who do keto or low carb in the beginning, the extra sodium is the one thing that gets them through that keto period. So even though they might not be as metabolically healthy as they should, during that window in particular, many people just drop the ball on keto all together when they feel so crappy. And having that extra sodium is the one thing that allows them to continue on and actually do it long term.

Robb: Yeah. And a little bit of when I unpack in this talk, which we'll put out up in the next week or so, but sodium restricted diets, even like zero sodium diets virtually, they will

drop systolic and diastolic blood pressure three to five points total. It's really pretty unimpressive. In some populations under some circumstance, you get a greater shift. In some populations, some individuals, if they consume a decent amount of sodium, they will get a really significant increase in blood pressure too, the sodium sensitive hyper responders. But again, the bulk of those people, that issue is primarily driven by metabolic disease, by hyperinsulinemia and all the... The interesting thing about what happens mechanistically with elevated blood pressure from hyperinsulinemia is that it's stressful, so adrenaline and cortisol are released.

Robb: It stimulates the sympathetic nervous system so you're in a fight or flight kind of mode. You are retaining sodium at a higher clip. You have an elevated heart rate. Your vascular bed is constricted already because you're in a fight or... It's like eight different mechanisms that drive all this stuff up. Versus, if you're metabolically healthy and you consume excess sodium, you will get a transient blip in blood pressure and then your kidneys just kind of sort it out and it's not a big deal. So I'm sure as we go along, and it's interesting because we seem to be in a renaissance of reevaluating sodium. The Huberman Lab just had a phenomenal piece on sodium and looking at the reality that sodium restricted diets don't really do that much for bringing blood pressure down. And the flip side of this is great studies looking at weight loss plus low carb diet, you get about a 1.6 to a 1.8 point decrease per kilogram of weight lost on a low carb diet.

Robb: I think you could probably add similar with just weight loss in general, but I think it's a little bit more pronounced on a low carb diet. But as somebody who has 20 pounds to lose, that could be a 10 point shift in their blood pressure steps, which could be massive. And this is the stuff that we see people going from like a 140 over 80 to like a 128 over 70 or something like that, which is huge. And is the difference between every single heartbeat causing damage to the kidneys or not? The acceptable normal guidelines for blood pressure are such that many people are experiencing low grade kidney damage, every goddamn beat of their heart.

Robb: And simply putting people on beta blockers and LASIK and stuff like that isn't fixing it. The folks who have blood pressure, and again, I talk about this in this talk, people with hypertension who are managed pharmaceutically don't really live any longer than... They definitely live shorter lives than people who are normotensive. So it's not really fixing the problem all that well. Whereas we do know that addressing metabolic issues does fix that problem. So I think I've kind of spun out here. Rick Johnson's stuff is, again, really interesting. It's honestly kind of frustrating because I think it presents an overly simplified view of this topic and we've kind of played around with the low salt thing. We've danced this dance before. When I was a kid was when the low salt thing started becoming really a big deal.

Nicki: My grandma was on low salt, she couldn't have any salt.

Robb: Yeah. And now looking back, we have all this better data and it's pretty clear that it doesn't do what the label claim suggests. And there are certainly situations, like if an individual is just starting to, hopefully the individual starting to exercise, starting to modify their diet and their hypertensive, right in the beginning, they probably don't need the supplement with sodium and electrolytes. But as they become metabolically healthy, as they diaries and lose both water and sodium, they're going to hit this point where going to feel like garbage, their performance is going to kind of suck and that's where you're going to want to start putting in some sodium, either in the form of food or something like LMNT or like a home brew or something like that. So, Scott, I don't know if I fully answered that. We undoubtedly will be revisiting this in the future

because it's definitely a topic de jour that will need to be poked and prodded from many an angle.

Nicki: Sounds good. That was our third and final question this week. Thank you all for listening. Robb, looks like the sun is poking out slightly.

Robb: It is.

Nicki: We have time to get a little in your eyes before it sets.

Robb: I doubt it. Because I have other shit to do too, but we'll see.

Nicki: Thank you all for listening. Be sure to check out our show sponsor LMNT. You can go to drinklmnt.com/robb. That's drinklmnt.com/R-O-B-B. Hope you all have a fabulous weekend and we'll next week.

Robb: Bye everybody.