

**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.

**Nicki:** 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. Contents of this show for entertainment and educational purposes only. Nothing in this podcast should be considered medical advice. Please consult your licensed and credentialed functional medicine practitioner before embarking on any health, dietary, or fitness change. Warning. When Rob gets passionate, he's been known to use the occasional expletive. If foul language is not your thing, if it gets your britches in a bunch, well, there's always Disney+.

**Robb:** Welcome back wife.

**Nicki:** Good morning everybody. Good evening. Good afternoon. Whatever time of day it is. This is another episode of the healthy rebellion radio episode 88

**Robb:** Your time zonist.

**Nicki:** No. I'm not. I am time zone inclusive.

**Robb:** Oh. Okay. You were almost time zonist.

**Nicki:** I'm also going to be hemisphere inclusive too. Why did you have to kick us off like that?

**Robb:** It's the only thing I've got these days babe. What's new? What's exciting?

**Nicki:** Oh goodness. Well, we're in the middle of our seven-day carb test. Well, actually the day this releases it'll be the final day or actually no cause some people are going to test through the weekend as well of our seven-day carb test inside the healthy rebellion. So people are learning how their body responds to certain carbohydrates.

**Robb:** Cool.

**Nicki:** They're also testing, fasting, blood glucose, et cetera. So getting some good insights there. I will say that the 30-day rebel reset starts on Monday, this coming Monday, September 20th. So if you're considering getting in on that this go around, be sure to sign up and join by September 20th at midnight because at that point, we close the course, even to existing members who haven't made their way into that course, because we'd like to have this be a cohort-based process so everybody who's in at the start time goes through it together. And folks that miss out on that date, they got to just wait till the next one.

**Robb:** Cool.

**Nicki:** Yep. So I think that's all for housekeeping items. I'm trying to think if there's anything else that we wanted to say upfront on this.

**Robb:** I don't think so.

**Nicki:** You don't think so. Okay. All right. Well then let's jump in. What do you got for us for a news topic today?

**Robb:** So recently released the carbohydrate insulin model of physiological perspective on the obesity pandemic. Gary Taubes, David Ludwig, and a host of other folks out of the carbohydrate insulin model camp have a new paper. I have not read this thing in its entirety but they asked to pass it around. So I'm passing it around.

**Robb:** I'll be honest. I feel like this is to some degree old wine in a new bottle. I was as big a fan of the carbohydrate insulin model as you could find back in the early 2000s. Around 2005, 2006, I started questioning elements of the story and as it's gone forward, I have absolutely no doubt that low carbohydrate diets can offer a disproportionate benefit in appetite suppression. The state of ketosis has a host of therapeutic benefits but when we're just talking about obesity and whatnot, I do recognize that calories matter. I recognize that hormones matter and I see them as being somewhat inextricably tied together.

**Robb:** It really looks to me that once we normalize for protein, it's kind of hard to get super fired up for just from a specifically weight loss perspective and to get super fired up about this carbohydrate insulin model, in my opinion. I think a ton of good would have come out of focusing on the clinical end points of low carb diets and carbohydrate restriction. That advice was given in 2009 to at least some of the characters in the scene and was promptly ignored. And now some later write ups when Gary was on Peter Attia's podcast. He wrapped the whole thing up with saying but you know clinically this stuff works really well on the outcome-based thing which is kind of the advice that I had given way back. When maybe I'm right, maybe I'm wrong. I don't know. What other thoughts do I have on that?

**Robb:** Give it a read. Definitely dig into it and give it a read. I don't know. I don't want to say too much more disparaging stuff on this. It's frustrating for me though, that I guess wanting to be good scientists, we want to find a model that represents all this stuff. But for me, and I've been noodling on, maybe I do my own model around this but it's this evolutionary biology perspective on this stuff, optimum foraging strategy, neuro regulation of appetite, protein leverage hypothesis. Those things start converging on something that makes a lot of sense to me and it nests elements of this carbohydrate insulin model within it because again, I think if one experiences super physiological insulin levels even transiently post a given meal, you will be hungry as hell at the next meal and if you're in a metabolic ward and not given access to food, then I guess you will navigate that and if you're free living, then you're going to go raid the cupboard and that's where problems arise. So anyway, I passed it around. I did my duty. There you go.

**Nicki:** This show is shaping up to be a...

**Robb:** Quite a humdinger.

**Nicki:** A humdinger folks.

**Robb:** Yeah.

**Nicki:** Okay. It's time for our T-shirt winner for this week. This one goes to ... I'm going to pronounce it a ChemiseNine, one of my commute go-tos. He says love your show and all the quality information you put out often disproving current so-called scientific research. You've been a great augment to all the nutrition books I've read over the years like Deep Nutrition and others. And he also included a paper from his wife that he is asking Rob to poke holes into but I'm going to put that in particular question in our question queue for a future episode. So I'm not going to read that part but ChemiseNine, thank you for your review. If you send us an email over to

hello@rebels.com with your T-shirt size and your mailing address, we'll send you a healthy rebellion radio T-shirt and I will put that question in our question list.

**Nicki:** And while I'm mentioning question list, folks, if you have questions, you can submit them at [robbwolf.com](http://robbwolf.com). If you go to the contact us tab or the podcast tab, I can't remember, but it should be obvious that there's a spot to submit a question for the podcast. And as always, this episode of the healthy rebellion radio is sponsored by our Salty AF electrolyte company Element. And since we are moving into cooler weather here in the Northern hemisphere...

**Robb:** Very nice. Very nice.

**Nicki:** ...I thought I would share some favorite ways that people like to enjoy warm beverages that include Element and I know Rob mentioned his adding raspberry Element and also trying it with watermelon to his tea in the morning.

**Robb:** And it's phenomenal. I'm doing a raspberry in Lipton black tea and for the haters of Lipton tea, you guys can go pound sand. Like I had these people...

**Nicki:** He had lots of people outraged that he was drinking...

**Robb:** Why don't you get something organic? God. Why don't you just complicate your life even more and mine too Awesome ad read though. You're doing a great job.

**Nicki:** You're contributing to it's awesomeness. Several people in the healthy rebellion have also tried it with raspberry and other flavors and are digging it in the tea as well.

**Nicki:** Chocolate, salt and coffee. We've mentioned that a ton and I know a lot of people really enjoy that. You can add heavy cream, if you tolerate dairy. Do it in a larger cup if you don't ... like again, all of these things, you can add more water or less water depending on your preference. And then my one of my personal favorites, and I'm excited for it, this winter is lemon habanero in hot water.

**Nicki:** So it's a little bit of a spicy one but it's just like the perfect like cold, especially snowy winter day beverage. So that's what I got for you today. You can grab your Element at [drinkLMNT.com/rob](http://drinkLMNT.com/rob). That's [drinkLMNT.com/robb](http://drinkLMNT.com/robb). Remember, if you get the value bundle, you buy three boxes. Get the fourth box free. That's [drinkLMNT.com/robb](http://drinkLMNT.com/robb). You ready for questions?

**Robb:** Spackle them on me.

**Nicki:** You went with spackle because our first one, although the question is about constipation not spackling, which is the other side of constipation.

**Robb:** It was as close as I could get. Sorin.

**Nicki:** Sorin. Okay. This is from Katie. Hi Robb and Nicki. As always, thank you for all you do. My seven-year-old daughter started complaining of stomach pain a few months ago. She's always been a good eater and has been gluten-free since the age of three. She's not celiac but we noticed many health benefits for the whole family from cutting it out. She eats minimal amounts of processed garbage and her diet is full of high quality protein, healthy fats, and real whole food.

**Nicki:** Her stomach pain increased in both severity and frequency over the summer. We cut back on dairy with moderate success. We had blood tests done. All normal with no apparent food sensitivities or any other blood marker abnormalities. Finally, her doctor did imaging that showed significant constipation. I've tended towards constipation my whole life and my mom has IBSC so there's definitely some familial tendencies.

**Nicki:** Her pediatrician suggested MiraLax to get things going which we have been doing for the past several days and she's certainly pooping now but still has daily tummy aches. Her pediatrician said daily MiraLax wouldn't become habit-forming and was perfectly safe for long-term use but this obviously doesn't seem like the ideal answer.

**Nicki:** Do you have any suggestions on what I should try to bring her some relief both in the short-term but also for her digestive system as a whole? Why would a seven-year-old who eats a healthy diet develop such severe constipation and how concerned should I be about using something like MiraLax and are there better alternatives for keeping things moving?

**Robb:** Do you have any thoughts on this?

**Nicki:** Nothing is popping out at the top of my head.

**Robb:** One thought that I had is not dietary-related. It's stress and kids frequently when they ... and you know the stress can be good.

**Nicki:** That's a good point Robb.

**Robb:** It can be good. It can be adaptive but kids can get put into new novel situations and the way that they ... One of the physical manifestations of dealing with that can be tummy aches and constipation, can go the other way too. Belly breathing. I do kind of tummy rubs where you start at the xiphoid process right where the rib cage comes together and then you go in a clockwise fashion and I gently push my fingertips in and then kind of massage. And when you get used to doing that, you'll actually feel the mass in there and you can start feeling it and hearing it moving along. Coaching the kid through some belly breaths as you do that. Big inhale through the nose and a long...

**Nicki:** Slow exhale.

**Robb:** ...physiological sigh from Huberman Lab, it does wonders. So I would really look at some stuff like that, like some breath work, a little bit of tummy massage. I honestly don't know if the MiraLax is... It seems like it's probably fine. Doing other fruits and vegetables. Like I know when our kids hit a certain limit on any type of fruit, it is impossible for them to not shit like geese and so you might just shift things a little bit more that direction. But could look at some probiotics like Dr. Russia's probiotics are fantastic. That could be helpful but for so many things, people look first to food and it certainly is a place that is worth investigating but that stress or like novel environments or novel experiences could be a big driver in this.

**Nicki:** No. That's interesting that you mention that because the one time in my life where I was like so incredibly constipated, it was like literally painful and I thought I was going to die, was when I moved when I graduated high school. I went to junior college in Santa Rosa for two years before transferring to four-year school. I was playing volleyball at the school and I was ... It was awful. It was awful. I went to the health clinic like I don't know what they gave me. I ended up, my grandmother lived in Santa Rosa, and she ended up giving me some enemas because I was so constipated and it was awful but it was brand

new. Stressful. I was starting college and playing volleyball and all new people and so I think that's a good point.

**Nicki:** So I don't know, Katie. If there's anything new that your daughter has been involved with or anything that you can think of, that could be a stressor like that but that's definitely something to look into. As Rob mentioned, the belly breathing is definitely something that we work with our girls on a lot whenever they're anxious about something or nervous about something. I think it's just a great skill tool in the toolbox to have.

**Robb:** We have an adult friend who whenever this individual would travel would, for the duration of the travel, really didn't have normal bowel function, became super constipated and I did this technique with the person, belly breathing, circular, a massage, and now this person has no problem and I mean, this had been a lifelong difficulty that the person had. So I can't recommend it enough.

**Nicki:** Okay. Let's go on to question number two on anaerobic ketolysis. HowdyWolf's question. From what I understand the body can only metabolize fatty acids aerobically but it can metabolize glucose both aerobically and anaerobically.

**Nicki:** What about ketone bodies? Can the body anaerobically metabolized ketone bodies? I've scoured the internet periodically for probably a couple of years looking for a definitive answer to this nagging question but I always come up empty handed. I have no functional reason to ask this question. I'm just a nerdy personal trainer with a pension for delving deep and an evolutionary biology slash ancestral health bent.

**Robb:** So it's an interesting question but really, I think the reason why nobody really talks about this is anaerobic activity occurs outside the mitochondria and aerobic activity occurs inside the mitochondria and so that's really the whole thing and ketone bodies are metabolized inside the mitochondria. So ... and also, the distinction, when you get right down to it, is a little bit of a misnomer because at the end of the day, at some point we breathe. At some point, the anaerobic glycolysis, as an example, ends up getting recharged and reset via the activity of the aerobic system. And so it's kind of a red herring even separating that out but it does show a distinction between the two.

**Nicki:** Okay. All righty. That was from Tommy and he attached a picture of his dogs to entice us to answer his question. All right.

**Nicki:** Let's go on to question three this week is from Bonnie and it's about prolonged fasting and autophagy. So she links to a link and that has a quote that says macro autophagy is transient in nearly all tissues except fast twitch muscle and she said this is from an old post and the references don't work anymore but do you have any info to back up or refute the fasting slash fast twitch muscle claim? Would eating fat prohibit the muscle catabolism or would protein be needed?

**Nicki:** And there's also another quote. Prolonged fasting triggers autophagy to deteriorate muscle tissue faster than severing the nerve to the muscle. The only thing that intermittent fasting does for autophagy is to drive it into destructive ranges for fast twitch muscle.

**Robb:** In some ways, I wish fasting just like disappeared. Some of the most frustrating questions to answer. It's interesting stuff but I remember Charles Poliquin talked about if you wanted to take a world champion sprinter and ruin them, one of the best ways that you could do it ... You would ruin them quicker by fasting the person than you

would by serial significant alcohol exposure, as an example. We know how shitty alcohol is for you in general and then for your sleep and all the rest of that stuff.

**Robb:** But what fasting does is it encourages a rapid conversion of fast twitch to slower twitch fibers. I don't know what the exact cliff is where you fall off on this and I think that this is Kiefer's website, I think where this came from, and a lot of the back links are gone now. But it's, I guess, empirically understood piece of this story that if you really are a power athlete, you want to eat with some frequency and definitely one of the benefits is the maintenance of muscle mass and whatnot.

**Robb:** But there is, then, this staving off of a conversion of fiber type towards a more endurance-based story. Would eating fat prohibit the muscle catabolism? No. Would protein be needed? Yes and then you're not fasting. And the whole fucking deal with it ... Actually, I'm going to be talking about a condition that I've become more aware of recently that actually benefits from fasting and I'm going to be digging into this stuff. So as much as I've been pissing down the back of fasting, ironically...

**Nicki:** The appropriate times for its use.

**Robb:** Yeah. But there are absolutely appropriate times for its use but I think that people have just gone crazy on this topic. And I'm not saying Bonnie you're doing that and this is a great question around the curiosity of this stuff. But I think one, if somebody is legitimately a fast twitch athlete, you know it. If you're earning your way via that process, then that's where this matters.

**Robb:** For an average schmuck like myself, it doesn't really matter all that much because I'm a mixed-fiber type and I do things to help maintain my fast twitch motor units and whatnot. But even the sport I do, jujitsu, isn't going to be won or lost due to my explosive fiber type. Like it might be helpful. It could be harmful. It depends on the type of jujitsu you want to do. So it's ... Yeah. You have any other thoughts there or...

**Nicki:** I do not.

**Robb:** ...just painfully drag this along the next spot.

**Nicki:** I do not. All right. Gosh. Robbie, you need a walk this morning.

**Robb:** Eat something breakfast.

**Nicki:** Something.

**Robb:** I'm kind of hungry.

**Nicki:** Breakfast. Yeah. We're on a tight timeline today. So getting her done. Let's see. It's time for the healthy rebellion radio trivia. Our healthy rebellion radio sponsor drink Element is giving a box of Element electrolytes to three lucky winners selected at random who answered the following question correctly.

**Nicki:** Rob wrote this one, of course. Rob, when splitting three cords of firewood, what is the first body part or system to fail or cry uncle?

**Robb:** It was a close race between my wrist and my low back but my low back. And just from ... It was as if I did literally like 30,000 back extensions, like my spinal erectors from my ear lobes to my sacral iliac and beyond were absolutely smoked.

**Nicki:** Well it was pretty much like five hours of one day and then two eight-hour days...

**Robb:** In a row.

**Nicki:** In a row of you splitting...

**Robb:** Yeah. Which I know people do that. But like the funny thing about being in reasonably good shape is that you have enough engine to do stuff like that but I did not have the specific work-hardening or...

**Nicki:** No. You haven't split wood since you lived in Reno.

**Robb:** Yeah. And even then, I don't think I really split wood at this volume. We would get like a chord, maybe two chords and stuff like that and so, yeah. Three cords of wood was a spicy meatball and we have bad weather coming. So I had to get the shit done and get it stacked and get it covered and so I had to...

**Nicki:** You hustled.

**Robb:** ...stumble through it. I hustled but by the time my back was done, it was all done.

**Nicki:** It was done so that's the answer to this week's trivia question. To play, go to [robbwolf.com/trivia](http://robbwolf.com/trivia) and enter the answer and we'll randomly select three of you with the correct answer to win a box of Element electrolytes. The cutoff to answer this week's trivia and be eligible to win is Thursday, September 23rd at midnight. We'll notify winners via email and also announce them on Instagram as well and this is open to residents of the U.S. only.

**Nicki:** Our fourth question is from Steven on Finasteride for baldness. Hi Robb and Nicki. I recently visited the doctor for a checkup and she noticed that my hair is starting to thin up top. Sad day. She recommended that I get on a medication called Finasteride and said that if I start taking it now, I can likely preserve my luscious locks. Did some digging online and the testimonials I have found regarding side effects scare the bejesus out of me.

**Nicki:** Do you have any thoughts on this medication and do you have any recommendations on the diet/lifestyle side of things to help me keep my hair? For context, I'm a 32-year-old male athlete, rock climber, and in excellent health. I follow a mostly paleo diet with a few exceptions here and there. I eat plenty of protein, one gram per pound of body weight, mostly from grass-fed beef and about 200 to 300 grams of carbs per day to fuel my training and climbing. I plan to start taking more collagen supplements to support tendons, skin, and hopefully hair. Any thoughts are welcome. I love the podcast and what you've done with the healthy rebellion. Thank you for all that you do.

**Robb:** Yeah. So Finasteride is a ... It blocks the conversion of testosterone into dihydrotestosterone and we've talked about this a little bit in the past and it definitely can halt hair loss. You can take it either systemically or topically but the effects, even when applied topically, can be systemic and it includes depression, an absolute cratering and destruction of libido. It doesn't affect everybody but there are folks for whom they did a modest round of Finasteride or similar drugs and never got their sexual function back and so...

**Nicki:** That would scare the bejesus out of me too.

**Robb:** Yeah and it's one of those. We would like to be able to discuss risk-reward scenarios when we endeavor into medical circles. Sometimes you can do that and sometimes you can't do that and this is definitely one of those things that I'm having a come to Jesus moment about is your hair really as important as potentially doing that?

**Robb:** So a couple of things with this. If it works for you, you have to use it for forever or the hair loss begins again upon cessation. So if you do it, hopefully you're one of the people that get minimal or no side effects because if you want to forestall the hair loss like you are on it forever or as soon as you stop, then it will start falling out again.

**Robb:** What other thoughts? And the side effects are nontrivial for some people. It's not all people but for some people, once those side effects set in motion like the depression, sexual dysfunction, some people do not get that back. You know? So I don't know.

**Nicki:** So there's always like shaving your head. Lots of men look great with a bald head.

**Robb:** Even look better.

**Nicki:** Or just letting it thin naturally and however your body is meant to age on this time on this planet. Those are options.

**Robb:** Ish. I mean I like fighting it to the best of one's ability. Diet side, there is some literature that suggests hyper insulinism is a possible driver of a male pattern baldness, as an example. It doesn't sound like this is probably an issue in this case but it is worth noting that when we observe non-westernized populations, male pattern baldness is like a non-existent thing for the most part and I'll delve into this really quickly.

**Robb:** It was ages ago I read this but people may remember that the Japanese samurai would actually shave their heads in a male pattern baldness shape and there was some thought around that that that indicated that the individual ... that that occurred in some people because they were well enough fed to be able to get some degree of hyper insulinism and get that conversion of testosterone into dihydrotestosterone and then ironically, it was viewed as being kind of like a virileness-type thing. I don't know. I remember reading this paper ages ago and it just occurred to me and I don't even know where the hell to look for it. I guess samurai hairstyle?

**Nicki:** Is this a Pub Med search?

**Robb:** Yeah. Samurai hairstyle androgens. I don't know where you would start looking with this but I guess Stephen could do some tinkering like mitigating the carbs a little bit just to see if he gets some benefit with that. But yeah. I mean my hair is thinning. I don't really give two shits at this point. I'm married. I have kids. My dome looks reasonably good shaved so I just don't care.

**Nicki:** And I don't think that male pattern baldness is like a turnoff either. Like if you're not married, I don't think that that's something to be like oh, I'm never going to find a wife if my hair is thinning. I think most reasonable women have a long list of other things they would like in a partner that doesn't include the hair.

**Robb:** Unless you have Dave Dooley here. Like if Dave Dooley started losing his hair, that would be a sad, sad day.

**Nicki:** It would be a sad day. Dave has epic hair.

**Robb:** Dave has amazing hair.

**Nicki:** Yeah. He does.

**Robb:** So maybe Steven has Dave Dooley-type parents. So I am diminishing his plight.

**Nicki:** Yes. This could be the case. Yep. All right.

**Robb:** Let's move on. So Steven, the long and short is I think your concern around embarking on this is well-founded and I don't know whether you do or don't but just keep your eyes open for side effects, for sure, including sexual dysfunction and depression like severe depression.

**Nicki:** Okay. The last question is from Sarah and she wants to know which animal is best if you're making bone broth. Hey team. I love the podcast and all that you do. I recently moved abroad and suddenly I had access to many high-quality, inexpensive, inexpensive animal bones. I've been making beef bone broth in the instant pot, game-changer, and it's delish. I usually break my fast with a cup and I've saved the fat for cooking. I accidentally bought lamb bones once and turns out they made amazing bone broth too. So now I wonder is bone broth actually that good for me? And if so, which animal is best? Beef, lamb, chicken, camel? No joke. And any suggestions on finding literature on animal nutrient contents. Camel broth.

**Robb:** I guess I'll try to tackle the nutrient side of this first. We seem to get a decent amount of collagen from the stuff. We get a little bit of minerals. Like the mineral content was really over-hyped on all of this. I don't know that like it's going to be significantly different camel versus elk versus donkey. You know? There might be some difference and I don't know that anybody has really quantified any of that stuff.

**Nicki:** I don't know that it even ... Yeah. I think just variety. If you have access to it, experiment, see which ones you like the best and then kind of go with the ones that you prefer.

**Robb:** Yeah. Yeah.

**Nicki:** They have ... lamb broth has a different flavor than chicken and beef and I've never tried camel broth but if I were you, I would try it and then we'd like to know.

**Robb:** That would be one to report back. Yes.

**Nicki:** Let us know Report back. But yeah. Just like a lot of things, I think kind of variety for whatever is local in your area and yeah. Mix it up.

**Robb:** I like it.

**Nicki:** You like it? Okay. I feel like we flew through this one.

**Robb:** I'm hungry and we're somewhat tight on time so I didn't ... and I didn't, all my dilly dallies lately have just been getting me in trouble. So I'm just doing neither daily nor dally.

**Nicki:** Okay. Well, you dilly dallied a little. You started off with a little dilly but we...

**Robb:** Shifted to dally.

**Nicki:** We reverted it around it. Okay folks. I think that's a good spot to wrap up this episode. Please be sure...

**Robb:** Possibly the whole show.

**Nicki:** Please be sure to check out our show sponsor Element and grab all your Element for your electrolyte needs. You can do that at [drinkelement.com/Robb](https://drinkelement.com/Robb). That's [drinkelementea.com/robb](https://drinkelementea.com/robb). Be sure to share this episode. Remember if you're interested in joining the healthy rebellion and getting in on our fall 30-day rebel reset, that reset starts on Monday, September 20th. That's this coming Monday. So if you want in on that, be sure to sign up before midnight on the 20th and we look forward to seeing you in there and we'll catch you all next week.

**Robb:** Bye everybody.

**Nicki:** Bye.