

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. 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 changes. Warning, when Robb gets passionate, he's been known to use the occasional expert. If found language is not your thing, that gets your britches in a bunch. Well, there's always Disney+.

Robb: How are you doing?

Nicki: I'm good, how are you doing?

Robb: Good. Welcome back, everybody. So we missed you last week.

Nicki: Yes.

Robb: Got a little wrapped up with life and things?

Nicki: Yeah, I couldn't quite pull it off in time, so apologies for that. We were just chit chatting about what age the children need to be to watch.

Robb: So I Married An Axe Murderer.

Nicki: So I Married An Axe Murderer. And it's been years since I've seen it, but it was a movie that I watched many times in high school. One of my friends Heather and I, we just found it hilarious and would watch it.

Robb: It is one of the rare points of agreement in us thinking that something was hilarious.

Nicki: Yeah, most of the things that I like Robb doesn't like and most of the things that he finds hilarious I don't.

Robb: Look at me like I'm an idiot, even more so than normal.

Nicki: But I don't remember there being any, there's nothing lewd. There's the only curse word I can think of.

Robb: Well, gouged out the bitches ocular cavities.

Nicki: Yeah, this made to the cafeteria. But that's the only like, curse word I remember and I'm sure there's probably more, but I think it could be appropriate.

Robb: Well, we'll see.

Nicki: I don't know. Well maybe we should pose that question in The Healthy Rebellion and see what-

Robb: Maybe that should be accurate.

Nicki: And see what other people say. Let's see here, just some highlights of what's going on in The Healthy Rebellion community. We did have our mindset kickoff call for our week

long mindset workshop with Coach Cinnamon Prime yesterday, and that's going on this whole week. And I just got to say it was amazing. We had a fabulous turnout. And if you're not familiar with Coach Prime, if you haven't worked with her personally or if you're not a member of The Healthy Rebellion community, she has done a couple of videos for us. And so most of our members are familiar with her and her approach.

Nicki: But she's just one of these unique people that I feel like has the ability to kind of bridge the gap and meet people where they are. She is just who she is and she shines. And she showed up yesterday for that call, and it was just amazing. And we had some very brave and courageous rebels on the call that were sharing when she asked for people to share. And we talked a lot about where we come up with our ideas for what it means to be successful and where in our childhood that stems from.

Nicki: People shared a lot of personal things, and she went back and forth with them and dug deeper and probed and it was a really cool experience and I just want to acknowledge her for her awesomeness, and just acknowledge all of the rebels that were on that call yesterday for showing up and participating in that. And I'm really excited to see, she has daily homework for everybody throughout this week, and then a wrap up call next Monday. So I'm just really excited to see what comes from this.

Robb: Well, and it's maybe worth mentioning that nobody who has not reached their health or fitness goals or whatever, it's never for lack of a workout. It is never for need of protein carb fat ratio. It is always some other deeper thing, and this applies to a bunch of other stuff too. Particularly, I have done a lot of work in growing our business and having grown up in a pretty poor by Western white standards, pretty poor upbringing. When the USDA Food delivery deal provided the block of cheese and the thing of powdered milk, it was kind of a big deal.

Robb: So for relative purposes at a pretty austere start and the tactics and techniques for dealing with that situation are not always super adaptive to going forward in life. And so, I've had to do a lot of work to unravel some of the challenges there. And what we find is a lot of people in the diet and lifestyle thing and also a lot of other stuff, there's just baggage, there's stories that we tell ourselves and someone like Cinnamon is able to go in, and really what she does a lot of, is ask questions. It's not like she dictates a whole lot of stuff to people when she asks a lot of questions.

Nicki: And she said over and over, she's like, "I wish if this was like a 10 step to success, but none of that does work." We are all unique individuals with unique pasts and unique circumstances of our lives, and one of the things that our brain wants to do is, project our past into our future. And so you get stuck if you have these loops of stories that you tell yourself. And so she really broke through some of that stuff, and these daily worksheets that we're going to be doing are designed to help us see that and break through because our future does not have to be dictated by what we've done or failed to do in the past. So, anyway.

Robb: It's good stuff, very good stuff.

Nicki: Super good stuff, so I just want to highlight that. Real quick too, our next Rebel Reset starts on Monday, September 20th. We'll do the seven day carb test prior to that the week before and we'll kick everything off on Friday, September 10th. So if you haven't yet participated in one of our Rebel Resets, and you'd like to get in on that, just join The Healthy Rebellion, that's at join. The Healthy Rebellion.com.

Robb: So quick news topic. Did you work today, the title is a substack peace, leaky vaccine super spreaders and variant acceleration. I don't even know that I'm going to say that much about this. It's one of the most interesting and honestly, scary pieces that I've read thus far in our ever changing and never going away COVID experience, and I won't give away too much with it. I would just powerfully encourage people to check this thing out, it will be in the show notes. You can probably find it by searching leaky vaccine, super spreads and variant acceleration. The main point that I would make is that there is a narrative around what we should be doing, and we should be doing these things for very specific reasons. And there are hypotheses afoot that paint this narrative as 180 degrees wrong. And if it-

Nicki: And there have people that have been screaming about this from the rooftops-

Robb: A long time.

Nicki: Since the very beginning, but with our current culture and era of censoring anything that doesn't fit, I hate saying the narrative because I feel like it's overused, but it is, the narrative. There's like one line of thought that is acceptable and very accomplished people like Nobel Peace Prize winners and people that have worked on vaccines their whole life and have worked for the Global Alliance for Vaccines.

Nicki: And so like there are people that have been raising the flag that this could be a potential, potentiality. But they've been relegated to, "Oh, that's never going to happen. Those people are quacks or whatever." And I guess the crazy thing for me is why? Why can't we have this conversation? And I guess some people will push back and say, "Well, we're in the middle of this pandemic, we don't have time for nuanced discussions about things. We've just got to act." But what if the action makes things worse? I don't know. Again, I-

Robb: That really is the thing. I guess, we will talk about this a little bit. There have been some predictions put forward from let's say, our gatekeepers that have not panned out. And they have not panned out time and again, and as things have gone along, and I'm not excited about this. If this pandemic wasn't happening, then we'd be talking about the diabetes pandemic or some other health related thing like that's what we do. We have not turned our platform into the fear porn deal where we're trying to spin people up and turn it into a cottage industry.

Robb: And I really hope that what this piece and similar pieces like this, some of the work that Robert Malone has said recently, I hope they're wrong, because if they're right, we're super screwed. And we're super screwed because the situation is being made ever worse. And the only thing that we're being given, is doubled down on the singular solution that we've been provided since the beginning and it will go badly if this stuff is even remotely on point. So I would just encourage people to read this, think about it. This piece that I've linked to, I've read it twice now, and it's a lot. The person writing it, I'm not sure who it is they have their online handle.

Nicki: It's a pseudo name.

Robb: But they're pretty damn smart, so.

Nicki: I guess I just want to piggyback on that and just say, we're living in a very stressful time with regard to this topic, and we have a lot of people in The Healthy Rebellion that have shared that they're at risk of losing a job if they don't choose to get the vaccine, which it's not really a choice, you're given an ultimatum, essentially. And people that are

making the choice to get it, even though they would rather not because they can't afford to lose their job. And so I would just say like, I think we're more divided as a nation than we've ever been. I think everybody feels that, like intimately feels that in their bones, but let's try to show some grace and compassion.

Nicki: We don't know where other people are coming from. I meant to read, I wanted to read this some, let me find it really, really quickly. I shared it in The Healthy Rebellion a week or two ago, but it's the drummer for The Outcast. Hopefully, I can find this quickly. What is his name, Pete? Anyway, and if I can't find it, I'll just give you a high level summary. He has had a history of illness as a child and his doctor highly recommends against him getting vaccinated. And so the band has decided that it's not safe for him to tour with them anymore, and so he's having to step down from the band.

Nicki: And it was just one of the most eloquent, compassionate, articulate, well presented message about how we all need to just understand that not everybody is coming from the same place. It's not for everybody, just a choice of "Oh, just get it," their health situation might be such that they cannot get it. And anyway, I'm not going to be able to find it without having a long pause here. Actually, let's just go ahead and pause it because I really want to read this. I'm going to pause real quick and come back. Okay, I think we're back. I just thank you guys for being patient, I wanted to read this.

Nicki: So this is Pete Parada. And he says, "I've got some unfortunate and difficult news to share. I know many of my close friends and family would have preferred to hear this privately first, and I apologize for the public nature of my disclosure, but I don't know how to have this conversation multiple times. Given my personal medical history and the side effect profile of these jabs, my doctor has advised me not to get a shot at this time. I caught the virus over a year ago, it was mild for me, so I'm confident I'd be able to handle it again. But I'm not so certain I'd survive another post vaccination round of Guillain-Barre syndrome, which dates back to my childhood and has evolved to be progressively worse over my lifetime.

Nicki: Fortunately for me, and my family was hoping to keep me around a bit longer, the risks far outweigh the benefits. Since I'm unable to comply with what is increasingly becoming an industry mandate, it has recently been decided that I am unsafe to be around in the studio and on tour. I mention this because you won't be seeing me at these upcoming shows. I also want to share my story so that anyone else experiencing the agony and isolation of getting left behind right now, knows they are not entirely alone.

Nicki: I have no negative feelings toward my band. They're doing what they believe is best for them while I am doing the same. Wishing the entire Offspring family all the best as they get back at it. I'm heartbroken not to be seeing my road community, and I will miss connecting with the fans more than I can express in words. While my reason for not getting this jab is medical, I want to make sure I'm not carving out a space that is only big enough for me. I need to state unequivocally that I support, informed consent which necessitates choice, unburdened by coercion.

Nicki: I do not find it ethical or wise to allow those with the most power, governments, corporations, organizations, employers, to dictate medical procedures to those with the least power. There are countless folks like me for whom these shots carry a greater risk than the virus. Most of us don't publicly share a private decision we made in careful consideration with our doctors, we know it's not an easy conversation to unfold. If it looks like half the population is having a shockingly different reaction to these jabs than was expected, it's probably because of their life experiences have actually been

shockingly different, and their reasons range from a conscientious risk benefit analysis to the financial inability to take time off of work, lack of health care in the event of potential side effects to an understandable distrust in a system that has never prioritized the health or well being of their communities.

Nicki: I hope we can learn to make room for all the perspectives and fears that are happening currently. Let's avoid the unfortunate tendency to dominate, dehumanize and shout down at each other. The hesitant population is not a monolithic group, all voices deserve to be heard. In the meantime, I'm in the midst of launching a project and releasing some music with my daughter. So please stay tuned for all of that. I deeply appreciate your understanding and support as my family and I find a new way forward. Sending love to everyone who has been impacted by this pandemic and all the ways lives have been lost and altered." So, I don't know. I felt that that was just super powerful for me and I just feel like it bears-

Robb: Some thought.

Nicki: Some thought. Okay, we can move on from that topic now, unless you have anything else to add.

Robb: Nope, nope.

Nicki: Nope?

Robb: Nope.

Nicki: Okay. All right, let's go ahead and read our t-shirt review winner this week. This goes to MV414. "Everything's great, just please make the audio consistent. Hey, guys, all I want you to change is to make both mics be the same volume. Robb's is usually low and Nicki's is high, so I have to adjust my volume every time you guys talk. As much as I like active listening during my drive to school, please add something or other to make the audio levels consistent. Six listeners can't be wrong."

Nicki: MV414, I just wanted to read this because I know that we've had this feedback a few times, and we are actively working on it. I think we had it dialed in for a little bit, but then we switched to standing. And I have a tendency to move my head around while I talk. And so my levels tend to not be as consistent as Robb's and we've tried headphone mics, but those-

Robb: They sucked. Yeah.

Nicki: They're giving me a headache and pinching on my ears, but we are going to be getting some boom mics that we can move and keep with our mouth.

Robb: I will upgrade the setup so that we have two feeds going in and then each feed will be separately modulated and tinkered with.

Nicki: Yeah, right now it just comes out as a single feed, so it's not as easy to regulate. We don't have two tracks that we can regulate right now. So anyway, we just wanted to acknowledge that I know that the audio is not perfect and thank you for bearing with us. And MV414, you get a t-shirt. So send us an email to Hello at Robb Wolf.com with your t-shirt size and your mailing address and we will send you The Healthy Rebellion Radio t-shirt. And The Healthy Rebellion Radio sponsored by our Salty AF Electrolyte company

LMNT, zero sugar hydration for all of your active or non-active, but in a hot environment needs.

Nicki: I just wanted to remind everybody of the LMNT give us all program. If you have someone who's made a big difference in your life, someone who shows up everyday in your community in a big way, you can nominate them to get some LMNT electrolytes. These can be coaches, trainers, firefighters anyone who goes above and beyond and deserves a little salty recognition. So you can nominate your local hero or a team of heroes at [drinklmnt.com/Give A Salt](https://drinklmnt.com/Give-A-Salt), that's drink L-M-N-T/Give A Salt. Okay, you ready?

Robb: That was very perky. Yes I am.

Nicki: I'm doing perky today. Okay, we our first question this week is from Kat, she wants to know if she can ignore this study. "Hi, Robb and Nikki, your podcast is still one of my favorite podcasts. I did post my question on The Healthy Rebellion and had some helpful thoughts from other members, but I wondered if it might be an interesting one to discuss on the podcast context. I eat a reasonably high fat, meat based diet due to Sjogren's syndrome having majorly affected my gut.

Nicki: Before I figured out what I could tolerate, I lost a lot of weight and was actually warned my heart was under strain and beating too slowly, and I could die if I caught the normal flu. Now I have the weight back on and my heart is back to normal. So when I read things like this study, I sort of worry and then I talked myself out of worrying after remembering that mouse models aren't always translatable and so many studies have limitations in other ways. Anyway, here's a discussion of the study, I haven't been able to get access to the full journal article." And she links to a medical group like a UC Davis study on. The study explains why food in high saturated fat may lead to plaque buildup in the arteries.

Robb: Yeah. I mean, honestly, she broke down some of this when we look at mouse models really hard to extrapolate to humans. And then, above and beyond this, I think one of the difficulties in this whole cardiovascular disease, saturated fat story, is that some people seem to get a really dramatic increase in lipoproteins and cholesterol from eating saturated fat in general, some people seem to respond particularly poorly or powerfully to dairy fat. And so I think that this is, for some people doing a little bit of mono unsaturated fat versus the purely saturated fat, or the tendency towards higher saturated fat may be beneficial.

Robb: And that, I don't know if that said in underwhelming response, but I think that this is part of the weirdness that we've seen in this, part of the weirdness we've also talked about and why we recommend the Precision Health Reports, is just the standard lipid panels don't really tell you what's going on, or the very incomplete picture, the LPIR score in the ability to factor in things like age, ethnicity, gender, and whatnot, like those things all end up playing a really important piece in determining overall risk profile. So there's a lot more to the story. Interestingly, I'm at a spot now that a piece like this, I wouldn't totally dismiss it out of hand, but there's a lot of context to it. It doesn't necessarily apply the same way to all people.

Nicki: Okay. Next question is from John. He has some thoughts and feedback on intermittent fasting. And then he says, it's not really a question. John says, "I'm a longtime listener, and just wanted to give some feedback and thoughts on my own experiences. Recently, you mentioned the mistakes many are making with doing intermittent fasting or one meal a day with muscle loss, et cetera. I can say from my own experiences as a 49 year old man that I tried it and it was magical at first, but then I did lose muscle and strength,

and have gone back to a lower carb paleo/ancestral diet and feel much better, strength, muscle tone, energy, libido, et cetera.

Nicki: I think maybe the intermittent fasting thing has become or taken over from the caloric restriction or calorie restriction group with many or all of the usual side effects. Obviously, fasting and intermittent fasting are great tools, especially if someone is overweight or diabetic, but we can look at fasting and religions and see that there are probably reasons its only certain times of the year. I don't know. Just wanted to hear your thoughts and say you as usual, we're right on. A recent Harvard study shows exercise and not fasting is probably the key to health and longevity. Who would have thought that eating real food and moving was healthy?"

Robb: Yeah. And, man, I don't know what to say in response to this other than I was as geeked out and excited about the idea of calorie restriction and intermittent fasting being this perfect innermediary between the overfed and the underfed state, and maybe we could garner some huge benefits out of it. When I wrote my first piece for the performance menu back in 2005. And I think I've mentioned by 2006, I deeply horribly regretted releasing that thing because it went out into a group of people doing CrossFit, who were already type A over the top.

Nicki: More is better.

Robb: More is better.

Nicki: More than more is even better.

Robb: Yeah, and you just saw folks with horrible overreaching, overtraining syndrome. These people were already exercising at a level that is way, way above ancestral norms. And that's not necessarily a bad thing. But you can only stack so many stressors into a person before we start seeing really significant problems. The funny thing, it's cool some of the people in this scene like Peter Attia who have been really geeked out on the fasting calorie restriction topic and longevity. They have definitely, seemingly pumped the brakes on some of their recommendations, and I think some of their thinking in this space.

Robb: What we really see is eating less crap food, which is what is representative of virtually all of the fasting and calorie restriction studies done in animals, is probably a good thing. They're just simply taking them to a spot where they're not over eating, but some of these studies have fed animals close to an ancestral diet. And when they do that, the calorie restriction and fasting shortens the life, it doesn't enhance it. And once you get to a spot where you're eating adequate protein, you find a way of eating that you're not overtly overeating, I just don't know that there's really any upside.

Robb: Maybe once a quarter, you do a three day fasts or something like that. Great, but I just don't know that there's much more to be had, particularly relative to, are you strength training two to four days a week following something like the basis program or power athlete or something that is athletic and dynamic, and it has a lot of change and variability to it. Those things I think we can take to the bank with regards to good health span, getting out in the sun, having engaging community, learning languages, picking up a musical instrument. Those things benefit us now, and then they might also benefit us later.

Robb: But finally, I think there's a little bit of cracks in the dam around this notion that really gnarly calorie restriction or onerous fasting interventions are going to somehow provide

both healthspan and improve lifespan, it just doesn't really seem to be the case. I know those things are popular, they're sexy, you can spin them into all kinds of interesting, different saleable sound bites and whatnot, but I just don't think they're going to deliver in the long haul.

Nicki: Okay. Next up is a question from Patrick on lean mass hyper responders. He says, "I'm a 42 year old personal male trainer in Texas, 5 feet 8, about 170 pounds, and stay at around five to 8% body fat. I've been in pretty much the same shape for about a decade. About three years ago, I learned about Dave Feldman's work after being denied life insurance for having high cholesterol. Initially, I was worried since my total cholesterol had always been around 200, LDL at 130 and HDL at 80 with low triglycerides, but suddenly my total cholesterol had jumped to 380, LDL to 280 and HDL to 98, still with low triglycerides around 70.

Nicki: The only change to my diet had been to completely cut out all processed sugar and other processed carbs. Up to that point, I had been eating a pretty low carb diet, but would still occasionally indulge in ice cream or something my wife baked, but after reading Nina Teicholz's *Wired to Eat*, Gary Taubes, et cetera, I wanted to see what a year with absolutely no cheating would feel like. About four months into this experiment, I saw my cholesterol had skyrocketed and learned that I was a lean mass hyper responder. This, of course, sent me on a journey down the cholesterol rabbit hole, which as you know, leads to dozens of other tunnels.

Nicki: Anyway, it's really interesting that literally the only change I made was cutting junk out completely, and this was the result. By the way, I've had two NMR tests, both had my particle number above 3,000. My insulin resistance score was 25. They showed that I have about 75% large type A LDL, which are not associated with atherosclerosis. I've checked my insulin, homocysteine, hsCRP, LP little A and other markers all which have remained optimal. I lift, sprint, row and run. I eat lots of beef and lamb, low carb veggies and fruit. Conventional medicine says I'm at much higher risk for heart disease, because I cut out sugar, should we not be paying more attention to LDL size or is it possible and then otherwise, healthy individual high LDL may not matter?"

Robb: Oh, man. We've dug into this a lie, and I think Bill Cromwell would be of the opinion that there is still a risk profile here. Malcolm Kendrick might say that there's not because he's very much in that vascular endothelial damage model, is the way that this stuff gets going. I really don't know. I do have a sense that even just for something as painful seemingly as ticking the box of your life insurance, it sounds like just adding in a little bit more carbs would probably solve this. And if you wanted to add some of the ice cream and stuff back in that, seems totally reasonable or if you wanted to do higher quality food.

Robb: But there is a reality that some people who dip into ketosis, that whole enzymatic system that's involved with cholesterol synthesis and in ketone production, it can have a feedback loop to it so that the elevated ketone levels will feed into a dramatic elevation in cholesterol. There's some thought also that these lean mass hyper responders, at least some of the people, may be effectively a subclinical hypo-thyroid situation. So they need a little bit more insulin, a little bit more thyroid activity to be able to pull those lipoproteins down.

Robb: I don't know what the real story is here. I don't know if we're ever really going to know what the real story is here. This is a situation where you could do something like CIMT or a coronary calcium score. The coronary calcium score is frustrating for Dr. Cromwell in that, it only picks up calcified, atherogenic progression, whereas somebody could be

riddled with soft plaques, and it won't show up on that. And this is where the CIMT, the carotid intima-media thickness is valuable. Also, the problem with that, is it is much more subjective to the person applying.

Robb: And so you really need somebody who's quite good at it, there's a little bit of art involved with that, which the coronary calcium score is much more objective, but it doesn't tell us the whole picture, but you can do some scanning and imaging to just try to get a baseline around all that. But I think also, there's a case to be made for just tinkering diet a little bit in a little bit more monounsaturated fat, maybe a little bit more carbs. And we may see these numbers plummet, which, if the end of the day, is that the most important thing from a cardiovascular disease perspective.

Robb: I'm not totally sure yet, like Bill Cromwell would say an emphatic yes. Malcolm Kendrick might say no or maybe, and I'm just not sure. But just for being able to tick the medical boxes that you don't look like you've got crazy lipoproteins, then I think that there are easily applied things that you could do that, do the follow up work and see what happens when you tinker the diet in that direction.

Nicki: Yeah, sometimes you have to play the game to get the numbers in order in life. Obviously, it's important to have life insurance, so that might be something you want to do. Okay, it's time for The Healthy Rebellion Radio trivia. Our Healthy Rebellion Radio sponsor LMNT, is giving a box of LMNT electrolytes to three lucky winners selected at random who answer the following question correctly. And we have my dad and his wife visiting for the week. Dad is not building or doing any projects this time, so he's actually on vacation and enjoying his time with his grandkids and will probably go up to glacier and actually have a good time instead of having him sweat and work himself to-

Robb: Near exhaustion.

Nicki: Near exhaustion. But anyway, he got up to go to the bathroom at like 3:00 in the morning and my dog has, the best thing about Dutch is, well, there's a lot of good things about Dutch. But the best thing about Dutch is that he has the most expressive tail of any dog I think in existence, so much so that and he likes to show his affection and appreciation, and he loves my dad. So dad got up to go to the bathroom in the middle of night. And when he came out of the bathroom, Dutch saw him and so his tail just started like pumping so hard against whatever he is against, that pretty much the whole house woke up, and then he was like, "Oh, I'm going to go upstairs and sleep with grandpa."

Nicki: So then you hear, he's 105 pounds like lumbering up the steps and the master bedroom, our bedroom is like right next to the stairs. So Robb, your trivia question this morning is, what time did you wake up this morning because I was able to fall back asleep. You got up, and I think you've been up for hours.

Robb: I woke up in the fours, put it that way.

Nicki: The early fours.

Robb: The early fours.

Nicki: Okay, you heard all that commotion at 3:00 though and then you finally-

Robb: And then that was it.

Nicki: And then you finally got out of bed in the fours. So the answer to today's trivia is-

Robb: In the fours.

Nicki: In the fours. To play go to [Robb Wolf.com/Trivia](http://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 cut off to answer this week's trivia and be eligible to win is Thursday, September 2nd, at midnight. Winners will be notified via email and we'll announce the winners on Instagram as well. This is open to residents of the US only. You're ready for your fourth question of the week.

Robb: We got to get this thing through.

Nicki: Okay.

Robb: Yeah.

Nicki: This one's from Rusty. He's wondering about high blood pressure from salt consumption. He says, "My diet, exercise and the like, all need work. But I'm wondering generally, is there a scientific way of determining if high blood pressure is from salt consumption? I know you're on the supplemental end of the electrolytes, and it makes total sense for the folks out there in ketosis and sweating. It's something I intend on doing more of, but is there a way of actually knowing how much salt you're holding on to, so you know, you need to supplement or cut back?" So clearly, he has high blood pressure, and he's wondering if there's any way for him to tell if it's from salt or not?

Robb: Yeah. Oh, God, this is kind of a tough one to answer in a way. Diagnostically, looking at sodium potassium levels, don't really tell you that much. Like transiently, we might see low sodium or low potassium, or vice versa. Or we might see sodium levels that look okay, but dietarily, we've been too low in sodium, and we've been pulling sodium out of the bones, which also demineralizes the calcium because you pull calcium out at the same time. So just diagnostically, it's a little bit difficult to really get our arms around. It's worth mentioning that like the DASH diet interventions and whatnot, have looked at low sodium intake, as it relates to hypertension, and it really doesn't move the number all that much it.

Robb: It'll bring it down a little bit, and there are some people who are sodium sensitive hyper responders, where if they get a decent exposure to sodium, they will see it's transient. It'll normalize over the course of an hour or two, but they get a really remarkable increase in their blood pressure. But I would still maintain that the bulk of this is being driven by metabolic issues. And so, if we have insulin resistance, then we tend to see elevated insulin, elevated aldosterone, aldosterone tends to retain sodium.

Robb: And so I would make the case that some diet and lifestyle change needs to occur first, that that's really going to be the primary driver, you could experiment with just a super low sodium diet. But lots and lots of people do that, and they don't really see the shift in their blood pressure. It is worth mentioning that, even on that exercise side and whatnot, people who are insulin resistant and retaining sodium, they probably don't see the same signs and symptoms of low sodium like somebody does who is metabolically healthy, but not getting enough sodium, like they're probably less likely to cramp, they're probably not getting fatigue and lethargy, lightheadedness from the low sodium because their body is already retaining more salt and fluid as a consequence.

Robb: So, and that's why if somebody has blood pressure problems, I'd say you probably don't need something like LMNT, you probably need to clean up your diet and modify your lifestyle. And then ironically, you may need to add some additional sodium in on the backside of that, but to really concisely answer the question, there's not easy diagnostic stuff you've got to do, you just need to tinker and I guess the two things to tinker, he says "My diet, exercise and lifestyle all need work," that's the place to jump in. That's the place that I would start and maybe buy a blood pressure cuff off of online or local pharmacy or whatever, and monitor that daily or every other day. Joe Russo in the rebellion had some little bit elevated blood pressure and got a home blood pressure cuff and did some tinkering and it looks fantastic now.

Nicki: Mm-hmm (affirmative). Okay, final question is from Karen on electrolytes and long haul flights. She says, "Hello, I'm lucky enough to be traveling soon and have two, 15 hour flights with a four hour break in between. I plan to stay low carb for the duration of the trip by bringing my own food, but I'm wondering how long haul flights might affect my electrolyte requirements. I currently feel best with an average of three element packs per day. Should I just maintain that or might I need more or less?"

Robb: Well, so it's pretty well understood that folks get dehydrated on flights. I think they pressurize the cabin to what would be equivalent to like 9,000 feet elevation or something like that. But it's a dry air environment that definitely pulls the liquid out of people, so there's a tendency to dehydrate and I think that there would be a case to be made for staying on top of that. But the problem that I have, I just hate getting up and down going pee while on a flight. Maybe I should do more of that so that I don't get deep vein thrombosis and all that type of stuff.

Robb: But the trade off that I see here is, what I tend to do if I'm on a flight, and these are long ass flights, but I will tend to start hydrating near the end of the flight in anticipation of getting off and being able to go to the bathroom that has shot me in the foot a time or two when the plane gets stuck on the-

Nicki: Tarmac and you're-

Robb: The tarmac and I'm almost blacking out.

Nicki: Worst thing, and nobody can get up.

Robb: Yeah, because nobody can get up and everything. So that would be the one consideration with that's the dueling banjos that I see like, you probably do want to address your hydration, but then the need to just get up and pee becomes pretty onerous.

Nicki: Do you think just sticking with three is probably fine.

Robb: Three is probably fine, particularly throughout the duration of that.

Nicki: Just stick With that. Let us know though. Let us know how you feel, and congrats. Hopefully you get to go visit some people that you've been missing over the last couple of years.

Robb: Indeed.

Nicki: And have some fun. We all need a little more fun in our lives right now.

Robb: We do, we do.

Nicki: Yes, yes. I think that is a wrap for this week's episode, folks. Be kind to those out there that you know and love, and get outside before winter hits and get as much sun as you can. Get some fresh air, get some exercise. Pick your vitamin D, and we'll be back next week.

Robb: We'll see you next week.

Nicki: Yeah. Later, everyone.

Robb: Bye, everybody.