

**Nicki:** It's time to make your health an act of rebellion. We're tackling personalized nutrition, metabolic flexibility, resilient aging, and answering your diet and lifestyle questions. This is the only show with the bold aim to help one million people liberate themselves from the sick care system. You're listening to the Healthy Rebellion Radio. The contents of this show are for entertainment and educational purposes only. Nothing in this podcast should be considered medical advice. Please consult your licensed and credentialed functional medicine practitioner before embarking on any health, dietary, or fitness change. Warning: when Robb gets passionate, he's been known to use the occasional expletive. If foul language is not your thing, if it gets your britches in a bunch, well, there's always Disney+.

**Robb:** Howdy, wife.

**Nicki:** Hubs, good morning.

**Robb:** Good morning. What's new? What's exciting?

**Nicki:** Oh, goodness. What is new and exciting?

**Robb:** Sipping coffee out of my Texas mug, my little mug of freedom.

**Nicki:** Diminishing freedom.

**Robb:** My little mug of diminishing freedom, maybe. That's very analogous.

**Nicki:** You're drinking it. It's going down.

**Robb:** By the time the coffee cup is empty, all freedoms will pretty much be gone. Yes.

**Nicki:** Yeah. Some interesting headlines of late.

**Robb:** Do you want to dig into any of them or ...

**Nicki:** No. I guess, I don't know.

**Robb:** Or save that for a Salty Talk?

**Nicki:** Maybe better a Salty Talk. Yeah, yeah.

**Robb:** Okay.

**Nicki:** But Zoe lost another tooth.

**Robb:** She did lose another tooth.

**Nicki:** Yes. She is very wily in her tooth fairy detection methods.

**Robb:** She found you out pretty quick on.

**Nicki:** She found me out.

**Robb:** You managed to shake her off your trail for a little bit-

**Nicki:** I did.

**Robb:** ... but she ended up winning that one.

**Nicki:** She does this thing where she'll put it under her pillow and then take it out after I leave. So, then when the tooth fairy does arrive, there's no tooth under there. Then the next night, when I forget about it, she puts it there, and then of course the ... I don't know that that's the night she chose to actually put it under her pillow, because she's trying to ... Yeah.

**Robb:** And this is where being honest with kids instead of lying to them about nonsensical stuff ... No.

**Nicki:** Hey, it's fun. No, but she finally point blank said, "Mom, you're the tooth fairy." And I was like, "Okay. I'm coming clean. But your sister hasn't lost any teeth yet, so keep quiet."

**Robb:** Don't ruin it for her.

**Nicki:** Don't ruin it for her. So, anyway. Parenting struggles. We're kind of derailing the front end of this show, aren't we?

**Robb:** I don't know that we've ever done anything different than that, but you're the one that's in control of the scrolling, and I can only go as far as we've scrolled.

**Nicki:** Okay. Let's see. We did just inside the Healthy Rebellion our next 30-day Rebel Reset and seven-day carb test. So, that will be starting on September 14th. That's free to members.

**Robb:** A couple of updates or changes with that. We're going to do the seven-day carb test on the front end of this, and this is something that should have occurred to me previously, but historically when we've done this, folks have done the reset, that usually entails kind of eating on the lower carb side of things. Then there's this whole kind of weird stepwise process of reintroducing carbs to be able to get an accurate assessment and theory on the seven-day carb test.

**Robb:** But what we're going to do this time is run the seven-day carb test first. And then depending on where you play out with that, that will help inform what type of reset you tackle, whether it's a little higher on the carb, lower on the fat, or vice versa, or some sort of a balanced macro deal. So, all of that stuff is included in your admission price to the Healthy Rebellion. There is an additional thing that's going to be going on, which is a gut reset administered by Dr. Michael Ruscio. That is an additional fee to get the supplements with that. But that's what we've got going on.

**Nicki:** All of that stuff is available inside the Healthy Rebellion. The seven-day carb test is always optional. There are people that choose-

**Robb:** Yeah, already know where they're at.

**Nicki:** Maybe they've done it before or they know that carbs don't sit well with them and they don't have any interest in testing those. So, that's an optional piece.

**Robb:** Right.

**Nicki:** Yep. Okay. Let's see. What have you got for ...

**Robb:** Well, again, you're in control of the scrolling, and you just barely-

**Nicki:** What have you got for your news topic?

**Robb:** ... have anything exposed for me.

**Nicki:** Okay.

**Robb:** So, I may not be able to allow you to have that amount of control-

**Nicki:** Control of the keyboard.

**Robb:** ... over what's going on here. Yeah. So, there was a news piece that I think is germane for what's going on: US obesity epidemic could undermine effectiveness of a COVID-19 vaccine. I'm just going to read a few pieces out of that. Scientists know that vaccines engineered to protect the public from influenza, hepatitis B, tetanus, and rabies, can be less effective in obese adults than in the general population, leaving them more vulnerable to infection and illness. "There is little reason to believe," obesity researchers say, "that COVID-19 vaccines will be any different." "Will we have a COVID vaccine next year tailored to the obese? No way," said Raz Shaikh, an associate professor of nutrition at the University of North Carolina. So, how do we dig into this? Did we talk about the ableist thing before?

**Nicki:** We did, in a previous Salty Talk, or intro.

**Robb:** So, in the introduction to a Salty Talk, we had a nontrivial, non-brief diversion into this, this thing. Diana Rodgers had posted a piece about the Healthy Rebellion, the only way to be-

**Nicki:** It was our Albert Camus quote that we've adapted.

**Robb:** Yeah, yeah. The only way to be truly healthy in an unhealthy world is to be so healthy that your very existence is an act of rebellion. This young gal kind of took us to task, saying that this was being ableist, basically suggesting that the pursuit of just being healthier was a bad thing and was by some extension implying that people are bad or horrible or whatever. We've reached kind of a fever pitch on this stuff in that we're now so afraid of hurting someone's feelings, and nobody's saying that you need to go out and be shaming people or anything, but we're now at a spot where just the ability to articulate value information ... I have no doubt I'm going to actually go back through and see if there's a comment section for this article. I will guarantee you somebody popped up in this article and said, "You're fat-shaming people." And we're at this spot where, if you are on fire, are you being-

**Nicki:** Fire-shamed?

**Robb:** Thermally shamed? And somebody's like, "I don't want to tell Nicki her hair is literally on fire, because it's going to hurt her feelings." We're at this spot where we have so driven the narrative off the train tracks of reality. People are going to get sick and die, disproportionately, unnecessarily. We're in this moment where social distancing is this virtuous thing to do, wearing masks is this virtuous thing to do. Getting metabolically healthy is apparently not a virtuous thing to do. It's not really articulated to us from the government. It certainly is this weird thing where even folks like us that have been suggesting since day one of the awareness that was emerging from this pandemic that better metabolic health leads to better outcomes.

**Robb:** And now this "Obi-Wan, you are our only hope" vaccine story where we're hanging every goddamn everything on a vaccine in a class of viruses that has never successfully had a vaccine, and a timeline that is faster than any vaccine has ever been developed, and this is our sole source of saveitude ... And also know that our population is massively, disproportionately, metabolically unhealthy. 88% of people are metabolically unhealthy, according to recent studies. Only 12% of people are metabolically healthy. So, if you're going to hang all of this hope on this, then we've got to fucking turn the boat around on what's going on with the metabolic health part.

**Robb:** Now, we're going to have links to this article in the show notes. It does not mean that the vaccine would not work in the obese. This is assuming that the vaccine will work at all, which I'm still stunned that anybody is just ... There's a possibility it won't. Just out there in the realm of possibilities, there's a possibility it won't, based off of previous track record of trying to do this. But even in this supposition that it will work, if it plays out like any other vaccine that's been looked at in these circumstances of obese vs. non-obese, basically metabolic ... And the weight doesn't really fucking matter. You can have lean people who are metabolically broken, the skinny-fat, and you can also have some people that are overweight that are still metabolically healthy. So, this is where just simply looking at, say, BMI is not entirely informative.

**Robb:** But there's a reality that this stuff works better in metabolically healthy people, and not just that the vaccination itself works better, the comorbidities that occur with metabolically unhealthy people are much, much higher. The likelihood of negative outcomes are much, much higher. So, this is really kind of ... It's reaching kind of a shit or get off the pot moment where, if we're going to have all of this super virtue signaling around all the rest of this stuff, okay, fine. Let's at least be consistent in this and let's advocate for the one thing that we know leads to better outcomes, which is fostering better metabolic health.

**Robb:** And I'm not even going to do what some other folks are saying, "You've got to be carnivore, you've got ..." Pick low carb, pick vegan, pick whatever the fuck you want to pick. Pick something other than cleaning out the snack aisle of the supermarket, and do that. And try to get whatever exercise is allowable within the constraints of your house arrest and all the rest of that, and get as healthy as you can. This is a fight for your life, so fucking take it seriously. Again, this one isn't a Salty Talk, and I didn't expect to get as spun up as I am with this, but the inconsistencies in this are what make me crazy.

**Robb:** Can I share the Schlitterbahn experience, or is that going to get us in additional trouble?

**Nicki:** No. I don't think so.

**Robb:** Okay. So, Schlitterbahn is this awesome waterpark here in New Braunfels, Texas, and we went there, and they have all the social distancing processes.

**Nicki:** Mainly when you enter the park, and then if you-

**Robb:** When you enter the park....

**Nicki:** ... stand in any kind of line for concessions and whatnot, which we always bring our own food. That's one really nice thing about Schlitterbahn is you can bring your own.

**Robb:** They let you bring in your own food.

**Nicki:** Food, which is great. But the entrance, there's a process.

**Robb:** In the entrance, there's a couple of different checkpoints, and one of the checkpoints is a temperature screening module where you stand in two specific places. They do people at a time. There's a fan blowing on you-

**Nicki:** A huge, industrial, giant fan.

**Robb:** A giant, room-size industrial fan blowing on you.

**Nicki:** Then there's a thermal-

**Robb:** Imaging camera.

**Nicki:** ... camera 10 feet away up high kind of focused down on the two people.

**Robb:** So, I had to carry our ice chest across the parking lot, and it is-

**Nicki:** In a hot, humid Texas summer day.

**Robb:** It was 101 that day, ambient temperature. I humped this thing at least 100, 150 yards, and it's heavy. And it was hot. I had on a black T-shirt. I was just pouring sweat. My body temperature had to be 102 at this point, which is not surprising under exercise loads in temperature that's already 101 degrees. So, I stood in this line.

**Robb:** The little gal running this thing hit the camera, and she said, "You're good to go." And I'm like, "I can't be good to go." This is where security theater makes me lose my goddamn mind. I was like, "I can't be good to go. I just walked across this thing. My body temperature, I guarantee you is at least 101 to 102 degrees." She kind of paused and looked at me like, "What type of insane person are you? You just ran the gauntlet. You're free. Go. Shut the fuck up. Get out of the line. Get out of the way." And she said, "Well, that's why we have the fan back there to cool you off."

**Robb:** Hopefully for the folks listening and the folks watching, they ... So, if you walk in and you do have a fever from COVID, does that also fucking cool you off?

**Nicki:** Maybe the fan will cool you off.

**Robb:** So, what this told me is this is just another one of these layers-

**Nicki:** And we had a friend who took ... They went with their kids, and, again, walked across the parking lot with their boys. They took his temperature six times, because he kept coming out at like 100.8.

**Robb:** 101 or something. Yeah.

**Nicki:** So, the girl took his temperature. "Oh, go stand back in front of the fan." Came back, took his temperature, still high. "Go stand in front of the fan again." He stood in front of the fan six times, and then finally he was fine and then went into the park. So, it's sort of like, really?

**Robb:** Again, I guess I've kind of derailed this thing off into kind of a COVID scree, but the ... I'll just throw this out there again. There's this culture war that's popping up around are you complying or are you not complying. There's some super gnarly shit happening in Australia where they're now ... Not only do they have checkpoints in Victoria where they can stop you in your car, or the checkpoints, they line you up and they stop, and you

have to tell them your name, you have to produce some identification, you have to say where you're coming from and where you're going.

**Nicki:** Where you're going.

**Robb:** And now, if you don't want to comply with that, if you try to pull the little libertarian card of like, "Am I being arrested?" or whatever, the answer is yes you are being arrested. They will break your windows and drag you out of your car to enforce these rules. And if we're going to start doing that stuff, but yet we insist on wearing masks, but yet the masks have literally no standardization ... There's no size, there's no compositions standards-

**Nicki:** Half the time it doesn't even say mask. It says face covering.

**Robb:** Face covering.

**Nicki:** Half the time every places that I go, people have ... Even the clerk behind the counter has his nose sticking out.

**Robb:** As a scientist, it's kind of like, okay, so the notion here is that you're wearing a mask or a face covering or whatever as a barrier between self and other. Okay. Condoms have standards about thickness and composition, and they're rigorously tested. If you look at your local health department's guidelines for hairnets, there are specific fucking parameters on this stuff.

**Nicki:** Types. Yep.

**Robb:** A baseball hat can work, because they tend to be solid and nonporous. So, these different things, but they delineate some standards. There's not a single fucking standard on what constitutes a mask, what it should be made of, what the size is, and that to me means that it's bullshit. And I'm not saying that masks do or don't work, but if people really cared about this, there would be a standard attached to it, and there is not.

**Robb:** People who actually think about this stuff and apply a little bit of scientific rigor, when you see these inconsistencies, my default mode is to push back. Even if I get convinced that what's being suggested may be a good thing, my obstinate streak is to just be like, "Fuck you. You should have told me the honest thing in the beginning, or there should have been some consistent standards." Going through a thermal imaging screen that has a fan to cool me off, I'm like, "You guys are bullshitters." For the unwashed masses, I guess this kind of works, because it provides the imagery necessary-

**Nicki:** I think what it really comes down to is litigation, right? And to be open at this time, business owners are trying to do everything they can-

**Robb:** Cover their ass where they can, which is a good point.

**Nicki:** Cover their ass, because if somebody goes there and they get it, then who are they going to sue?

**Robb:** And they need to show "Oh, we did this-"

**Nicki:** Because that's the climate we have.

**Robb:** "... and we did this, and we did this."

**Nicki:** So, it's sort of a perfect storm.

**Robb:** Yeah. Yeah. Which is a great point. So, to some degree, we're doing this to ourselves by being this hyper litigious society, and it's negatively impacting us in a variety of ways. Interestingly, it is definitely negatively impacting our personal freedoms. And, ironically, if you do want to make the case that we should be doing XYZ to mitigate the spread and the severity of COVID or whatever the pandemic of the future will look like, honesty and transparency is going to go a long ways towards facilitating people participating in a reasonable way.

**Robb:** To circle it back around to the original point about this, some of the honest transparency that we need to have in this story is around the metabolic health of people. If you can be metabolically healthy and overweight, great, but we can determine this via blood work, and we know that this is a major factor in both whether or not you even develop symptoms at all. It appears some people that are very metabolically healthy, and, again, we don't know is this a uniform thing or what, they might fight the infection off to such a degree that they are a nontransmissible entity. They can't even give it to other people because they have a sufficiently robust immune response.

**Robb:** So, we've got to dispense with these double standards and actually start doing ... If we're going to take a full look at this stuff, we have to take a full look at it. Okay. I will shut up about that. That was like half of a show just devoted to that and ...

**Nicki:** All right. We'll jump into our iTunes review T-shirt winner. This one goes to Auh Cuh. My hill sprint motivators. Saturday mornings are dedicated to running hill sprints and listening to the Healthy Rebellion Radio podcast. I will wait to listen to their latest episode until I'm ready to tackle the first hill. Somehow it became a weekly thing by accident. Now, it's a routine. Thank you for your level-headed, science-based and common sense approach to all things related to health and wellness. Your Salty Talks are just what we need to hear, and I gained so much insight in hearing your replies to your listeners' questions. Thank you, Robb and Nicki for getting me up those hills and for all your great work.

**Robb:** That's awesome, but I have to say Metallica or something like that seems like a much better accompaniment to hill sprints-

**Nicki:** To hill sprints.

**Robb:** ... but thank you.

**Nicki:** Auh Cuh, thank you for your review. Send us an email to [hello@robbwolf.com](mailto:hello@robbwolf.com). Include your T-shirt size, your mailing address, and we will send you a Healthy Rebellion Radio T-shirt you can wear on your next round of hill sprints. You too can win a Healthy Rebellion Radio T-shirt. Just leave us a review on iTunes. And if we choose yours to read on the show, we will send you a shirt as well.

**Nicki:** This episode of the Healthy Rebellion Radio is sponsored by BLUblox, the best blue light glasses for better sleep, recovery, and optimal wellness. BLUblox Sleep+ lenses are their red lenses, and they block 100% of light in the melatonin disruption zone, unlike other brands. BLUblox come in prescription, nonprescription, and readers, and the best part is they look really, really good. In fact, I was on a Zoom last week with Jessica and Elizabeth on our team, and I was wearing my pair of BLUblox, and they kept

commenting on how stylish they were and asking me what model are those. They were scanning the website, trying to find them.

**Nicki:** And also, if you already have a pair of frames that you absolutely love, you can send them to BLUblox, and they'll add their lens technology to your favorite frames. So, that's a really cool feature as well. When you buy a pair of glasses from BLUblox, they gift a pair of reading glasses to the not-for-profit, RestoringVision. In addition to BLUblox Sleep+ glasses, they make glasses for daytime use and for digital eye strain as well. Check them out by going to [blublox.com](http://blublox.com). That's B-L-U-B-L-O-X.com/robb15. That's Robb with two Bs, and use code ROBB15 for 15% off your order. That's [blublox.com/robb15](http://blublox.com/robb15). They do offer free shipping globally.

**Robb:** Sweet.

**Nicki:** Sweet. Hubs, you ready for question one?

**Robb:** I doubt if anybody's still listening, but we might as well give it a shot. Yeah.

**Nicki:** We might as well give it a shot. Okay. This one is from Emily on low carb and a long menstrual cycle and the inability to lean out. Hi, Robb and Nicki. Thanks so much for your podcast and all the amazing information you put out there. I look forward to new episodes every week. I'm feeling really stuck, and I'm hoping you can help. I'm dealing with two issues: the inability to lose belly fat and a wonky period. I included quite a bit of info below, but feel free to skip over anything that might be superfluous. I'm 5'10", currently 165, and my most recent DEXA scan was 18.8%.

**Nicki:** I carry all my extra weight in my stomach and back, and my lower body is very lean. This has been true my entire life. I don't need a six pack, but I'd really love to lean out a bit more. For most of the past year, I was eating a calorie restricted, moderate carb, 110 to 170 grams, low fat, 35 to 65 grams, and moderate protein diet, 150 grams of protein. I was leaning out for a bit, and then I hit a long plateau and got burned out. I hit a low weight of 157 pounds and ended that diet stint back up around 162, which is pretty much where I had started, but my body comp did shift a bit. I agonized over my macros and was hungry throughout the day, but I had regular periods.

**Nicki:** Looking to try something different, I started eating a high protein, 180 to 220 grams, and low carb, 20 to 50 grams, with fats between 80 to 125 in April. I did a very short stint on carnivore, only about 10 days strict, but found that it made me quite constipated, which is something I struggle with from time to time anyway. Still I lean heavily on protein at all my meals now, and after some initial water weight loss, I started to feel fluffy and the number on the scale started to rise.

**Nicki:** I don't have mood swings around hunger anymore, which is awesome, but I do find that I sometimes feel hungry again within two to three hours of a fairly large meal, typically 600 to 700 calories, not the five to six hours that the internet tells me to expect. That said, I don't feel the same panic and mood swings with hunger that I did eating higher carb.

**Nicki:** Let's see. She says that she feels really good with this way of eating, but her cycle has become really long, about 50 days between periods, which I suppose is technically considered missing a period. Training is consistent, lifts weights three to four times a week, 75 to 90 minutes including warmup. Sleep is okay, seven to eight hours per night on average. I don't really drink, and I cook the vast majority of my own food. I drink lots of water and salt my food healthfully.

**Nicki:** At this point, I've listened to so many podcasts and watched so many YouTube videos my head is spinning. Super high protein to lose fat, high fat keto for hormones, add carbs to get your period back. I just don't know what to do. I feel like I'm trying to do a little bit of everything and thereby doing nothing at all. Would love your take.

**Robb:** I almost skipped this one, because there is so much going on, and I was perplexed as to if there was anything that I could actually add of value here, and this is where the call-in show was nice to the degree we were able to pull it off. There's one really critical piece of information that's missing out of this.

**Nicki:** What is it?

**Robb:** She didn't mention her age. So, I don't know if we're dealing with a 22-year-old female, a 45-year-old female. That would be really helpful in trying to figure out a little bit of what's going on. But even beyond that, I mean, there's just different avenues to try to unpack this. It would be really helpful doing some general blood work to get a picture of hormone levels, even doing a multi-point throughout the month. It sounds like this may be a little bit more difficult to pin down. But even looking at some things like luteinizing hormone and some of the upstream stimulators of the normal menstrual cycle I think would be handy. Dr. Gabrielle Lyon and also Jaime Seeman have done a lot of material around this stuff. I don't know if anybody has a step-by-step checklist to do this, then do this, then do this.

**Robb:** But just even her earlier description of being very lean in the legs and then carrying most of the fat in the abdomen and back, it makes me think of kind of like a cortisol dominant state. So, it would be interesting to look at general blood work, maybe doing an ASI test, an adrenal stress index test, which is less informative about real adrenal function, but it can give you a picture of the 24-hour cortisol curve, both the amount and the timing of it, which is really, really important. Without more information, I don't know that there's really a great suggestion to make here.

**Nicki:** Dietarily, yeah.

**Robb:** It would just be interesting to know that stuff. Then once we know a little bit of basic blood work ... I'm trying to think of ... I would get a vitamin D level checked. She says that she gets seven to eight hours of sleep per night on average, but not what time to bed.

**Nicki:** Or what stress levels are like.

**Robb:** And general stress level. There's some things like that that would be interesting to know. There's just a ton more info that I would really want to know from this person before even suggesting a direction to go, because she's kind of ping-ponged between these different dietary extremes and had a modicum of success in both circumstances, but then has experienced some other problems. She's definitely eating a good amount of protein. I don't know if that's too much protein for her. There are some people that have some genetic polymorphisms around ammonia disposal. Like 150 grams of protein would probably be fine. More isn't necessarily better, although there's some circumstances where that is the case.

**Robb:** So, we had a guy in the Healthy Rebellion that had kind of hit this stall, and we recommended for three to four days a week he would do basically a PSMF, a protein sparing modified fast, and then go back to kind of a baseline eating in between. And he's made some great progress off of that. He went from a very stalled out state and has

made some progress. But we told him, "Pay attention to libido and hormones, and if you feel cold or you feel your libido tank, then we need to probably reassess things." We're already seeing some hormonal dysregulation here.

**Robb:** So, I could make the case of as just kind of a maintenance deal maybe keeping the fat around 80 to 100 grams, maybe keep the carbs around that 50 gram level. Put the protein around 150 to 180 grams, I guess. And use that as your maintenance baseline and don't worry overly about what's going on there. But get some blood work. And if she wants to send it in and we can keep it all anonymous and see if we track down some more information. But even beyond that, instead of doing this, finding somebody who's really an expert in female hormones, and people like Gabrielle Lyon are just amazing-

**Nicki:** And Jaime Seeman.

**Robb:** ... because she gets the protein needs. She likes low carb diets but isn't a low carb jihadi where it's the one and only way to do this stuff, and she's an expert in female hormones. So, I would do some diligence around. It's going to cost some money, but you kind of either ... Figuring this stuff out takes either time and money, and usually some degree of both. If you have less money, then it's going to take you a lot more time to figure it out. If you have a little bit more resources, then you find somebody who's an expert, and they can at least establish a baseline. Maybe there's something wacky going on with cortisol interrupting a normal luteal period or something like that.

**Robb:** I would just do some more digging under the hood in this case, because, again, she's kind of done the two dietary extremes, has gotten both some paradoxical and some pretty run of the mill responses. So, I just feel like there's something else going on there, and it would be really helpful to have more data, if for no other reason so that, if we do tweak things in a particular direction ... Let's say we tried a PSMF for some period of time. It'd be really good to have a baseline of where the hormones are and then check that as a comparison with how that intervention is going, how she's looking, feeling, performing, and then also what these biomarkers are looking like.

**Nicki:** Okay. Our next question is from Dan on learning capoeira. Robb and Nicki, salutations. I was wondering what advice you have for a person starting to learn capoeira. I'm 39 and have strength trained in some form or fashion for most of my life, but I'm lacking in the mobility and coordination departments. How would you structure your training week with strength, mobility, and practicing capoeira to gain a decent level of proficiency in a reasonable amount of time? The capoeira world is so new to me, so I'm not sure how to apply some 80/20 principles to come up the learning curve quickly, not to look like a penguin doing the ginga and have some kicks that are higher than waist levels. Thanks so much. Dan.

**Robb:** Man, for sure this would be a situation where ... So, capoeira is awesome. It's where we met. I don't know if people know that, but I was helping to run a capoeira group in Chico, and Nicki had the misfortune of wandering into there. The rest is history, I guess. But I got into capoeira for the first time at age 28, and I felt like an old man doing it then, because they're all these youngsters springing around and back flipping and all this stuff. And I was still pretty mobile in my last 20s, early 30s, but it's definitely different. Then you start knocking on the door of 40 and things are definitely different.

**Robb:** It would be really interesting to know how the capoeira sessions are organized. Doing a lot of line drills and drilling to get in these fundamental movement patterns would be really helpful. Rodas are great. This is where you actually get in and play the capoeira game. It's awesome, but it's a little bit like getting in and rolling in Brazilian jiu-jitsu in

the beginning. You have absolutely no idea what you're doing, and you really have no ability to move yourself properly. You just kind of stand out there and feel like an idiot, and you kind of are, because you literally don't ... If it's a conversation you're trying to have via capoeira, you have like two words in your vocabulary, which you can't get a lot done with that.

**Robb:** So, I would really put a premium on getting in as much training as you can and ideally as much drilling. So, working on that ginga, working on the transition from the ginga to the floor-based movements and whatnot.

**Nicki:** I would absolutely find a Kinstretch program-

**Robb:** Either online or in real life.

**Nicki:** ... either online or in real life, because the amount of work that you're going to be doing on your wrists and just shoulders and hips, if you're wanting to get your kicks higher than waist level, your joint integrity and your joint mobility is going to be key.

**Robb:** Huge. Yeah.

**Nicki:** Just to keep you healthy, feeling good, minimize injuries, and all that kind of stuff.

**Robb:** And on the strength part, I would really dial that back to maintenance, like two-day a week, full body deal, like I've talked about so many times, vertical press, vertical pull, a hinge or a squat. Then the next day, horizontal press or a horizontal pull, hinge or a squat. A fair amount of the capoeira moves, like getting into queda de rins where you're kind of balanced on one arm and the elbow's up in your kidney and all that, it's really demanding stuff, at least in the beginning, demanding of strength, of mobility, of balance. It's a big deal.

**Robb:** So, I think the primary emphasis is on doing capoeira. And, again, ideally it's set up in a very drill-based fashion so that you're getting these basic movement patterns really figured out. Then secondary to that, and I mean right on the heels, is general mobility work, which Kinstretch based deal, Hunter Fitness, Basis Health and Performance-

**Nicki:** Basis Health and Performance.

**Robb:** Two great places to go for resources there. If you have somebody local that actually runs an in-person Kinstretch program, that would even be better, because somebody laying hands on you is arguably going to be the best, and you could do that for a period of time to kind of figure it out and then follow one of these really reasonably priced online programs. Then just start programs your Portuguese and figure out how to play instruments too, because you get to do all that as part of capoeira, but it's part of what really makes it such a cool experience, such a cool art.

**Robb:** And I'll throw one bit of advice out to anybody that is coaching or running capoeira groups. There's a huge-

**Nicki:** Have some earlier classes.

**Robb:** Have some earlier classes. Professionals can't make shit happen to-

**Nicki:** I don't know if I've derailed you, but that's always been ... We've wanted to do capoeira again. We did it pre-kid, and at various points we've wanted to do it again, but

everywhere we've lived it's always been at like 8:00 at night. It's like, who can train ... If you have children-

**Robb:** Youngsters. Youngsters can do that.

**Nicki:** Right, right. But then you don't have people who have had-

**Robb:** You have no professionals, and so it comes this kind of vicious circle that we've seen, where the capoeira instructors can't really make enough money doing their craft to do it full-time. So, they do some other part-time gig, and then they have these off hours. Look at successfully run karate programs, jiu-jitsu programs. You need an on ramp. You need a beginners' process. You need some separate classes that are just drilling to get people to competency.

**Robb:** And honestly, if I had a capoeira group that just did drilling, I would go to that. 99% of my classes would mainly be that, which I think rankles the kind of capoeira purists, because the whole point is to get in the roda and do all that stuff. That's great, but not everybody necessarily wants to do that. It is similar to wanting to go to an open mat kind of competition jiu-jitsu scene. Not everybody's ready for that, or not everybody wants to do that every day. And also, there's so much benefit from just doing those basic movements. This has been another thing that has just kind of stupefied me. The world is begging for someone to put the movements of capoeira together into almost like a jazzercise format, which, again, the people who are really purist about this, they're just horrified by this notion, but people would really enjoy it.

**Nicki:** Just fundamentals, a fundamentals class-

**Robb:** Just fundamentals.

**Nicki:** ... that leads into a more advanced situation.

**Robb:** Yeah. And just mainly make it the line drills, and set it to music. Get people moving in this kind of arrhythmic fashion, which people just don't do. I've said this to a ton of folks in the scene, and they look at me like I've got an arm growing out of my forehead, and they continue to not have successfully run businesses. So, somebody out there someday will actually do this, and I think it's going to go great guns, because the music is fun, the culture is fun. Brazilians are awesome to hang out with. The whole Brazilian culture thing is cool. And the movements of capoeira are really cool, from almost a prehab and rehab perspective, but they're just a lot of fun too.

**Nicki:** And you get, like you said, the instruments, the singing. It's just really fun.

**Robb:** It's super cool, really, really a fun activity. But folks in the capoeira world have got ... If you want it to grow and you want it to be something other than eight-year-old to 18-year-old kids, you've got to run some shit differently. You just have to you. You need some on ramp. You need some different types of progression. You need some opportunities where pretty much the totality of the class is just line drills and mobility and maybe a little bit of strength work that's specific to capoeira.

**Nicki:** Okay. Our next question is from Tiffany on Viome. Hi, Robb. Basics on me. I have multiple sclerosis, diagnosed eight plus years ago. I've followed you since my diagnosis and implemented paleo as my diet when I was first diagnosed. I try to do paleo and a bit of plant paradox. I did ask you a question about a year ago, paleo or keto as a person with MS, and your reply was paleo. Recently, I sent in a sample and received results with

Viome and wondered if you are familiar with it. Side note: I recently participated in a study that is studying microbiome in MS patients, and I was asked to do this the day after I sent in my Viome kit.

**Nicki:** Anyways, the results with Viome were interesting, because it notes foods to avoid, minimize, enjoy, and super foods based on your gut. The avoids I knew due to MS, inflammation, and paleo. What was concerning was a couple of super foods were not paleo or MS/inflammation friendly. My question, because I respect and refer to your opinions, are you familiar with or do you have an opinion on Viome?

**Robb:** The short answer is I'm not super familiar with Viome. I think I did an analysis with them. I would have to ... I was digging around in my ... I have a folder called Quantified Robb. But as we've changed computers over the years, I feel like I'm missing a bunch of material. I feel like I've done this. How do I tactfully say this? Because I still think that this type of stuff, this gut testing, is really early. I think it's handy to establish a baseline. I think it's cool to look at a baseline and then like, do we have any clinical manifestations of illness or bloat or what have you? Then if something changes, then we go back and recheck it, and we see some consistencies there. Then, okay, we can start seeing some correlations.

**Robb:** I'm just really suspicious about the prescriptive side of this, which is kind of the holy grail with all this stuff. I've mentioned that I've had some genetic testing done. It's like, oh, you're supposed to eat a low carb diet. Okay. That's great. But not all of them I've sent in have said that. Some of them are still the standard grains, legumes. It's kind of funny. So, I think that there's a wide spectrum there.

**Robb:** But I look at this stuff at best as just kind of an interesting goal post or, not goal post, but a signpost. It's like here's where we are, this is what's going on, and then you really have to, on a subjective level, how do you look, how do you feel, how do you perform. Then if you tweak any of those things, like if some of the ... It would have been interesting had Tiffany mentioned what were these super foods, which I hate that term anyway ... It just annoys the pants off me. But what were these super foods that were not paleo/MS friendly? Was it tomatoes and stuff like that? Was it nightshades? It'd just be kind of interesting to know what the story is there.

**Robb:** But at the end of the day, the only thing that really matters is what happens to you clinically. If you tweak things one way to the other, do you look, feel, perform better? Do you look, feel, perform worse? And there may come a day where analyzing the gut in the way that so many of these outfits do will provide this really deep insight in what we have going on. I think that that'll happen via machine learning. I think you are also going to have to do a really comprehensive questionnaire in combination with that, maybe some other blood work testing too, and they're going to need tens of thousands, hundreds of thousands of people going through this to be able to get the machine learning to parse all this stuff out.

**Robb:** What's really fascinating to me is that, with the gut microbiome in general, it changes all the time, like all the time. So, I'm still kind of ... Then even as it changes, the specific species in the gut may or may not matter as much as what the functionality is. Does a particular bacterial strain actually have the genes to code for the protein to do X, Y, or Z? Sometimes it does, sometimes it doesn't. Sometimes, because of genes jumping between bacterial strains, a strain that you don't think has a particular gene or can perform a particular function, can. So, it's just such a almost infinitely complex system that, again, it's really intriguing stuff. We know for sure that the gut health is important,

the gut microbiome is important. And in my opinion, we don't know a whole lot more than that.

**Robb:** Some of these really ... The more pinpoint and targeted the diagnostics are, or at least the claims, kind of the more suspicious I get. It starts smelling more and more like bullshit and just almost like going to a palm reader or something. Like you provide enough generalized stuff that you're able to kind of convince yourself that there's something valuable there. Maybe there's something more to it in this particular case, but uBiome just went tits up not that long ago. They were making all kinds of claims about what they could do, and none of it ended up being true. Theranos, the same deal. I'm not saying that that's the story with Viome, but there's kind of a track record of this stuff at this point. So, I'm suspicious of-

**Nicki:** Cautious.

**Robb:** ... what the real story is there. Yeah.

**Nicki:** All right. It's time for the Healthy Rebellion Radio trivia. Our episode sponsor BLUblox is giving their Remedy Sleep Mask to one lucky winner selected at random who answers the following question correctly. Robb, what book are you currently reading? Do you want to answer this?

**Robb:** I don't know. It may be incredibly incriminating in this day and age. I am reading Atlas Shrugged, and I read it many, many, many years ago, and it had a pretty profound influence on me. It's kind of amazing rereading that. I'm just kind of making ... We kind of started with The Mandibles, and I don't know I'm going to do it 100% consistently. I'm going to throw some other things in between. But these dystopian future predictive novels like 1984, Animal Farm, Brave New World, I'm going to give all of them a reread. It's fascinating and scary both at the same time. But the answer to that is Atlas Shrugged.

**Nicki:** Atlas Shrugged. All right, folks. To play, go to [robbwolf.com/trivia](http://robbwolf.com/trivia) and enter your answer, and we will randomly select one person with the correct answer to win a Remedy Sleep Mask from BLUblox. The Remedy Sleep Mask blocks 100% of the light hitting your eyes. It has zero eye pressure, adjustable straps, not elastic, and improves your REM sleep scores. The cutoff to answer this week's trivia and be eligible to win is Thursday, August 20th, at midnight. Winners will be notified via email and we'll also announce winners on Instagram as well. This is open to residents of the US only.

**Nicki:** Moving on to our fourth question this week on chlorinated chicken and Brexit. This is from Jamie. Jamie says, hey Robb and Nicki ... Do you want me to read this whole thing, or do you want me to start down here?

**Robb:** You can start there, and then ... I mean, there's a lot of-

**Nicki:** We can pull ... He had a-

**Robb:** ... interesting material in here. But yeah.

**Nicki:** Yeah. Okay. So, he says, I am from the UK, and I voted for Brexit, having been involved with the Brexit part in order to help make it happen. One of the reasons why I voted for Brexit was so that my country could escape from an undemocratic and centralized foreign entity that is run by Eurocrats being able to rule over us and control our laws. If

we get Brexit right, we will be able to set our own rules, govern ourselves, and strike our own free trade deals, including one with America.

**Nicki:** Whilst I believe in free trade, many of those who voted for Brexit do so too and like me want to sign up for a free trade deal with the US, most of them are completely ignorant of American food production and why signing up for a free trade deal that involves US agrifood will not be done on a free trade basis due to the subsidies your government gives to its farmers.

**Nicki:** Chlorinated chicken is something that repeatedly keeps coming up when discussing a free trade deal with the US as an example of why we should not be signing up for such a deal. Many Brexiters then simply countenance such an argument by simply saying, "We will be able to get cheaper food produce and that it is nothing to worry about, as the EU washed their packaged salad in chlorine," both of which I find to be uneducated and naïve retorts.

**Nicki:** So, to the question, what's the deal with chlorinated chicken and how can I put forward a case to fellow Brexiters who say they believe in free trade why, if it is, a bad thing from both an economic case and also a health point of view?

**Robb:** So, how to start unpacking? So, Jamie wrote a lot more than this. I'm just going to kind of overview a little bit, but he mentioned that he had followed some of the earlier stuff that I've done, I think the Controversial Truth Podcast, and then also just some social media stuff where I've made the case for markets and capitalism and stuff like that, which even saying things like that now can ... It's going to be cancel Robb Wolf at this point. There's no discussion. That's just evil, terrible stuff. And we honestly almost didn't cover this thing. We kind of agonized over it, which I think is kind of ... It's interesting, because I could look into the mind of people who are really pro globalization, ironically, which tends to be this pretty progressive leaning folks. Just ironically they push towards centralization of power and globalization, even though they rail against corporations and all that.

**Nicki:** Corporate America. Yeah.

**Robb:** This is exactly what globalization leads into ironically. So, it's interesting. But Jamie related that, in listening to the cases that I've made and in following up on other material, that it really changed his mind. So, maybe that's good, maybe that's bad. Maybe this is the case for why people like us need to be censored and shut down, because it's dangerous thought to put this out there, and I and we are poisoning the minds of other people. I guess this is kind of the thing. I'm of the opinion that, so long as it doesn't call for the inciting of violence against people, that pretty much everything should be available, and then we put on the big kid pants of needing to sort through the world and face those challenges of making sense of all this stuff.

**Robb:** But, again, because of the current environment, I think it's just ironic that I'm nervous about answering this, because although we clearly kind of throw a few little hand grenades over the fence trying to get some discussion going, there's going to come some day where we say something that somebody takes sufficient offense to, and they're going to do a cancel Robb and Nicki campaign and may very likely be successful, because these things are pretty fucking powerful at this point.

**Robb:** But also there's that saying that evil only happens when people allow it to happen, and I'm not going to ... Is what's going on evil? I kind of think some of it is, like the shuttering of the ability to talk and discuss. And even though people may think it's a win to make

folks on the other side of social political discussions scared to say what they're doing, it doesn't change minds. It entrenches people, and it fosters all kinds of other worse things. It is far, far better to have this stuff out in the sunlight and have it discussed and have it criticized even, but do it in a logical, reasonable, respectful manner. That's not what's happening now. So, that's kind of, I guess, the preamble to that stuff. Back to one specific chicken with the ... One specific question: the chlorinated chicken.

**Nicki:** The chlorinated chicken.

**Robb:** This is interesting. This happens in the US because of the pretty appalling food handling practices in the way that chicken are butchered and being processed-

**Nicki:** In the industrialized chicken.

**Robb:** ... in the whole industrialized system. And people may not realize this. There are some pretty specific guidelines with how cattle are slaughtered and how they're processed and whatnot. I think the same thing for pork. There's really no guidelines for chicken or fish. You can do kind of whatever the hell you want to do, and it's pretty appalling what does actually happen. So, there's a couple of different layers to this. The only reason why the industrial food system exists the way it does around chicken and pork specifically are kind of two things: subsidies and antibiotics.

**Robb:** The subsidies allow this kind of fake leveraging of resources to go into this food, and you make it look cheap at the consumer side, but we're paying for it on the taxation side. So, there's an artificial market there. It's rightfully concerning for folks around the world that their local food production could be outperformed here in an artificial way. It's not market transparent. There's funny money that's going into this. The chlorination process, they wash the chicken carcass in chlorinated water, because the likelihood of ... It's not staph. It's-

**Nicki:** Salmonella?

**Robb:** Salmonella and ...

**Nicki:** Listeria.

**Robb:** Listeria. A couple others. They're literally like 1000 times higher than getting a foodborne illness than beef. It's just remarkable. So, chicken as a baseline, the way it's currently generally manufactured is a pretty dirty, nasty process. Smaller farms, more decentralized, that process tends to be cleaner and better in general, but this is the reason why they wash the chicken in chlorine. I wouldn't necessarily be worried about the chlorine itself. Particularly if you ever swim in a chlorinated pool, I just ... It's silly from a toxicological standpoint. I'm not off-put by the fact that the chicken gets washed in chlorine specifically. It's the whole process.

**Nicki:** Process. Yep.

**Robb:** And to the point here, it's interesting. I've historically been pretty market centric, I guess kind of libertarian or classical liberal in orientation, but some folks like Dan Carlin really change my mind on some things like free trade. I love good trade. I like open trade, but it's different than free trade, particularly when we're in a scenario where these subsidies so can alter the market dynamics, that you can make something like chicken raised in the United States sent to China-

**Nicki:** Shipped across the Atlantic.

**Robb:** ... sent to China to be processed, shipped back to the United States, then shipped to Great Britain or something? That should not be cheaper and more efficient than raising some chicken locally. That is ridiculous. There are ridiculous systemic features going on there. You're also undermining your local food sovereignty, and I think that a lot of modern economists will kind of wax eloquent about the industrial food system about its efficiencies and whatnot.

**Robb:** It only looks efficient if you ignore all of the collateral damage. The amount of antibiotics necessary to make poultry and pork production actually function are staggering, and it's got a lit fuse going to a bomb. And when that bomb goes off, the results are that we no longer have antibiotics for humans, to say nothing of animals. So, it is an unsustainable system. We're not even talking about it being regenerative yet. It is just patently unsustainable.

**Robb:** But there's some interesting stuff here like these ... And it's funny, the Brexit topic. People go, "Oh, they're ignorant, inbred," whatever. Okay. If you talk to people who actually live there, and by no means is it a uniform opinion, but there's a big consolidation of power occurring within Europe in very specific directions, and it definitely doesn't cater to the self-interest of a lot of other people. Whenever power gets consolidated, whoever does the power consolidation, they're the ones who are disproportionately going to win. There're some noises being made about an Italexit now because of these very issues.

**Robb:** Again, this is something that I have put out there, and I try not to be a dick about it, but when people are talking about universal health care and all manner of different things, they will oftentimes cite Europe and not really understand what was going on. We just sat down with some friends, one of whom is from Switzerland, and the lack of understanding that the general American has on the way that things actually function ... Most of the decision making happens at the local level, one.

**Robb:** So, even though they're kind of socialized democracies, they're generally highly culturally homogenous. Not everywhere, but most places. And they tend to handle most of their decision making at the local level, which caters to taking care of local needs. When the decision is going to be made at 5,000 miles away, nobody cares what your local needs are. And maybe you have a representative that goes to try to take that to this bigger organization, but a lot of stuff gets lost in the process.

**Robb:** And I know you're probably like, "Dude, I wish Robb would shut up on this," but this is ... This self sovereignty, this is a lot of the stuff we talk about in Sacred Cow.

**Nicki:** Well, even just what we saw with the pandemic, right? I think it's important for a nation, for regions to have their own food production, the ability to ... Regardless of what happens next in 2020 or beyond. You don't want to be reliant on a foreign entity that also is trying to feed its own people to be sending you food.

**Robb:** Right. Right. Yeah. Really that's kind of where the rubber hits the road on this stuff. Some places that have some disproportionate advantages, like avocados grown in subtropical environments ... Okay. You're going to beat North Dakota on that. That's not going to work.

- Nicki:** But that's also not going to make or break your survival in a situation where ... I mean, yes, avocados are nice to have, but if you live in a cold climate where they don't grow, as long as you can produce-
- Robb:** The things that are generally producible in your region-
- Nicki:** Then you will survive.
- Robb:** ... then you're going to fare pretty well. So, I think the reason why I did actually this thing, at least to the degree that I did, is I think that there's a lot of important things going on here. Our world is becoming very Balkanized, very fragmented. Maybe that's good, maybe it's bad. In the United States, I would make the case that we've stuck together to the degree that we have thus far because of an overarching sense of being American. And maybe that's nationalistic or shortsighted or whatever, but when you have as many different religions and ethnicities and races and everything all together, we've been comparatively benign to one another, particularly 19th century, 20th century. Yeah, there's atrocities. Yeah, there's all kinds of fucked up stuff. But it's generally a lot better than most other places.
- Robb:** We're reaching this spot where we're really in a position to Balkanize, and what Balkanization means is that things fragment. It's like the Balkans where there's very small areas and lots of different concerns in there. And when you get that Balkanization, if you handle it well, then people at a local level can better govern themselves. If you handle it poorly, then people at a local level murder other people en masse. And people may think that this is ridiculous, but we are careening in a direction where the separation, the Balkanization, the entities both internal and external that are working to divide us, it's like watching ...
- Robb:** My best analogy on this is it feels like being in a car going down an icy road, and the car starts spinning, and you have literally no control over where it goes. There's maybe some snow banks that are an easy landing. There's some other snowbanks that are a less easy landing. And then there's a cliff off the other side. You know you're going to go off at some point; you just don't know which one you're going to get.
- Robb:** So, I think this may seem like a trivial question and bit of commentary from Jamie about a desire for more local autonomy and interests, and central to that is food autonomy, and this is some of the stuff that I've been trying to scream from the rooftops for a long time and that the direction that we are generally going, and this intolerance, this busybody-ness, that there's one group of people that know what's best for everybody else, it usually goes along with a food direction, a food system that is planted to the vegans, that is almost uniformly built around the modern industrial food system, and it wants to destroy and remove local food sovereignty. They don't want people to have a say in what their individual rights and freedoms with regards to food are.
- Robb:** At some point these things intersect. If you give a shit about your food, if you are an autoimmune paleo warrior and all that, that's great, but then you also have to consider what all the other kind of sociopolitical stuff that you're putting forward, how does that impact your ability to feed yourself or make recommendations germane to people that you're trying to help? And this stuff does actually intersect at some point.
- Robb:** So, again, when we decided to take this one, I didn't know the news topic du jour was going to be the COVID topic. So, this show is politically heavily weighted. But I guess now that everything is becoming politics, then it's kind of hard to decouple this stuff. If you're going to give an honest, credible answer ... And, again, I don't want to beat this to

death, but I'm nervous answering this stuff, but I'm also at a point where it's like, if they're going to do cancel Robb, fuck it. Cancel Robb, and then I can be done. And we'll hang a gone fishing sign. Those assholes win, and we'll go do whatever the next project is, raise our kids, do whatever.

**Robb:** But I feel like we do a decent amount of good in the world, and so the people that end up ultimately canceling us, they're going to be complicit in damaging and limiting the access that a lot of people have to I think some good information and some ability to really help people. But I don't really think folks are really caring a whole lot about that at this point.

**Nicki:** We will go on to our fifth and final question-

**Robb:** It might be the episode we ever do.

**Nicki:** ... of this particular episode, from Shilpa. She has a question on high blood sugars while in ketosis. Hello, Robb and Nicki. I have PCOS and hyperinsulinemia, and I am a 46-year-old woman. In 2018, my fasting insulin was 17. My doctor refuses to check me, so I have no idea what it is currently. In the last six weeks, I decided to go on a ketogenic diet, and my Keto-Mojo tells me I am in ketosis in the afternoons between .6 and 1.3 mmol/L, although my blood sugar sometimes is still 95 to 105. In the morning, however, my meter says I have low levels, and my blood sugars have consistently been running 95 to 104. I'm puzzled.

**Nicki:** I have lost weight and I do exercise, 10 miles a day of walking and 30-minute resistance type of workout three times a week, but I cannot get these numbers to budge unless I take berberine. What is happening to me? As a person really concerned with the high insulin, I'm even more worried that I'm not going to get this under control. By the way, I cook all my meals. I ditched sugar. I cut back on coffee, took out a lot of FODMAPs. My tummy is way better. Stopped eating nuts. But I'm still doing a tiny bit of dairy, namely crème fraiche. Not sure what I'm doing wrong. Please help. I love the show, and I trust your take on most things health, so hopefully you can clue me in. Shilpa.

**Robb:** So, I'm reading between the lines on this, and I'm wondering if Shilpa is in the UK, because ... I'm assuming it's her, right?

**Nicki:** Yeah. Yep.

**Robb:** Yeah. PCOS. Yeah. 46-year-old woman. Part of what I'm wondering in all this ... There would be a couple things that I would really like to see. A1c would be really helpful, because this 95 to 104, maybe that's a big deal. Maybe it's not. We've just seen that there's a remarkable variation in ketone levels, in blood glucose levels. Somebody just reported the other day in the Healthy Rebellion, they're like, "I woke up, and my blood glucose was 50." And it's like, "Did you feel good?" They're like, "I felt great." So, some people may be freaked out about that, but then it starts begging the next question. Well, what else do you do? And if what you do ends up making you feel less well, then it's this kind of merry-go-round on that stuff.

**Robb:** So, I would be really interested to know the A1c. I would be super interested, if possible, if Shilpa could do an LP-IR score, lipoprotein insulin resistance score. This would give us a good sense of where the insulin sensitivity is or is not. But these numbers right now, so long as she is generally feeling better, I don't see a really big thing to be concerned with, but this is the value of doing a LP-IR score and/or an A1c in addition to the fasting glucose. We can kind of triangulate in on what's happening here and maybe get a better

idea of where to go next or really if there's even anything to be concerned about. If she's generally eating on the lower carb side, maybe there's some physiological insulin resistance occurring here, and that may not matter at all, because she's not really taxing her pancreas or really pressure testing her system with dietary carbohydrate.

**Robb:** So long as we don't end up in that scenario where endogenous glucose production gets really ramped up, so you get adequate protein, we make sure that we're on point with electrolytes, continuing with the exercise and good sleep ... Some people on low carb, due to hepatic released glucose, can end up in chronically elevated glucose scenarios. Usually there's some causative elements there, like chronic cortisol release or poor electrolyte management, but those things are usually not that hard to unpack. But, again, we're kind of in a situation where I feel like we need a little bit more information to understand is Shilpa in a bad spot, and if so, what would we even do to try to right the ship?

**Nicki:** All right. I think that's a wrap for this week.

**Robb:** Possibly forever.

**Nicki:** Thanks everyone for joining us.

**Robb:** If cancel Robb and Nicki becomes a thing ...

**Nicki:** Remember to check out our show's sponsor BLUblox for your blue light blocking glasses. Go to B-L-U-B-L-O-X.com. That's blueblox.com/robb15, and use code ROBB15, R-O-B-B-1-5 for 15% off your order. I guess we'll see you all next time.

**Robb:** Or maybe not.

**Nicki:** Dude. All right, guys.

**Robb:** Bye, everybody.

**Nicki:** Later.