

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 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.

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

Robb: Welcome, wife.

Nicki: Welcome, welcome to me or welcome to all of our listeners?

Robb: Well, welcome to everybody else too but you're the first person I encountered in this soiree.

Nicki: Since we sat down at this table side by side?

Robb: Yep.

Nicki: Welcome everybody to another episode of the healthy rebellion radio.

Robb: Indeed, indeed.

Nicki: We might be a little pent up.

Robb: Could be happening. We-

Nicki: A little squirrely?

Robb: Yeah. Again, I feel like I keep telling this story again and again. But the fact that we moved cross country and didn't really know anybody for nine months, eight months. And then-

Nicki: When we were launching the Healthy Rebellion and all that stuff, we were pretty social isolated for a while.

Robb: We were just buried in here. And then just as the Jujitsu school opened and we started getting some social interaction, then COVID shut everything down. So yeah, I'm getting a little squirrely. I wouldn't mind just going to the Farmer's Market and walking around and stuff.

Nicki: You did get some social interaction the other night when you sent to Sagan to the Urgent Care?

Robb: I did. I did. We thought that Sagan had been bit on the leg by a snake. And it probably ended up only being a double sting from a scorpion is what we're guessing.

Nicki: Yeah, it was a little concerning. It was two, side by side, fang like looking punctures.

Robb: About a millimeter and a half apart.

Nicki: On the inside of her knee. And she was crying. But then the funny thing was is like right after about 10 minutes, she was totally fine and said, "Mom, it doesn't hurt anymore." But you don't know what you're dealing with when you're in the Texas Hill Country for the first time.

Robb: Indeed, you do not.

Nicki: So better safe than sorry and thankfully, she's totally fine.

Robb: Yeah.

Nicki: So all right. What do we have for our news topic today?

Robb: So it's a pretty interesting piece, beta hydroxybutyrate and its metabolic effects on age associated pathology. So it looks at both the ketogenic state and exogenous ketones providing beta hydroxybutyrate. And both the energy supply characteristics that would arguably be anti aging like energy recovery of say like neurological tissue that's not getting enough energy. I just did a salty talk piece separate from this, but talking about how there's two ways that we could damage different tissues, neurological tissue in particular.

Robb: One of them is too much energy so overeating calories, overeating carbs, overeating fat. All those things can negatively impact the cells. The other side of this, and the flip side can happen on the downside of an overeating scenario, particularly if we're very dependent on glucose. The downside is that we become insulin resistant and then we have inadequate glucose and then we have an energy crisis in the cells. And beta hydroxybutyrate can solve a number of things in that regard.

Robb: And then it's an H stack inhibitor which helps to mitigate the loss of telomeres as cells age. It's not perfect. It's not 100%, but it does seem to affect things in a favorable way. It tends to minimize the push towards myostatin activation and anabolic resistance that we experience with age. So from a multitude of different angles, ketosis and ketone bodies fair favorably from an anti aging perspective. Most of this data is still in mouse models so you have to take a rather large pinch of salt with that when extrapolating. But it's interesting.

Robb: Like at a minimum, and again in these mouse models, the ketogenic state is certainly not accelerating aging in rodents. And there was two studies done. One at UC Davis. Another one actually nearby those folks. I forget who did it. But they just a ketogenic diet, isocaloric was found to extend life span in these critters about 15%. So a non trivial amount. And again, will that apply to humans? We don't really know. But there are some ... At a minimum, there are some characteristics there that are suggestive that improves health span. So we've got linked in the show notes if you want to dig in. It's a good paper.

Nicki: Great. Our T-Shirt review winner is Under My Own Power. And he or she says, "Rob has been the voice of reason in the nutrition and activity arena. Once I discovered him, I went back and listened to every paleo solution podcast he ever did. This was a few years ago. I never paid a dime. The value it provided me in my life would be difficult to monetize. I believe in your cause and I can understand your passion. I'm not much of an activist, but my guilt is alleviated by the support I give to your podcast and your vision. Keep it up, brother."

Robb: Nice.

Nicki: All right. Under My Own Power. Thank you for your review. Send an email to hello@robbwolf.com with your T-Shirt size and your mailing address and we will send you a Healthy Rebellion Radio T-Shirt.

Robb: And folks are tagging themselves on social media when they get there so that's fun. It's the full loop.

Nicki: Sweet.

Robb: Yeah.

Nicki: This episode of the Healthy Rebellion Radio is sponsored by Athletic Greens. Athletic greens is an ultimate daily all in one health drink with 75 vitamins and minerals, whole food sourced ingredients. It includes prebiotic, probiotics, digestive enzymes, adaptogens, super foods and more. Athletic Greens is trust by some of the world's top performers, entrepreneurs, athletes and Olympians.

Nicki: And Robb, we were talking about this a little bit earlier, some folks ... A lot of folks actually don't do so well with the fiber content of the greens that they're eating.

Robb: Yeah, it's interesting. In an age of carnivore mania which I give a serious hat tip to, like the carnivore diet seems to be helping a lot of folks. But it's still, some people get spun out about like the ... Some people make the case that the main feature of consuming plants is that they provide a mitohormetic stress. So a little bit of stress now that prevents or mitigates the negative impacts of various stressors, whether it's exercise or tox skin exposure what have you later.

Robb: I think that there's some credible elements to that. But I think that there's also a reality that there's lots of different features to why people are benefiting from a carnivore type diet. And what a lot of people are finding is it's literally just fiber content that becomes problematic. So if people cook vegetables, puree them, put them in soups and stews. Then they do either fine or much better with it. And I view Athletic Greens through that perspective in that you're getting a pretty concentrated whole food profile of nutrition, but some of the potentially problematic elements like the fiber may be removed. And again, some people do great on fiber, other people don't, so yeah.

Nicki: Right. And Athletic Greens has a special offer for Healthy Rebellion Radio listeners. If you go to athleticgreens.com/wolf, you'll get 20 free travel packs with your first purchase. Robb, it's time for our questions today.

Robb: Oh wow, you're very musical.

Nicki: It's time. Our first one is on egg intolerance insensitivity from Jason. "Hi, Robb. I recently took a food insensitivity test and the results showed a pretty strong intolerance to one of my favorite foods, eggs. Sad trombone." That's why I had to get musical because sad trombone is in here.

Robb: Yes, that's true.

Nicki: "I would love to reverse this if possible. What approach would you recommend?"

Robb: This is a tough one. Like I had attributed what I thought was blood sugar problems. Ended up being the foggy headedness that I got from eggs. And we switched from standard eggs to duck eggs and for a little while, that was better. Like I felt pretty good. And then literally I got up one day, made some duck eggs. And I was on the toilet for five hours. And then, being the smart guy that I am, I did exactly the same thing the next day just to pressure test that. And I spent, I think, even longer on the can the next day.

Robb: It's tough fixing some things like this. Like if there's another kind of known problem like wheat or dairy or something and that's the precipitating event or factor in this story, then maybe we can get some healing in the gut and minimize this problem. Sometimes, it's a case of getting some food poisoning or some sort of a gut bug or something like that. And we lose the microflora that helps us to digest these other foods. Another tactic is to use things like apple cider vinegar. Steering people towards capsules because shooting the apple cider vinegar appears to be dissolving people's teeth so that's not a great thing.

Robb: So like apple cider vinegar capsules to improve the acid environment in the stomach. Maybe betaine hydrochloride. Certainly some broad spectrum proteolytic enzymes. Papain and bromelain being some of the goodies that you can throw into that. And that helps some people. And for other people like myself, again, I'm just the canary in the coal mine. I've done all of that stuff and I still just don't do particularly well with eggs. I can do a little bit of egg yolk cooked into other things. Like every once in a while we'll kick up our heels and have a coconut flour pancakes or something like that. And if there's a couple of egg yolks in that and I don't have it every day, then I'm okay. But if I have it serially, then I get that.

Robb: The way that I feel, it's foggy headed. And again, it's what I've historically associated with blood sugar dysregulation, but it's really not. It's an immunogenic response. So I guess to recap, like checking out say like Dr. Ruscio's Healthy Gut, Healthy You. Look at some of the gut restoration protocols there. Keep an eye open for some of these other things like histamine intolerance or oxalate issues that may be more foundational problems there. But there's a reality when we poke around in the literature. Like peanuts and eggs are just ... They're right at the top of allergenic list.

Robb: And maybe some of that has to do with the fact that like our food manufacturing. Like everything you pick up now, it's got everything else in it. So even when you think you're taking a break from eggs, you're not really taking a break from eggs or peanuts or what have you. Like it's hard to-

Nicki: And it used to be a fairly seasonal thing, right? Like chickens lay mostly in the warmer months and in the winter if they don't have lights on them, they slow down egg production.

Robb: This is a great point. It was post World War II, with chicken in every pot. And this was the industrialization of the food system. Before chicken was like it wasn't ... It was the way that we look at filet mignon or something like. It was like a celebration because people didn't have tons of chickens. When you look at the role that chickens play in an ecological perspective, they're not the base species. They are an accent species that is usually following herbivores and what not.

Robb: And even in traditional farming methodology, unless you're really putting a lot of grain inputs into the system, chickens will follow a very seasonal laying regimen in both the feed and the photo period as a factor there. So the ubiquity of egg consumption is a new thing. And then also egg albumen is used in some vaccine preparation. So there's a

potential that there's a cross reactivity there. But the long and short is that there's a lot of different ways that this stuff can go sideways and there are some mitigating strategies that can be used. But it just doesn't seem to address things for everybody. There is also that other side, and this is a little different than some of the reactivity that leads into hives and anaphylaxis and stuff like that. But there are some desensitization regimens that people can do where they actually give you a small dose of it.

Robb: But to me, that's a different scenario where we're dealing with more of an anaphylactic state and I don't that it would really address the gut features.

Nicki: Right.

Robb: Yeah.

Nicki: Okay.

Robb: We should ask Sybil and being our resident immunologist, she might have some thoughts on that.

Nicki: All right. Our next question is from Gregory. Nicotine and wiping. "Hi, Robb and Nicki, thank you for having taken the time to create the Ask Me Anything platform for the Healthy Rebellion Radio. I was blown away with your folk's openness to receiving and responding to my exceptionally long query. I did what you suggested. I cooked my vegetables until they were almost baby food. Incorporated a slight caloric deficit and I keep my exercise intensity low. I still have some hiccups here and there when taking care of business in the bathroom. But I'd say that 90 to 95% of the time, wiping my ass is not necessary. Any time that I do enjoy a raw salad though, there's immediate change so thank you."

Nicki: "Now as for the fatty liver, CT scans and blood tests came up inconclusive except that my liver is just slightly larger than normal. And my cholesterol is elevated, both total and LDL."

Robb: And he had ... Was he a call in?

Nicki: Yes, he was a call in back in one of our early shows. Yep. "Now if you have the time, could you help me out at looking at nicotine. I've read some of your work as well as others, purporting that it may be a multivitamin for the brain. Having no real effect upon circadian rhythm and possibly having a neuroprotective effect against Alzheimer's as well aiding and treating Parkinson's. I recently had a conversation with someone that raise the concern of nicotine and endothelial function. I've done some perusing through literature and it appears to be positive for angiogenesis, but a negative in that it may lead to atherosclerosis and cancer. This was looking at nicotine on its own and via gum usage, do you have any thoughts or insight?"

Nicki: "And then next and final question, when in the evolutionary timeline of humans do you think we began wiping our asses? Our cute cuddly fur babies don't poop after they poop a squat, pop a squat. I've never seen an ape do it. And like I said above, my digestion has altered in a way that I don't need to. Did cleaning the dark portal come after we began relying heavily upon agriculture? And is there evidence of tri play air puffed papyrus in the archeological records? I'd love to hear your thoughts. Thanks again for the work and questioning attitude that you promote. Gregory."

Robb: Good stuff. I'm not even sure where to jump in on this. Maybe the nicotine first. My sense in digging in the literature on this is that the endothelial dysfunction and some of the pro angiogenic properties that we see is really from tobacco as a delivery system and not from nicotine as a delivery system. It's really interesting because there were a couple of WebMD pieces on nicotine gum. And it was four or five pages long and it was like this hand wringing of "Gee, whiz, people, quit smoking but now they're chewing nicotine and this on and on and on." And then the last paragraph was, "But at the end of the day, there's not really any research supporting the notion that nicotine gum itself is remotely as bad or as problematic as the tobacco based delivery system, smoking and chew and snuff and stuff like that."

Robb: And there are some interesting features. It's mainly epidemiological, but it's powerful in that smokers tend to see lower rates of neurodegenerative disease like Parkinson's and Alzheimer's. Even though those things clearly have an oxidative stress component. Blood sugar regulation is bad for all of that, but yet it still is good enough on the other side to confer a non trivial protection from neuro generative disease.

Robb: So this is, again, and in this age of COVID in the way that everybody's responding to thing, people act as if there are activities that are zero consequence or zero risk. If we decide to stay on the couch our whole life, there is consequence to that. I remember Greg Glassman used to quip that talk to your doctor before starting an exercise regimen and everything, but there's no talk to your doctor before sitting on your ass for 20 years. And we know for a fucking fact that being housebound and couch bound is probably the more dangerous of the two.

Robb: Yes, anybody could get up, go outside, lace up their shoes, start jogging and fall over from a heart attack. But it's like it doesn't happen that much. Yeah, you need a bunch of other extenuating circumstances to really make that happen. So my opinion, and again, I will modify this with time given more research. But we first started digging around on this stuff 2008, 2009 when I was working for the Naval Special Warfare Group. And they wanted me to talk about booze, caffeine, nicotine.

Robb: And in my due diligence, I really wanted to get back in and look at the pharmacology and the toxicology of nicotine. And I was assuming it was just going to be like carcinogen, all the stuff. And nicotine as an isolated substance. I'm just super underwhelmed by the fear or the danger there. Is it addictive? Yes. So is coffee. So is tea. And I honestly in the gum format, I don't really see it being significantly worse than things like that.

Robb: I remember when the first time that we went off of coffee after being mega coffee consumers. I had auditory and visual hallucinations and stuff. And so there again, people say, "But it's addictive." And it's like, "Well, exercise is addictive. And for good reasons." So I don't know. What are your thoughts around that?

Nicki: Yeah, I mean lots of things. Lots of positive things can be addictive thing.

Robb: Right.

Nicki: Meditation can be addictive.

Robb: Right, right. Yeah.

Nicki: So I think your point to the understanding risk and there's risk with everything we do. I mean Sagan going outside and she was collecting some blackberries in the back yard.

Robb: And that's where she got stung.

Nicki: At 8 p.m. and then came in crying with two bite marks. So there's risk in everything. Either you hole yourself in a house with padded walls. There's a risk of going crazy if you do that too-

Robb: I think there's almost a fucking certainty of that.

Nicki: Like there's a certainty, I think a lot of people are feeling it. So yeah, I think it's just figuring out understanding that there is not risk free life.

Robb: Right.

Nicki: And so figuring out what-

Robb: Risk free life is after you die. Then you're absolved of all risk. So yeah. So those are my thoughts on that.

Nicki: Okay. Now to his final question. There was no tri ply air puffed papyrus?

Robb: Yeah. Whether we're talking paleo land or even just general agricultural scene, I think that a healthy human evacuation usually doesn't require creating a mummy wrap around your hand of anything. I know that different iterations of like the bidet have been around for quite some time. But even in some of the old naturopathy stuff and some of the early Greek musings on health and like all disease starts in the gut and stuff like that. It was like loose stools was a sign of not good things going on. So I don't know if that's exactly answering the question here. But I think being able to just trowel and then get up and go and not have significant hanging afterwards makes a lot of sense.

Robb: And this maybe gets a little bit gross but you have a cat or a dog and if they get sick, all of a sudden their shit is like sticking to things that you don't want it to stick to and it's a sign of things going sideways so I think that's a not bad weather vane for if you can just run a square through the affected area and you're not coming away with a whole lot, then you're probably pretty on point with your digestion.

Nicki: Yeah. Gregory, thanks for reaching back out and sharing that update. We appreciate it. Our third question this week is from Troy on general anesthesia. "Hello there. I'm not sure if this will make it to the new podcast, but I really need some help from somebody in the health care side of things as opposed to the sick care side. I'm an aspiring health coach. I've been fairly dialed in on my nutrition for a few years now. I recently noticed a rather large bulge on my side about the size of a tennis ball which just seemed to appear out of nowhere."

Nicki: "And I tend to check myself out in the mirror when I'm in front of it without clothes in. I went in to get it checked out after it didn't subside in a few days and after an ultra sound, it was determined that I have a lipoma. This definitely isn't my first, although I haven't had one in over a decade. And I assumed it was due to bad diet once I learned the healthy way to live. But the problem is that the surgeon is saying that general anesthesia will be necessary in this case since it involves a lot of muscle tissues surrounding it. And local doesn't seem to do the trick well enough."

Nicki: "My question is there anything I can do to mitigate the effects of general anesthesia on the brain. I've had multiple TBIs. Been under at least a few times before for different

reasons and have suffered terrible health issues ranging from severe depression to memory issues, reminiscent of somebody with Alzheimer's."

Nicki: "I cycle in and out of keto and have tried different treatments that I've been able to afford like neuro feedback and have come a long way. And I'm terrified of sliding backwards again or losing even more of my memory. I'm lost on this and don't really know where else to turn, but love the stuff you guys put out and wish I could retain the info like you seem to be able to do and I really value your knowledge and appreciate all you do."

Robb: Well, on the retention, if you spend 20 years doing something, you usually get a half decent, steeping on it. Although I like to say if I have an area of expertise, it's an inch wide and a mile deep. If you have me work on your car, it will be the last day that your car ever functions. So I am not a jack of all trades. I have many friends who are jacks of all trades. Could you scroll down a little bit?

Robb: I think that ketosis and/or fasting can offer some significant benefits here and I've got two papers linked. The first one is the Neuroprotective and Disease Modifying Effects of a Ketogenic Diet. I've said this a couple of times, but if there's anywhere that a ketogenic diet is really going to shine or some targeted fasting protocol, it's probably with neurodegenerative disease or neurotrauma and what not. And so this paper really gets into and explains the mechanisms to date. Again, the bulk of this stuff is in animal models. But there is growing anecdote and information suggestive that a ketogenic diet or fasting could be helpful.

Robb: Now the flip side of that is ... Or maybe not the flip side, but a thing to really consider here, the ketogenic state is a different metabolic state than general glucose utilization. And it appears that like in some circumstances, your tolerance to alcohol may be decreased while in ketosis. But interestingly, the second paper Nutritional Ketosis Delays the Onset of Isoflurane Induced Anesthesia.

Robb: So what the paper makes the case, and again, this is animal model stuff but I think it's probably reasonable to assume that this extrapolates to humans is that they needed to use significantly more of these anesthetic gases in agents to get the critters into a proper state of sedation. You don't want to be halfway awake while they start carving into your lipoma for sure. And so, if you choose to do some tinkering with this, I would definitely communicate with your doctors around this and get their input. And at a minimum, make them aware that you could be in a metabolic state that might make you more prone to not getting the depth of sedation that would be normally expected.

Robb: And this is why anesthesiologists get paid a lot of money because it's a super hairball deal. Like they understand that there's a wide variation from person to person and what not. But I would definitely put it on the person's radar that "Hey, I've had these neurological issues in the past. I've had TBIs. I want to do something to potentially mitigate the downsides of this situation." And so maybe you're in a ketogenic state. Maybe you fast for the day before or something. But you would definitely want to communicate all that stuff with your doc and make sure that he or she is on board with all that 100%. Just so that everybody knows what's going on and you can have a good discussion around that.

Robb: I think mechanistically, it's a reasonable thing to want to mitigate the neuro damaging potentiality around general anesthesia, but you definitely don't want to just hide that fact and then go in and have a procedure done.

Nicki: Okay. It's time for the Healthy Rebellion Radio trivia. And I see now that I forgot to write a question for the Healthy Rebellion Radio trivia.

Robb: Details, details, make something up.

Nicki: So let me make one up on the fly. Okay. First of all. Our episode sponsor, Athletic Greens is giving a one month supply of Athletic Greens to two lucky winners selected at random who answer the following question correctly.

Robb: No pressure.

Nicki: No pressure. Let's see here, Robb. If you could only hunt one animal for the rest of your life and that had to feed your family for until you die, what animal would that be?

Robb: The noble bison.

Nicki: The noble bison?

Robb: Yeah. Because you have food, clothing and shelter potentially out of the noble bison.

Nicki: Good thinking. That plays well in like the apocalyptic times too because we need all of those things.

Robb: I've heard food, clothing, and shelter are fairly important.

Nicki: Fairly. All right, folks, the noble bison.

Robb: Good question. By the way, nice job there on the fly.

Nicki: To play, go to robbwolf.com/trivia and enter your answer. We'll randomly select two people with the correct answer to win a one month supply of Athletic Greens. This cut off to answer this week's trivia and be eligible to win is Thursday, May 7th at midnight. Winners will be notified via email and also announced on Instagram as well. And this is open to residents to the US only.

Nicki: Our fourth question this week is from Chelsea on enzymes to support gluten digestion. She says, "Hi, I'm curious on your thoughts about all the enzymes out there right now that target gluten digestion. I'm gluten free, but when I eat out, I usually take glutenase as an insurance policy in the event of cross contamination. Am I just wasting my money on these? In the past lipase enzymes really helped me when I was having gall bladder issues. Thanks."

Robb: Yeah, this is an interesting thing. The one thing you can't do here is say like if you are highly gluten reactive or celiac, you can't take this stuff and then go eat a standard pizza and have it protect you. This is, at best, going to offer some protection against the cross contamination. So like the exposure needs to be comparatively low. And I guess it's one of those things where you certainly, like for myself, I still say, "Hey, do you have a gluten free option and I am that person that gets sick and everything." Even though that seemingly has improved over time, I just don't really want to pressure test that a lot. But you could certainly ... It's not going to hurt.

Robb: I don't know that it's going to make a world of difference depending on the person and the exposure and what not. But it certainly could help. It is worth noting, and this is one of these things that's really interesting. There was a study that looked at ... It wasn't a

huge number, but it was like 10 or 12 kids with active celiac disease. They did a fecal transplant on these kids and like seven or eight out of the 10 upon gluten challenge showed no active celiac disease.

Robb: So where they get the enzymes for prolyl endopeptidase, the things that break down gluten are either at a bacteria or fungi, I forget. But maybe both of those. But there are microorganisms that have the machinery to do a good job of breaking down gluten. And this another one of these things of maybe the reason why gluten sensitivity or celiac and these different things. There's a lot of different vectors on it. We use concentrated gluten in a lot of our baked goods, particularly in the United States. Like they extract gluten out, gluten enriched flour. It makes stuff really sticky and provides really a super cool medium to work with. But it dramatically increases the gluten content.

Robb: The other thing or another one of the things that's potentially out there is alterations in our gut flora. Just eating a more Westernized diet. Possibly multi generations of antibiotic exposure and people maybe losing some of these bacteria which have the enzymes that would normally be dealing with this stuff. And something that I think is forgotten is that we have our own set of digestive enzymes. But cobbling in trillions of different microorganisms with their set of genetics and their set of tricks that they can use to assist the metabolism different items. So these are really powerful.

Nicki: Okay.

Robb: And I don't know if I actually ended up ultimately answering that question. But I guess the long and short of it is it might help, but if you're really, really gluten sensitive, I guess it's a nice mitigating strategy, but you still need to just make sure that you're getting that exposure on the front end, yeah.

Nicki: All right, our last question is from Alicia on progesterone, cortisol and melatonin. "Hi Robb and Nicki, I've been an avid follower of you all since I was diagnosed with Celiac's disease back in 2012. The Paleo Solution was my bible for a long time. About a year ago my chiropractor, my now boss, advised me to get my hormones tested due to a high stress job, lack of sleep, and overtraining in my workouts."

Nicki: "I was in his office at least once a week due to back and neck problems that wouldn't go away. After completing the hormone panel, they basically found out that I was run away from a bear, but I'd be dead before the bear caught me. My progesterone was essentially nonexistent as were both my estrogen and testosterone. My cortisol was definitely higher than it should be for 28 year old female and my melatonin was registering off the charts."

Nicki: "At the time, I was taking anywhere between to 15 milligrams a night to sleep and my body had actually stopped creating melatonin. My question is after cutting out melatonin and trying two different kinds of progesterone supplements, realistically, can I repair the damage I've done to my hormones and what kind of timeline am I looking at? I was a high level athlete for 10 plus years, training around for to six hours a day and began working an extremely stressful job with a long commute from age 26 to 28. I quit that job a year ago and began working at my chiropractor's office in a much less stressful position."

Nicki: "Besides some CBD, what other things can I implement to help repair these hormones? I haven't done another hormone panel since. However, I'm doing another one in the next couple of months. Thanks so much for all you day and keep up the killer podcast."

Robb: Man, there's a lot going on here and although some folks have been a little bit more, pumped the brakes on this thing called the Dutch test." The Dutch test is a way of looking at not just the specific hormones we have, but the intermediaries both upstream and downstream of different hormones. So if your progesterone is low, as an example, is it low because we're not producing it? Is it low because we're detoxifying it or removing it? Is it low ... Like in the case of cortisol, is it being used for other functions where the body is burning through it? So something like the Dutch test, I think is valuable.

Robb: But again, like there was a lot of pissing vinegar around the Dutch test early on. And then I've seen some people say well you need to be able to interpret it. But my sense is that it at least gives you a picture of do you have adequate inputs? Like is DHEA sulfate an adequate level to begin that cascade into testosterone and estrogen and what not?

Robb: Just as a snapshot, I think that a basic hormone panel. But you still don't really know what's going on there. And maybe you need to supplement with these things exogenously. Maybe there's something else going on. But my sense is that doing something like a Dutch test and then having somebody who really understands it. The Nourish Balance Thrive people are really pretty good at interpreting this stuff and I still think that they too use the Dutch test a fair amount. Although they are the people that both put the Dutch test on my radar and said, "It's not as unequivocal as what they had hoped. There's more introverted stuff to it." But I think that would be really valuable for just getting a broader picture.

Nicki: More comprehensive picture.

Robb: Yeah, where is everything because that will ... If you're using a lot of hormone for a particular reason. Or it's getting detoxified preferentially, there may be strategies for tackling that that are different than just if production is low then yeah.

Nicki: Okay, 10 to 15 grams a night of melatonin-

Robb: That's a lot.

Nicki: Yeah. We were taking it for a while and then we backed off.

Robb: I do like two to four some nights and I definitely feel like I sleep better and well rested. I do the Doc Parsley sleep remedy and then I do two milligrams of melatonin on top of that. And it's like a ball paint hammer to the head. Like I am just out cold, yeah.

Nicki: I was feeling pretty lethargic in the morning and just flat when taking it so I rarely take it unless I-

Robb: In the winter, I tend to dial it down. Like when my sun exposure and stuff like that is low, it doesn't do me any favors, yeah.

Nicki: Interesting. Okay. Thank you, guys. That was our episode for this week. If you please check out our show sponsor, Athletic Greens. Go to athleticgreens.com/wolf to get 20 free travel packs with your first purchase and share this episode. Share it with your friends, family, neighbors, coworkers, work from home.

Robb: People you don't like, yeah, yeah. Dump it on the people you don't like for sure.

Nicki: Awesome. I hope everybody's staying safe and sane. Get outside if you can.

Robb: Go get fined.

Nicki: If the weather is good, go get fined, yeah. And we'll see you all next week.

Robb: Take care.

Nicki: Bye.