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

Robb: Welcome back-

Nicki: Hello, hello.

Robb: ... friends, neighbors, and loved ones.

Nicki: This is episode 157 of The Healthy Rebellion Radio. Thank you for joining us again. What's new, hubs?

Robb: The sun's out today. It was not out yesterday.

Nicki: The sun is out. Yes. We spent Father's Day weekend in Bozeman, which was really a nice little couple days. And we kind of did a deep dive down the alpaca rabbit hole. We stayed at an Airbnb that had four alpaca, four female alpaca, and so the girls were just totally in love. Feeding them-

Robb: So they had mini horses, regular horses.

Nicki: Yep. Yep. It was great. Sagan said, "Mom, this is just so much better than staying in a hotel." Which of course, is 100% true because at a hotel you're kind of confined in a one room space and you just have a television, and then you need to be out doing things all the time. But at an Airbnb, especially one on a small farm, the girls can go outside and it's like being home. They can go outside and do whatever when we have downtime between whatever activities we're up to. So it was super nice. And we also lucked out on the timing because it was time for the alpacas to... And I'm not sure if you say alpaca or alpacas, I'm not quite sure what the plural is of-

Robb: Alpaci?

Nicki: ... alpaca, but these particular ones had not been sheared yet for the summer, and so they got to help with that. And we also got to take home some fiber. So we watched all kinds of videos on what do you do with the... It's called a blanket, the fiber that comes off the back of an alpaca. They call it a blanket. So you take this blanket and you've got to pick through for all the pieces of vegetable matter and sticks and straw and hay and all these things. And then you

wash it and there's a process for that, and air drying it. And then there's this other process of fluffing it properly or carting it before it can be spun into yarn. So we've got about three big bags of alpaca fiber and...

Robb: Way more than I was looking for. I can guarantee you that.

Nicki: Robb was like, "What are we doing?" I'm like, "Why not? This is a fun project." So anyway, watching lots of YouTube videos on that and maybe we'll figure out how to make something interesting out of this stuff.

Robb: Indeed.

Nicki: Indeed. So that was our weekend. We have family coming into town tomorrow, so we're...

Robb: Texas cousins.

Nicki: My cousin from Texas and her four children and her husband. And so we'll be spending a week with them. So looking forward to that. What do I have on my nose?

Robb: Just a weave, a bit of fluff. Literally a bit of fluff.

Nicki: Well, thank you. I'm glad that you removed that for me.

Robb: Time critical. Mission critical.

Nicki: Yes. Okay. I think that's all of our upfront stuff.

Robb: Cool.

Nicki: What do you got for us?

Robb: You're running this.

Nicki: What's our news topic?

Robb: Tee this up for me.

Nicki: Okay. Teeing it up.

Robb: So it's a MedPage today piece, which MedPage is always a fascinating place to hang out because it's the iron wall of COVID, like there is nothing not on script with regards to COVID. But it's interesting what does and doesn't come through. But this piece is gut microbiome varies hour to hour, month to month. Inter-individual shifts over time may explain why drugs don't work the same in everyone. And then I guess the takeaway for me on this, it's been such a fascinating 25 years, 20-ish, 25 years of thinking about the gut microbiome. Probably the first time that it really got on my radar was Michael and Mary

Eades, Protein Power Life Plan, which was released in 2000, 2001. And they had a chapter on the gut microbiome, gut integrity, leaky gut, all that type of stuff.

And this was still at a time when... And I've got this thing somewhere, it was at a time where if you went on to PubMed and you put into PubMed the term intestinal permeability, all that you found were maybe a couple of dozen, maybe a couple of hundred articles that said that this was quackery and no flex on that at all. This absolute quackery, intestinal permeability is ridiculous. And this had been something that had existed conceptually, at least within the alternative medicine scene for, I don't know, 20 years before that. And then slowly, and I would say in large part in lockstep to the growth of the paleo diet concept, which also talked a lot about leaky gut, intestinal permeability, the importance of gut health. This thing became front and center, became the hottest area of immunological research that we have.

And that's really important to acknowledge that gut health is critical. But I've mentioned this in other shows, I tried to do different things to affect gut health, more along the lines of you need prebiotics and probiotics and this particular strain of restrain of bacteria. And I think for some people, this stuff works well. For myself, if I do a little bit of fermented food here and there, I seem to benefit from it. If I eat it serially like day after day, I get crushed. I feel like shit, I get the trots. It just doesn't work for me.

And I've seen that with a lot of people. And what's fascinating to me is there are outfits that will do gut microbiome testing, and they make all these claims about understanding exactly what your gut microbiota tells them. And what's interesting about that is it fucking changes hour to hour, and person to person. And so what you're doing in effect is taking a snapshot of something that is a movie and a movie that changes continually. And I don't think we have the smallest notion yet about the total error bounds on how much it changes [inaudible 00:07:36].

Nicki: Like how dramatically it changes. Is it going from comedy to romance to action adventure? To use your movie analogy?

Robb: Yeah. And so there's so much that we don't know, and I think that the best that we really have right now is playing to favorable clinical outcomes. And so if you have gut issues, if you have autoimmunity, if you have depression, you have one of these zillion different things that seem to be related to gut health, there's a couple of different things that you can do. You know, can really try to seed and feed the gut, get fermentable fiber in there, get resistant starch, get some of these products that claim to have Akkermansia and all the goodies that people suggest that you have, and you can see how you do with that. And I think you need to write it out probably a month or longer to see how you do.

And then the other side of that, interestingly, is going the lower fiber, the lower fermentable carbohydrate route, and more long keto even into carnivore. And what's fascinating about that is we were warned emphatically that really low

carb diets were going to destroy the gut lining. There wouldn't be material there for the certain bacteria to eat, and so they would eat the mucosal lining. And I think what was missed in that story is that we do see things like that occur when people are eating a highly refined standard American diet like Western diet. But in this situation in which folks are in the state of ketosis, normally butyrate is a product that is produced butyrate, propionate some of these short chain saturated fats that are produced from bacterial fermentation of resistant starches and fibers and whatnot.

But beta hydroxybutyrate is really, really similar to butyrate, and it goes through the gut lining apparently. It can go from inside the body to it effectively outside into the gut lumen, and it may end up feeding the gut bacteria indirectly. The gut bacteria appear to have the capacity to adapt more to a protein and amino acid specific diet versus fiber and fermentable carbohydrate in that direction. And Tommy Woods did a great paper on this just talking about the remarkable metabolic flexibility of the human gut. And again, I think, I'm just kind of throwing this thing out there. I think it's interesting that certain chemotherapeutics, when we're designing randomized controlled trials looking at drug efficacy, we probably...

We've understood to some degree that circadian biology is an important piece. We're better understanding that certain chemotherapeutics are better applied in the morning, not in the evening. And this may be some of the randomness that we see within different studies, just the timing throughout the day may be a factor. We might have monthly cycles, we might have yearly cycles like it's sunny today. I'm in a completely different mood than I was yesterday where it was rainy and cold and overcast. I wouldn't be the least bit surprised that I had a dramatic shift in my gut microbiota from yesterday to today with nothing changing in the input other than the fact that it's sunny outside.

Nicki: The variables that are...

Robb: What could that do potentially if I were a cancer patient and needing to get an undergo treatment? So again, this just shows the shocking complexity of these systems and really how little that we know about this. All of this stuff said, I am doing some additional tinkering with my essential tremor, and it was recommended that I actually get my gut microbiome checked through this kind of research institution. So this isn't a commercially available thing. This is actually for research purposes and it's remarkably expensive, and I'll report back on what I get from that. But I have to say I'm skeptical. I think we're in early days on all of this stuff.

Nicki: Okay. We will link to this paper in the show notes as always. And The Healthy Rebellion Radio is sponsored by our Salty AF electrolyte company LMNT. And the truth is everyone needs electrolytes, but if you are an active person and/or on a low-carb diet, you really need electrolytes to feel and perform your best. Whether you're training for strength endurance or just trying to make it through

a grueling workday, make it a point to put electrolytes in your water. Your body and your brain will thank you, but maybe your wife won't. Ramsay wrote in with a one sentence email, with LMNT as the subject line, he writes, "My wife doesn't like LMNT because it allows me to play hockey four times in a day. Five on ice hours." Hubs, perhaps we need a new tagline, "LMNT, great for athletic performance, challenging for marriage."

Robb: It might save some marriages.

Nicki: This is true. Some wives might want Ramsay out of the house for five hours.

Robb: I have a good friend who spent 22 years in the military flying bombers, and was gone, as far as I can tell, all the fucking time. Just enough to implant two kids, seem to be about the only time he's home. And now he flies for FedEx. And I think that if he were home as much as I am, they would probably not last a week. So I don't know, maybe it depends, similar to gut microbiome.

Nicki: There's a lot of nuance in this situation. All right. Remember folks, it's grapefruit season, which means there's another awesome LMNT flavor that you can add into your rotation to keep you hydrated, energized, and ready to perform at your best. You can grab your LMNT @drinklmnt.com/robb. That's @drinklmnt.com/robb. All right, ready for questions?

Robb: Outstanding.

Nicki: First one here is from David on red meat and prostatitis. "Hey, guys. I am a 45-year-old male. I've had a couple bouts of prostatitis over the past four to five years. Symptoms usually linger for two to three weeks. And with antibiotics and supportive care, they generally get better. Things flare up about one to two times a year. I've been to a urologist and had a CT scan and they're not worried about cancer. PSA is also normal. They say some guys just have chronic prostatitis. If you read online, one of the main recommendations is to avoid excessive red meat, alcohol, and caffeine. I was curious as to your thoughts about the red meat claim and the caffeine. Is there a legit concern here, or is this another propaganda push that red meat is the root of all evil?"

"Personally, I'm trying to focus on reducing other sources of inflammation such as limiting Omega-6 intake, limiting alcohol, et cetera. I do eat meat-based and paleo-ish. I have three sons, so the diet is not always perfect. I do CrossFit three to four times a week, and I would say I'm moderately fit for being 45, although I still could lose about 10 to 15 pounds of fat. Sleep is good. Oh, I'm also on testosterone injections twice a week, so I get my PSA checked regularly. My levels are well within normal physiological or physiologic parameters. Thanks for all you do, David."

Robb: Cool. And it's awesome that David mentioned the DRT there at the end because that could be one of the places that could be a primary issue here

because we have testosterone and dihydrotestosterone. Dihydrotestosterone is really critically important, more so for men. It's a factor for women, but strength and just feeling like you kind of have the world by the short hairs and stuff like that, but too much DHT can cause baldness, it can cause some prostate issues. And so in addition to just looking at total and free testosterone, I would definitely look at DHT levels. And the bugger with that is that pharmaceutical interventions for modifying DHT are really gnarly. It has a 68% likelihood of severe depression.

I mean, it's not great, but there are some interesting supplements. New Chapter has a product, what is the name of it? Prostate XLS, I think? But it's by New Chapter. If you look at New Chapter and just search New Chapter prostate, you'll find this thing. But it has Saw palmetto and some of these other things that are weak modifiers of DHT. And what I've seen, they actually have some clinical research and also when you just look at the Amazon reviews for this stuff, people rave about it. And so that might be a place to look at for addressing this.

Personally, I noticed clearly I've eaten a lot of red meat over time, and when you really dig into the literature on this stuff, what always ends up popping up as a really powerful association with prostate issues is insulin resistance and meat consumption ends up being linked epidemiologically with insulin resistance because it's part of a Westernized diet. But clearly, I think that folks listening to this understand that that's kind of a dubious association correlation, not really causation.

I think that refined carbohydrate, too much food, too many calories are really the primary drivers there. But on the personal side, I have noticed if I did a real bender when we were running the gym and we were doing five Moka coffee pots of espresso a day, each person, I ended up with some prostatitis from that and it was super uncomfortable. And I would say that the caffeine consumption can in some people, and it was really cyclical. It was sleep would be a little off, and then I would do more caffeine and prostate issues would get fired up and God, do you remember Dan the donkey riding guy I did consult with?

Nicki: Yes, I do.

Robb: He did an ebook on that and I'll see if I can track it down. But he had crippling prostatitis, and he did this ebook after he did consulting with me about how to address prostatitis. And it was some postural stuff and some squatting and nutrition, and the whole ball of wax. But I'll see if I can find that.

Nicki: He raced. It was like a donkey rodeo or he raced on something?

Robb: He was independently wealthy. I forget how he made his money, and a super strong southern accent. And we would do these phone consults and he was a fucking donkey racer, donkey something.

Nicki: So awesome.

Robb: So anything else in here? So I would get DHT checked as part of a broad look at just-

Nicki: What's going on under the hood?

Robb: ... what's going on under the hood. I should, at some point, have Doc [inaudible 00:19:12] on and we should do what you should order both for men and women to really have a good endocrinology picture of your hormones. But I would look at DHT. I would definitely consider maybe modifying the total amount of caffeine intake. I do think that limiting Omega-6 intake is not a bad idea broadly.

Nicki: Do you think that, because you mentioned that it's related to insulin sensitivity. And if he's carrying an extra 10 to 15 pounds of weight, getting himself super insulin sensitive, maybe weighing and measuring food, really paying attention paleo-ish could mean a lot of paleo baked goods and things like that. So really just cleaning up the nutrition and just seeing if that has an impact?

Robb: I would be shocked if leaning out a bit didn't help it. Although again, I was pretty lean at this time, but too much coffee-

Nicki: You were doing five pots of coffee or five?

Robb: I was doing five.

Nicki: The Moka Bialetti espresso maker pots, but they were the large ones.

Robb: Yeah. It was technically like six shots of espresso each time and it would have five of those a day.

Nicki: Takes a lot of caffeine to run a gym, folks.

Robb: Man, it took the best years of life from us, too. What else? What else? So I mean, leaning out would not be a bad thing. Get the DHT checked, maybe pay a little bit of attention to the caffeine intake, and then I would explore some of these kind of more herbal... If the DHT looks a little off or you just want to tinker with something that can be prostate support, something like the New Chapter Prostate, again, I think it's XLS, seems to be a fantastic product.

Nicki: I'll have you send me a link to that and then I can put that in the show notes.

Robb: Cool.

Nicki: Okay. We have another question from another David on feed a cold, starve a fever. Robin Nikki, "I'm a long-time listener, first time caller. I read the Paleo solution many years ago and became an instant fan. The book really helped me make some huge changes in my health. So many thanks for all you do. Often

cliches are worth noting, but sometimes they contain a grain of truth or else they wouldn't have become part of our mythology. Feed a cold, starve a fever is one I've wondered about especially recently. Or more specifically, are there general eating patterns that are better when someone has a viral or bacterial infection? I've had COVID three times and each time it was an absolute nothing burger. I intermittent fasted through much of the day, stuck to low carb, got lots of sun and sauna, and never missed an exercise day."

"I bounced back with minimal symptoms. I thought I had the key. Then about three weeks ago I picked up some kind of virus, two negative COVID tests, but I got hammered. The sickest I've ever been in my life, truly. Many of the COVID symptoms, but magnified times 10, I stuck to my COVID regimen but got no relief. One thing I noticed is that I craved carbs, bread, ice cream, rice, but not chocolate, which is my favorite. Meanwhile, but while sticking to my normal low-carb diet, my fasting blood sugar each morning was 20 to 30 points higher maybe from stress. Bottom line, after this meandering, do you think there's an advantage to fasting and or low-carb/keto or does one follow the cravings when you're sick?" Thoughts?

Robb: It's a really good question. The thermogenic process of having a fever there's a couple of different mechanisms there. So the body temperature is elevating because different pathogens are sub-optimized at a higher temperature, so they just don't survive as well. Some of them get killed directly. Viruses maybe a little less affected in that regard, although at higher temperatures, this is why you can't let a person's body temperature get much above about 104 because you start denaturing proteins, you literally start cooking the brain and other tissues in the body. So you probably have some effect on DNA, RNA and proteins within viruses so that that's a piece.

While the body is ramping up immune response, you've got the cell-mediated response, kind of the innate immune system. Then you've got the adaptive immune system. The adaptive immune system is making antibodies. You want those antibodies to be really specific to the thing that is there and is as broad to the thing that is there as possible. And there's signal in the literature. It'd be hard to construct a randomized control trial around this, but there's signal in the literature when you look at adjuvants that are given to animal models and cross reactivity in which autoimmunity is fostered. The adjuvants are items that irritate the immune system and cause the immune system to start mounting a response.

And this is used in different vaccines and under different circumstances, because whatever the primary thing is that you're administering to the critter, be it human or otherwise, doesn't have enough of an immune footprint to fire up the immune system. But there's some signal there that under certain circumstances when the immune ramp up is happening, you can get crosstalk between the... Or not crosstalk, but cross reactivity basically, while the immune system is on this heightened alert, it can become sensitized to us. And also I think

that there's a thought here that it could get sensitized to things that we're consuming. And then this is maybe where an egg allergy starts, different reactivities to different foods where the innate wisdom of not eating while you're sick.

I think that there's a little bit to that, just trying to really hone the immune response. And I'm sure that many immunologists would cringe at this because there's not any type of randomized controlled trial around this to support it. But just mechanistically, it makes sense. And just as an aside, this is one of the things that makes me a little bit concerned about some of the childhood vaccine regimens in which they throw multiple things at the same time. And we had a discussion with our pediatrician around this where I said, "It doesn't seem like it could be a problem that within nature, not oftentimes getting hit with polio and six different things-"

Nicki: Four things all at once.

Robb: "... all at once." And we had kind of a back and forth where there really isn't good data one way or the other on this thing, but in my mind, it just kind of makes sense to try to partition this stuff off and not have them all roll out at the same time. And I know I'm kind of getting far afield on this stuff, but I do think that so long as a person is generally healthy, clearly there could be people who are compromised and fasting during a protocol. This could be contraindicated because they're just not robust enough to deal with that. But I think that otherwise, following to some amount of calorie restriction, I do think that clearly I'm biased, but that ketogenic state down-regulates the inflammasome. And I guess maybe one could make the case that if you down-regulate that inflammasome too much, then we don't get an adequate immune response.

I don't think that that's really going to be the case. But both with the really nasty strains of influenza and with COVID, so much of what affected people was the cytokine storm after the virus was effectively cleared. But it was the knock on effects of the immune system getting ramped up, and that oftentimes would kill the person. It wasn't necessarily the virus itself. It was the knock on effects and systemic inflammation from an overactive immune response. And I really do think that the ketogenic state of fasting or just a basic ketogenic diet could be helpful in that regard. I'm not surprised that your blood glucose was elevated. That's super common when folks are ill. I don't know that it really makes sense to goose that more. I know sometimes when you're sick, all that you want is some fruit or something cold like a lot of people will. Sagan was just sick a couple of days ago.

Nicki: When we got home from Bozeman, the next day she...

Robb: She had 102 almost 103?

Nicki: She got to 102.6, she was just like, didn't want breakfast. She wasn't feeling good. I felt her. She was warm. So we took her temperature. She was

102.6, but then it was a really quick thing because two hours later it was 101.6 then 101.2, and then 99. So within the waking 12 hours of the day, she went from a decent fever to back down normal.

Robb: Pretty much resolved. And then the next day she was fine.

Nicki: But she didn't want to eat. She was like, "I'm not hungry." She didn't want to eat anything, which I think is very, very common when you have a fever.

Robb: And again, I think some good inherent wisdom with that. So I don't know if I'd adequately answer that. There's just a lot going on here. But it is interesting that for a long time there's been this notion of feed a cold, starve a fever. I would argue that you probably do well on both sides of that, although a cold usually lasts a good week so I don't know.

Nicki: You need to eat something.

Robb: You got to eat something. But during those periods when you have a fever, one has a fever, I think avoiding food is not a bad idea. It's kind of a mixed bag. If you have a gut bug and you're pooping and have diarrhea like electrolyte imbalance and-

Nicki: Dehydration.

Robb: ... dehydration is a real problem. So you want to be careful with that. At a minimum, you want to rehydrate in a smart way. So you think of anything else on that?

Nicki: I don't think so. Alrighty. Our final question this week is from Len on peptides. "What is your view on taking peptides for better health?"

Robb: This is a good question, but it's really, really broad. So we have a friend who's a super sharp guy in the startup space. He's got some fame with having had a couple of, well, at least one startup product go all the way through to acquisition. Pretty good payday on that, has started up something in a similar space. He's really geeked out on kind of plant-based stuff. It's kind of funny, he and I go back and forth on this. But he's backing this plant-based, it's like a bean extract where they've, in theory, they use this artificial intelligence to find this one protein out of this fava bean or something like that. And it's supposed to have all these magical characteristics around it, and they're going on and on about peptides, peptides, peptides. This is a dietary peptide.

What's interesting to me about that is that by and large, when we consume peptides, they get broken down into single amino acids or dipeptides like the two amino acids. And that's if your digestion's working well and you really want your digestion to work well, because you don't want large intact particles going through the gut. Back to our first question like that, that is a problem, that's this intestinal permeability. And if you get larger intact proteins

going through the gut for the most part, this is where we get autoimmune issues that can pop up. This is also where with infants, infants naturally have a permeable gut, and this is where a bunch of the immune factors from the mom's breast milk end up, ideally augmenting the newborn's immune system.

It's also why you want to be careful about the amount and types of things that you introduce really early because they are inherently in kind of a permeable gut scenario. So there's all these kind of dietary peptides that some of them, like whey protein does have immunomodulatory effects. But a lot of the beneficial effects like I've got a other thing over here. Reducing NF-Kappa-B signaling nutritionally is associated with expedited recovery of skeletal muscle function after damage. A bunch of that is mediated from branch chain amino acids and adequate nutrition so that post-workout we get recovery. You get a suppression of the inflammatory signaling. You get some inflammation because you need the initial inflammation, and then you need the resolving part of this to go through basically wound healing. And this is true whether we're talking about muscular damage or a cut or a break or all of that type of stuff.

But then we have this whole enormous world of these pharmaceutical peptides that generally are injected, and they have physiological effects and some of them are really profound. There are a couple of them, I'm blanking on the names of them, but that are growth hormone secretagogues, and they really have a profound effect at releasing growth hormone. People will use them within different athletic endeavors. They're powerful enough that if people overuse these growth hormone secretagogues, that people end up with the insulin resistance that is typical of if somebody ends up with acromegaly and they just hormonally or genetically end up with excessively elevated growth hormone levels.

They end up with really severe insulin resistance and can be diabetic from just the elevated growth hormone. So some of these peptides, some people claim like the BPC-150 I think is what it is. It's like the Wolverine peptide. It accelerates wound healing. I tinkered with that and I didn't really notice any type of benefit. It was supposed to instantly heal the gut and everything, and didn't work for me. I have heard other people talk about it. I think this is some of the stuff that like Ben Greenfield injected into his testicles or something. I don't know.

Nicki: Really?

Robb: Ben's a wild man, but there is this whole world of injectable pharmaceutical peptides that really work and really have remarkable efficacy. And as everything there are trade-offs with these things. I think TRT broadly is a really smart thing for both men and women to do when they hit the right point in their life cycle to apply that. And you apply it in a really conservative way and try to milk the youth as modestly and reasonably as you can when people start getting to the outer edges of physiological levels that there are problems, but

there's potential downsides of any treatment. Mammogram screening, there's still debate over whether or not the radiation dose is worth the process of going through that and people go back and forth on that stuff.

But I only mention that. I don't have a strong opinion on it one way or the other than people have questions around it. So as with all this stuff, I think that there are just pluses, minuses to the different peptides. People really need to remember that a lot of the hubbub around "peptides" are these injectables that have pharmacological effects. But then what I see are different companies that claim to have some proprietary dietary peptide that's supposed to have all these magical benefits to it. And usually what I hold it up against is just whey protein. If they're talking about muscle recovery, oxidative stress resolution, different things like that. And if it's even remotely in the ballpark of whey protein, then it might have something going on.

But they're very different things and it's important to understand the differences for that. So are peptides a potential tool for improving health? Absolutely. But there's again, a ton of nuance and detail within that, and similar to the gut microbiome testing and everybody having their proprietary formula of either prebiotics, probiotics, et cetera, et cetera, there's a lot of floating around, too. And I don't know sometimes whether these folks know that they're pedaling bullshit or they're just hoping that they've got something good. Maybe what they've got to pedal helps some people and not everybody. There's just kind of a big spectrum on that.

Nicki: So the pharmacological peptides you have to get a prescription for, correct?

Robb: Generally. Generally. There are some workarounds, and I just mentioned it here, if you find some of these things that you're interested in, there are different chemistry supply clearing houses that provide these things for lab research. And so one could order them and it will say on the bottle, "Not for human use. Lab use only," and all that stuff.

Nicki: I was just thinking that if it was you had to have a prescription, then maybe making sure that your practitioner that you're ordering it from has a good understanding of what the goal is with this peptide has used it with lots of people, and it's the right one for you kind of thing. But I wasn't suggesting people go find the clearinghouse and...

Robb: Well, it is a workaround. I'm blanking on the name of one of these, but it was one of the growth hormone modulating peptides, and it's supposed to have some other benefits. Some of them supposed to be gut related. And what's interesting is 95% of people report that they just have really remarkably good sleep. You inject this 20 or 30 minutes before bed and they have great sleep. About 10% of people get a paradoxical effect where they have horrible sleep. And I happened to be the person that had the paradoxical response and had horrible sleep with it. So I ended up not being able to use it at all.

And even trying to use it first thing in the morning where you could make the case that you could get a growth hormone bump in the morning first thing before you eat. I just felt like garbage on it and so I ended up not using it. I think it clearly had some sort of effect on me, but I never used it long enough to do some pre and post trying to look at growth hormone levels or IGF-1 or anything like that because I just felt like garbage with it.

Nicki: As with anything, N=1. All right. That's our final question for this week. Thank you everyone for joining us again. Remember, if you want to submit a question for the podcast, you can do so by going to robbwolf.com. Click on the contact page and on the right side, there's a spot that says, "Submit question for the podcast." Click on that and type in your question. Any other parting thoughts, hubs?

Robb: I don't think so.

Nicki: You don't think so? All right, everyone, thank you for joining us. Be sure to check out our show sponsor LMNT for any electrolytes you may need. The summer is technically here, so.

Robb: At least in the northern hemisphere.

Nicki: So you might want to make sure you stay hydrated throughout all of your summertime activities. And I think that's it. We will see you all next week. Have a good one.

Robb: Bye, everybody.

Nicki: Bye.