

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 full aim to help one million people liberate themselves from the sick care systems. 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 Rob 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 Plus.

Robb: Howdy, wife.

Nicki: Howdy, hubs.

Robb: Welcome to Montana.

Nicki: Welcome. Welcome everybody back to the Healthy Rebellion Radio. We are indeed in Montana. We made it.

Robb: It was profound in its profundity.

Nicki: We survived the long journey with the two cats in the dog's crate in the back of the truck and the dog in the cab with me and one of the girls-

Robb: And one kid with me.

Nicki: One kid with you and the caravan with walkie-talkies to have comms since some places don't have great cell phone service, and it's kind of easier to use a walkie-talkie than call every time you want to say, somebody needs to go to the bathroom.

Robb: Yeah. And that happened, not a ton, but a little bit. It was actually fewer, I think, than our predicted 10.

Nicki: Yeah, we had predicted 10 bathrooms stops. How many did we actually get?

Robb: I don't know. See, when we were thinking about that, I was thinking specific to bathroom, but are we counting when we needed gas? It wasn't too bad.

Nicki: It wasn't too bad, no. And thankfully, we had amazing weather, so the roads were great. So far since we've been here, we've been here 10 days now, the weather has been great and our stuff arrived on time unlike our trip-

Robb: Unbroken, not caught on fire.

Nicki: ... To Texas. Yeah. So far we're settling in and really enjoying it. Sagan has recently declared that she's a snowattarian, she just likes to eat snow, she eats all the snow, not the yellow snow, she's schooled up on that.

Robb: So between the dogs and everything else around here, there's not much pristine snow left because it is melting.

Nicki: Let's see, we have some updates from The Healthy Rebellion. We are finally getting back in. We had to take a little hiatus, obviously, with everything going on, but this just

wrapped up the second week with the comprehensive movement course with Sarah Strange, of Basis Health and Performance, and really good stuff happening in there. Sarah and Grayson and the Basis Team never failed to deliver and people are getting some really good results already. I have a couple of comments that I wanted to share, one from Greg, he said, "It's much tougher to accumulate 30 minutes in the green zone this week, lots of mindfulness breathing required. Thanks Sarah Strange for stretching my boundaries of exercise, exploration and then-"

Robb: And do you want to explain what that pertains to?

Nicki: The zone two aerobic work.

Robb: Yes. So doing some circuits, but keeping the circuits in the aerobic zone, which funny enough, this is something I've counseled to CrossFit writ large back around 2003, 2004 and completely was ignored. But the smart coaches, like the Basis people have been doing that for quite some time. And you just can't go anaerobic every day all the time, or you can, but then the wheels fall off and you hate your life, so yeah.

Nicki: Yes. So that's a comment from Greg and then we have one from Taylor and she says, "For the first time ever, I can do a pistol on my right leg. Just last week, I could get down into one, but couldn't quite get out of it. I still don't have enough ankle mobility to do it on my left leg, but I guess I'll keep working at it and see what happens." So that's another pretty cool win. And there's still two more weeks of that program happening live in The Rebellion.

Nicki: We have our book clubs starting on the 29th, and this one has a little bit more of a resiliency theme to it. We're reading *The Unthinkable: Who Survives When Disaster Strikes - and Why*, by Amanda Ripley and Rachel, who is our rebel who's leading this one. She's already started it, she says, it's great. It's not doom and gloom at all, very actionable, so people are getting geared up for that. So if you're interested in that and not yet a member join by the 29th to dig into that. Let's see, what do you got for us hubs?

Robb: You got to scroll up for me to tell you.

Nicki: Okay, I'm driving the scroller today.

Robb: Yeah. So it's a paper that was just thrown my way of fructose and sucrose, but not glucose sweetened beverages promote hepatic de novo lipogenesis, a randomized controlled trial, and this was pretty cool. 94 participants divided into a couple of different groups, one group getting fructose-sweetened beverages, another group sucrose-sweetened beverages, which folks probably know is 50% fructose and glucose. And then glucose-sweetened beverages. They tried to control total caloric load for being basically isocaloric. So hopefully, not overeating because if you overeat, you gain fat. But the takeaway from this regular consumption of both fructose and sucrose sweetened beverages in moderate doses associated with stable cholic intakes increased hepatic fatty acids since this is even in a basal state, whereas this effect was not observed after consumption of glucose. These findings support the hypothesis of an adaptive response in the liver to regular fructose exposure.

Robb: So this has been one of these just ongoing things. Dr. Lustig has been decrying fructose. You get over to the evidence-based crowd and they say it's all calories in calories out, and there does seem to be a little wrinkle of nuance here. And Peter Attia had, and I'm blanking on the guy's name now, but I think one of the researchers actually that was

primary in this paper, made the point that consuming fructose as part of the fruit or sweet potatoes, the rate at which that hits the liver doesn't alter the genetic expression of the liver enzymes in a way that disproportionately enhances de novo lipogenesis and the beginning of a non-alcoholic fatty liver, when you whack it with a liquid form of fructose, then bad things happen and it happens rather quickly and pretty pronounced.

Robb: And again, I think that this is just one of these things that provides a little wrinkle of nuance within this whole story, you have some folks in the kind of low carb camp that will state that eating an apple is no different than drinking sugar sweetened soda, which is kind of ridiculous. Not to say that everybody does well with fruit, but just metabolically, they're not the same thing.

Robb: And when we look at the really paltry amounts of fructose-sweetened beverages that these people were consuming and the immediate negative metabolic shifts that these folks have. Fuck. For the evidence-based crowd, they got to start tuning up their game a little bit. There needs to be a little bit more nuance to this thing. There probably should be some sort of a unified front, even in the standard dietetics scene, which will be horrified by this, but sugar-sweetened beverages, whether fruit juice or soda, are probably a big problem. That shouldn't be a controversial topic, but it still is. And we still continue to battle through all that stuff. But this is another interesting piece of nuance in the whole story.

Nicki: For some reason, while you were talking, it was making me think of when my mom was in the hospital and they would give those little plastic cups with the foil sealed thing of orange juice. That's like always a part of the breakfast. And on airplanes too, you see, they give out little just juice. Juice is good for you, right?

Robb: It's got a long shelf life. I mean, you can freeze it, you can pasteurize it. So in the industrialization of the food system, things like that have been kind of a boon for food manufacturers. And it does ask the question, when we were in Texas, we had the snowpocalypse and something like 60% of the citrus harvest was pretty much lost. A big chunk of that could be recovered by them, pulling the fruit off the trees very quickly and then juicing it. And you freeze it or pasteurize it or whatever. And on the one hand, it's like, that's really an amazing use of resources.

Nicki: Use of what would otherwise go to waste.

Robb: Yes. Then on the flip side of that, we're saving food which is going to make us sick. So I'm not entirely sure how you unpack that or how we move forward on that type of stuff, because there is kind of a reality that food preservation, when we're talking about sustainability and scaling food systems, whether it's a regenerative system or a conventional system, there is kind of a reality that refrigeration and different things like that play a huge role in providing enough food for the planet, and there's just trade-offs with all that, so yeah.

Nicki: Okay. Let's read our t-shirt review winner for this week. It goes to Mattadex. He or she says, "I am a regular listener and have been a follower of Rob since I read The Paleo Solution somewhere in 2011-ish, I can't remember exactly. I roll off and on podcast, but I love coming back and catching up. Then I don't have to wait for Fridays. I love the wide range of subjects they touch and their general outlook on life. It's fun to listen to people that think the way you do, but are so much better at expressing their opinions, viewpoints, and factual knowledge they have, none of that comes easy to me. They collaborate with awesome people, Diana Rogers is one, and the information they put out is legit. Salty talks are awesome too. Even if you don't follow the same dietary

recommendations, lifestyle, political leanings, it is a great listen to, for an opposing point of view, and they are just fun. But I just heard they are leaving Texas, so I take it all back. Just kidding, kind of crying a little."

Robb: Clearly another Texan.

Nicki: Another Texan, Mattadex, Thank you for your review. Send us an email to hello@rebel.com with your t-shirt size and your mailing address and we'll send you a healthy Rebellion Radio t-shirt and I actually wanted to read, we got a note from one of our recent t-shirt winners and I just felt like it was something that we should share. So he says, "I am super excited to hear that I won the t-shirt. I'm normally an extra large, but recently I was able to fit into a large, keeping up with my N equals one study, but I haven't worn a large shirt since I was probably 13 years old. Also, since that review, I've changed my work out a little bit and I've been able to do something I never thought I could do a pull up. Actually, I've done two unassisted. And without jumping to get me up there. You guys are truly amazing. I'm glad to have found The Healthy Rebellion. So for shirt size, I want a large, even if I use it instead of a scale." So that was pretty cool.

Nicki: Let's see here. Healthy Rebellion Radio is sponsored by our Salty AF electrolyte company LMNT. And we have talked, Robb, both in answering questions, and then also just in it's popped up a fair amount in the podcast about breastfeeding moms noticing increased milk supply when they increase their sodium intake. Blake on our LMNT team shared a review from one of our LMNT customers, Ashley, and I just wanted to read it because it's pretty, pretty darn cool.

Nicki: She says, "It helped my breast milk supply. I've been using another brand of an electrolyte replacement powder to help keep me hydrated during my workouts, and because I was told it would help keep my breast milk supply up. It seemed to be doing an okay job, but I wasn't loving the amount of sugar in it. And the sweetness made it hard to sip on throughout the day. I purchased the sample eight-pack from LMNT to see how it compared. I use an entire packet at once if I'm doing a sweaty workout, which it works great as I'm someone who easily sweats out salt, I think you could scrape it off my face or see white droplets on the ground. That doesn't happen when drinking LMNT. But something even more amazing and critical to my life happened, it significantly increased my breast milk supply. I split one packet up between three to four 20 ounce bottles of water and sip on it all throughout the day.

Nicki: My supply nearly tripled every time I pumped it gave me the encouragement that I will make it at least a year providing breast milk for our son, I will be a regular customer and encouraging other mommas as well for this reason alone."

Nicki: That was pretty darn cool. If you haven't tried LMNT, you can still try all of our flavors just for the cost of shipping. You'll get a sample pack that includes a stick pack of all of our current flavors, citrus salt, raspberry salt, orange salt, chocolate salt, mango chili, lemon habanero, and the raw unflavored and just pay shipping for that. It's \$5 if you live in the US and you can grab that at drinklmnt.com/robb that's drink, L-M-N-T.com/R-O-B-B. You ready for questions?

Robb: Let do this.

Nicki: Okay. Also, folks, we are standing during this. Normally, we sit. When we were in Texas, we sat during these episodes and we are trying to get out standing. Outstanding. We're trying it out, standing.

Robb: Dude. I need a new podcast co-host. Nicki's firing on like two cylinders today.

Nicki: Literally, yeah. Sorry. Okay, here we go. Question one from Stephanie, "Hi, Robin and Nicki-"

Robb: Going to read the tagline there or the-

Nicki: Oh, the title is, is it possible to have increased plaque buildup on a paleo diet? A quick, not so quick question. She says, "I was turned onto the paleo solution book around 2011. And since then it's been loaned out more times than I can count. It was a game changer for me. It allowed me to share information with clients and friends without the emotion I tend to get lost in. I'm 43, a personal trainer and nutrition coach. I've seen a functional medicine practitioner for about seven years, getting my regular labs drawn, et cetera. They come back with rave reviews and it has everything to do with my nutrition. However, the newest practitioner I see has a nurse and she is the one who counsels on nutrition to the practitioners patients. I recently reached out to ask if a heart MRI would be proactive given my father had just had a massive heart attack and triple bypass surgery. He's 73. And apparently, the ultimate cause was an abnormal abnormality in the left ventricle.

Nicki: The nurse contacted me today to talk more on this. And I was clear in saying I have no concern that I have built up as my blood work has been consistently well above satisfactory, that it was more to look at the makeup of the heart. She said, "As long as you're following a plant-based diet, you should be fine." WTF, I literally almost choked. I said I was far from that and had no intention of such. She alerted me on her plant-based nutrition certification and that all that meat I was eating, regardless of my blood work, I could still have too much plaque.

Nicki: Y'all. We exchanged some thoughts. And she said, I needed to be careful where I got my info from because of funding. Is she serious? So I'm feeling frustrated and defeated. I refer this person to my clients, and now I've lost trust. I want to be able to solidly share relevant information without getting emotionally heated in these situations. Any insights or thoughts on how to handle this? When she's telling me my eggs are causing plaque, are there any go-to studies I can share? Love you all so much. Thanks for being amazing, funny, and thought provoking."

Robb: It's funny when I wrote The Paleo Solution, I didn't even include like a cardiovascular disease chapter because I was of the opinion, if you eat paleo you can't get cardiovascular disease. I don't think that's true. I think that there's a lot of extenuating circumstances there. I think that as time goes on and one of the hottest topics in The Healthy Rebellion is cardiovascular disease. People looking at their lipidology reports. And I forgot to pull down the link to this, but we will put a link in the show notes to precision health reports, which has an amazing cardio-metabolic panel that really gives you some deep insight, both into your type two diabetes risk, but also your cardiovascular disease risk as kind of a baseline.

Robb: Some folks are really in the camp that LDL cholesterol and LDL lipoproteins are the driver of cardiovascular disease, other people are more nuanced that they are a piece of the puzzle. As time goes on, I put more and more weight on blood pressure and blood glucose levels. But at the end of the day, it's a complex story. There is a reality that vegans do still get cardiovascular disease. So I wouldn't be surprised if modern paleo eating people also develop cardiovascular disease.

Robb: It's worth mentioning that the lowest rates of cardiovascular disease incidents of any documented people on the planet are the Tsimane, which are a hunter-gatherer horticulturalist group in South America, but let's face facts, none of us, I don't live the way that all these folks do. There's so many different factors, it's possible that parasitic infections may actually mitigate some amount of cardiovascular disease risk. So, I mean, it's so complex, and convoluted and whatnot.

Robb: So I think that with some testing and some monitoring, one can get to a spot where you're at least risk mitigating. You're looking under the hood to see what's what's happening. This is a great example here where the heart attack could have been caused by something completely different than an occlusive event. Like you can have electrical disturbances in the heart and different things like that.

Robb: So kind of doing a comprehensive look is smart. I did a link to an outfit called the nutritionnetwork.org and there a group of kind of low carb, paleo-esque Keto practitioners for the most part. I would recommend that you find a different practitioner at the end of the day, and, or tell this, this doctor that apparently you liked the doctor, but not really the nurse. "Hey, I'd like a secondary option for being able to run folks through this." Because just hammering a plant-based nutrition thing, that's not what you wanted.

Robb: I'm thinking like 50 different things here, but the big challenge that occurs, and we used in the clinic in Reno, where we would do the risk assessment on folks, then we would refer them to their primary care physician and their primary care physician didn't know a thing about any of the lipidology, would freak out about the dietary recommendations, and then the patient is kind of caught in this ping pong deal, where they're really they're supposed to be working with their primary, but arguably they're believing in and getting better results from this more ancestral intervention. And usually the best way to deal with that is just changing practitioners.

Robb: So, yes, I do think that one can develop cardiovascular disease on a paleo-ancestral health type diet. There's a lot of different iterations of what that is. There are people that still eat sticks of butter. We know some people in the scene that have LDL cholesterol counts of 500. There's literally nobody in free living societies that have a cholesterol level that high. Does that implicitly mean that it is negative for your cardiovascular disease potential, maybe not, but it's fucking high like that.

Robb: So, yeah, I mean, there's a lot of moving parts to it. I really we wish that the world had developed as per my understanding of cardiovascular disease 15 years ago. And it's like, "Oh, we've got that buttoned up." And it's done, but it just continues, in my opinion, to be more detailed, more nuanced. And you hit these kind of bifurcation points where do you do a statin, do you do when these PCSK9 inhibitors. It is worth mentioning that one thing that continues to perplex me in this whole story is that the claim is that this is a directly gradient-driven process, the higher the LDL particles, the greater the disease potential. But then when people are put on things like PCSK9 inhibitors, which absolutely crush LDL levels, we'll cut them in half, it does not cut disease potential in half.

Robb: So clearly, there's something more to it than that, clearly LDL is a player in it. Some people like Malcolm Kendrick make the case that it's actually playing a role in the repair and recovery process of the damaged endothelium. And if you address the damage, whatever the vector of damages, then the LDL doesn't really matter, or it doesn't really matter so much. I don't know. Again, you have some folks like Peter Attia that I think are very, very smart and much more conservative on this. Definitely more in if your LDL

particle is on the high side, and he does acknowledge that there are other factors like blood glucose and whatnot, but he would be more of the opinion that, yeah, maybe we should do a statin or do something else like that to try to bring it down.

Nicki: But her labs she's saying are totally fine and normal. So to alleviate her fears about the plaquing, can't she do a coronary artery scan or something.

Robb: That would be helpful, a coronary calcium scan would definitely be helpful. And then using that precision health report, like the cardio metabolic panel, I think would be amazing. And her plant-based nurse is still going to give her grief about it because this is more of a religious debate.

Nicki: An ideological position. Okay, our next question is from Hannah, too little or too much salt, she says, "I'm coming here because Google is a soup of misinformation, and I can't seem to get anywhere with it. I'm 42 years old, five foot three, not overweight, I'm plus or minus 133 pounds. And I've been keto, very close to carnivore because I'm not a veggie eater for just about three years. For the last 10 months, I've been intermittent fasting 18-20 hours a day, and I have a carb day once a week with the exception of Thanksgiving through Christmas of 2020. For the majority of that time, I felt great, never have I had issues with keto flu. I'm able to transition back with little issue. Once I began fasting, even better, and I've been a believer in the importance of supplementing with electrolytes. I've been using LMNT for as long as I think it's been on the market. Typically, one packet a day, sometimes two, if it's a particularly strenuous day.

Nicki: So here's my current issue, after the new year, I've been a little slow getting back in the full swing of my keto and intermittent fasting, but for the last three weeks, I'm back. However, now, four to six times a week, I have a headache that often in my sleep and will not seem to go away. Along with Tylenol, I've increased my electrolytes thinking that was for sure the problem, but it doesn't seem to knock it out like expected. So now I'm wondering if perhaps I've been getting too much sodium. In addition to the headaches, several times in the last few weeks, I've had a rapid heart rate and it feels like it's pounding out of my chest, out of nowhere, not exercised induced.

Nicki: As I sit here typing my head is throbbing in my heart is racing. Headache is a bummer, but the heart is an actual concern. I'm tempted to up my sodium further two LMNT packets and 500 milligrams of salt capsules per day. But I'm just not sure. So all this leads to the question, how do you tell if you need to increase your electrolytes and sodium, or to decrease your intake, the symptoms on Google seem to overlap.

Robb: They do overlap. And I actually just did a four-part series for the LMNT blog, looking at hypo-hydration, dehydration, hyponatremia, and the symptoms can be very, very similar, and this is where it can be pretty dangerous, particularly for somebody who's exercising, fatigue, lethargy, rapid heart rate, the loss of kind of getting dizziness from going sitting to standing, these things overlap both with dehydration where we have too little blood volume but we still have adequate electrolyte balance. And that also happens in hyponatremia, where we just have too little sodium, that can happen even when you're chugging tons of water. And the problem here is that if this is kind of misdiagnosed, if your problem is low sodium, but it gets misdiagnosed as dehydration and you were given more water, absent electrolyte, it will make it worse.

Robb: And this is where, not infrequently, people can die from this process. The interesting thing is that in general, the less dangerous of these two courses is to increase sodium intake. The clearance that the kidneys provide for a too large of a sodium bolus is remarkably efficient. It doesn't damage the kidneys, and it helps to bring things back

into a normalization. It is much easier to screw this up on the too low level. A couple of things here, and I saw you raise your eyebrows at the 18-20 hours a day of intermittent fasting. I've got to ask, why? Why that much, What is the goal here? What's the driver?

Nicki: What are you looking to accomplish there, she's not looking to lose weight, so I'm assuming it's more of this perceived benefit of longevity or health.

Robb: Maybe it's just easy, but I will say that people experience this a lot, where they'll feel great until they don't. And when you don't, then we need to do something different. So as a beginning point, I definitely wouldn't push it 20 hours a day, that kind of tells me that there's only one meal getting consumed in this thing. And I start worrying about sarcopenia and all kinds of other stuff with that. If you are keto and you're fasting, the bare absolute minimum is around five grams of sodium per day. And it might need to be double that to really get you into a normal operating realm.

Nicki: I'm just wondering calories, like if you're only eating for four to six hours a day, a lot of the folks in the Rebellion when we do our resets, they worry about how can I get all this food in, especially protein if they're not typically eating that much. So I'm thinking she's probably under protein too, because eating 90 grams of protein in four hours.

Robb: And then what else are you eating? What else can you eat? And she said that she doesn't really eat many veggies. And so, at a minimum, there's a lot here that is concerning, but at a minimum and the kind of-

Nicki: And she doesn't mention really what her exercise regime is. But I'm assuming she's training. She's mentioned that the rapid heart rate is not exercised induced, but I'm assuming she is doing some training.

Robb: She said that she uses sometimes two LMNTs on harder training days and stuff like that. Look, I would do like some kettle and fire bone broth and put some chicken bullion cubes in it or something, it doesn't have to be LMNT, but I just about promise that you need to like double or triple your sodium intake as a baseline.

Nicki: And the other thing too, if you're only eating for four hours, most people often are drinking a lot of water in the other hours too. So back to your hyponatremia point, she might be like the gal that we had a couple of weeks ago who was drinking, what was she drinking?

Robb: Like 200 ounces of water a day.

Nicki: Yeah. So, Hannah, I'm not sure how much water you're drinking during the hours that you're fasting. But that could be part of it as well.

Robb: Yeah. So I would definitely up your sodium. I would not be afraid-

Nicki: Drop your fasting window.

Robb: I would cut your fasting window, not so long.

Nicki: And or not do it daily.

Robb: And I would provide links to these blogs, but they haven't gone up yet. So just keep an eye on the LMNT, drinklmnt.com blog because I'll have this four-part series. And I really unpack kind of how to differentiate one versus the other, dehydration versus

hyponatremia, and then also really dig in, it is so damnedly hard to get somebody to, of their own accord, underconsume fluid, such that they die from dehydration. There's literally not a single documented case in the literature.

Robb: People can get heat exhaustion and different things like that. But what's interesting is the heat exhaustion can be worsened by water without electrolytes, not improved. And what she's describing. Part of what happens when our sodium levels are too low, you get edema in the brain, the brain swells. And that may be part of the headache problem. Literally, there may be brain swelling right now. So, this is where a good thing fasting and ketosis can be taken to a really not good place. The electrolytes are just as important in this story as are the macronutrient ratios. And this is true, even when people aren't on a low-carb diet, but there's a gentler window there because if you have higher insulin levels, then you tend to retain more sodium. And so, it's not as a dire situation to really need to be on top of that constantly.

Nicki: Hannah ping us back and let us know how you're doing. And also just definitely curious how much water you're drinking, like excessive water consumption on top of all this.

Robb: I would make the case that almost no fluids should be consumed in this scenario. If you're going to continue this 18-20 hour fast and whatnot, almost no fluid should be consumed that don't have some amount of sodium in it. Yeah, and again, bullion cubes, table salt-

Nicki: Pickle juice.

Robb: Pickle juice, yeah.

Nicki: Okay, our third question this week is from Klaus on BJJ and CrossFit. Dear Nikki and Rob, as you have a background and experience in both disciplines, I'm wondering as a beginner in both sports, would you recommend pursuing Brazilian Jiu-Jitsu and CrossFit at the same time? Are there any synergistic effects? If so, how would you structure a typical training week? For example, three times a week of BJJ, two times of CrossFit. I'm 36 years old, 155 pounds, five foot seven. My training for the past six months has been calisthenics and running four miles, three times per week. Thanks for the work you do, Klaus.

Robb: Do you any thoughts on this?

Nicki: Well, I'm kind of thinking of how to say this.

Robb: Do you want me to throw your life from your lifeline here?

Nicki: Throw me a lifeline here. Where I was going was that, first of all, CrossFit as we've talked about a lot can either be structured and programmed in a very smart way. It could go along with Brazilian Jiu-Jitsu or it can be a complete mess-

Robb: Appalling disaster.

Nicki: ... that's not going to be serving you in your Brazilian Jiu-Jitsu. The best way to progress in BJJ is to be relatively recovered, and be able to show up the next day to train so that you can continue to learn and make progress and grow. If you're totally sore and you're doing some sort of programming like Fran, then Fight Gone Bad, and just kind of these really, balls to the wall Metcons in your CrossFit, that's not going to really allow you to do what you need to do in BJJ.

Robb: Yeah, potentially it could be just a crushing workload. The CrossFit is going to be totally nonspecific. And because of the randomization of the "programming," and it's really not programming, some gym program this is where Basis does some CrossFit stuff, they put people into competition and whatnot, but there's actually thought and progression applied to it. And if there's not, you may see a deadlift once every six months or something if you're coming in there two times a week. What I would recommend is really focused on Brazilian Jiu-Jitsu because it's learning a language, you want, in my opinion, as much immersion in that as you can get, and then, let me finish real quick and then jump in. I would recommend trying to find something a starting strength gym, find a strength and conditioning facility, there may be CrossFit facilities that offer specific program of the strength and conditioning class-

Nicki: And if that's the type of gym you have, then you're in a great spot. The thing that flags me in your question is as a beginner in both sports, so CrossFit, yes, many consider it a sport. But you're 36, I don't know that you're planning on trying to compete in the CrossFit games, maybe you are, but I wouldn't look at it as a sport. I guess it depends too, of the two, which one are you most drawn to?

Nicki: If it's BJJ then pursuing CrossFit as a sport, I think is probably, not the best direction. You need to pursue, like Rob's saying, a strength program, some kin stretch, some mobilities, and some joint integrity and strength and end-range and ranges so that can help serve you in Jiu-Jitsu. If CrossFit is the primary thing that you're drawn to and BJJ just seems interesting, then that's a different story. I want to make sure that we're still recording. Maybe I should pause it, one-second folks. Okay, I think we are back.

Robb: I think we're back.

Nicki: Sorry, folks, I wanted to make sure that we didn't have some sort of glitch that was going to make us redo the whole episode because that has happened before. And as most things, they will-

Robb: If it's all happened before, it'll happen again.

Nicki: A little Battlestar Galactica reference, but, okay. So Klaus, where did we leave off? I think-

Robb: I would really recommend focusing on Brazilian Jiu-Jitsu.

Nicki: If that's what you're most drawn to. Figure out what you're most drawn to and then orient it around that.

Robb: And then find a strength and conditioning program that is a two day a week deal, press, pull, squat, hinge, mobility. And then even if you developed a greater interest in CrossFit itself, it sounds like you don't have a specific strength background and if you spent a year or two just getting strong squatting, deadlifting, pressing, pulling, then you want to go in and do CrossFit, then you're going to do much better at that. Trying to develop strength within the general context of most CrossFit programming is completely suboptimal. And this is why we developed the On-Ramp program and all the rest of that stuff, because the people who came in our front door who were already strong, did really, really well. And our endurance folks or people who didn't have a strength background, they got a little stronger, but they never got impressively strong until we divided all that stuff up and developed strength with a modicum of conditioning in the background, and then kind of ramped up more into the classic CrossFit stuff.

Nicki: And Klaus, depending on where you live, if you're not finding a kind of a strength-based program, like Rob mentioned, starting strength, but also the Basis folks have online programming-

Robb: That is phenomenal.

Nicki: ... And I cannot recommend it enough. You'll get the CARs, and the kinstretch and all of the joint stuff that is critical as we age. You're 36, especially doing a sport like Brazilian Jiu-Jitsu, I think Sarah has made the comment that doing CARs is like you floss your teeth every day, no matter what, it's flossing for your joints.

Robb: I like it.

Nicki: Do it every day, every damn day. Okay, it's time for The Healthy Rebellion Radio trivia, Healthy Rebellion Radio sponsor drink LMNT is giving a box of LMNT recharge electrolytes to three lucky winners selected at random who answered the following question correctly, Robert, this question. Rob, what state had the largest pothole that nearly destroyed both vehicles on our move and even the moving van guys hit it.

Robb: That would be Texas. They grow everything bigger in Texas.

Nicki: True.

Robb: Do you want to talk about that a little bit?

Nicki: It was like, Holy shit.

Robb: It was so fucking big.

Nicki: And it was dark because we ended up not getting on the road until 5:30 that evening and so we didn't make it from New Braunfels until midnight.

Robb: There's was no bump, slow down. The posted speed limit was 75, maybe 80 and we're zipping along. And I was in front-

Nicki: I think we got air. And I had my walkie talkie and I was like, "Jesus Christ, what the fuck?"

Robb: So after that, we went through this just patch where it's a lot of oil field stuff and the trucks going in and out of there hammer the roads. And so whenever I would then see or hit something notable, I would flash my hazard things after that.

Nicki: Thank God, then he was alerting me to... Because he was the lead vehicle.

Robb: But then, when the moving van guys got here, we mentioned this gnarly pothole and we knew the approximate area and they're like, "We hit that same thing." They actually pulled over and checked it. There were like, "We were sure that everything had just shifted around and blown around in there." So yeah, Texas.

Nicki: But I will say I didn't hit this pothole, but there is a ginormous pothole in the parking lot of the Home Depot here in Kalispell, but it's so big and filled with water it looks like a small pond. And thankfully it's very noticeable and I-

Robb: You don't do-

Nicki: In daylight, you see, it's obvious-

Robb: And you're not doing any miles an hour-

Nicki: You're not doing any miles an hour but like, wow, yes. Okay, so the answer is Texas. To play go to [rubble.com/trivia](https://www.rubble.com/trivia) and enter your answer and we'll randomly select three people with the correct answer to win a box of LMNT Electrolytes and the cutoff to answer this week's trivia and be eligible to win is Thursday, March 25th at midnight. And we'll notify winners via email, we also announced winners on Instagram and this is open to residents of the US only.

Nicki: Okay, our fourth question this week is from Rob and it's to Rob from Rob and it's a question on the seven-day carb test and he says, "Hi, Rob, I have a question that might sound stupid. And maybe there's a really obvious answer. When you do the seven-day carb test, how do you know that when you get a good reading that you are not just failing to digest that carbohydrate and just pooping it out later on. And when you get a poor result, spiked blood sugar, that you are digesting all the carbs in the portion and hence experiencing higher blood sugar levels. My thought is that based on your microbiota or some other factor, you might be really good at breaking down potatoes, but terrible at doing so with rice, leaving it undigested. I always wondered this about the whole macro weighing and measuring approach. If you weigh and measure your macro intake, it's obviously a proxy for absorption, but do you know if there's ever been a study that has measured the macro content of participant's poop as well as their food?"

Robb: It's an interesting question and when you get pretty far out in the weeds, people will start talking about this. Also, people who are sick with significant digestive issues, protein is almost more of a concern here. Fat absorption can be more of a problem in this regard, like if somebody's had their gallbladder removed or they have some inadequate bile production, and in all of these situations, there really is expectation like that's anthropomorphizing things. If things work well, then things are digested and absorbed well at different points in the digestive tract. And generally, most of the protein carbs fat are absorbed early in the small intestine. And then most of what should be left should be fermentable fiber and not a whole lot else. And the fermentable fiber itself can be a problem.

Robb: But usually, if somebody is really having a heck of a time like if they had pancreatitis or something and they're just not releasing the digestive enzymes to break this stuff down, they can have horrible gas, bloating, diarrhea because a bunch of still fermentable digestible stuff is making it into the later stages of the digestive tract and those bacteria figure out a way to break it down. I don't know if I'm really doing a fantastic job of answering this. This is one of the pieces in the story, and to some degree, I wouldn't say that it doesn't matter, but this is where a little bit of blood glucose testing via seven-day carb test or something that, paying attention through some objective elements like, "Do you have gas and bloating after consuming it, maybe your blood glucose response is good, but you get horrifically bloated and gassy and some diarrhea then that is telling us there's still a problem with the food."

Robb: And then there are usually some things that we can do to try to improve the situation. But, yeah, I mean, there have been studies that look at the food is precisely weighed and measured compositionally before it goes down the pie hole and then the stool is collected and it is analyzed compositionally, but it's important to remember that it's not just our... I mean, even saying our digestive process, the gut bacteria play a massive role in this. So yeah, I don't know again, if that really helps or makes a ton of sense, but I

think just looking at this more big picture level is much more helpful and there is some truth to this whole story.

Nicki: And also like, you said, pay attention to the subjective aspects because when we've seen this, when we do the seven-day carb test, as part of the Rebel resets, people will have a decent reading, but they noticed cognitively, they're foggy-headed or they just don't feel as good. And so, we have them track, not just the blood glucose reading, but also that subjective piece.

Nicki: Okay, our final question this week is from Timo on gout and uric acid levels in the blood. He says, "Trying to keep it short, a good friend of mine just above 30-years-old and very dedicated to intense workouts is now on prescription drugs against gout. Apparently, it's in the gene pool as his dad has gout as well. And he is told to eat as strictly vegetarian as possible and work out less intense, rather slow and steady. Also, no beer, which is tough here in Germany. He has monitored his uric acid levels closely as mentioned before. He's very dedicated about health. And this seems to confirm the no meat approach. I cannot accept that. I'm an absolute believer in the importance of good meat for health. And I would love to hear your input on the matter. Huge fan of your work. Thank you for all you are doing, cheers from Frankfurt, Timo."

Robb: And Loren Cordain did some good pieces on gout. There's some other pieces that have been done on gout from kind of this Paleo ancestral health perspective, and hyperinsulinemia and alterations in liver metabolism are a big driver here. This is where we're breaking down purines and pyrimidines the backbone of the DNA that makes up significant amount of the food that we eat, that flows into uric acid and can be a problem. We're going to produce some, but if we start getting overwhelmed with that, then the urate can precipitate into the joints, and then we get gout and it's horribly painful and uncomfortable and whatnot.

Robb: Interestingly, things like beer or some of the greatest offenders, because basically each cell an organism or a tissue is going to have some amount of DNA in it unless you have mammalian red blood cells that are denucleated or whatever, then you'd really don't have anything there. But yeast splits as part of the fermentation process and those purines and pyrimidines stay in the mix. And this is why beer is just a bastard of a problem for gout.

Robb: And so this may really just be a story of he probably has some genetic predisposition here. I would be really interested to know what his LPIR score is. If he's trending into insulin resistance, that's a problem. So insulin resistance could be a driver here. He may just have some genetic polymorphisms that really leave him predisposed to this process, like the guy mentioned his dad has gout also. But this may just be a story of just systemic overwhelm, the beer plus this plus that. So it may come down to a deal where he needs to decide, "do I do little or no beer and some meat, up to tolerance." Or do you pull out the meat in lieu of beer? But the-

Nicki: Well, his doctor is saying no meat, less intense exercise, and no beer. So the no beer seems like-

Robb: But he says that it's tough in Germany, so I'm reading into that as maybe compliance, maybe not-

Nicki: Obviously, he wants to drink beer.

Robb: Of course, I would love to drink beer. Out of the whole gluten deal, gluten reactivity, I really miss beer, and I miss French bread every once in a while, and that's really about it. But cookies and crackers, I don't really care. But those are maybe the two primary things that I'd be like, "Yeah, I really legit miss that." So I get it, but somewhere in this story, his system's getting overwhelmed, the doctor is giving him good advice but it's not just the meat and if he modifies the beer intake. And also, it's-

Nicki: And who knows, maybe he's eating a lot of potatoes or other carbs, maybe his carb levels are actually quite high in the grand scheme of things.

Robb: Is he doing shift work, which could impair insulin sensitivity? There's a lot of stuff to unpack potentially on this, but improving insulin signaling and minimizing the negative impact there, what our first question or no, the research article of the day was related to liquid fructose and sucrose negatively impacting liver metabolism. Maybe he's doing some fruit juice too, which wouldn't cause the hackles to raise if the doctor from the purines and pyrimidines perspective, but will negatively alter liver metabolism in a way that's going to then make him worse at dealing with the purines and pyrimidines.

Robb: So for most people, there's a way to thread the needle on this. What they find is I can have this and not necessarily that, or a little bit of this and a little bit of that. But at the end of the day, the doctor is giving him good advice to generally reduce his purine and pyrimidine intake. But the interesting thing in this is that insulin signaling is absolutely a big factor in this. And if you modify the insulin signaling in a more favorable way, improve insulin sensitivity, that can go a long ways towards improving things. So then maybe you get the meat you want and a little bit of beer, but then you have to be careful in some of the other areas.

Nicki: Okey-doke, that wraps up our first episode in Montana. Yes, any parting words, hubs?

Robb: I like the standing deal.

Nicki: You like the standing-

Robb: We need to figure out a way to face each other better, yeah.

Nicki: We need to figure out a way to face each other better because I'm hoping my audio wasn't shitty today. Because I turned to look at you and away from the microphone.

Robb: And the headsets that we got gave us both a headache and I don't think it was low electrolytes.

Nicki: No, it was pinching my ears really severely. But we'll figure this out. This is our first go-through with the setup, but we'll dial it in. But thanks everybody for listening. Be sure to check out our show sponsor LMNT again.

Robb: I thought you were going to say shite, be sure to shite.

Nicki: No, you can do that too, but check out LMNT and grab a sample pack. If you haven't tried it yet, you can get all of our current flavors for just the cost of shipping. You can do that at drinklmnt.com/robb that's drinkl-m-n-t.com/r-o-b-b. and we'll see y'all next week.

Robb: Bye, everybody.

Nicki:

Bye.