

**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 changes. Warning, when Rob gets passionate, he's been known to use the occasional expletive. If foul language is not your thing, if it gets your britches in a bunch, well, there's always Disney plus.

**Robb:** Well, folks, welcome back to another episode of the Healthy Rebellion. Nikki was just doing some New Kids on the Block stuff.

**Nicki:** Robb always goes, "Are you ready?" And I go, "Ready. You know Joey Joe's ready, Jordan and John, yeah, come on. We've got a funky, funky Christmas going on, and Robb's covering his face." Yes, I will admit I had the New Kids on the Block Christmas album back in whatever the 90s, and I know that's really embarrassing to admit, but I'm fully owning it.

**Robb:** I'm sure that it was just as good as A Very Wookie Christmas from Star Wars.

**Nicki:** Moving on.

**Robb:** Yeah, definitely moving on. I don't know if I'll ever be capable of having an erection again.

**Nicki:** Oh, gosh, babe. All righty, let's see, what are we... Should we move into our announcements?

**Robb:** We should move into something, I don't know, probably a double wide trailer here pretty quick.

**Nicki:** Well, we just started our mobility reset inside the Healthy Rebellion community. So, we've got Sarah Strange from Basis Health & Performance, teaching folks how to do CARs which are controlled articular rotations using the functional range conditioning methodology and that's been going great and is super fun. We've also given the prevalence of the News Topic Dujour. We've been doing a COVID boredom busting daily challenge inside the Health Rebellion, and that's been super fun. Just posting something simple that people can do every day that doesn't take a ton of time. Some of it is physical, some are brain health oriented.

**Robb:** And folks have been really digging it. Yeah, this is definitely an interesting time to test how well... It's funny because before we record, Nicki and I do test, test, test, so my brain just drifted on that. But folks are seemingly finding some really solid community within places like the Healthy Rebellion. I know Straight Blast Gym is doing some really interesting stuff for the folks within their organization to provide support, and material

for folks that are going to be at home for an extended period of time. So, it's an interesting opportunity. I think we need to all be smart about this, but it also we can turn it into when an asset-

**Nicki:** A positive, yeah.

**Robb:** ... instead of a liability.

**Nicki:** Yeah, yep. What else? What else?

**Robb:** Next 30 day Rebel Reset.

**Nicki:** Yeah. Our Next 30 day Rebel Reset, which is the 30 day reset followed by a seven day carb test. We're starting that on April 20. That, again follows the principles in what you are to eat. And that is free to members of the Healthy Rebellion community as well. So, if you're interested in that, you can join the community.

**Robb:** I don't want to belabor that one too much, but just to make that crystal clear for your membership cost to be part of the Rebellion where you get access to the lab, you get access to all the vault material that I've produced, you get a first look at all the talks that I'm doing and stuff like that. You also get a coach curated experience with multiple resets throughout the year.

**Nicki:** And you get amazing people. We've got some of the smartest, sharpest folks in this space.

**Robb:** I mean, not me, but other people much smarter than me.

**Nicki:** That are commenting and sharing and we've been doing lots of live chats, which are really, really fun. So, it's actually we are having a blast. So, anyway, y'all are invited.

**Robb:** We would love to have you there actually enjoy my work again.

**Nicki:** All right, hubs. What's our news topic today?

**Robb:** Oh man, of course it needs to be something COVID-19 oriented, just one, both of the links that we have here are consolidation pieces. The first one is from Dr. David Sinclair. You guys probably know his work as it relates to rapid myosin, and aging and whatnot. But he's done a pretty interesting unpacking of the hazards of elevated blood glucose levels in the SARS-CoV-2 infection scenario. And there's clearly a difference in the way that some people respond to this pathogen versus others, and there's lots of things emerging that may be factors, but elevated blood glucose levels and elevated systemic inflammation are likely really bad things to deal with. So, the first link is going to be to Dr. David Sinclair's piece that he did.

**Robb:** The other one is a link to William Eden's Twitter thread talking about the possibility that NSAIDs such as ibuprofen, motrin could be problematic with regards to the worsening

interestingly of the situation. So, I've been trying to think about this stuff in the three different buckets. One bucket is what's our understanding of where the situation is, how long, how rapidly are things progressing in a given area. So, I think that that's a reasonably important thing to just have a little bit of data on. And then two other buckets, what are things that we could be doing that could worsen our situation, make us more susceptible to a bad outcome, and then what are things that we can do that could potentially improve things. With the understanding that this cytokine storm that seems to be at the root of the really severe reactions, it paints things like keto, melatonin, turmeric, vitamin C in a pretty favorable light.

**Robb:** Now, I want to be crystal clear. This is not going to prevent infection. I don't know if people are claiming that or not, but I don't want that to be misconstrued. What I am saying is that mechanistically it makes a lot of sense that a low inflammatory state is likely to mitigate the severity and there's a lot of different things that we can do as far as affecting a low inflammation diet, and lifestyle.

**Nicki:** So, even if somebody is asymptomatic or maybe they don't have it. Obviously there's not enough testing yet to know whether you have it or not. But let's say that I twist my ankle, should I avoid NSAIDs just in the off chance that I could have it and be asymptomatic right now? Is that-?

**Robb:** -That's a great question, and it's kind of two layers to this. We know the NSAIDs don't help soft tissue injury repair, so it probably worsens it. Now that said, if you get yourself dinged up such that you're in such discomfort that you can't sleep then [crosstalk 00:07:54]. We've got a dueling [inaudible 00:07:56] thing. Is the NSAID going to be better or is a super shitty night of sleep going to be-

**Nicki:** Increase inflammation all around, and just make you more insulin resistant.

**Robb:** It does appear that acetaminophen, Tylenol may not be as problematic in this regard as things like ibuprofen and motrin, so if somebody needed a pain reliever could make the case potentially that Tylenol might be the better option. That's a really good question, but again it gets really situationally specific like if the person is in some significant discomfort, like they just had a minor surgery or something like that. Being sleep deprived is certainly not going to set you up for success in this scenario, but good question. You're good at asking the thorny prickly question.

**Nicki:** Folks who are listening are not... if they know that they struggle with blood sugar issues and maybe they were Paleo for a few years or whatever and things have slid. Now is a group time to get your blood sugar under control and tighten things up. Yes.

**Robb:** Yeah, I mean, if shit's hitting the fan, do you want to be in better or worse shape? The thing is, is that if you are not super metabolically healthy, a little bit of intermittent fasting, and some low carb can dramatically change your inflammatory status in a matter of days. And so, this is one of those just prophylactic things. Wash your hands, try to minimize social interactions to the best of your ability and all that type of stuff. But this is something that just on a personal level you could definitely do. And again,

time will tell whether or not different populations are affected differently in the story. There are some people postulating that all these lean mass hyper responders running around with super high LDL levels may end up having some degree of protection from the really severe consequences of this disease. We'll see.

**Nicki:** Interesting. Okay. We've definitely been having a ton of conversation in the Health Rebellion on this very topic.

**Robb:** Yeah. I've been stoked with the way that that's playing out. You don't have a sense of hysteria over there, but folks are doing a great job of curating information, again, in these different buckets. How are things progressing? What are things that we could do either consciously or inadvertently that could worsen our situation and then the flip side of that.

**Nicki:** Okay. Let's do our iTunes review and T-shirt winner. We've got a review from giovannaSC on target with the topics. This is the first time I'm writing a review. I really like how you two work together as a couple in love and a couple in business. I started listening to you about a year ago and moved with you to this one now. And I love the way you roll with the topics and responding to questions, and I also appreciate you sharing how real and one of us you and your family are. Thank you. By the way, I'm a rebel myself keep producing the great content you already are, Giovanna. Giovanna, thank you for your review. Shoot us an email over to [hello@rebel.com](mailto:hello@rebel.com). Send us your T-shirt size and your mailing address, and we'll send you a Healthy Rebellion Radio T-shirt.

**Robb:** Sweet.

**Nicki:** Now, this episode of the Healthy Rebellion Radio is sponsored by Athletic Greens. Athletic Greens makes an ultimate daily all-in-one health drink with 75 vitamins, minerals, and wholefoods sourced ingredients, which make it easier for you to get comprehensive nutrition without the need for multiple pills, powders, and complex routines. Athletic Greens includes prebiotics, probiotics, digestive enzymes, adaptogens, and superfoods, and more. And we've been using Athletic Greens for some time now. The kids actually really love the taste, and it's one of those easy ways to sneak... So, our girls do okay eating vegetables. Things like broccoli-

**Robb:** If I put enough bacon fat on it goes pretty well.

**Nicki:** Yeah, then they go pretty well. But they still would rather prefer fruit over the majority of vegetables, but they love popsicles in the summer, and occasionally we'll do fruit smoothies. We've made Athletic Greens popsicles, and we've made them with fruit as well, just blend it up, and that's a great way to get that in them. And then we've been taking it as well.

**Robb:** Yeah. In the era of carnivore... I'm trying to think of something pithy. Carnivore or something like that. I don't know. But I don't want to say carnivore catastrophe, because I think it's actually a good thing. But folks are super prickly about the notion that any plant material at all could be the least bit beneficial, and maybe that's the case in some

individuals. We've seen this certainly with folks like Michaela Peterson and her dad. Lots of reports of folks seeming to benefit from a largely carnivore intervention, but this is one of these things. We detailed this in our carnivore guide, which I'm hard pressed to think that if you don't negatively respond to certain things like taking the juice of a lime and putting it in some soda water just to hedge your bets there and who knows, maybe it is mainly a hormetic stress effector in that case. But having been one of the rare people that has actually lived for a decently extended period of time as a hunter gatherer, I fully embrace the fact that-

**Nicki:** I-Cave Man, if you didn't watch that, google it, I-Cave Man, it was a reality show Robb was on several years ago.

**Robb:** I killed a 650 pound elk with a hand thrown spear, and the bulk of our calories over the course of a month would definitely come from animal material, but there's a reality that any reasonably looking edible item whether it was green or purple or what have you went down the pie hole. So, I'm very excited for what carnivore is doing. I'm excited for-

**Nicki:** But folks who are doing carnivore for mainly weight loss, but don't have any kind of autoimmune or-

**Robb:** -It seems like Athletic Greens just seems like an amazing addition because so much of the problem that folks report from the vegetable intake in particular is the fiber problems and stuff like that. And so, what Athletic Greens is, is a highly concentrated and I hate using the term superfood, but a nutrient dense food substance-

**Nicki:** Very absorbable.

**Robb:** ... highly absorbable. And so, I would be hard pressed to see this not be a net win to include even in a carnivore context, and Paul Saladino in his book, he has five different tiers of where to buy in at carnivore and he has one carnivore-ish, so if you're in the carnivore-ish category, this would be a fantastic addition.

**Nicki:** Athletics Greens has a special offer for Healthy Rebellion Radio listeners. You can go to [athleticgreens.com/wolf](https://athleticgreens.com/wolf) and receive 20 free travel packs with your first purchase. These travel packs make it super easy to cover your nutritional basis while you're on the road.

**Robb:** Awesome.

**Nicki:** All right, Robb. So, today's episode is an interview we did live inside the Healthy Rebellion back in February, and it's with Dr. Michael Ruscio, author of Healthy Gut Healthy You, and as you've mentioned before, Dr. Ruscio was one of the-

**Robb:** He's the most frequent-

**Nicki:** Guest we had.

**Robb:** ... guest on the Paleo [crosstalk 00:15:43].

**Nicki:** On the Paleo solution.

**Robb:** Yeah.

**Nicki:** This interview was very popular with our members. They absolutely loved it. I think some of the big takeaways were his approach to thyroid stuff, so a lot of people in his opinion on are being-

**Robb:** Over diagnosed with hypothyroid.

**Nicki:** ... over diagnosed with hypothyroid. So, this is a fascinating interview. People absolutely loved it. You'll also notice there was quite a bit of discussion about doing some sort of a gut reset in the Healthy Rebellion community. And we are still talking about that and planning on what that would look like and when we might do that. So, that's on our radar as something that will be coming up down the road inside the Healthy Rebellion as well.

**Robb:** Yeah, but it was amazing. Dr. Ruscio was a dear friend, and in my opinion, arguably the best expert in the world currently, both of what the science of gut health can credibly tell us and then also what we can expect from different clinical interventions. That's a remarkable breadth and depth of material to be on top of.

**Nicki:** Great. Enjoy the interview.

**Robb:** Doc, how's it going?

**Dr. Ruscio:** So, I you're heard you moved to Texas.

**Robb:** We did, yeah.

**Dr. Ruscio:** I think I'm moving.

**Robb:** Come stay with us, New Braunfels is awesome.

**Dr. Ruscio:** Yeah, I think March 1st. I haven't made this public knowledge yet to our team, but I think I'm going to pack up and make the move. California has been great, but oh man. Well, yeah, I'm glad we're talking. It's been over a year since we spoke last. I know it's been a while.

**Robb:** It's been close yeah. And so, just really quickly for the folks in the Healthy Rebellion, I suspect that they are familiar with your work, but you were the most frequent guest that we ever had on the Paleo solution, and have been an amazing friend of mine and mentor and a knower of all things knowable related to gut and gut health. And so, it's a huge honor to have you on here today.

**Dr. Ruscio:** Well, it's an honor to be on here, and it's been cool you know, to watch from way back when I was just getting into this, actually, and heard a lecture of yours in Chico just

trying to see what was going on in the space, and then learning some cool stuff. I didn't even have a website at that point in time to see where you've gone, and I think I've come quite a long way since then also. So, it's been cool to see our friendship and professional paths both enhance and develop over time.

**Robb:** Absolutely. I remember that day crystal clear. You were there with a buddy of yours from... another doctor, right?

**Dr. Ruscio:** Yeah. Another func med doc, yeah.

**Robb:** Yeah. And I remember you guys started asking some questions pretty early on. I'm like, "Okay, these are not the usual seminar attendees." They were exceptionally well informed and had me on my toes the whole day.

**Dr. Ruscio:** Yeah, we nerded out for the pretty hard and I guess today, we're going down on... Are we doing gut? Are we doing thyroid? Are we doing a little bit of both? I forget what we... I know we talk about 1000 things all the time, so it's hard to keep it straight. But did you have some direction?

**Robb:** You had a few new things that you were tinkering with. In the past, we've covered I think some pretty good territory on what's known about the gut and gut health, what's suspected, what are the things that are really speculative, but not not well supported by the research. You indicated that you've been on a tear with some new material both in the gut health and the thyroid area. And both of those are just super rich topics that folks are interested in. Honestly, I've been more interested in... Thyroid's always been of interest, but like this lean mass hyper responder phenomenon within keto land. There are some folks that speculate that that's actually some low grade hypothyroid being expressed, and down regulating the efficiency of the LDL receptors to clear those particles, and so jumping into thyroid would actually be super legit for me on a selfish level if you're game for doing that.

**Dr. Ruscio:** Akin to a public service announcement. I am probably seeing, and I'm not really exaggerating here, one case per week in the clinic of someone who's been told that they're hypothyroid, and they are not by any reasonable measure. They are not hypothyroid. Now, the evidence that makes us even more compelling of a criticism is the fact that not only am I claiming according to the best evidence that we have, they are not within the diagnostic criteria, but the patient's not feeling well, and they're looking for solutions to feel healthier. So, this next piece, I think really makes that criticism all the more compelling, which is in these cases, and we've drawn up a number of these in our clinician newsletter. They will go from Synthroid to Synthroid plus Cytomel to Armour to WP-Thyroid and back to maybe Levothyroxine, tinkering their dosages, doing all this rigmarole. And there have been a few cases that literally in two months, all their symptoms are gone. They weren't hypothyroid. They were being forced into a hypothyroid paradigm.

**Dr. Ruscio:** The problem was their gut, and that was causing the fatigue, the brain fog, the constipation, whatever the symptoms are, and I think you know me well enough, but I

rarely make such pointed and concluded remarks, but it's gotten so [audio cut out], literally [audio cut out]. This patient came in, she gave me her labs that diagnosed her as hypothyroid, which do not fit the criteria at all at all. Was given medication for over a year all the while not feeling any better, up and down, up and down, up and down in terms of her symptoms. Came into our office, I said, "Send me the labs who diagnosed you." Look at the labs, "You are not hypothyroid according to this lab work." She came off of her medication. We put her on a program to improve her gut health and in two months all of her symptoms we are gone. We're seeing this so frequently that even the doctors who read my newsletter are seeing this in their practices, fixing it, drawing up case studies, and sending case studies back to the newsletter. It's getting really out of control.

**Robb:** So, doc, maybe, could you describe how you are looking at the thyroid status, and then... So, it's interesting, maybe we're seeing a pendulum swing where there was a period of time where TSH was the only thing that most doctors looked at and then maybe folks are digging in deeper than that, but they're not necessarily seeing what's really going on. How are you assessing the thyroid in a holistic fashion? And then, maybe what are these practitioners seeing or think that they're seeing? What are the benchmarks that they're using to say, "Oh, this person's hypo, this one's not?"

**Dr. Ruscio:** It's a great point. And it's really important point because I agree with you that there was probably a little bit of myopic thinking regarding thyroid, and the alternative and functional community helped gather and expand awareness, but went way too far in the other direction. And now I think we're seeing a course correct to this more accurate middle ground. I think the main benefit from what you're pointing to, which is this rediscovery of thyroid and looking at other ways of addressing thyroid is that patients will do better [audio cut out] thyroid medication. I'm working my way to your question specifically, but I just want to lay this context first.

**Robb:** Sure.

**Dr. Ruscio:** So, in conventional medicine, and this is actually I think, correct, this is definitely what the evidence shows, they start patients on just T4. And so, just a quick refresher, the thyroid gland makes predominantly T4, and then in the periphery it's converted to T3. T3 is the active form. I think most people know that, but just to touch on that. There's about 10% of patients who won't fully respond to the T4, and will respond to the T4 plus T3. So, that was a big win. Also, thyroid antibodies play a role, and that's something else that we can look at as part of the assessment, and use things like if there's been some dietary trial showing the ability to attenuate the thyroid antibodies that ultimately will cause hypothyroidism. And other nutritional interventions like selenium, vitamin D, magnesium, CoQ10 that can bring down these antibodies.

**Dr. Ruscio:** But from that bit of gain, there's been so much overreach that in my opinion more harm has been done at some to thyroid patients than good. I know that's kind of a strong statement to make, but you consider how many patients are fearful about their antibodies when there's no antibody problem because they're misreading the antibody profiles or the case like I just described that are being forced into this. It's got to be your

thyroid model, and the doctors not fully appreciating the nuances, then patients they are, and this has been published, incorrectly diagnosed, and subjected to treatment with a hormone that they don't need.

**Dr. Ruscio:** There was one researcher, his name is Levadas in or at the University of Athens, Greece. He took a group of 299 patients with an ambiguous hypothyroid diagnosis, tested them, took them off their medication, and then did a repeat test. He found that about 60, six zero percent of those patients were not hypothyroid, and did not require the medication that they were on. So, even researchers are saying what is going on here? Documenting the BS diagnosis, testing, retesting, and quantifying that there is not an issue. And in my mind, oftentimes the symptoms that are driving the exploration are actually coming from their gut. It's not exclusive, but it's definitely something that's overlooked.

**Dr. Ruscio:** So, to your question of how do you diagnose? To diagnose it's actually clear cut. This is something that medicine has right. TSH and T4. I know there's [audio cut out] criticize and say, "Well, we need to T3, and reverse-T3." No you don't. Not for quantifying if someone's thyroid gland is functional or dysfunctional. The downstream metabolites tell you about what's going on the periphery? Are they hypo caloric? Are they too low carb? Are they not sipping enough? Is there stress? Those things, yes. We know per debate, the conversion of T4 and T3. But a glandular assessment, are you hypothyroid? Is your gland damaged or is it not? Is a TSH, T4 predominant diagnosis, and this is something that conventional medicine has done well.

**Dr. Ruscio:** One quick example, I'm trying not to be long winded here, but just that doesn't quite fit the hypothyroid criteria. It doesn't quite fit the normal criteria. So, again, conventional medicine has this right. High TSH paired with low T4 according to the conventional lab ranges will diagnose you as hypothyroid. But some people have elevated TSH, but normal T4. So, it's kind of a head scratcher. Thankfully, we have a bunch of research that has looked at these high TSH with normal T4 individuals. This is known as subclinical hypothyroid, and the vast majority of evidence shows those patients do not benefit from thyroid hormone replacement therapy unless they are trying to get pregnant and have a history of infertility, or if they're very young and they're in their teens, let's say. Save those two exceptions, there's no benefit from all these clinical studies vectored by giving those patients thyroid hormone.

**Dr. Ruscio:** This starts the cascade of criticisms for the overzealous diagnosis approach, but essentially to know if you need medication you have to look at TSH and T4, and it's as simple as that. The travesty is, you'll see patients who have normal TSH, and maybe their T4 is in the low end of the range. Those are normal, and T3 is low, hypothyroid, here's medication. It's such a bad practice that it's hard to express how damaging this is to patients. And again, I try to be pretty conservative in my language, but this is just so bad that I'm being a little bit more passionate than I usually would be because it's hard to be passionate about how poorly this is being handled.

**Robb:** And just to make sure that I understand that, in a scenario like that, we would have a situation where the glandular activity with the thyroid is okay, but there's possibly say a

systemic inflammatory issue or overly low insulin levels or something that is inhibiting that appropriate conversion of T4 to T3.

**Dr. Ruscio:** Yeah, exactly. I mean, you could have symptoms of low testosterone without having low testosterone. You can be aromatizing to estrogen as an example. So, that's something maybe we all can wrap our heads around a little bit more easily. But yeah, I mean, you can have downstream perturbations in thyroid hormone that don't mean there's anything wrong with your thyroid gland, and that's one of the troubles with functional medicine. If we look long and hard enough, we can find some lab marker that's off, but it doesn't mean a lab marker is agnostic or has any causal developments.

**Robb:** Interesting, interesting, so-

**Dr. Ruscio:** The other thing here that I should maybe just mention quickly, and I think we have discussed this in the past is the way overzealous interpretation of thyroid antibodies. And today there have been two studies that essentially have found that if your TPO, which is the most common measure of thyroid autoimmunity is below 500, you actually have minimal risk of progression to overt hypothyroidism. Why that's important is because there seems to be this incorrect conflation on the internet that if you have Hashimoto's, the antibodies, you will become hypothyroid or once you act in a certain fashion and whatnot. [audio cut out] patients with Hashimoto's prospectively over time, and found that between nine and 19% of those patients ever actually became hypothyroid.

**Dr. Ruscio:** It might actually be more accurate to say, the minority of people who have antibodies actually become hypothyroid. That is huge because the narrative you get most of time is you have antibodies, you've got to go Google free dairy, free autoimmune, Paleo selenium, vitamin D, and people just get ruined psychologically and financially by this way, overzealous read of the antibodies. But if we combine the fact that yes, the antibodies are predictive, but they're not a death sentence. And if you get your antibodies below 500, instead of trying to get to the lab normal, which is below 35, then you're in good shape and you can live your life and there's no need to beat someone over the head with let's say, they're feeling generally good, but they're antibodies are 275. We don't have to make sure that they go more strict in their diet or take more vitamin D. And so, that's another really important thing to keep in mind because I think the with the grain of benefit we've realized from looking at their antibodies, we've also done a pile of damage to people because we haven't handled that conversation appropriately.

**Robb:** This may be a terrible analogy, but it makes me think a little bit about the way that PSA, prostate specific antigen can fire folks into some really remarkably aggressive treatment protocols and particularly if someone's like 75, 80 years old, they're going to die long before anything-

**Dr. Ruscio:** And the quality of life goes.

**Robb:** Yeah. That's fascinating. Doc, what what is it? So clearly, we've got this problem on the diagnostic side with regards to maybe overzealous diagnosis of hypothyroid situations. What is happening though on that gut side? Within our community, we're doing a reset right now, and we have a good number of people that are doing a carnivore intervention. And this has been one of the things that seems to address a bunch of their gut issues. So, there's clearly something-

**Dr. Ruscio:** I'm assuming some of the symptoms that some people think are thyroid, right? The same, at the same time-

**Robb:** Absolutely, absolutely. Yeah. Yeah.

**Dr. Ruscio:** I mean, I'll begin with the guts tie-in. I think the gut has its primary tie-in into this thyroid conversation in so far as it seems to cause symptoms that people oftentimes think are thyroid symptoms. So, the fatigue, the depression, the brain fog. Now, it's not to say thyroid doesn't cause those. But looking at the stats, about 5% of the US population is hypothyroid, 15 to 20 have IBS, irritable bowel syndrome. So even statistically we know that these gut problems are more common, and we do know that those with IBS have higher scores of fatigue, of depression, of lethargy, of anxiety. So, then the important thing to realize is that there are symptoms that the thyroid blog and the thyroid guru is telling them have these two symptoms, it could be your thyroid, and then go see the overzealous thyroid doctor XYZ, and they're going to pretty much tell you your hypothyroid no matter what because their read of the labs is so off. And then here you go.

**Dr. Ruscio:** This is how I end up seeing these patients after a year and a half, and I'm looking at the lab work and saying, "Who you are going to see?" I want to be careful not to lay all the capability here at the providers. I think it's just the education here has gotten carried away, and there hasn't been enough fact checking of the evidentiary body behind those claims. And now this is a course correct. I do not want to make this a me versus the community kind of thing. I think we're all in this together. but it's just don't mistake my passion for vitriol in this case. It's just that it's really important that we understand that a lot of what we're doing has been wrong, and we've got to start correcting it. So, the symptoms are probably the primary item that has relevance, and could lead to what you gain.

**Dr. Ruscio:** There's another aspect that's also really important, which is people who can't get a consistent dose on their thyroid medication, or maybe they don't get adequate symptom resolution. It may be a malabsorption issue. Now, one study has found that probiotic administration can actually decrease the dose of thyroid hormone required in hypothyroid patients. Likely because thyroid hormone is absorbed in the small intestine. And it's my hypothesis, and there's evidence to support this, that if there's problems in the small intestine, the probiotics can help repair the small intestine, therefore, you better absorb your thyroid hormone. Therefore, you need a lower dose of the medication that you're on. The same thing has been found in those with lactose intolerance, who went dairy free. And also a number of studies have found this in those who have an H. pylori infection and then eradicated the H. pylori.

**Dr. Ruscio:** There's pretty good evidence to show that if you're flowering with your dose, and you increase or decrease it and you're all over the place or even potentially if you're on a constant increase that that could also overlay with a gut that's becoming progressively less absorptive that the gut might actually be the solution to that quandary, and it might not be you need the special edition of T3, and a special cocktail. Now, that has a time and a place, but I reserve that further down the road because we want to make sure someone's gut is healthy first because that might be causing the symptoms that make them think they need the addition of T3, and that might be causing the perturbations of their dose requirement because of malabsorption. If we get both of those things right then the final consideration or end line consideration could be adding in T3 as Cytomel or using a combination like Nature Throid. So, I don't know if I've answered your question there in almost that ramble, but hopefully something there is useful.

**Robb:** Yeah. No, no, it's phenomenal information. It's just so interesting because you and I have talked a fair amount about how probiotics, prebiotics are not always of benefit to folks. Not quite a coin toss, but some people's symptomology gets worse. Do you have any, I guess, diagnostic criteria? Or how do you sort that if say the pro or prebiotic route doesn't necessarily address the underlying features? Or maybe it does all the time. Maybe I'm just mistaken on this, but what are the decision tree used often? So, where a person's been diagnosed as hypothyroid. You or someone like you assesses it, and they're like, "I don't think it's hypothyroid. I think we've got something going on in the gut." How then are you intervening, and if things like pre and probiotics aren't working, when do they work, and when they don't work what do we do next?

**Dr. Ruscio:** Sure. Yeah, I mean, it's super relevant question obviously. So, if someone has or fulfills the diagnostic criteria for hypothyroid then, yeah, put them on thyroid hormone. Now, you want to start there, and before you go to what usually is the next step is fine tuning. Put that to the end of the line, get them on a dose where at least their TSH is now in the normal range and their T4 is in the normal range. They went from here to now in the normative range. And if they're still symptomatic, then go to work in their gut. Or if their dose is up and down, if you get them in there for a moment, they keep going... Then go to work in their gut because that may take care of the dosing issue or the symptomatic issue. Then we can consider fine tuning the thyroid medication dose. There is one thing here regarding probiotics that I feel to be really important, and is not well understood. Am I able to do a screen share?

**Robb:** I think you can. Yeah, yeah.

**Dr. Ruscio:** Okay. I want to just put a quick visual aid up here on the screen because it helps make this a little easier to digest. Okay, screen share. Okay, so you can see this, Robb?

**Robb:** Yap.

**Dr. Ruscio:** Okay. So, this has taken me about 10 years to.... maybe nine years to figure out. And now that I figured it out, it's really allowed me to get people healthier digestively much more quickly. What you're looking at here is, so we have the stool, and the analogy is

that probiotics can help to support balance in the gut ecosystem. But using more than one probiotic might be more conducive to supporting balance, just like having a three legged stool is more conducive to supporting balance. And this is why I recommend these three different probiotics, and let me juxtapose this or something. If people want to see this, if they go to our homepage, they will see our probiotic starter guide is in there, but the three probiotic categories.

**Dr. Ruscio:** So when you look at the research, you'll see that lactobacillus and bifidobacterium predominated blend probiotics are the overwhelming majority of what's been used in the research studies. Now, they vary slightly from formula to formula. But we see a trend where there's a litany of studies that all have this commonality that they're most lactobacillus strains and bifidobacterium strains and there's about 500 clinical trials using this categorical type of probiotic.

**Dr. Ruscio:** Now, the second most researched is *Saccharomyces boulardii*, and that's just one. It's actually not a bacteria, it's a fungus. So that's part of the reason why it's a different leg of the stool, so to speak. There's about 100 studies using *Saccharomyces boulardii*. And then the new kid on the block is the soil based probiotics, which are, they're not lactic acid forming. So, they're different than the other two categorical types, and there's about 14... Actually a little bit more than that. But we'll say about 14 clinical trials supporting this type of probiotic. And they're similar, but they do seem to have these subtle differences between them. And that's where the three legs of the stool come in, and using all three of these in tandem does seem to be more effective in getting someone the results when they say, "Well, I've used the probiotic, and maybe it helped. I didn't really feel much."

**Dr. Ruscio:** This can be the difference between that minimal type of result and really seeing a much more profound result. Also, if someone, this is rare, but it does happen, is intolerant to a probiotic. When you break them out into the three, you can help someone identify, well, I did great on the lack of Lacto-Bifido. I did great in the *Saccharomyces boulardii*. But when I tried the soil based probiotic, it had some reactions. And that does happen, but it's a small number of cases in which it happens. But this allows us to personalize the support structure for the individual. And this right here works much better than just using one probiotic formula at a time.

**Robb:** Doc, so correct me if I'm wrong, but in this scenario, folks would not in that case then or maybe it's just in the vetting out phase, would they be on one, say like the Lacto-Bifido strain for a week and then introduce the *Saccharomyces* and then introduce the soil based probiotics to see if there's a reactivity there, and once maybe we had a baseline then you would be able to take them all at the same time. How are you implementing those to access that?

**Dr. Ruscio:** Great question. If someone has a history of being sensitive and being reactive, then we'll have them start one at a time and give it a few days to a week before moving past that one. But if someone doesn't have a history of being highly sensitive and highly reactive then we'll just have them start all three at once. You can really do it either way. That seems to be the best kind of balance between speed and also being deliberate. And

then what you're looking for is, I would say about the second or third week is your first reevaluation point. Most people will notice something usually by the first week, but by the second or third week, you should be able to say, "Yeah, you know what, I'm feeling better." Now, don't confuse that with everything is gone. It's not like an ibuprofen when you have a headache.

**Dr. Ruscio:** So, you're looking for, I have reflux, I have loose stools, and I still have some of that, but it's starting to get better. So, your first reevaluation point is about two to three weeks in, and you're trying to say yes helping or no, it's not helping at all. Now, if it is helping ride that wave until you plateau. Because some of what happens underneath the surface here is the immune system command gets overzealous from chronic activation, and that can take a while to unwind. You may need two or three months before you fully plateau in terms of the results that you're seeing.

**Dr. Ruscio:** In fact, we just published a case study with this girl, Mona, who had been to I think five doctors for chronic acid reflux. Two doctors of Kaiser, the ER, ENT, and a dentist. Obviously got the typical recommendation of PPI, which she didn't want to do because on the side effects for obvious reasons, and she was interesting because she was so happy that she was seeing a improvement in her chronic acid reflux in her first follow up a month later. Then at her second follow up another month later she said, "Well, I still have the reflux." It's like well, are you refluxing all the time? No, rarely. Can you eat foods that you weren't able to eat before? Yeah. Okay, so you're way better than you were, you're not perfect. Let's just keep riding the wave. It took her to about month three or four until she really could open up her diet and felt like she was fully healed.

**Dr. Ruscio:** I make that caution because you don't want to jump ship and chase the next thing, write a blog about this, and you get swept into the latest marketing speculation. Instead of just taking this one step at a time, going through that first reevaluation point second or third week, plateauing. Then once you plateau, again, that might be at month three, ride that way for a month or two, and then try to find your minimal effective dose. And if you just do that, and don't get distracted by whatever new thing comes into your line of sight. This can be very, very helpful.

**Robb:** Doc, what are you generally feeding folks in this phase or is this contingent on what they know that they do or don't do well with? Clearly, a higher fiber diet is going to feed these gut organisms in a different way than a peri-carnivore diet. How are you approaching that?

**Dr. Ruscio:** So, that's something that is obviously the foundational step and that is the first that we layout in the gut healing pyramid in Healthy Gut Health You. There's a few different ways one can go. Now, it depends on where they're coming from. If they're coming from nothing, then I think a Paleo template is a great place to start. And that's going to knock out a lot of problems. And a lot of cases will mean nothing more than maybe Paleo. But some people go Paleo and feel worse, and this is where... Actually, [inaudible 00:49:14], and I just had a conversation about this on her podcast. For those who are doing the Whole 30, which is very similar to a Paleo template, and her question was what do we do when people go Whole 30, and they're feeling the same or even worse. And what

can happen there is people can be inadvertently eating too much FODMAP or too much fiber.

**Dr. Ruscio:** We've talked about this in the past that there's this whole microbiota miss messaging that everyone needs more and more fiber and prebiotics to have a healthy gut. And that mechanistically, it seems true. But when you actually do that in a human living organism that doesn't play out quite the same way, and in fact some people made worse by higher fiber and higher prebiotic intake. And so, this is where the modification to a low FODMAP can be helpful. And you can do that as a standard low FODMAP diet or you don't adhere to the Paleo rules if you [inaudible 00:50:07]. So, they have some grains, they have some dairy, or if they saw some improvement from the Paleo diet, but not full, then we want to carry those Paleo principles forward, and combine that with low FODMAP. And so, that's your next maneuvers off the dietary pyramid here. And carnivore is something that we use in some patients also who are really sensitive.

**Dr. Ruscio:** But there is this inflection point where I say to myself, this person seems to be so dietarily sensitive that perhaps there's a non dietary problem driving these sensitivities. That's when we reach into the toolkit and we'll pull out the probiotic protocol as a next layer. And so, everyone's different in terms of how far they want to go with diet, but in my opinion, there is this law of diminishing returns where you can only die in lifestyle your way into correcting so many problems. Yes, that's the foundation, that never goes away. But we don't need to go to autoimmune Paleo, low FODMAP, and low histamine diet just for someone to feel normal. If that's where they are, then something else is a miss, and that's when we take out some of these critical tools with the probiotics to try to start rectifying that situation.

**Robb:** Got you. And generally, so I mean, funny enough, that actually sounds like me just about in stage.

**Dr. Ruscio:** Right. Yeah, you do.

**Robb:** So, which is probably why we're reasonably good at this stuff. The one patient we haven't been able to fully crack the nut on. But so I'm seeing some really remarkable benefits within that that carnivore intervention. I have some misgivings about folks using that as their first whistle stop in nutritional change.

**Dr. Ruscio:** Totally.

**Robb:** It seems like there's a whole spectrum of things that we could do above and beyond that, but one of the things that's been really speculated about is once you head down that path, do you ever get back out? Is there a recovery mode out of that? What are your thoughts around that? And for some people, they're like, "Hey, I feel great. Everything's good." Although I'll have to make the case other than a few examples of what's the girl's name? She's been doing carnivore for like 20 years.

**Dr. Ruscio:** Michaela Peterson.

**Robb:** Not Michaela, Michaela is barely 20 years old. Gosh, what's her name? I'm blanking on it. But there's a woman that's done it for 24 years. There's a few people out there that have done it for a long time. They seem to be doing well on it and everything, but we don't really know that much about what the long term story is there, and particularly where it's like, "No, I'm not eating a bowl of berries even once a week, nothing. I'm not doing coffee. I'm not doing green tea. Absolutely nothing." It seems like a remarkable cul-de-sac to end up in. Now, if you're super sick, and that's the last... You've turned every stone in the creek over. It's the last one, who cares, why not, then I guess that makes sense. But what are you seeing in that regard? Is it something you're using as a short term intervention, and then you're using this integrated probiotic methodology to hold people back from that? How are you handling this?

**Dr. Ruscio:** Yep. I agree with pretty much everything that you just said, and exactly to the last point is how I'm using this, which is if someone has not optimally responded to the other diets, then that will be one of the next or really the final. Yeah, it is the final. It is the cul-de-sac. It's the end of the road diet that will trial. But I'm always thinking in those cases that there is something else that needs to be remedied. I do not look at the carnivore diet as a long term solution. A short term extreme hypoallergenic diet to help heal, yes. But then my goal is always to allow someone to have the broadest diet possible.

**Robb:** More resilience, right...

**Dr. Ruscio:** Now, if they want to eat carnivore, sure, but I don't want them to have to eat carnivore. That's really the key distinction, and for... In my opinion, gastro care in functional medicine is not where it needs to be. It's really not. I don't mean to sound like a contrarian, but as an example, there is fear that someone who has SIBO should not use probiotics. Even though we have great scientific evidence that shows those with SIBO benefit from probiotics. So, there's one huge miss. The simple safe therapy of probiotics for reasons that are well intentioned, but are more so ensconced in a dogma are telling patients not to use a therapy that can really help with their SIBO and then ostensibly lead to less symptoms and a broader diet.

**Dr. Ruscio:** So, those types of people may find their way down the line and eventually because they're not responding to other things. Let's say they go on Rifaximin to treat the SIBO, but the Rifaximin creates a secondary fungal imbalance. So, now they've got to go low carb and that gets worse over time. Now they've got to go full blown carnivore, and then they come to see someone like me, and it's like, what have you been doing? A good probiotic protocol would not only address the SIBO and help reduce inflammation and leaky gut, but can also help combat fungus. So, I do think that if people have competent GI advice, the need for carnivore outside of a short reset is going to be diminished greatly.

**Dr. Ruscio:** And so yeah, I do think it's important to look at it more so as a temporary tool on your road to healing recovery in a broader diet. I agree with all the principles of nose to tail. Those things are great to carry those into and [crosstalk 00:56:12]. Yeah. Right. And I do have reservation about any diet plan that seems to be extreme including vegetarian. I'm open. I'm not going to tell a patient who is really, I guess, philosophically only

comfortable with vegetarian that they can't do it. And that's why we've developed a vegetarian low FODMAP diet handout for our patients and readers. But I'm uncomfortable with anything that's highly restricted in the long term whether it be on the carnivore or vegetarian end of the spectrum.

**Robb:** Right. I completely agree. I am continually impressed by, and fascinated by the therapeutic potential of using this, but it's also... I'm concerned that folks again are using it as the first whistle stop in their health journey instead of like, no man, we went everywhere, we did everything, and none of it worked, and here we go. But again, to your point, it's a personal choice on that. I may be thick on this, so help me a little bit, but if we end up in that carnivore state, you've said a couple of times that there's something else going on. What are those something elses? Is it potentially like heavy metal detox or what are some of those others somethings that are driving these super extreme health endpoints?

**Dr. Ruscio:** The first is imbalances in the gut. I know that sounds trite, especially given the whole conversation. But that's most of the patients that I see that they've done the entry level stuff, Paleo SED, low FODMAP, probiotics, maybe antibiotics, maybe a guts parasite cleanse on their own, and they've seen maybe flickers of improvement, but they still can't respond. Then it's just utilizing the gut tools in a more methodical stepwise fashion, which is exactly what I lay out in Healthy Gut Healthy You, and that is the majority of cases. It's so important to reiterate that, because what I see happen in some cases is they get a little tick of improvement from let's say, Paleo, low FODMAP. Another 20% from probiotics, especially if it's the right kind of three prong probiotic protocol, and then they do antimicrobial, and they get another tick of improvement, but they don't hit 100% until they go, "Well, screw it. I'm just going to tear the whole thing down." And they they don't think about, well I've built up this foundation, what else can I do to get from the 70% that I'm at or the 60% that I'm at to that last little bit.

**Dr. Ruscio:** Healthy Gut Healthy You helps with that. A good clinician can also obviously help with that. But oftentimes, the majority of cases, it seems to be just lack of a long game perspective or a more methodical integration of different therapies to incrementally build someone up to the pinnacle that they're trying to get to.

**Robb:** Got you.

**Dr. Ruscio:** Second to that, someone could be hypothyroid, so you should check that, and if you are truly hypothyroid medication will be helpful. Heavy metals, early in my practice I tinkered with heavy metal detox, and I really wasn't that impressed from the results that I saw. And also I performed an extensive review of the literature on mercury, specifically, and there was not a good case to be made unless you are under industrial level exposure like a mine that mercury posed the health risk. There were some pretty elegant large population based observational studies, I believe out of Denmark, looking at the number of fillings one has, so 24, 68, 10, 12, all the way through 24 maybe in any correlation to mortality or morbidity, and there was no correlation found between the two.

**Dr. Ruscio:** So, without going too into that, I don't think that's a fruitful road for people to start with after their gut road. The thing that I have been looking at more so lately is mycotoxins, mold, and mast cell activation syndrome. And I'm early into my foray into this area, but so far it does seem to be fruitful and it does seem to help some of the people who are reacting to everything else. This ties in to, in my mind, the other half of the equation of reactivity. There's your gut microbiota.

**Dr. Ruscio:** So, if we're talking about dietary intolerances, so talk about the gut. There's a gut microbiota then there's this layer of tissue, and there's the immune system. And so, in some cases, we get the gut microbiota as balanced as we can, but the immune system is still reacting. And that's where something like mast cell activation syndrome, or some kind of either prior or current exposure is putting the immune system into this overzealous state. And that can be the next step of what needs to be addressed to attenuate that aggression, that is being driven by the immune system causing someone to be reactive foods that they may not normally or shouldn't normally react to.

**Robb:** Doc, would that be an example of where folks like they eat a salad, some green beans and they just get lit up by that. Seemingly that should be fairly benign stuff, but people are finding that they react to just vegetables.

**Dr. Ruscio:** Yeah, I mean, it does seem that vegetables tend to be the more reactive food group. Vegetables and maybe grains. But for reasons that I haven't been able to find a good answer to, it does seem that vegetables tend to be one of the things that really flare people. Now, that could be they're eating too much FODMAP, and it could be their gut. But if they've done all those things right, and they're still reactive, then it could be a mast cell issue. Oftentimes in my observation there's more than just food reactivity in those people who have the syndrome. Their sleep might not be great. They might have bouts of brain fog, they may notice that they're sensitive to some certain things in the environment. Not to say that they're super sensitive, but often there's a couple other things that are also present.

**Robb:** A miss, yeah.

**Dr. Ruscio:** You kind of build a case, but yeah, I mean, certainly if there's this paradoxical food reactivity that can be an indication.

**Robb:** Got you. On a personal note, for several years now I've been using some Imodium. Sometimes twice a day, two to four milligrams in the morning two to four milligrams in the evening. For folks that don't know Imodium can slow gastric motility, and it's been a complete life changer. I can't say game changer because that term now is just like Satan itself. I talked to Erica Sonnenberg of the Sonnenberg lab there at Stanford. They're the folks that do all the human gut biome projects like they go sequence the Hudson gut microbiomes. I was like, "Hey, what do you think about this?" I feel way better. Symptom wise when I use the Imodium, I feel great. I don't have the brain fog. I tend to have better carb tolerance even though I eat on the lower carb side of things, but it seems like a bunch of other issues seem to improve with the Imodium.

**Robb:** She thought about it and she's like, "Well, clearly the way that you're changing your gastric motility is almost certainly benefiting my specific situation with regards to the gut microbiota, probably specifically, but what are your thoughts on that?" In the back of my head, the hippie thing is like, "Bro, you're relying on a drug. You should be able to go without it." But I can't think of any really negative downsides to the tiny amount that I'm using it. I mean, it's really a profound improvement in the way that I feel.

**Dr. Ruscio:** Sure, and with that in the table, I would be open to Loperamide as something that can help, and there was at least one study that found that it could reduce leaky gut. So, that may be helpful, definitely. And you may actually see improvements in your microbiota. I'm pausing on this because I'm processing how I most carefully want to deliver the fact that motility might drive the microbiota rather than it being if you slow down your motility, it means that your microbiota has gotten healthier. It might be that the healthier changes that we see are perhaps because the healthier controls have less deviations from a constipative or diarrheal perspective. And so, what we're thinking is the healthier microbiota might in part be a byproduct of just the speed at which food moves through, impacts the available substrate for the microbiota. And so, we think it's healthier.

**Dr. Ruscio:** So, the cause effect here is not always super straightforward, but it tells me that there's a level of agitation in your gut that needs to be rectified. And certainly I'm not a purist. So if that's working for you, given that you've done the other foundational supports then I'm okay with that. Just like for some patients who are really constipated, we'll have them use something like a low dose of Neolaxan because there's ideal and then there's the real world, and not every person can get to the same level of health with just the natural tools, and that's where the natural foundation is laid. And then we use modern medicine, even over the counter medicines to get us the rest of the way there if we need to.

**Robb:** Right, right. Honestly, I've never done all three of these interventions at the same time. I've done *Saccharomyces boulardii* individually, I've done the soil microbes individually, and then I've done the the more of lactobacillus type stuff individually, but I've never tried a three pronged approach like that. So, maybe we do some tinkering, yeah-

**Dr. Ruscio:** Didn't you see... Yeah, shoot me a note after. But I mean, if you just go to [druscio.com](http://druscio.com) on the homepage there's a probiotic starter guide that lays this all out. But shoot me a note, and we'll get you all set up, obviously.

**Robb:** Okay.

**Dr. Ruscio:** And I think this is a couple years ago now, maybe three years ago. Hadn't you used *Saccharomyces boulardii* for the first time, and wasn't that the intervention that I quoted you on. You were not pooping like a teenager. Was that what you had done?

**Robb:** No. I had recommended *S. boulardii* in my first book. It got on my radar back in the early 2000s.

**Dr. Ruscio:** I've seen you with it for a while.

**Robb:** Yeah, I was pretty familiar with it.

**Dr. Ruscio:** What was your intervention? Do you remember what the intervention was that... Because there's something that you did, the anti-microbials-

**Robb:** -It was the anti microbials, yeah.

**Dr. Ruscio:** So, have you ever done all three probiotic, or so you haven't done all three probiotics.

**Robb:** I haven't done all three of them together.

**Dr. Ruscio:** That would be a start, and then you could layer on top of that the antimicrobials. Now, the error that I think you made, to pick on you a little bit because I love you like a brother, so I feel like I can shoot you straight-

**Robb:** Lay into me.

**Dr. Ruscio:** And let me know if I'm wrong here because if I'm wrong then it changes the advice, but the three probiotics at once would have all helped to encourage that balance. [audio cut out]. Now, it sounds like that didn't get you quite straight. You're a little off kilter, and that's where the antimicrobial is on top of that help nudge the ecosystem. And with those supports in place, now you reset to a healthier equilibrium. But if you don't have those supports in place, the nudge from the antimicrobials gives you a temporary balance and you fall back to your pattern. This is where those more end phage phase, excuse me, nudges really require those foundation supports in place to make sure you maintain an adequate balance long term after that nudge.

**Robb:** Yeah, totally. It totally makes sense. I mean, it's goofy, but I'm saying like a stock market ticker in this stuff. I mean, it's resource allocation when you get right down to it. You want the right types of things taken up residence in there. So, that totally makes sense. Yeah.

**Dr. Ruscio:** So, that may have been the miss with you, this is common. This is common that people will execute one thing and then they'll put that aside and go to another or maybe they'll just keep just a remnant of that. And again, it's easy for me to criticize, but this is all I do every day. So, after a while I can pick out some of these patterns. But that right there might be a huge difference between the up and down and hopefully get into a new peak in a sustained fashion.

**Robb:** I will definitely follow up with you after we wrap this up. But what's interesting about this, what is the scientific method? How do you tackle something? We change one variable. What's interesting though is that to address a lot of these chronic degenerative conditions, tweaking one variable is pissing in the wind. I mean, it's pissing into a wind tunnel blasting back on you.

**Dr. Ruscio:** We can also we can also do both, right?

**Robb:** We can do both, yeah.

**Dr. Ruscio:** Or we can do one therapy at a time, gain new ground, have a new baseline, and then... So, it's not quite RCT level-

**Robb:** Yes. Yeah.

**Dr. Ruscio:** But it's also more clinically sound because we're not using a multitude of treatments at one time. We're administering them in this kind of sequencing.

**Robb:** Well, this is why you're both more handsome and smarter than I am. But it's interesting, I think people have a tendency to assume that, well, if I did intervention, A, it's not good, and it didn't work then intervention, A, B and C, may in fact work, but you have a tendency to jettison that. That's where this clinical intervention stuff. It's really interesting. I guess part of what I'm noodling on is the way that modern RCTs are performed. We're never going to unpack this stuff to the degree that would satisfy super rigorous evidence based medicine because you're changing too many variables at once. This is where the rubber is going to hit the road with regards to personalized medicine, and just practicing clinical interventions where we've got a general picture that we can piece together from the macro level, but then you've got to get super specific, and be willing to do things that don't really fit within a standard kind of a... It's not a silly scientific paradigm, but you know, yeah.

**Dr. Ruscio:** It is what it is. I think here were something too critical of medicine because one of the things medicine does work to develop is practice guidelines and clinical algorithms. It's just that we typically don't discuss a clinical algorithm that's more so what you do at a gastroenterology conference. In the world of the blogosphere it's I think this, you think that, I have this study, you have that study. One study is better exploring this one claim, and we use all those findings, and we organize them into the decision tree of the clinical algorithm. So, that is happening. It's just we discuss it much less I think in the online health community because people want to hear I'm anxious, what one thing do I do for anxiety? They don't want to hear there's an algorithm for anxiety. It could be this, it could do be that, you could do this, you could do that.

**Dr. Ruscio:** That's too much, and I've learned this actually, it's one of most frustrating things about lecturing. Some of the lectures that I feel have given clinicians the most tools were the least well received because it was too much to process. It's actually one of things that I have to credit David Perlmutter with kind of pulling me aside and saying, you got to just pick one or two points that you want to make because trying to lay out this entire algorithm. People have a very hard time digesting it. And so, yeah, I mean, that evidence is there for the clinical tools or algorithms, excuse me, but we don't discuss it as much.

**Robb:** It's kind of like a family reunion. You just don't talk about it. So, yeah.

**Dr. Ruscio:** Exactly.

**Robb:** Wow.

**Dr. Ruscio:** There is one other thing that I think is maybe worthwhile to mention, which is a new therapy that I've been using. I've been following the research on this. Sorry, my Zoom is going crazy here. Let me get this out of the way. Sorry, my Zoom is giving me a weird notice that I want to accidentally cut off. Okay, sorry. Immunoglobulin therapy. I think we discussed this a while back. Immunoglobulins are essentially taking the immune or mucous membrane in your gut, in the form of an oral supplement. I've been watching this for maybe two or three years now. It first came in the market as a prescription medical food known as EnteraGam, and that was an interesting study. I was watching, and watching it, and then it eventually became available as an over the counter agent. And so, then I started experimenting with it. And it really did perform up to its expectations.

**Dr. Ruscio:** As an example of something that did not match the research. I think peppermint is not as effective for gut ailments as the research would have you believe probably because of a publication bias, which happens with new therapies. Journals are more prone to accept the publications about a new and novel therapy that worked, rather than one that didn't. Unless it's maybe the carnivore diet, and we'll probably never want to accept-

**Robb:** Anything-

**Dr. Ruscio:** But there's one study by Weinstock, and he essentially took a group of IBS patients who hadn't optimally responded to low FODMAP, to probiotics, to Rifaximin, to antispasmodic like Loperamide like you're taking, and he put them on these immunoglobulins. He saw about a 75-ish percent response rate, which was pretty remarkable given the population that he was using it. And so, we since have released our own version of this, not to say it's the only one on the market, but of course when I find something good like that we want to get a version out there. There's a few different versions on the market. Some of these use just one immunoglobulin, and the others use the full cocktail of immunoglobulins. And so, that's why we wanted to partner with a manufacturer where we could use the same formula that was used in the research studies.

**Dr. Ruscio:** It's not to say that the similar but different version won't be effective. It's just we only know that what's been studied will be effective. So, anything outside of that, that's an inference. So, that's what we were talking about, I think about a year ago was the intestinal support formula that we released as an immunoglobulin. And that's one of the things for patients who've done diet, done probiotics, done antimicrobials, and they're still reactive, the immunoglobulin helps to bind to essentially agitating bacterial fragments and toxins that will trigger the immune system and deactivates them. This is why likely we see less symptoms produced because we're actually attenuating the immune system response by giving you some extra immunoglobulins, which their function is to take these agitating particles, wrap them in wax and allow them to make their way out of your GI tract. So, that's another therapy that I think is worthwhile to

consider if someone's, again, done the appropriate groundwork in the sequence, and then needs a little bit of a push in the right direction.

**Robb:** So generally, you would use that in conjunction with or on the heels of doing this three pronged approach on the probiotic intervention plus using the antimicrobials to get some direction within a more healthy profile for the microbiome.

**Dr. Ruscio:** Yes, and the reason is probably twofold. One, it's more expensive than probiotics, and it's micro. So, more expensive, and there's less research on this compound. And this also may be, I don't want to say less corrective. But we know there's a myriad of benefits from probiotics. From encouraging a healthier microbiota, by fighting bacteria, parasites and fungus, by reducing leaky gut. Even some evidence showing a small but significant ability to lower blood pressure and cholesterol. So, there's mold and depression like we talked about earlier. One study found that women with PCOS had lower androgens after using probiotics. One study found that probiotics can reduce the amount of thyroid hormone medication that was needed. So, there's a lot of benefits to the probiotics. So yes, that's why in theory you could do the immunoglobulins whenever, but it seems to be most well advised to do them more toward the end of the line.

**Robb:** Got you. Make sense. Hey, doc, I'm blown away as always. Can you let folks know where they can track you down?

**Dr. Ruscio:** Run away or bored.

**Robb:** Never bored with you. If either one of us were bored with each other, we really have a dysfunctional relationship because we've doing this thing a lot.

**Dr. Ruscio:** I know. Drruscio.com. D-R-R-U-S-C-I-O.com. We just launched a new website. So, it should be a lot easier to find relevant stuff.

**Robb:** Okay.

**Dr. Ruscio:** Right in the homepage there you'll see there is a probiotic starter guide that lays out a lot of the salient points about what we just discussed including the probiotics that you use, the doses that you use them in. And then also, if they go over to our blog, which you can navigate to through the homepage, we just released... Actually, let me do a quick screenshare if that's cool.

**Robb:** Yeah.

**Dr. Ruscio:** Okay. A behemoth of an article, 43 pages, pretty much everything I felt to be relevant regarding probiotics. The three best probiotics of 2020 and how to use them effectively.

**Robb:** Wow.

**Dr. Ruscio:** And and we go through, I mean, already just the first paragraph there's 10 references. I think there's 250 references in this article, very well referenced, and it just walks you

through what probiotics are, what they do, some of the tie-in to bacterial colonization and inflammation. We go through the three for balance protocol somewhere down here, so everything here is laid out for you. If you really want to get a good primer... Sorry to keep going on. But this is a cool table from the article that compares the probiotics in foods as compared to a capsule of probiotic. So, sauerkraut is... one serving of sauerkraut is equivalent to one eighth of a capsule of our Lacto-Bifido blend probiotic, yogurt a serving there is one 10th of the capsule. Pickles are point five of the capsule. The winner is probably Kiefer or sorry kimchi. Probably people's least favorite, but-

**Robb:** My kids crush it.

**Dr. Ruscio:** Do they?

**Robb:** Yeah.

**Dr. Ruscio:** Good, good. So, in one serving there, and a half cup serving you get about the amount of probiotic in one half of the capsule of Lacto-Bifido blend probiotic. And this is not to say foods don't have their time, and their place or that they're not the foundation. But if we're trying to get some over this hump of an imbalance with SIBO or fungus or what have you, you may need to go on to a higher dose because in this case with the lack of the Bifido Blend Probiotic, someone might do four to six capsules a day. So, it'd be hard to get the same equivalent dose if one half cup is equivalent to one 10th of one capsule.

**Robb:** Right. You start running into some fiber upper limit.

**Dr. Ruscio:** Right. Exactly. So, in any case that's available on the website if people really want to get a good primer on probiotics, how to use them, some of the background, some of the evidence. There's also a section on probiotics for infants and children. [inaudible 01:20:53] is really important, and we lay out here's the, I think, eight studies that have been done in infants. And here's the dosages and the strains, just to help free moms up from here's the special infant probiotic. No, it's not. I mean, there have been eight studies, they've all used different strains. They all fall within this realm. So we can get away from the understandable fear that a mom has not to want to make a mistake and just have a table. Here's what's been used, it's been shown to be safe.

**Dr. Ruscio:** In fact, NICU babies have been given probiotics and been shown to prevent necrotizing enterocolitis is one example. So, there's a lot of benefit that can be conferred. And the risk seems to be minimal. It's just important for us to lay out the evidence-

**Robb:** What's known.

**Dr. Ruscio:** ... is important for that. Yeah.

**Robb:** Right.

**Dr. Ruscio:** So, that's the website.

**Robb:** That's awesome.

**Dr. Ruscio:** That's some of stuff that you can find there.

**Robb:** Hey doc, Nicki's going to wring my neck for throwing this out there, but we're currently doing a 30 day reset, and then seven day carb test. Just basically pulling what we did in Wired To Eat together, and we've got several hundred people doing that. I've been noodling on some things to do in between these big resets. Would you be game for maybe stewarding our community through a gut reset?

**Dr. Ruscio:** Totally.

**Robb:** I don't know potentially how we would do this, but it could be something where we just see who would be willing to say use the three pronged approach and then maybe the immunoglobulins, and ideally probably pull from people that have the most significant gut issues and then see what type of before and after effects we can get from that.

**Dr. Ruscio:** I'd love to because, yeah, thank you, and I'd love to. One of the reasons why I'd really love to is one of the things I have in my objective list for this year is to start doing some documentation of the benefit of this protocol because it clearly works. As an example we published on the website maybe a month ago, a case study with Phyllis, who had been on the Paleo diet, and then the Paleo low FODMAP diet, and use probiotics and was suffering with gut problems for a couple of years.

**Dr. Ruscio:** She came in, the one change we made with her diet alone, got her off of the probiotic merry go round ping-pong from formula to formula. Put her on the three pronged approach, and two months later, symptoms are gone. That's just one data point of a multitude, but I want to start documenting this in a more controlled fashion. So that we can submit this to a journal, and now the skeptics have something they can look at. Okay, this guy's gone through the appropriate methodology to make sure that he's not seeing a biased or selecting just the right people to make it look like this works or doesn't work. So, yeah, I'd love to because that would help in that direction.

**Robb:** Not to drag this out, and we could talk about this later, but it is there testing pre and post that we could do? I've been falling more and more out of favor with the various gut microbiome testing options. Is there... What would we do... And again, we could talk about this later if you want to, but-

**Dr. Ruscio:** We can maybe do a Zonulin.

**Robb:** Okay, just checking for permeability at some level. Okay.

**Dr. Ruscio:** Zonulin is imperfect, but potentially, and we can discuss this more, but one of the things that you see in some of the research looking at Zonulin is that some dietary changes, especially if they're more weighted toward mitigating carb intake, even though the patients who do that have improved symptoms, and in some cases, their Zonulin gets worse. And I believe the noteworthy study here was using the Nordic diet and the

patients improved by every symptomatic measure yet the Zonulin got worse. Now, on the other side of that there are studies showing that probiotics amongst other things can lower Zonulin. It's just an imperfect measure. Is there a test?

**Dr. Ruscio:** There's this one test, the GA map out Norway which actually has shown a correlation to IBS and IBD. But it's been a hell of a time turning those kits here in the States, and we've discussed some stuff with their team. I don't think that's really doable. There's not really a good, here's a healthy gut microbiome, and here's a post. Maybe we could do a stool test, and maybe so pre post with fungal changes, but a lot of that's just functional medicine conjecture, and you'll see any patients with, and we've actually published a few of these cases in our clinicians newsletter who day one they have a fairly okay looking stool test, and then day 60 their symptoms are gone, but their stool test looks worse. So, that shows you that a lot of what we're doing in function medicine and stool testing is still way speculative, and even have a good clinical correlation mapped out, yeah.

**Robb:** Okay, well I want to be respectful of your time, but I'm trying to think of how we could make that as rigorous as possible, but I mean I guess, a basic, a thorough questionnaire could be really powerful.

**Dr. Ruscio:** Yeah. We can use a research validated questionnaire. Like the general quality of life and maybe an IBS inventory, and wow that's free, and that's actually pretty accurate.

**Robb:** And tells us a hell of a lot more.

**Dr. Ruscio:** Right.

**Robb:** Cool. Hey doc, seriously, thank you for being such a huge friend and supporter. I have learned so much from you, and can't wait to hang out with you in real life again. Are you going to be at Metabolic Health Summit, Paleo F(x), you're doing any whistle stops this year?

**Dr. Ruscio:** I'll be at Paleo F(x), and I think we're long overdue for a tequila or two. I think we miss each other the past two years.

**Robb:** Absolutely. I'll have Nikki in tow this time. So, two Italians with me. It should be good.

**Dr. Ruscio:** Real bad, real fast.

**Robb:** Absolutely. Well, doc, hey, it's great seeing you and thank you again so much. I will circle back around both to try to figure out what I'm up to with myself. And also I really like to investigate the potential of you stewarding us through a gut reset protocol.

**Dr. Ruscio:** That'd be great. Thank you, Robb. It's always a pleasure chatting, really appreciate it.

**Robb:** Awesome doc. Take care.

**Dr. Ruscio:** All right. See you brother.

**Robb:** Talk to you soon.

**Dr. Ruscio:** Okay. Bye-bye.

**Robb:** Bye-bye.

**Nicki:** All right, that's a wrap. What a great interview.

**Robb:** I need a hug and a smoke. That was a lot of stuff.

**Nicki:** That was a lot of stuff. You guys dug deep. It was good. All right, everyone. Thank you so much for checking us out at this episode of the Healthy Rebellion Radio. Remember to check out our show sponsor Athletic Greens, go to [athleticgreens.com/wolf](https://athleticgreens.com/wolf), and you'll get 20 free travel packs with your first purchase. Let's see, what else babe? Please subscribe. Leave us a review. Again, you'll have a chance to win one of our Healthy Rebellion Radio T-shirts, and if you want to join us in some of these upcoming resets. If you want to participate in our COVID-19 boredom busting daily challenges. If you want to be in the community and just have a solid group of people to share experience with and learn with and-

**Robb:** Minus all the bullshit.

**Nicki:** Minus all the bullshit of social media.

**Robb:** Social media.

**Nicki:** Yeah, then come on over and join us. Go to [join.thehealthyrebellion.com](https://join.thehealthyrebellion.com).

**Robb:** Okay, is that it?

**Nicki:** That's it.

**Robb:** All right. Wife, I will see you immediately, but all the rest of you I'll see you-

**Nicki:** Next week.

**Robb:** ... some point later.

**Nicki:** Take care.

**Robb:** All right. Bye.