

**Nicki:** I have a hair on me.

**Robb:** Folks, we are back with another episode of the Healthy Rebellion Radio.

**Nicki:** Welcome back.

**Robb:** Welcome back. Wife, what's new with you?

**Nicki:** I don't know. I'm just laughing because in our audio test you just called me Nicki mega torso.

**Robb:** Nicki's a good two inches shorter than I am standing, and a good three inches taller than I am seated. So her legs are like this long and-

**Nicki:** But I am taller. But if you look at this video, my head is-

**Robb:** You're indeed taller sitting side by side.

**Nicki:** My head is taller, yep.

**Robb:** Yep.

**Nicki:** What else is new hubs?

**Robb:** Not too much, man. The Healthy Rebellion keeps motoring along. Just new people every day and super fun stuff, generating content, like I actually enjoy my work again. So it's good.

**Nicki:** This is good.

**Robb:** Yeah.

**Nicki:** This is good. What do you got for us on the news topic front?

**Robb:** What do I have today? Christopher Kelly of Nourish Balance Thrive, we were having a discussion in the Healthy Rebellion around lipoproteins, cholesterol levels, cardiovascular disease risks. Often it's a really complex topic. Before I wrote the paleo solution, I thought I had this shit figured out and now it's just like more and more and more confusing and whatnot. And so one of the contributors, I believe, the Chief Science Officer over at Nourish Balance Thrive, Dr. Tommy Wood, they did a review paper, a letter to the editor. The title is the cardiovascular risk reduction benefits of a low carbohydrate diet outweigh the potential increase in LDL cholesterol. And what they're doing is they're looking at a paper that actually kind of painted low carb diets in an unfavorable light. Basically they said there's all these benefits, reduced triglycerides, better glycemic control, reduced inflammation, but there tends to be an elevation in LDL cholesterol.

**Robb:** And by extension from that, I would say generally an increase in lipoprotein, and I talked to Chris a little bit about this. And what was interesting is you had the same data that was processed by the folks that ran the study and they basically made the case that it's a negative low carb diets with regards to cardiovascular disease. And this is a really nice review paper looking at actually high carb, low fat diets in the relative atherogenic profile of that scenario, and it paints low carb diets in a pretty favorable light. Now for the people that are getting labeled as the lean mass hyper responders where their cholesterol goes super, super high... Oh hi Dutch. Dutch has come over to say hello. Hello handsome.

**Nicki:** We have a dog visitor.

**Robb:** I don't know what the total trade off is there. I don't know that anybody knows. There are some claims of coronary calcium scores improving in these people, going from bad and pre-keto and really high numbers to high numbers. But their coronary calcium scan's improved. CIMT improves. Those aren't the whole picture, so they're just not like a guaranteed win in this really. I would say that if everything improves, and by everything I mean systemic markers of inflammation, lower insulin levels, better glycemic control. Not gnarly blood sugar excursions, because if you want to precipitate a heart attack, going from a hyperglycemic to a hypoglycemic event is a great way to do it. The literature is crystal clear on that.

**Robb:** So you've got a bunch of wins, and then beyond that if you start putting on some of the perspective of like Malcolm Kendrick where he makes the case that it's not just a gradient driven process for cardiovascular disease, that there's multiple routes of injuring the vascular endothelium and that that is the precipitating kind of thing. And then depending on where your lipoproteins are, that can kind of feed positively or negatively in your disease process. So anyway, a link to this paper, it's very readable, very accessible and it's interesting again, and I'll just take another swipe at the evidence-based people.

**Robb:** The folks who did the original study and wrote up the original paper clearly they had their perspective on what the data meant. And then these other people, when Tommy Woods and a number of other people went in, re-looked at that data and had a different perspective on it and then looked at a bunch of other material also. So were those study authors so beholden to the notion that elevated LDL cholesterol is a cardiovascular negative that they couldn't see through the data in front of them? It could be. And again, it just calls for a little bit of a perspective on this or decreased egotism around the topic.

**Nicki:** Well you make a good point around like a lens and this is where like in a previous podcast we talked about having a state body regulatory. If there's just a singular lens which people are looking at this stuff with, then what are we missing out on? The fact that Tommy Woods went through this and had a different perspective, like we're able to see completely different picture.

**Robb:** And who knows, maybe both camps are wrong. Maybe there's another third layer of nuance on this. But it is just interesting that the same chunk of data can be... Some very different conclusions can be drawn from that. And Tommy and those guys are definitely fans of low carb diets, but they are by no means zealots. They routinely get people off of ketogenic and low carb diets because they're super high motor athletes and they're like, "Dude, you don't need to be this low carb." And for better performance, better hormone levels, you actually are going to benefit from more carbs. So I don't think they're crazy people in that regard. They're very well balanced in this. So that's the news topic to you or it will be in the show notes.

**Nicki:** Linked in the show notes. Yep. Alrighty. Let's jump to our t-shirt. Healthy Rebellion Radio t-shirt winner. The review submitted from Growfully\_J. It says my favorite podcast. When I first got into podcasts, I followed many, many folks within the paleo keto ancestral health sphere. Through the years, that list has been weaned down to just a few, but I continue to come back to Robb and Nicki. I love the paleo solution and absolutely loving the Healthy Rebellion Radio. The mission statement of freeing people from the sick care system and making your health an act of rebellion is a fantastic one. I also find Robb and Nicki's down to earth, relatable style of speaking, realistic approach to modern health, humor and frankness, not to mention that every episode is chockfull of information, keeps me coming back to this podcast. Thank you for the awesome work that you do.

**Robb:** Very cool.

**Nicki:** So Growfully\_J, thank you so much for your review. Send us an email to [hello@robwolf.com](mailto:hello@robwolf.com) with your tee shirt size and your mailing address and we will send you a Healthy Rebellion Radio t-shirt.

**Robb:** Very cool.

**Nicki:** This episode of the healthy rebellion radio is sponsored by Vital Farms. Vital Farms has been making pasture-raised butter for years and believes that great ghee starts with better butter, and that all starts with the cows. Pasture raised cows that are raised to graze on actual pastures like cows should be. And Robb, one of the best things about Vital Farms ghee other than how good it tastes is that it doesn't burn at high heat. And one of our favorite ways to make vegetables and the way that the girls love them the most, especially like broccoli and Brussels sprouts, is you like to saute them in high heat.

**Robb:** And every time I do I say a quote from Raising Arizona where John Goodman says, "Ma'am, you've got an ice-cold on that." And I say it every single time and Nicki looks at me like I'm an idiot every single time and I will continue to do it until I die. But yeah, it's cool there are some fats that are better for a little bit of that high temperature cooking where you get a sear, you get a little bit of mouth feel and having a little bit of crunch, like in paleo-keto land, other than like chicharrones, you don't get a lot of crunch. Where it's like some Brussels sprouts or even broccoli sometimes and get a little bit of a sear on there. And man, when I get that right, the kids will demolish it. When I don't get

it right, then the kids are like "ehhhh". So that mouth feel and the flavor that comes out of that is really nice. And Vital Farms ghee is fantastic for that.

**Nicki:** It's also been great too because it's lactose and casein-free, and we've just been noticing that Zoe's not doing extremely well with most dairy. She can do goat and sheep, but she can also do the Vital Farms ghee because it's lactose and casein-free. So you can look for Vital Farms ghee in a squeeze bottle exclusively at whole foods market in original and Himalayan pink salt, and be sure to visit [vitalfarms.com/ghee](http://vitalfarms.com/ghee). That's [vitalfarms.com/G-H-E-E](http://vitalfarms.com/G-H-E-E) for a chance to win a year supply of vital farms ghee for free.

**Robb:** I'm just doing a dog pat-

**Nicki:** Are you scratching Dutch's butt?

**Robb:** Yeah. Just a quick dog pat. Freak.

**Nicki:** Okay. Let's jump to our first question today from Don. He has a question on hydration and element. Element raw versus element with sugar. Hi Robb. I love element and I follow a low carb high fat diet and I'm focused on zone two endurance training for long days in the Alps, like summiting Mount Blunck recently which was a nine hour day. Can you clarify the difference of hydrating with element raw versus element with added sugar? He would be adding a carb powder to it. It seems all the hydration powders come out with about 16 grams of sugar, even Pedialyte. Does adding sugar make one more hydrated as they claim? Thanks. Don in New York city.

**Robb:** Really good question. And there is a reality and it's funny again like the perspective, so this is kind of couched as physiologically that glucose facilitates sodium uptake, but the way that the things are named, it's actually sodium facilitating glucose uptake. And what isn't discussed by these folks is that butyrate, beta-hydroxybutyrate, various amino acids, even some other... Well I guess I mentioned butyrate and propionate and stuff like that. There are lots of other constituents of the gut that facilitate sodium absorption and they are both co transported. Nobody mentions that because everybody wants to sell sugar and it's an easy filler, it makes things taste relatively good. The reason why we didn't add sugar to element is because we want you to be able to pick how you do that, the dosing, the timing, et cetera. And even in this scenario, like when I do jujitsu, I virtually always benefit from some more electrolyte.

**Robb:** But if I'm looking at a group of people I'm going to roll with, we did class and I look out at the class and it's a bunch of beat-up old has-beens like me, I don't even take any additional carbohydrate because I don't need it. If it's a bunch of 22 year old cops whose necks are as big around as my waist, then I may take like 20 grams of carbohydrate. And usually what I ended up doing, I have like a shaker bottle with the element in it, and then I'll do something like the diabetic glucose tabs or smarties because I even want more specificity in the way that I dose this stuff than what a pre mix is going to do. So it's bullshit that these folks are going to pick the one glucose level that's going to work for everybody under all circumstances.

**Robb:** And so instead of trying to like do this middle ground or something like that, we decided because glucose and glucose tabs and all that stuff are like dirt cheap, if you need that, you figure it out, you dose it on your schedule. And this was something that Tyler and Luis over at KetoGains, like this is interesting because they do so much hands-on coaching, they learned a bunch of these tricks and techniques. So separating the liquid electrolyte from the carbohydrate source makes sense under a lot of different circumstances. Under some circumstances it doesn't. And so it really isn't going to make a whit of difference with regards to your ultimate hydration status, whether you have glucose in there or not. It is a bit more rapid so long as you add some sort of intestinal contents to facilitate that transport. If you're in a ketogenic state, you're going to have beta-hydroxybutyrate diffusing into the gut lining and that's going to facilitate the coat transport. So not that big of a deal there.

**Robb:** And then again, I like to have people be able to pick what their level of buy-in is on carbs because it can change dramatically. So if we arbitrarily threw 10 grams of carbs into our element whatever, then that's it. That's all you've got to play with. So we separated that out purposefully. It wasn't some kind of oversight. It was actually an opportunity in the market and focusing to be benefiting from the ability of getting that nuance in there.

**Nicki:** Okay. Our next question, question is from Kathleen on eating and training around a busy schedule. Hi Robb. I've been listening to your podcast and I think they're great. Tons of wonderful information. However, I'm having trouble taking the points you've made about fueling before workouts and the keto diet and making them fit into my personal schedule. Due to my toddler son, the only time I'm able to get into the gym is early in the morning at my 5:30 AM CrossFit class. I usually do not eat before my workout and just drink the Jocko Discipline as a pre-workout. You've mentioned that is ideal to eat breakfast first and then work out around mid morning, but that isn't doable in my current schedule. I'm currently eating the keto diet and taking it around 1500 calories a day.

**Nicki:** I'm five foot, eight and 145 pounds around 18% body fat looking to get into around 15%. My current eating schedule is pre-workout at 5:15 AM, breakfast, which in a post workout meal is around 6:45 AM when I get back from the gym, lunch around 12:00 PM and dinner at 6:00. I feel like this is working but I want to make sure it is ideal for me to still gain lean muscle mass. Any recommendations?

**Robb:** If we get super specific about this being ideal for muscle mass gain, then it's not. And due to the time constraints, there's really not going to be a way to optimize muscle masking. Now the thing is though is that you will be able to lean out and you will still be able to gain muscle mass on this. I don't know if it's 2% difference doing the schedule like this versus doing a more optimized of eat a meal, mixed meal or at a minimum adequate protein so that you get an anabolic spike in branch chain amino acids. And then you train, and then post-training you do another meal and either you're done or maybe you do a third meal for the day depending on what you have going on. So we can't really pull that off.

**Robb:** But the thing is that it works for your schedule. You will absolutely make progress on this as long as your electrolytes and protein and all that stuff are buttoned up and you're getting enough sleep, like waking up at 5:30 to train can knacker some people. But all that stuff said, I don't know that it's going to be a 2% difference off the other. This is just some really specific bodybuilder type stuff when people are trying to scrape every last gram of muscle mass that they can get out of their system. And I don't get the sense that that's kind of the driver here. You can make great progress. This fits within your lifestyle, so no dramas with that. This is where like what's optimum can be really situationally specific, because given the timing here, if you tried to jam down a meal and then go to a CrossFit class, you're going to be uncomfortable at best-

**Nicki:** Sick, yeah.

**Robb:** Throwing up at worse. So yeah. Yeah.

**Nicki:** Okay. Our next question is from BJ-

**Robb:** This one's a goody

**Nicki:** On favorite junk food and carnivore nutrients. Robb, your podcasts, books, et cetera have had more impact on me than the other folks in the health space. I follow many of them, but your products have been the easiest for me to understand and implement, so thank you.

**Robb:** Cool.

**Nicki:** If I may indulge, I have two issues to ask you about. First one is relative to you. What is your go-to cheat or junk food that calls your name the most and how well do you fight that off? What food/drink are you most allergic to, and do you still indulge occasionally or never? I'm just curious how much we humans have in common with you. LOL. Do you want to answer that one first before I read on?

**Robb:** I can tackle that- What do you think my...

**Nicki:** You're a salty, crunchy guy. I mean chicharrones aren't a cheat but you frequently go there.

**Robb:** They're definitely not a cheat, yeah.

**Nicki:** Nachos you-

**Robb:** Nachos, I could kill some nachos.

**Nicki:** You like nachos. But we don't really-

**Robb:** We just don't do them that often. And the reason why plays in the second thing, I'm terribly gluten intolerant. Although it seems like it's gotten better after moving to Texas

and my gut is healthier. I don't get the same gut response, but we notice I was getting some gluten exposure. I think we talked about it in a previous episode and I was getting some dermatitis herpetiformis. So I do still get a response. And it's just too easy, if I really wanted the grilled cheese sandwich, then I'll make a gluten free grilled cheese sandwich. The difference is trivial. If I wanted some pizza, I would have some gluten free pizza. The negative effects that I've had in the past, the fact I almost died, it's just not worth it. There's just absolutely nothing worth it for me.

**Robb:** So that dovetails around into one of the things that I do really like. It would be like good nachos, and when we've been to Kauai there's a place there that has like kailua pork nachos.

**Nicki:** Pork, yeah really good.

**Robb:** Oh my God, those are good.

**Nicki:** Really good nachos.

**Robb:** And so the saying no to things isn't that hard because so often the chips are fried in oil where they fry other things and I'm going to get sick from.

**Nicki:** And you don't feel good when you indulge in higher carb kind of a meal.

**Robb:** No. It's a pre-

**Nicki:** Even if the chips were gluten free and you ate a plate of nachos, you would feel pretty crappy.

**Robb:** Yeah, potentially. If I had a big workout that day or we're in the sun and I'm real active, it would improve it, but I just like feeling good. I think that this is one of the things about having been so sick that I thought I was going to die. I really enjoy feeling good now and I don't see it as a deprivation on the food side. Some people have mentioned, they're like, "Man, I wish that gluten tore up my stomach because it would be easier to do avoid it." And there's a certain amount of truth to that. When you go spend 100 bucks on a meal and then you find yourself like shitting your brains out 10 minutes later, you're like, "That wasn't worth it at all. I got it coming and going. I paid a bunch of money and now I feel terrible for a couple of days." I kind of get that, but I guess on the being human side, I just really like feeling good just as a selfish thing. And if I want some ice cream, I have like some Mammoth or some Rebel ice cream.

**Robb:** There's all kinds of sugar-free dark chocolates that I can have, which I absolutely love. And so there just isn't that much that... Like a really good French bread. Every once in a while we'll do like the Udi's gluten-free rolls and stuff like that. I'll have a piece of that because it smells amazing and it tastes good, but I have one piece and I'm done with that. But there are certainly trigger things that if we... Like salty, crunchy nachos would be very difficult for me. Almond Roca is salty, crunchy and sweet. And that one I could

put some hurt to and so I just don't keep it in the house. I wouldn't not eat the whole container in a day. I just wouldn't. So avoidance is the way I deal with that one.

**Nicki:** All right. He says his second issue is about the carnivore lifestyle. Learning carnivore has given me the freedom to quit worrying about what I'm going to eat. It's so simple and takes much of the weight of planning off my shoulders. With the paleo keto plans, the variety of foods is tougher for me to manage. That's not an indictment on paleo and keto, it's just my experience. For some reason the less I worry about what I'm going to eat, the more benefit I seem to be getting regarding controlling hunger cravings, calorie intake, time restricted eating, et cetera. Just for point of reference, I don't buy fad diet products, whether it's keto, paleo, carnivore, et cetera. I focus completely on real food.

**Nicki:** The current functional practitioner I'm working with is not up to speed on carnivore and really believes I'm missing out on important nutrients by not consuming X amount of vegetables on a keto plan. With as many stories as you're hearing about positive results regarding weight loss and auto immune issues, what's your opinion about the missing nutrients? Are they magically showing up in people's systems? What's happening? Do you have an opinion on how these crazy carnivore folks are staying healthy? Thanks so much. Sincerely BJ from Covington, Kentucky.

**Robb:** Yeah, it's a really good... Man, it's interesting stuff. And I will actually mention that I had the opposite experience tinkering with carnivore first as an experiment and then when my gut, well, whatever happened after my window of good gut health and I was ruined, I basically had to eat carnivore and it was so limiting that it made me crazy. I was just like, "Man, I just want like an avocado. I just want an asparagus." And I will say this, since that experience, we went out the other day and we had a seafood salad and both of us kind of got gut aches after it. And I don't know what the deal was with that and I think it was a salad that ruined me before.

**Nicki:** I think the salad ruined you in the beginning.

**Robb:** So I'm just done with salads.

**Nicki:** At least salads from restaurants, for sure.

**Robb:** Yeah, yeah. So that's interesting, but I understand that the limited options can simplify things for some people. For me, it makes me kind of crazy. It makes me actually want things that I wouldn't normally want if I just had a little bit of latitude within keto land and all that type of stuff. From the nutrient deficiencies perspective, I'm not really sure what to make of this. The vitamin C seems to be a big topic. Chris Masterjohn and Paul Saladino had a great podcast which is definitely worth listening to, I think it's a two-part deal. Where they go through and Masterjohn makes his case around, "Here's the things that I think could be problematic to properly address on a carnivore diet."

**Robb:** And they go through and vitamin D is one of them, folate is another one. I think a couple others may be choline, the glycine-methionine ratio, because if you're just eating organ or muscle meat, then you're going to be skewed that direction. And it's interesting

because there are an ever growing number of people that are doing this and they seem to be crushing it. And I don't know if that's the vegan effect where people go from a-

**Nicki:** In the beginning it's good and then it-

**Robb:** ... standard American diet and it's good and then do the wheels totally fall off the wagon? I've had some screenshots forwarded to me from some carnivore communities where there was this young guy, he's like, "Hey guys, I've been carnivore for six months and apparently I have scurvy." And his teeth were falling out. And scurvy occurs from so low of vitamin C that your collagen can't connect properly and you can have an aortic aneurism and your teeth can fall out. It's super bad.

**Robb:** And the only thing you would need to do to fix that is to take like a lime and take half of it and put the juice in some water and drink it, assuming that you even need it. There are people within the carnivores thing that will say you don't need it and it appears that they don't. But maybe their genetic polymorphism's like is it just happening that like some deity is waving a magic wand and currently everybody doing carnivore happens to be the genetic polymorphisms that just fit with it beautifully. And then they're going to wave another magic wand and it's going to be a bunch of people who are horribly well suited for it. It's a train wreck, but there's some things like drinking some tea, even on the vegetable side of things, people have often mentioned that if you cook vegetables in any type of water, you should mainly just drink the water.

**Robb:** So would it be crazy to do that? And I'm curious how... You're basically doing an infusion, you're basically making like broccoli tea effectively. I know that there are people who have autoimmune conditions that are so bad that they can't do that, but for other people, would it make sense to do some of that, to have some green tea, to have some coffee? I still lean towards pressure testing the boundaries. I think you could go both ways. It could be an interesting experiment to see how narrow a focus you could do and how do you look, feel and perform. And then I think it's not like a misplaced thought to say, "Well how much can I open this back up, and how do I look, feel and perform?"

**Robb:** So I don't know if people are suffering or are going to suffer huge amounts of nutrient deficiencies. We have some examples like Charlene Anderson, she's been doing this like 20 years. She's not nutrient defense. She's a one cut carnivores. She eats rib-eyes, she looks amazing. She's like 46 years old. She's super hot. But again, is the reason why she developed auto immune disease consistent also with a genetic profile that is amenable-

**Nicki:** Really suited to carnivore.

**Robb:** ... to a carnivore diet? Nobody knows this stuff, and I don't think enough people are asking questions around that. I think it's a really valuable tool if somebody's sick and having problems, GI problems, autoimmune problems, neurological problems, it's probably a damn good place to look. But I don't know, again, if I would make that the first whistle stop in dietary change. You've got a classic long cordanian-type paleo, and then you have kind of a KetoGains keto, and then maybe we're back into a carnivore

type diet. And you know like Paul Saladino is a big advocate of snout to tail eating, and that probably makes some sense too. Some people don't feel you need to, some people don't like it. Some people actually react negatively to that. So again, there's a massive spectrum.

**Nicki:** Individuality is-

**Robb:** Yeah, remarkable individual stories here. And for each one of those people, that's their personal truth. And again, man, I just been like-

**Nicki:** Here we go. Evidence-based nutrition.

**Robb:** ... taking swings on the evidence-based medicine crowd. But it's like in an era of personalized medicine and personalized nutrition, this data aggregating process ends up being worthless for the end... Maybe not worthless but God damn close to it. We've talked about this before. If we know within the bell curve population, that the average clearance time, the average half-life of caffeine is eight hours. Okay, great. That's fine. Well, some people will clear it in as little as four hours and some people it takes as long as 36 hours. So saying caffeine is okay for you might be right or it might be wrong. There are so many different... Like when we think about just like a toxicant load perspective, like one person dealing with aspergillus toxin.

**Robb:** I will be shocked if there's not a similar massive population distribution based around that. So why would we assume that there's not similar nuances and like interesting cul-de-sacs that exist around nutrition? And for some people, the map they want to take in the road they want to end up on is like carnivore avenue. Great, other people that may not... Carnivore Avenue, one cut carnivore. And then at Carnivore Street, snout to tail, and on and on and on. So this is where I think it's so cool that we get to tinker an experiment and share, but at the same time got to keep our feet on the ground and recognize what we do and don't understand and be honest about that. The shit's cool enough that we don't need to create mythological happenings around it. It's cool enough as is, let's just take it for what it is. I'm good. I'm shutting up.

**Nicki:** You're good? Okay. Just making sure. All right, our fourth question this week is from Bodie on blood glucose levels. I follow a paleo keto diet, eating no sugar. And after eating, blood glucose level never spikes. However, after a hard cardio workout, my blood glucose levels spike to 162, today being the highest I've seen after 36 minutes of cardio getting my heart rate up to 150. I'm female, 58 years old with osteoporosis, and I think I found a clue to bone loss with spikes in blood glucose. Do you think eating some carbs before my workout would work? Maybe a sweet potato. Thank you for any input in your time on this

**Robb:** Bodie your intuition is good. There's great linkage with hyperinsulinemia and bone mineral loss, which hyperinsulinemia isn't a guaranteed consequence of elevated blood glucose levels from eating carbs. This is one of the things that the low carb jihadis haven't really gotten right, but in our modern world of hyper processed foods in which carbs are kind of the substrate that you stick all the other calories onto, then it becomes

a little bit inseparable. But this phenomenon is something that I first was exposed to when folks in the early CrossFit scene who were type one diabetics would report these remarkably high blood glucose levels after training. And for most people under most circumstances, physical activity usually drops blood glucose levels, but very high intensity physical activity can cause a cortisol response and epinephrin response, which is appropriate. It's part of the training stress and stimulus, but it will release a glucose out the liver and you can get some remarkably high blood glucose levels.

**Robb:** Now, the thing is, so long as the individual isn't going crazy on that, I don't know that that's necessarily a terrible thing. So in the context of a non type one diabetic individual seeing blood sugar excursions like that as a consequence of exercise, I don't know that that's the worst thing in the world. Doing some pre-workout carbs might help. Definitely making sure that you're on point with electrolytes should also help because if you have low fluid volume then that is going to be an additional stressor. Your heart rate is going to be higher at any given work output. So there's a lot of good reasons why you would want to be on point with your electrolytes. But you could tinker with adding 15, 20 grams of carbs, pre-training and see if the net effect is a decrease in the-

**Nicki:** Total spike.

**Robb:** ... post-training blood glucose spike. But it's also something that in general I wouldn't be super, super scared of. But it's an interesting phenomenon for the type one diabetic individual. It can be pretty challenging to manage and definitely you want some sort of a-

**Nicki:** She's mentioning she's doing 36 minutes of cardio. You mentioned you've seen this phenomenon in CrossFit, which is high intensity. What about just lifting? Would she not see this if she's just doing some strength training?

**Robb:** That's a good point you raise because-

**Nicki:** Because I'm seeing osteoporosis and so my mind goes, "Let's do some weight bearing exercise."

**Robb:** For sure. For sure. Yeah.

**Nicki:** And I don't know what type of cardio she is doing, but if cardio is the sole source of exercise, I would also look at doing some weight bearing strength training to address the osteoporosis.

**Robb:** That's a great point. She said that she had a heart rate of getting up to the 150s which shouldn't be high enough to produce a stress response like this. And that's part of what got me thinking. I'm glad you mentioned that. It got me thinking about the sodium electrolyte story. If she's not good to go there, then this relatively modest heart rate could be a greater stress than if she is properly electrolyted and hydrated and all that type of stuff. But for sure I would mix in some strength training and then maybe just play with the intensity of the cardio session as well as making sure you're on point with

sodium and then yes, definitely tinkering with pre-workout carbs to see if that kind of flattens out the response that you get out of the liver.

**Nicki:** Okay. All right. We're ready for our last question of the week from Kristen on caloric deficit percentage. She says, I just completed the keto master class and I have been keto since February. Recently had a stall of about a month. This course has been very helpful in getting dialed in and fat loss has already started again. My question is what is the appropriate caloric deficit percentage to use in the keto gains macro calculator? When I do it, it auto-populates at 25% deficit, and when Robb did it on the video, his was auto-populated at 10%. What should I be shooting for?

**Robb:** Yeah, you can tweak that, and I mean it depends. 10% generally will work, but if you do a really good job of weighing yourself, knowing what your-

**Nicki:** Body fat percentage is.

**Robb:** ... body fat percentage is. Being really honest about what your activity level is. For years when I would run these things, I would still say I was highly active and it's like, "No, you're not man." I'd sit on my butt all the time. And so being really honest about that. But still these things are at best a guess, and it could easily be 10% error, which may not be enough of a... If you err one direction by 10% too high, then a 10% calorie deficit, you're actually only at maintenance. And so this is where I think that over time they have tightened the algorithm on that, so that they're kind of assuming that people are not doing as good a job on the front end.

**Robb:** But the flip side of that is if you are particularly hungry and it's kind of unsustainable, then you can always adjust things up. Starting with protein as a first whistle stop is probably the smartest thing to do because high thermic effect, it's the most difficult macro nutrient to store as additional calories. So if you do overshoot with protein, it's comparatively benign. The worst thing that it generally does is feed into better lean body mass. So that's kind of the reason why there are differences there, and I know that they have tweaked that algorithm over time, and it's because it's pretty easy for people to overestimate what their caloric need is.

**Robb:** And people freak out when they see how much food is on the docket with these KetoGains recommendations, but in general, most people are just not that physically active. And if you are, then you adjust appropriately. But yeah.

**Nicki:** Okay. That's a wrap for this week, baby.

**Robb:** Sweet.

**Nicki:** Hubs. Let's see. Please share this episode, leave us a review, subscribe to the podcast. Remember to check out Vital Farms, our sponsor for today's episode. Visit [vitalfarms.com/ghee](https://vitalfarms.com/ghee). That's G-H-E-E for a chance to win a year supply of Vital Farms ghee for free.

**Robb:** A year supply for me may be very different than someone else, cause I could eat a lot of ghee.

**Nicki:** This is true. That's [vitalfarms.com/G-H-E-E](http://vitalfarms.com/G-H-E-E). And what else hubs. Am I missing anything?

**Robb:** I think that's it. Look forward to seeing you all in the rebellion.

**Nicki:** All right, take care guys, we'll see you next week.

**Robb:** Bye.