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 1 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 bridges in a bunch, well, there's always Disney Plus.

Robb: Welcome back friends, neighbors, loved ones.

Nicki: Hello, everyone. Welcome back. This is episode 165 of The Healthy Rebellion Radio, and it's been a bit of a whirlwind, but we're here. We're back and we've got, I think, a pretty solid episode for today.

Robb: Well, not as solid as we ever put out.

Nicki: The questions are solid. We'll see if the answers are.

Robb: Do you want to share our... So we just moved.

Nicki: Yes.

Robb: We're in Bozeman. Do you want to share our first night?

Nicki: Sure. That was fun. So we got in, I think it was a Tuesday night and we've had a couple of big rainstorms. We're going to bed... Well, I'm blanking on the-

Robb: Well, there was a lot going on.

Nicki: I am.

Robb: So we have Dutch who-

Nicki: Our Rhodesian Ridgeback who's seven years old. And he can't-

Robb: Effectively walked on hardwood floors. Yeah. He struggles with hardwood floors. He can do wood-look tile that has grooves in it, but any kind of smooth tile or hardwood he is effectively... He strands himself and so we end up having these runner carpets all over so that he can rotate around the house. This house also has hardwood floors. And has stairs, and the stairs are wood.

So you probably have blanked it out. So we did manage to get Dutch upstairs-

Nicki: We did.

Robb: ... to Zoe's room.

Nicki: Which has carpet.

Robb: Which has carpet, so he was happy in there.

Nicki: Okay. I'm remembering now. All right. I hear Zoe like I see lights getting turned on and I'm hearing her. So I get up. It was probably like four in the morning and I'm like, "Do you need some help? What's going on?" She's like, "Dutch just threw up on my carpet." And so they had found a bone here from... The previous owner had a dog and there was a bone and both dogs were chewing on it and if Dutch swallows any kind of bone fragments, then inevitably-

Robb: He throws up.

Nicki: ... he throws up. He gets some sort of stomach irritation.

Robb: Real dogs can plow through-

Nicki: Not him.

Robb: ... all number of bones and be fine with it because that's what they do in the wild.

Nicki: I'm like, "Don't worry, I'll take care of it. You go back to bed." So I'm getting the paper towels and the carpet cleaning. Actually, I didn't even have that unpacked yet, so I just got damp rags and was cleaning the carpet. And then a super windy, blowing raining, super windy and the back patio door has this weird way of closing it and I couldn't figure it out the first day. It's like you have to pull down or something the way the locking mechanism works, but it's windy and it's kind of blowing open. So I take a tub that we had near the kitchen and I block the door. I put the dog food bag, 40-pound bag of dog food there to just support it. I'm thinking-

Robb: Trying to shim the door.

Nicki: Thinking it's heavy enough that the door won't blow open. So then I'm walking back upstairs and a huge gust of wind comes and blows the door knocking the 40 pound bag of dog food, which was open, and I had it rolled up at the top, but it wasn't sealed. And so then I have 40 pounds of dog food all over the floor.

Robb: Literally like empty bag.

Nicki: And rain coming in. And so I'm like, "Help." And so he's like, "I'll help you." So she comes running down and I have her holding the door closed while we're putting the dog food back in. Anyway, it was a complete disaster. Robb slept through the whole thing because it was raining.

Robb: Because we were fucking smashed.

Nicki: And it was raining, and so there's a lot of white noise. Well, the rain, we also had the windows in our bedroom open. So we wake up the next morning and the rain had just been pelting through the window.

Robb: The eaves of the house are short and in part it's cool because it gives you some really nice views of the area.

Nicki: And light through the windows.

Robb: The downside is that if the wind is blowing and it's raining, you cannot have the windows open.

Nicki: Yeah. And so we had our suitcase open on the floor and so-

Robb: Our travel go-bag.

Nicki: Our whole suitcase was covered with [inaudible 00:05:04] an inch of rain puddled in there.

Robb: And then I think you managed to almost get back to bed and the previous owner of the house... There's some really nice views and so he doesn't have screens in all of the potential windows. He puts them in some of them, not others. So we had leaned one of the screens up against the wall.

Nicki: Oh, yeah. I forgot about that.

Robb: And Nicki was almost asleep again.

Nicki: And then the wind blew that screen down, so it was just like the smacking sound of the metal rim of the screen hitting the floor. It was a very not restful.

Robb: It was all completely first world stuff. I mean, woe was me.

Nicki: Which is funny. I blocked a lot of it out as you can tell.

Robb: Yeah, you did. But we're here.

Nicki: But we're here. Yep, we're here getting into our routine, had our first day of Jiu-jitsu yesterday here at SBG Bozeman, was a fabulous class. Coach Ricky is great. Really, really great. Learned some escapes from the triangle, which we'd never seen before.

Robb: I saw it. It was a unique take on it. It was phenomenal.

Nicki: A new escape from triangle, early escape. Obviously, if you're deep in the drink in a triangle, your best escape is probably to tap. But-

Robb: Or pass out [inaudible 00:06:22] one person.

Nicki: Or pass out. So that was good. Started back up with homeschooling. So we're finding our groove there and just a lot of change, but all good. And we're healthy. We're happy we're here. We did have a question though, because we wanted to crowdsource something that we've been struggling with relating to kids and devices and in particular music. We'd like our kids to be able to listen to music, but it seems like the only way is to give them some sort of a device, which they could then also-

Robb: Way back in the day, there were iPod touches and you just put music on it. They just listened to it. We will crowdsource this and see if we come up with a better answer. I do remember the solution that we had to this and we buggered it.

Nicki: What was our solution?

Robb: You're supposed to do an old iPhone and then put a setting on it that there's a time limit or no exit. Maybe one minute for YouTube or searching the internet or whatever and we scuttled that. I gave the kids the code to it.

Nicki: Oh, so you're saying give them an old phone, but the time limit is super restrictive. So one minute. So if they go to Safari or whatever to try to search something else.

Robb: I remembered it just as we asked it. And so we still will crowdsource this. It is frustrating to me that there's not just a simple MP3 player device that you could put some music on there and kids can have it.

Nicki: It doesn't get two stars. Like something that's like actually functional.

Robb: But that is the generally prescribed solution to all this stuff is that you just said.

Nicki: I also don't love that though because then we end up... Like Sagan, a little miss gymnastics kind of style queen loves to take pictures of herself. I just feel like I just want music only.

Robb: You can set it.

Nicki: You can block the camera?

Robb: I believe you can block the camera. You can set it so all this stuff is blocked. So folks help us on this. If you've got an elegant solution.

Nicki: If there's something better.

Robb: I remember when I was nine and 11, I liked listening to music. Back then it

was mainly the radio station and cassette.

Nicki: We had a Walkman. I had a Walkman. I can't remember how old was I was.

Robb: Like 11 or 12, something like that.

Nicki: We had a little boombox thing that had played cassettes.

Robb: So I definitely want them to listen to music. Fortunately, I'm around because Nicki's taste in music is abysmal, and so I'm helping to cultivate the kids' broader understanding of music, including punk and heavy metal, and ska, and stuff like that. That's good. There are things besides Billy Joel and...

Nicki: Well, we found my old collection of CDs and I'm painting out part of the shop where we're going to have our gym stuff and the walls need painting. So I've been revisiting some of my old CDs and I did put in... I have this Irish band called The Corrs that I used to really, really like and I was like, "Oh, I haven't heard this clearly in 20 years." So I put it on and Sagan is like, "Mom, this is terrible." And I remember really liking it and it's good, but it's like not. You can't paint to it. So I scuttled that one.

Robb: Stop painting music.

Nicki: Went to Fleetwood Mac for a little bit, yeah. Anyway.

Robb: It was hilarious though, Nicki put her Sublime CD on and it played and then she's like, "Why did it stop?" I said, "Because you have an archaic music delivery system and it played the album and it stopped." Anyway, if y'all have some thoughts on that, please let us know. But when Nicki mentioned that she was going to crowdsource this, I remembered that there is a solution out there, it's just we didn't actually stick to our guns on that. So that may be bad on us. Anyway.

Nicki: All right.

Robb: For whatever reason people come to this podcast, they didn't come for all that.

Nicki: Let's see. What do we have for a news topic today?

Robb: So this is just a piece from US news. Let's see here. See if I can pull this thing up. New COVID-19 hospitalizations increased by nearly 16% and then the byline coronavirus deaths also appear to be rising slightly, although the CDC's provisional mortality data is prone to amendments and delays. Just kind of throwing this out there. I think most people are aware that there's kind of, I would argue an uptick in the fear porn around COVID again. There are some school districts that are masking. There are some people like Vinay Prasad who

he's a really interesting guy. He never bought into the notion that Ivermectin was effective or hydroxychloroquine was effective, which I disagree on, but he's been all over the masking and he has been fairly steadfast that the masking is ineffective for airborne illnesses.

This was super well established with influenza back in the day before this was a politicized hot topic. But you see this stuff kind of popping up again and I think even that tagline where hospitalizations are up 16%, this is an interesting and important piece to point out. And if you've paid attention to low carb diet studies or the dangers of bacon relative to smoking and all this type of stuff, it's reported in relative risk changes, not absolute risk changes.

So when you actually look at the baseline of hospitalizations, it's like a rounding error. You could almost make the argument that it's noise and that people are really, really trying to make this thing look significant. And even the byline there that deaths might be on the rise, but gee whizz, the CDC data is kind of prone to problems. And so the real issues that... I don't know, I don't want to devote a huge amount of time to this, but you will find people who insist that masks are super effective and they will save everybody even though that didn't seem to pan out.

There was recently some more recent, Dr. Fauci interviews in which he yet again admitted that he had this real white man speaks with fork tongue moment where it was masks do not affect anything at a population level, but they are critical at the individual level is what he said, which is absolute bullshit.

Other saying, man with one ass cannot ride two horses. It's like you can't have that one both ways. I thought also that all this masking and all the lockdowns and all the vaccination, which most people are vaccinated at this point, this was supposed to be our get out of jail free card. We were supposed to be done with all this stuff if we just complied, if we just did XYZ. And most people did out of good faith and also out of being bullied and harangued and threatened, and de-platformed and fired and all number of things. Now, this stuff is ramping back up again. And to know the science does not support the application of say, broad scale masking.

And again, if you individually want to do that, by all means have at it, that's fine. But the science doesn't support this at a broad scale. We are not seeing overwhelming issues within hospitals. There is no compelling reason to start doing this stuff.

Nicki: Especially in schools with kids.

Robb: Particularly in schools with kids. We've just had enough. So just throwing that out there and if you disagree-

Nicki: We can also link to the Vinay Prasad article about the masking too.

Robb: We can certainly do that.

Nicki: He did a great piece on-

Robb: He's at a number of them.

Nicki: ... that regarding this resurgence of schools requiring masks, particularly N95 masks for children which they don't even make them-

Robb: They're way too big for the kids.

Nicki: ... for children.

Robb: They don't fit kids. There has never been studies looking at N95 masks-

Nicki: For kids.

Robb: ... for kids. So there's literally not a scintilla of credible data around that. But it's just been this doubling down. And there's some really interesting material out there on the potential negative health effects of wearing these things, hypercapnia, the elevated C02 levels, causing stress, the toxicants including titanium dioxide and other items that are being inhaled and ingested a wholesale to say nothing in this time where we're just being bludgeoned with all this climate change type stuff.

Nicki: The waste. [inaudible 00:15:54]

Robb: The environmental waste and resources that have gone into these goddamn masks. And if you disagree with all this, please write in and give me a compelling argument to the contrary or if you can link to some well-designed studies and by all means change my mind. But I do feel like this is a moment where we need to link arms, sit down.

Nicki: And resist.

Robb: And resist. This isn't going to happen the way that some folks want to this go around.

Nicki: Okay. Alrighty. The Healthy Rebellion Radio is sponsored by our salty AF electrolyte company, LMNT. Hydration is crucial for health and performance. If you find you're feeling less than optimal, you may need more electrolytes, particularly sodium. LMNT has all the electrolytes you need with none of the sugar that's common in most electrolyte products on the market. If you eat low carb or keto, if you're an athlete, if you get muscle cramps, if you're a breastfeeding mom, if you have pots, or even if you're just feeling a little tired and need a natural energy boost that doesn't have caffeine, LMNT is for you.

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robb. That's drink drinklmnt.com/robb. And it's September. So grapefruit salt is coming back.

Robb: Just around the corner.

Nicki: In just a short, short time.

Robb: Isn't the chocolate medley just on the horizon also?

Nicki: It is. Chocolate caramel. I don't know if I'm allowed to say this, but I'm going to anyway. Chocolate caramel is coming back as a standalone 30-count box and that's coming this fall. And then we have another chocolate medley with a couple of new flavors that-

Robb: And they're quite good.

Nicki: That are sure to satisfy the winter hydration taste buds.

Robb: Cool.

Nicki: Okay. We have three questions for you folks this week. The first one is from Julie about the 30-day reset and she shares that she's a 40-year-old female, five-foot-three. Basal metabolic rate is 1542 based on a calculator I found using Google. I weigh 199 pounds. She says, "On September 1st, I started the 30-day reset. During July and August I was more conscious about what I was eating and I lost 18 pounds. While doing that, I read Wired to eat and decided to use September for the 30-day reset. Today is September 4th, so this is just my fourth day on the reset. Yesterday morning I woke up hungry, which is abnormal for me, but I waited about two hours before I ate breakfast because that's what I'm used to. After getting my day started, I wasn't feeling hungry anymore, so it wasn't a big deal to wait to eat breakfast."

"I typically wake up, I lift for about 30 minutes. Some days I take a walk for one to two miles, then shower and eat breakfast. I don't normally feel hungry until a couple of hours after waking up. Aside from waking up hungry yesterday and today I have had almost no appetite. Because I lift I feel like I should be getting a good amount of protein in my diet. Typically, I would be eating 25 to 35 grams of protein per meal. I had a packet of salmon and some green beans for lunch today, and I basically forced myself to finish so I could get the protein I feel like my body needs."

"While I'm not trying to make any hardcore gains during the 30-day reset, I don't want to lose any muscle mass while I go through this. Just seems like yesterday and today after I take a few bites of my meal, I'm no longer hungry. So my question is, is this loss of appetite normal or should I be concerned that I'm not eating enough? For the past three days I've been eating between 850 and 1,100 calories. Should I eat more even if I have to force myself because I'm not hungry?"

Robb: It's a really good question. I do think that being at that really low level can be a problem going forward. Some people get this kind of weird paradoxical effect from dieting in general, from low-carb in particular in which the appetite just plummets. The thing is that if you are super calorie restricted, unless you are eating a significant amount of protein, and this is getting into the PSMF, the protein-sparing modified fast, where you're usually doing well above a gram of protein per pound of body weight, and if you're doing some resistance training, then you can stave off the lion's share of lean body mass loss. You're going to lose some, and we really don't want to do that.

Particularly you start getting into your 40s and beyond and it's a bastard to gain muscle back. It's great to lean out, but a more gentle approach to this is arguably better where we've got a long time horizon. We're lifting weights, we're setting goals around getting stronger and building and or maintaining muscle mass. So the why of this is somebody smarter than me might have a better answer to this, but it just varies. Some people are kind of like this. I'm kind of like this sometimes where if I have some gut issues flaring up or something like that, and I really limit the types of foods that I'm eating to deal with that issue and I'm just down to protein and some fats, I don't do well with nuts, particularly when things are getting squirrely.

So looking at a hunk of meat. I like a good rib eye and stuff like that. I can't do the Sean Baker thing of eating three of them in a row. I can't do it. I'm able to hit about my grandma protein per pound of body weight, but that's kind of some work for me. I just bogged down on this stuff. So this might be a deal where you reintroduce just a little bit of carbs. 10, 15 grams of carbs per meal just so that you actually do eat a little bit more again.

Well, here's an angle on this. When we've worked with really skinny high school athletes that are needing to gain weight for football or rugby or they just want to fill out their britches a little bit, a really restrictive low-carb diet is counterproductive oftentimes because it is so satiating. And so we will actually drop protein and fat just a little bit and reintroduce some carbs and lo and behold, like the person is hungrier and they will tend to eat more.

So I would make a case for, you don't need to be neurotic about the calorie counting, but just keep an eye on what you're doing. Use something like chronometer and whatever meal lands on your plate, track that so that we've got a baseline and then we can keep course adjusting as we go.

Nicki: She said she woke up hungry but weighted. Would you suggest that if she wakes up hungry just to eat right then?

Robb: Maybe, yeah. Maybe.

Nicki: Especially since the exercise she's doing is lifting. It's not like she's going and doing some cardio or something where she might get an upset stomach from

having food in your belly. Most people can eat and then lift without having any kind of digestive issues from that. The only other thing I can think of too is just to maybe mix up the proteins so that if you feel like you're bogging down with just salmon on your plate, maybe if you have some leftover ground beef or some leftover turkey or shrimp or something, so you have a little bit of variety.

It's often easier to get it down. You won't have the palate fatigue. You won't bog down with a given protein and then you can make sure you get that 25 to 35 grams that you're shooting for.

Robb: Both of us have. Nicki and I have both been doing that more as time goes on. Like if we have some steak left in the fridge, we'll fire up some shrimp or something like that and it's like half steak, half shrimp or something. It's just easier and more enjoyable to get that down.

Nicki: Okay. Hopefully that helps Julie. Keep us posted on your reset. Let's see. Our next question is from Susan, wondering if a DIM supplement is causing a sudden decrease in HDL? "Hi, Robb and Nicki. Longtime listener, maybe since 2009. The Paleo Solution with Robb and Greg." Good stuff. As an aside, we got to see... I don't know if we mentioned this on a-

Robb: I think we did, but I'm not sure but it's worth-

Nicki: Right before we moved, Greg came through Kalispell and we got to spend an evening and a morning with him and it was really great to reconnect. So he's doing well. He was off on a little hunting, fishing, adventure kind of backpacking thing.

Robb: Well, back country survival skills.

Nicki: Survival skills, yeah.

Robb: Yeah.

Nicki: Kind of like alone, but without being alone.

Robb: And without the film crew.

Nicki: Yeah. Anyway. Okay. So back to Susan's question. She says, "As a sprite 20-year-old in about 2000, I started the Atkins diet and transitioned to clean eating around 2008. My total cholesterol has always been around 200 and split 50-50 HDL, LDL. I've had it tested dozens of times over the years. I've been the same weight since my teen years, immediately went back to that weight post pregnancy. My body fat by hydrostatic testing has ranged from 17% to 21% throughout my adult life with it being more near 17% in my later adult life, more self-control about calories, I think. I lift weights with intensity six to seven days per week and keep my calories between 1,600 to 1,900 per day. Supplements..." So she lists her supplements that she takes, magnesium, vitamin D, a cheap little

multivitamin, fish oil and DIM. "I'm now 44."

Robb: And DIM is Diindolylmethane. It's an extract from broccoli type stuff.

Nicki: She says, "I just got my fasting blood work done and my HDL has dropped from a hundred to 110 down to 77. And my LDL has gone from a hundred to 149. Two things have changed in my lifestyle. One, the addition of the DIM supplement last summer. Before taking DIM, I had horrible perimenopause symptoms. I was waking up in the middle of the night so drenched in sweat that I would need to take a shower. If I wasn't drenched, I was nervous, stressing, mind-spinning and not sleeping. 100% of my symptoms are gone since starting 300 milligrams of DIM before bed."

"Number two, simply in an effort to keep calories under control, I've entirely cut nuts out of my diet. I used to eat tons and I eat a lot less meat than I used to, red meat. I have also started to sometimes eat fake foods like protein bars, which I never would've previously touched. I've been feeling pretty good, crushing it at the gym, staying lean and mentally pretty clear. So I was excited to get my blood work back. Lo and behold, my LDL is up and my HDL is way down. It hasn't been below a hundred in the last 20 years, so I consider this a sudden drop. Also, my kidney function is looking pretty mediocre. EGFR of 81, sodium and potassium are off too."

"In any case, my family tends to drop dead like flies at a pretty early age due to cardiovascular disease. Skinny little Irish smokers. So this sudden fluctuation in cholesterol is pretty scary to me. Dr. Google says that taking progestins may cause HDL to drop. Dr. Google also says that DIM causes an increase in progesterone. My question is, do you theorize a tie between the DIM supplement and my sudden drop in precious HDL? And as a very active person with a 90% clean diet, should I care? The other 10% is protein bars and Chardonnay. There's very little to be said about the long-term effects of DIM out there on the interweb, so I'm interested to hear your thoughts."

Robb: Yeah, Susan, I think that you're onto something interesting here. The DIM won't specifically cause an increase in progesterone generally, but it does block the effectiveness or the estrogen making it to the estrogen receptor site. So if an individual ends up with some sort of estrogen dominance, which can happen, PMS symptoms can be something like that. And also in perimenopause, not infrequently, women who are interfacing with a functional medicine doctor, they'll get a progesterone cream or something similar.

Sometimes also subdermal testosterone, sometimes also some estrogen. It really depends, but it's trying to strike a balance that looks more like that youthful profile. So that might be the case. And this then, which that's a whole... The endocrinology is fairly complex and has a lot of moving parts, and then you graft onto that this change in your lipoprotein status and it's kind of like, shit, okay, there's a lot of moving parts to that.

It still is one of these things where simply having very high HDL is not necessarily in and of itself protective around cardiovascular disease. There's a lot of back and forth on it. High enough HDL seem to contribute to cardiovascular disease if you buy into that whole lipoproteins being a factor in the cardiovascular disease story. I think it was maybe two shows ago, three shows ago that we had a pretty-

Nicki: I think it was the last show,

Robb: Last show, really deep dive on all that stuff. So that might be worth digging into. There was recently an interesting study that Sean Baker dug into a fair amount revisiting the triglyceride to HDL ratio which we just... What that really is suggestive of is good insulin sensitivity. The case that was made in this situation, people undergoing cabbage, coronary artery bypass grafts, not a single person who had the cabbage procedure had an A1C below 5.1, which a little bit on the high side. And people tended to have much higher than that. They also had a pretty unfavorable triglyceride HDL ratio, which is within the whole metabolic syndrome story is suggestive of insulin resistance and metabolic syndrome.

Nicki: I mean, she's concerned mainly because of the LDL and HDL, but is there a bigger picture that she should be looking at to really feel more confident about the direction her blood markers are moving?

Robb: It really depends who you want to trust, who you want to believe. You go over to the Peter Attia side of the camp, and he would be of the opinion that this is probably a really unfavorable metabolic shift, that there's something really amiss here. It'd be helpful to... And it's inexpensive to do. It's less expensive than getting the LDL particle count and whatnot. Just getting an ApoB so that you really stratify out specifically what that ApoB particle count is and get our arms wrapped around that. And we talked a fair amount about that, ApoB number in the previous podcast.

And then if you go over more to the Malcolm Kendrick, Gary Taubes side of the story, insulin inflammation, all these other things are major factors in this story. I would say Bill Cromwell is a little bit in the middle, although maybe a little bit more on the Peter Attia side where he really is of the opinion that these elevated lipoproteins, specifically the LDL particles, ApoB are these really concerning features and that we want to do some stuff to corral that.

I am still just flummoxed about the whole thing because there are other pretty well done... I mean, they're retrospective in nature, but there are these fascinating studies that suggest that women seem to live longer the higher their cholesterol is. It doesn't seem to apply quite the same way to men. There may be an inflection point where once the woman goes through menopause that there may be some changes there. Some of that change may be iron overload.

There's a lot of different mechanisms, but one of the things that changes, you don't have menstrual cycles, so you start accumulating iron, and if you accumulate iron, you've got potential oxidative stress. And maybe that's the factor there. Even someone like Peter Attia will fully admit that LDL is necessary but not sufficient for the atherogenic process. We need some sort of vascular damage. But then people rightfully in this has been something I've always thought about.

We always have some amount of vascular damage. We always have some amount of dermal damage. Unless you live in some sort of jelly filled bubble, your skin is getting abraded at some clip and it needs to repair itself. And there does seem to be this story where vascular damage part of the repair process necessitates the interface of the LDL particles, the ApoB particle, and then that can be the precipitating event for this atherosclerotic lesion. We may at some point just not answer any lipoprotein questions at all because it's honestly-

Nicki: There's so many variables and it's so complex.

Robb: So many variables, and it just makes my head spin. I just haven't landed in my camp. I see really compelling arguments on both sides of this. You can look at the reality that children can develop fatal atherosclerotic plaquing and advanced coronary artery disease nine or 10 years old if they are homozygous sickle cell anemia. And they experience that really gnarly damage to the vascular endothelium. So it calls into question the children have very, very low lipoproteins but is it just high enough plus the endothelial damage that you're able to get the vascular endothelium of a 50-year-old person who's eaten poorly and been a packet day smoker for 30 years.

Then you've got the reality of people with familial hypercholesterolemia. If you see a population that seems to benefit significantly from statins and or PCSK9 inhibitors, those are the people that benefit from it. But also in the case of statins, we know that the statins are doing a bunch of other stuff besides just cholesterol lowing. And a point to that is that doctors now generally don't treat to a specific lowering. They just want people on the statin. Again, there are some people so much smarter than myself and so much deeper into the woods on this.

And some of them are pretty emphatic in their positions. But then you get interesting counterpoints and there still just isn't this really elegant, seamless solution to this whole thing. I'm on an email list where it's a bunch of low carb practitioners and somebody raised this question around insulin resistance. What is the basic etiology of insulin resistance? And there's the carbohydrate insulin model, which is Gary Taubes deal. There's the thing that I'm more a fan of, which is the personal fat threshold.

What's interesting is the personal fat threshold I think offers a much better predictive model, but there's literally almost not a scrap of randomized control trial data to support it. It's completely theoretical at this point. So I don't

know. I don't know. I do think that getting an ApoB test would be great, and then getting in and doing a CT angiogram, a coronary calcium score looking for overt disease process is really smart. All of this shit is just surrogate markers for things that we think are active in the disease process.

And we have examples of people who have wonderful looking lipoproteins and they've got advanced coronary artery disease. And then we have people who have absolute dog shit looking lipoproteins and metabolic parameters. And they'll do the CT angiogram, they'll do the coronary calcium score. They'll get in and do that like 3D imaging of the heart vasculature and everything. And they're clean as a whistle. This is, again, where I think more and more... If you've got the resources to do it, get in and just look at specific disease process. Is that actually happening?

And then we can benchmark that against your diet and lifestyle and your lab work. And then it would've been great to have that number before this change so that we could see, "Oh, wow, the HDL drop, the LDL went up. We follow up our CT angiogram, and lo and behold, maybe you do a CIMT, the carotid internal media thickness test or some of these other tests. Do we see a change with that? But I am leaning evermore into doing some direct disease process screening instead of looking at these surrogates and just kind of picking which religion you want.

Nicki: Like reading the tea leaves.

Robb: Yeah. Reading the tea leaves.

Nicki: Okay. Alrighty. Our third question this week is from Trevor on vasectomy research. He says, "Hello, my question hearkens back to The Healthy Rebellion Radio episode 63." A question was asked about getting a vasectomy. Robb, you referenced someone you know who found research that indicated negative hormonal consequences, less testosterone following vasectomy. "I find myself in the same situation now as a 44-year-old over fat dude, considering vasectomy for birth control. My wife has used hormonal birth control methods during our marriage."

"Now, her functional medicine doctor is encouraging her to cease her hormonal intervention to work on some health concerns. Before I run my business into a scalpel, I'd like to know the potential hormonal risks I'm facing. I've done my amateur keyword searches on jama.org and PubMed, but I can't seem to find the research you mentioned in that episode. The conventional health articles say lower testosterone is not a risk. Can you help me find the research you mentioned or some tips on "how to fish" and do better research on my own? Thanks for all you do."

Robb: I will poke around. I didn't in advance of the show grab that article, but I can do it after this. It's really mixed. There's some data out there that suggest that we see a total magnitude decrease in total testosterone. We see a decrease

in total M3. Some things that I've seen suggest a shift towards higher dihydro testosterone levels amidst overall lower free testosterone. So I will track that down and put it in the show notes, but it's not crystal clear. It may be a person by person situation. It's been fairly well studied and there's a lot out there that suggests that there's no negative consequences and it's a little bit more of a cherry-picked deal where you find situations that suggest that there is in fact a problem.

Nicki: I think, Trevor, you might... I mean, it would be... I don't know if you know what your current testosterone level is, but if it's in a decent healthy range for your age, I mean, you're basically trying to decide, "Do I potentially take a hit and help my wife who has something going on that her doctor is wanting her off of her hormonal birth control?" You've got to make a choice here. Or at 44, I don't know how your old wife is, maybe, I don't know. If your testosterone is quite low and you feel like you don't want to take that risk, maybe there's an IUD or something else that she can use. Those actually are hormonal too, though.

Robb: There are non-hormonal IUDs also.

Nicki: But I guess figuring out a birth control method that would make it such that both of you can attain whatever health outcomes that you're looking to attain.

Robb: Yeah, because there's a risk.

Nicki: Because there's a lot of stuff with her being on hormonal birth control for a long time that there's definitely stuff with that. So I think getting off of it is probably a really good idea for her. So if your numbers look good, it might be time to go in for the snip.

Robb: Again, Trevor, Nicki put this episode together a while back and I looked at it and I meant to pull this stuff up, but there's a case to be made that even if... I would get a baseline so that you just know where you are, and then that will help inform. And if you want to do a follow-up question like, "Hey, and I would do total and free testosterone, sex hormone binding globulin, DHT, estrogen, estradiol, try to get as comprehensive around that as you can, fire that back in and then we can... If nothing else, you've got a baseline then. Let's say you do decide to do the vasectomy, there are some solid studies that suggest that regardless of the situation, people can use items like Clomid that can help augment testosterone production.

I think Clomiphene in particular just... Excuse me, very little in the way of downsides. Clomid historically, about 1% of people had some significant vision alterations with it and Clomiphene does not seem to do that. And people who maybe were down in the mid-

Nicki: You've got a tickle?

Robb: Yeah, I've got a tickle in here. There's a tiny bit of-

Nicki: Sorry. It's mostly ice.

Robb: People who've been, say, in the low 300s, which frustratingly most doctors will be like, "That's within normal range." But lo and behold, running around at 300 usually feels very, very different than running around at eight or 900, which people can get a doubling or even more than a doubling of their base level testosterone level in Clomiphene. So there are other things that you could do. So when this overall risk profile, maybe it does negatively impact testosterone production because of some sort of not well understood feedback mechanism, but it's going to benefit your wife to Nicki's point. And there are still other things that we could potentially do to help augment the production. It's short of actually going on exogenous testosterone therapy, which is also something that could be done at some point down the road.

Nicki: Cool. Good questions this week. Thank you everybody for joining us again. I'm trying to think if we have any closing wrap up thoughts? Anything on your side?

Robb: Nope. If folks have an elegant solution to the MP3 music thing, other than me just wrapping my head around actually sticking to my guns around pass codes,

Nicki: Well, what it turned into is absolutely no access because it was turning our youngest into a little-

Robb: Monster.

Nicki: ... monster. She loves gymnastics, and she would watch these gymnastics videos, which some of them are like tutorials and that's fine. Some of them are like little mini soap operas with gymnastics, and it's like, "No. This is-"

Robb: There's like every genre imaginable like surfing, horseback riding, gymnastics, but if it's these-

Nicki: These like little mellow dramas that are just so painful and terrible. And the acting in it, there's all these antics, which then she would start-

Robb: Emulating.

Nicki: ... emulating, which were not welcomed in our household.

Robb: [inaudible 00:45:34] not making it to adulthood.

Nicki: All right, everyone. Thank you so much for joining us. Please check out our show sponsor, LMNT for all of your electrolyte needs. Remember, you can grab your LMNT at drinklmnt.com/robb. Have a fabulous weekend and we'll

catch you all next week.

Robb: Bye, everybody.

Nicki: Bye.