

Robb: Do you want to do the intro today?

Nicki: Welcome to the Healthy Rebellion Radio. Thanks for joining the rebellion.

Robb: Very nicely done. I like it. Hello wife.

Nicki: Hello hubs.

Robb: What is new in your amazing world.

Nicki: I'm just still laughing, because we did a little, we always test our audio at the beginning of these things.

Robb: We save a few.

Nicki: We save ...

Robb: Some of them are so bad that it's ...

Nicki: We save. We're just testing, make sure the microphone sounds good, the audio, the video, everything's working so that we don't record a whole episode and have it not take.

Robb: Never done that before.

Nicki: We've had that happen before in the past. We were doing a hubs-wife rap thing like.

Robb: Yeah, and I deleted that one. That one will not see the light of day.

Nicki: We deleted it.

Robb: We have a couple of good ones though that we maybe April fools, B-rolly-type stuff.

Nicki: We might have to, yeah, we might have to drip them out somewhere.

Robb: Yes.

Nicki: But not today. What's our topic for today, babe?

Robb: The news topic pieces.

Speaker 3: Is this the right one?

Nicki: I believe so.

Robb: The DELISH study? Yeah.

Nicki: The DELISH study.

Robb: Yeah, so the DELISH study is super interesting, recently released. We have links to that in the show notes. The Diabetes Education to Lower Insulin Sugars in Hunger, the DELISH study, a really well done study. They weren't trying to be mega ketogenic. The

main advice that they made was to reduce starchy carbohydrate sources. They didn't freak out a ton about fruit. They definitely didn't freak out a ton about veggies. People tended to be right about that 0.3 millimolar level in ketosis which for some in the keto scene, they would say that that's non-efficacious and of no benefit. What they found is that people actually really enjoyed this.

Robb: Folks maintained or increased the amount of fiber that they were eating pre intervention. To the degree that there's some issues around, fiber and gut microbiome, that seemed to be a non issue. They really got in and looked at the lipidology of these folks and looked at the reality that for some people, this ketogenic intervention dramatically improves blood lipid profile by just about anybody's definition. For some people though, it makes it worse. What's interesting is for some folks, it looked like red meat independent of saturated fat may be a problem. Now the interesting thing about this, as we've seen in the clinic at Specialty Health, when people embark on a change like this, sometimes the first six months, their blood lipids are a disaster. This one didn't run a significant period of time like that.

Nicki: It's hard to know if that's really the state of things or if there's something going on in this interim, beginning phase. It might correct itself down the road.

Robb: It might correct itself down the road. We oftentimes saw that. It actually goosed us to go from an initial visit and then three month followup. We punted the three month to six months because people would look better, they would feel better, their libido was better, everything was great, but their blood lipids appeared to have gone in the toilet.

Nicki: At the three month mark.

Robb: At the three month mark. And so by punting it to the six month mark, things tended to normalize when you're offloading a lot of lipid material because you're burning fat, some kind of wacky things can happen with your lipid ology. It is something again, like clearly we are fans of red meat. We're advocating for this ruminant driven ...

Nicki: Regenerative ag.

Robb: ... regenerative ag system and everything. Even then you just can't. Because this is an inconvenient finding, you can't just bury that and try to make it go away, because it just festers and grows and it blocks our ability to understand what's going on.

Robb: The takeaway for me around this is if you are one of these folks that red meat, at say that six month mark, we're still seeing elevated LDL particle count, particularly the small dense variety. We see discordance. It's really important to check this stuff in an inappropriate way where we're seeing a high lipoprotein count relative to cholesterol levels then we might consider doing more fish or chicken or just the leaner cuts of beef may or may not be all that compelling of an issue because it appeared to occur independent of saturated fat, which is interesting. It's one of these things that we'll keep an eye on.

Robb: Again, it's a, another layer of this is, let's say you just really like eating this way. Let's say you eat carnivore, and you do feel best on ruminants, but we have some lipoproteins that we don't necessarily love, like it's just not textbook great stuff. Then we can do a CIMT. We can do a coronary calcium score. We can at least see is their disease process right now? If not, then let's monitor that yearly and see how things go. We do have a lot of other tricks in the toolbox even on the supplement level making sure that you have a

mix of vitamin E and vitamin E-like precursors in the diet so that that can dramatically improve lipid profiles in some folks, Pantethine helps other people. There are things that can be done to mitigate this scenario. But a really well done study. It's worth reading. It's very accessible even for more the lay populous.

Nicki: It just continues to highlight the fact how everybody's different and one size fits all dietary recommendations are failing us. We can't rely on one size fits all recommendations.

Robb: Right, right. A lot of people report that they feel better on keto. They just had better appetite control and everything. This is where it becomes ... You almost need to create a pro-con list for the individual. What are the pros for doing this currently, both objective and subjective? What are the cons? Then we can make some informed decisions around it. I really wish that there was nothing untoward here, and we could just like motor right forward and just have a religious doctrine like the vegans that this is the one damn way that works for everybody. That's just not the way the world works. I'm pretty steadfast.

Robb: Even when something like this, this is overall a very favorable study for keto in general and a very relaxed keto. It's like just cut out the really starchy, dense carbohydrate sources. People tend to spontaneously reduce caloric intake. They get great blood glucose control. That is one thing, the blood glucose levels in these folks dramatically improved. There were improvements across the board. Blood pressure improved, a bunch of other things improve, which again makes the total risk analysis of elevated lipoproteins in a lower blood sugar environment, in an environment with lower average blood pressure, how does that square out? We don't really know yet, but this is why we can fall back on some of the tests for active disease process to at least establish a benchmark and also make some informed decisions around that.

Nicki: Excellent.

Robb: That's what I've got there.

Nicki: Folks, our show sponsor today is Elemental Labs and their electrolyte drink mix LMNT Recharge. LMNT Recharge was intentionally formulated for folks following a low carb or ketogenic diet and for people who train hard and don't want the sugar found in most commercial electrolyte beverages. With 100 milligrams of sodium, 200 milligrams of potassium and 60 milligrams of magnesium per serving, LMNT Recharge has everything you need and nothing you don't.

Nicki: Now Cassandra says, "I was waiting for you to interject some quippy thing."

Robb: I was trying to think of some quippy thing, but I had nothing.

Nicki: Nothing came. You're just killing it. I was giving you a pause.

Robb: No, you're doing a great job.

Nicki: So Cassandra says, "I have tried every sugar-free electrolyte out there. If you are keto or carnivore and trying to avoid any sweetness of any kind, the unflavored LMNT are bomb, especially when added to sparkling mineral water." Robb dear, have you seen that ... A lot of people are trying to add a packet of LMNT to a Topo Chico. It's an LMNT challenge, Topo Chico challenge. Have you seen that?

Robb: Yeah, it reminds me a little bit of high school chemistry where stuff goes geysering out of containers.

Nicki: I think it's like fourth grade volcano making.

Robb: Yeah. Yeah. I tried it. I didn't succeed. I don't have the patience.

Nicki: Maybe Cassandra did.

Robb: I want both the Topo Chico and the LMNT, so what I ended up doing in that scenario is just putting it all in a big Mason jar and letting it fizz.

Nicki: Yeah, you're a Mason jar guy.

Robb: Yeah, yeah.

Nicki: Well, if any of you want to try that, you can #LMNTchallenge and throw that up on Instagram or somewhere and we'll see. We'd like to see your attempt. Danny says, "After sampling my girlfriend's LMNT stash, I knew I had to have it for bigger August outdoor festivities. It was great during the three day Outside Lands music festival, but instrumental during an eight day a hundred mile Trek along the John Muir trail. It has become a staple for my summer endurance activities, races, et cetera, which is super cool." Super cool. Eight days a hundred miles. You can check out ...

Robb: We've driven that far before. It exhausted us.

Nicki: We got there a little faster than eight days though. All right, you guys can check out LMNT Recharge at [drinklmnt.com](http://drinklmnt.com). That's [drinklmnt.com](http://drinklmnt.com). All right, should we jump into our Q&A questions? The best questions on the internet from you, our listeners?

Robb: The smartest people? Yep. Perfect.

Nicki: Our first question today is from Bri on blood donation snacks. Bri says, "I donate platelets most every week. The snack options offered are never keto friendly. What are some snacks I can bring that can help with recovery that won't kick me out of keto?"

Robb: Real simply off the top of my head, salted nuts, jerky. Those things would be great. I wouldn't worry so much about being kicked out of ketosis, but I mean just reasonable snacks to have. Both of those would be great because they have some sodium. It's going to help with the fluid retention. They taste good. They're portable, good shelf life. If you leave them in the car for a couple of days, maybe they're still alive, depending on the heat that you have and all that type of stuff. That seems like a good, good option.

Nicki: It's been awhile since I've donated blood, but it seems like it was always orange juice or some sort of super sugary substance.

Robb: Typically, yeah.

Nicki: Is there a reason for that or that's just ...

Robb: People get low ... It can be stressful. People experience a decrease, a hypovolemic state because they just removed some blood volume, the apheresis, pulling out the platelets.

I assume it, I mean that stuff's still occupied space, so that's going to be a little bit of a deal. Some people get a little stressed and worked up and so they can have some hypoglycemia or just a vagal response where they can pass out or at least feel lightheaded. I feel like something a little salty like jerky or salted nuts would be a robust thing to have after that to perk you back up, yeah.

Nicki: Okay, all right. Our next question is from Steve. He wants to know if it's okay to workout while you're still sore. Steve says, "Dr. Doug McGuff wrote a book about exercising and says to allow yourself to recover before working out again. If not, you stop the recovery process. I just read your post which said three times per week." Maybe he's saying you should work out three times.

Robb: Probably my training update.

Nicki: "I am 71 years old. In the past, did CrossFit twice a week for five years. If someone works out while they are still sore, do they lose some of the recovery benefits? Thanks for all you do for the health community."

Robb: Man, Steve, this is a really good question. It's interesting. We have to remember that there's a lot of different training stimuli available. We have a bodybuilding type, hypertrophy process that we could do, high volume, short rest periods. You could do a purely neurological based strength workout where it's 10 sets of two with a five minute rest between each set. Doing something like that was really where my power lifting took off. It took three hours to do a workout, and you would do things like doing some crunches or calf raises or things in between just to fill some of the time. If you really want to get super, super strong, particularly at a set body weight level, it's mainly a neurological based story. Body composition is great too. The more muscle you have at a given weight the better, but that's a totally different stimulus than a bodybuilding type stimulus. Both of those are totally different than in interval training thing on an air bike or steady state cardio.

Robb: Just saying training, it's a little bit hard to unpack. If you look at classic training routines, you might do a strength workout one day, a cardio workout that next, a neuro based, a weight training activity on the next day. I wouldn't say that that soreness specifically is going to negate the ability to get additional adaptation. All of this should be within the context ... What's tough here, and this is the benefit of ...

Nicki: Of the live call in, because you can ask questions.

Robb: ... the live call in show, because I could ask them questions. What Steve's goal? What does he want to do? Because it's like, "Okay, you're training. For what? Where are you today?" All of those things could provide, if it's just general fitness and what he said, he's 71 so he just wants to avoid the Reaper and you know, look good naked and all that stuff.

Nicki: Maintain muscle mass and be strong.

Robb: Then two or three days a week of a full body strength training program, and then in between those, maybe one day of intervals, one day of a steady state cardio, and then just being totally active and running around as much as you can, that seems totally reasonable in this context with appropriate volume and intensity on the the training days. You can also go old school bodybuilder, split deal where one day is upper body, the next day is lower body. You could do a vertical press, vertical pole on day one. Some

sort of a hinge or a squat on day two. Maybe day three do some conditioning. Then on day four, you do a horizontal press and a horizontal pole. If you hinge the first day, then you squat the second go round.

Robb: Just a lot of different ways to slice and dice that. The variety there is great for just making progress over time and just not doing the same damn thing every single training session. I get bored doing what I'm doing. I'm a two day a week, full body deal, but that's the most streamlined. I do that to allow me to do everything else that I want to do. It's like taking cod liver oil as a little kid or something. It's like I just got to do this. I don't necessarily enjoy it that much. Try to have some good music. I maybe have since jujitsu training videos going in the background, but it's just something I've got to grind through and get done. Man, that was a long answer to a pretty short question. Can you think of anything else on there?

Nicki: Mm-mm (negative).

Robb: I mean the context around what Steve wants to do would be really helpful in determining, well how would we slice and dice this program?

Nicki: Well, and to your point, and Michael Rutherford has a saying, "Stimulate, don't annihilate." If you're stimulating and you're doing training, you're recovery ...

Robb: That's a great point. He mentions that he did CrossFit twice a week for five years.

Nicki: Right, and when I saw that, it's like, it's really hard to know what you're getting, what that means, because CrossFit gyms vary widely in the type of programming that they offer. You could be in a box, you're doing crazy, crazy volume every single day of the week.

Robb: Which could cripple you for the five days.

Nicki: Which could cripple you and your recovery would be shit and you'd be, yeah. Or you could be in one that smartly programs, both mobility work, strength work, metabolic conditioning.

Robb: Surveys you when you come in the door, "Hey, how you feeling today?" "Oh, I feel terrible. I can barely workout."

Nicki: Works within your limitations. Doesn't recommend an exercise that you're physically not able to do properly, lots of things.

Robb: Yeah, so that wasn't, I'm glad you mentioned that because that had popped up too. The two day a week CrossFit is probably just enough to be perpetually sore and not actually make that much progress.

Nicki: It depends. Again, if he was in a really strength, like depending on the gym they're in.

Robb: How they're set up, yep. Yep.

Nicki: Okay, let's move on to our next question from Oisen on the dark art of weight gain. "Hi Robin, Nicki. I'm really enjoying you guys going back to the Q&A format. Have been a fan for over five years. My life and health is so much better thanks to adopting the paleo

way of life." Then he says, "Kisses the cover of the Paleo Solution. My question is about weight gain. Yes, gain. I didn't mean to say loss. I really mean I'm actively trying to gain weight. I'm 29, 6'2" and about 170 pounds, so very tall and slim. I eat lowish carb paleo with a high carb dinner, usually sweet potatoes, potatoes and rice. Yes, devil, non paleo night shades and grains post jujitsu training. I also have a snack of about two handfuls of nuts a day and usually one piece of fruit. I train four times a week and strength train two days a week. I would love to put on about 10 pounds or so of relatively lean muscle mass."

Robb: You and every other guy alive.

Nicki: "I have tried this a number of times over the years but always run out of steam after a few weeks of little progress. Plus now since going lowish carb a year or two ago, I'm worried about deranging my blood sugar and if over eating for a few weeks or months will age me 20 to 30 years and cause my telomeres to spontaneously combust."

Robb: Might have to get this guy off the internet at some point.

Nicki: He's 29 he doesn't want to be 59 yet. "I would love to hear any advice you have on convenient, safer ways of gaining some weight. The main reasons now for gaining muscle mass is BJJ performance and longevity. As you and others frequently say, strength and muscle mass do wonders for aging and I'm trying to optimize that while my youthful home hormone profile is still around. Thanks for everything. PS, I know the answer is to eat more and be patient, but please God, don't say that and give me some tips that require less effort. LOL."

Robb: Sounds like he's looking for a bio hack.

Nicki: He might be. We know Robb's thoughts on bio hacks. Robb, is there a hack?

Robb: There is bio hacking. It's taking a machete to a cow pie. Beyond that there's just things that work and things that don't. John Welbourne and I have talked about this a lot. People will probably want to murder us, but it is easier to lose weight than to gain weight in a healthy body composition format. Particularly if you're these tall, lanky, lean gainer type people. I'm a little bit on that fast metabolism side. My body, just the set point is 165, maybe 175 if I'm really lifting weights consistently, food consistent. This isn't jamming a ton of food down my my pie hole. The only time I got, I competed in power lifting at 181, which was about 10 pounds heavier than what I usually run around.

Robb: For a very brief period of time I got up to 198 and then like I literally just, it was like falling off a cliff. I was back down to 181 within like two or three weeks after that. It was crazy. I put so much work, so much effort into that because for my height, if I could've got to like the 198 weight and stabilized, had good body composition, I could have probably made a pretty good goal of a power lifting career. Just your strength curve improves with the cross-sectional diameter of the muscles and all that stuff.

Robb: I was miserable night and day. I had to eat at every two, two and a half hours. I wasn't even hungry. I would have gag reflex from it. There's just a reality that I think in scenarios like this, the best option is to just a really well ... What on earth was that?

Nicki: I don't know. I'm closing it out, sorry.

Robb: Having a really well constructed strength training program so that you are increasing the total load that you're able to move, squat, deadlift, press, bench press, row, chin, all that stuff and try to progress that over time and then just eat and fuel yourself really well. Also if he's ...

Nicki: It sounds like his main goals are BJJ performance and longevity and health. Muscle, I mean, that doesn't mean you have to put on a lot of muscle, right?

Robb: Not a lot of muscle mass.

Nicki: It just means that you need to be ...

Robb: You just need some, yeah. If you are strength training, if you're doing something like gymnastics bodies plus some squatting and dead lifting, you're going to be pretty good on that. The funny thing about this stuff is the literature suggests that the strongest people tend to live the longest, but this doesn't mean that world's strongest man competitors live longer than anybody else. There's a very steep declining return on this. It's just that people who are physically active and not heading down this metabolically broken track of sarcopenia, muscle mass loss, bone mass loss, that's the thing that we're trying to avoid. It doesn't necessarily mean that you need to be an amateur body builder to have effect of aging.

Nicki: If he just continues to strength train, continues to try to put weight on the bar and progress over time ...

Robb: Yeah, and then just eat well. The one thing I was going to say like it sounds like eats low carb paleo. I would, if these limiting the amount of calories he's eating, and it isn't a low carb way of eating an amazing way of limiting caloric intake, because you're just not as hungry. If he has good blood glucose control, then maybe he adds more carbs than just one meal a day. That might allow him to eat a little bit more food overall. When he gets old and beaten down and broken like I am, then he can dial that stuff back, follow the Michael Rose suggestions of as you get a little bit older, shifting more paleo, more specifically. I will say this too. It's interesting, even though I'm almost 50, I'm going to be 48 here in, in a couple of weeks.

Nicki: Couple weeks? Couple months.

Robb: Couple months. It's interesting, I don't get huge by any means, but in this could be because I've trained for years, but I feel like if I'm just consistent, I'll put some muscle mass back on. Even at this ripe old age, if I'm just consistent and I log the time, the sleep is good, I'll pop up five, eight pounds of muscle as long as I'm consistent. I think there's an interesting opportunity. He mentioned, the youthful hormones, but there's another side to this. Your metabolism not being so hot and fast, you can get a little bit more mileage out of what you are eating when you're older. I don't know that it's don't wait to get old so that you can eat less to possibly gain muscle. I noticed that. I definitely don't feel like I need to eat as much as I did in the past to be able to make some type of headway. This is also in the context of having trained for 30 years. I've been in heavier body weights before, so this is a place that my body has been to before. There's a lot of different moving parts there.

Robb: Yeah, I would just stay consistent and try to ... One thing like Greg Glassman had this saying ages ago. It was, "If you could clean and jerk your body weight 21 times in a row, do 50 dead hang chins, do a triple body weight dead lift, a two and a half times body



weight back squat, you're going to look pretty good." You've got plenty of go in that context. That's where orienting this stuff on the performance side as the primary focus will allow you to secondarily get to probably better body composition and more muscle, yeah.

Nicki: Okay, let's see. We have a question from Jordan about glycine at night. "Hi Robin. Nikki, longtime listener and current consumer of LMNT. The product is amazing and really helps when I eat low carb and train. Recently after hearing you talk about glycine, I started taking three to five grams at night. Doing so really seems to help with sleep onset time and deep sleep, which I track with an aura ring. I'm wondering if taking glycine in isolation is something I should be careful with. Also, a second somewhat related question. When I attempt keto, I experienced dizziness when standing. Is this due to an electrolyte imbalance or is this a warning sign that I'd be better off avoiding keto. Thanks again for all you and your family do."

Robb: We'll tackle the second question first. More than likely the dizziness, lightheadedness is from inadequate electrolytes, specifically sodium. Five grams a day is the bare minimum. Some people do two, three or four times more.

Nicki: Working up to that though.

Robb: Yeah, working up to that.

Nicki: Don't just jump right there.

Robb: Good point. Disaster pants is never a good time. Then on the glycine, I really can't see any downside to doing most amino acids. People use arginine for trying to boost growth hormone release. It's marginal in its efficacy. Some people feel like they get some benefit from it. In general, I can't really see much of a downside to doing this branch chain amino acids. Luis has really educated me on this. Not really a fan. Branch chain amino acids are important in the context of eating whole protein or I'm taking something like a whey protein isolate for example. It's definitely good stuff. You definitely want the anabolic signaling from the branch chain amino acids. But when people just supplement branch chain amino, it doesn't really seem to do much of anything. The one thing that I have noticed that it will do is those branch chain amino acids will compete with tryptophan going through the blood brain barrier and producing serotonin, melatonin production. Branch chain amino acids later in the day can disturb sleep. That's the only caveat that I can think of here. To Jordan's specific point about glycine, I can't really think of any downside to this supplementation. If he's getting better sleep out of it, which that is one of the reported benefits, then man, full steam ahead. Keep doing it.

Nicki: Okay, let's see. Our last question this week is from David on dental health and keto. "Robb, I'm the type of person that is blessed with naturally healthy and strong teeth. Historically, I went 43 years without a cavity. This year I had one which to me seems totally ironic. I've been low carb keto for the past 18 months and generally don't eat sweets even when I'm off the plan. Generally, in the sense that there were probably a few times throughout the year where I indulged in something sugary and sweet, but that would be much less typical than prior to 18 months ago. Mainly, I'm eating a whole foods based, ketogenic diet of meat and veggies. All of this said, are their concerns for this way of eating around dental health, thinking calcium but not a doctor or a dentist or anyone capable of understanding root cause analysis in this area, pun intended, root cause. Anyway, I love the show. Keep up the good work. David."

Robb: You would like that one. A good friend of ours, Matthew Stanbridge, is a the keto dentist. Generally what we find with folks is better dental health with with a reduction in carbohydrate intake, particularly refined carbohydrates. Maybe one of the limitations of paleo is that we're not getting enough vitamin K2, because usually dairy products are a source there. You have to do some liver or maybe some other things to be able to get that topped off. In general though, if you're eating a pretty mixed diet and the vitamin D, vitamin K2 is adequate, your body will figure out how to retain whatever calcium that you're getting in the system. You don't necessarily need to do heroic efforts there. I don't know.

Robb: Somebody though a long, long time ago, and I can't remember if we answered this on a a podcast or it was one of those things where it looks good, but the amount of research bogging me down. They mentioned that they noticed that although they generally feel better that they were getting a little bit more tartar build up from low carb that they had noticed it, particularly on the inside of the teeth. I do think some people when they go low carb, their fluid volume is less and they may salivate less. When we salivate there are enzymes protect our teeth that are anti-microbial. If you get geeked out on the [inaudible 00:29:47] stuff, like if you have super high K2 levels then you may be pull calcium out of your saliva and it gets re associated into the teeth, and they repair. I'm not too sure about that, but there's some claims around that stuff.

Robb: If folks are too low in sodium, that can be a stress, which can reduce saliva production. Then it's low blood volume, and so that's going to negatively affect saliva production. You're just going to be dry mouth. Funny enough, I think that the electrolytes are, to the degree that this could low carb or keto could be a problem for dental health, I would go out on a limb and say that it would be more due to electrolytes as probably a primary issue. If you don't produce enough saliva, your mouth is still wet, but you don't have the same anting microbial activity going on. Then even though you overall are eating fewer things, that could be the backbone for creating dental caries, there's still enough there that it could happen because the saliva is decreased. Maybe we'll reach out to Dr. Stanbridge and see if we can get some, some follow up on that. Maybe we'll rope him into being a call in or something, and we can some dental health related stuff.

Nicki: That would be great. Awesome, I think that was our last question. Do you have anything else you want to ...

Robb: I've got nothing.

Nicki: You got nothing.

Robb: Nothing.

Nicki: All right. Well that's a wrap folks. Thank you for listening to another episode of The Healthy Rebellion radio. Remember to check out our show sponsor LMNT recharge at [drinklmnt.com](http://drinklmnt.com). Please subscribe and leave us a review on iTunes or wherever you listen to your podcasts. Let's see what else. You want to jump in to The Healthy Rebellion community, go to [join.thehealthyrebellion.com](http://join.thehealthyrebellion.com).

Robb: Hope to see y'all there. Take care.

Nicki: Bye.