The Gut-Immune Axis: How a Healthy Gut Helps Fight Lyme & Co-Infections Transcript

(Transcripts are generated by AI and may contain errors)

Introduction and guest background

Hi and welcome to another episode of the Healing Lyme Summit. I'm your host, Doctor Myriah Hinchey, and today we are going to talk about one of my favorite topics how gut health is the foundation for overcoming chronic vector borne infections.

Joining us to discuss the importance of gut health and healing Lyme disease and other co-infections is Doctor Michael Ruscio. Doctor Ruscio is a clinician, a clinical researcher and author working to reform and improve the field of functional and integrative medicine.

He is doing so in collaboration with his clinical and research team, both via clinical experimentation and published research. His primary areas of focus are digestive health and its impact on other facets of health, including energy, sleep, mood, and thyroid optimization.

Doctor Ruscio has published in peer reviewed medical journals, and he speaks at integrative medical conferences across the globe. Doctor Ruscio also runs an influential website, and the Doctor Ruscio Radio podcast at Doctor Ruscio.com.

Additionally, he runs his clinic and is an adjunct professor at the University of Bridgeport here in Connecticut. Welcome, Doctor Ruscio. Thank you for being here with us today.

It's a pleasure to be here. Thanks for having me. Absolutely. Let's start by telling our listeners your story. I know that you have a very personal story that actually got you into the importance of gut health, as well as its connections to vector borne disease.

Yeah, it's, there's kind of a second chapter that's been added over the past few years, but the first chapter was back in college, was generally very healthy, and then all of a sudden started having pretty nasty food reactive brain fog, fatigue, depression, and just debilitating insomnia.

And so, you know, I went to a few conventional doctors. They did their work ups, you know, all finding good, trying to help. But as so many people who are probably accustomed to hearing that your labs are normal, there's nothing wrong with you.

And, you know, some sort of platitudinous remark was made like, maybe it's stress or it's experts, you know, and I was doing all of those things very well, eating mostly organic food, high nutrient density exercising, prioritizing sleep.

I mean, I was in college, so certainly there would be some drinking on the weekends, but nothing excessive, right? There was no really good explanation for all these symptoms.

I turned to alternative medicine, and, a doctor there thought I had a parasite, and I thought the doctor was not good because I didn't really have much in the way of gastrointestinal symptoms.

Right. But at that point, I had little, you know, nothing to lose. So I did a stool test.

Doctor Rusciou2019s personal health journey

I came back with an amoeba, amoeba politica, which is a very pathogenic amoeba. And that just totally changed my perspective on health care because it was the treatment of that that resolved pretty much all of my symptoms.

And I say that with a little underscore, because even though I got vastly better, I do think that at that time I had undiagnosed and unbeknownst to me, along with that intestinal parasite which was cleared, the Bézier and Bartonella, and that accounted for why, even after addressing the real brunt of my issues with the gut care plan, I had insomnia on and off, and I had a little bit of joint pain and it was nothing too bad.

But I had to work really hard to maintain a normal level of health, which was kind of a gift in a weird way. It's what spawned all the stuff that I do because I was always searching for answers, right? Right.

But nevertheless, I did feel kind of like Sisyphus was always rolling the boulder up the hill. And if I ever stopped, things would come crashing back down.

And things did really come crashing down. About two years ago, when there was a period of in Norton and Stress for about two years in a row, and what really pushed me in my immune system and therefore allowed this low level of the disease and Bartonella to become much more problematic, was one of the ways I was coping with that.

Stress was intense exercise. And so there was just no real recovery. Right. And I was operating under the paradigm of, well, exercise is good for you.

It helps with stress. And this is true. Right. And there's definitely a correlation between high VO2 max and muscle mass and longevity. But it's not sort of the complete picture.

If someone is overloaded with healthy stressors. And so then the wheels just fell off and the insomnia came back. And I'm I'm talking couldn't fall asleep until 430 in the morning.

Irrespective of melatonin gamma valerian units aam tries to don Gaba. I mean I tried all of the things so it was sort of a huge paradigm shift. And thankfully I was. And sorry if this is a long winded version.

But thankfully I was on a panel next to Tania Dempsey, who's one of our cohorts and specializes in vector borne infections, and now she's answering questions.

I'm saying, a lot of this sounds really familiar to me. And so it sort of piqued my curiosity. And one thing led to another. I got diagnosed with Bartonella, but I treated those.

It was pretty challenging at times because a die off, I think, especially with at least my biased perspective with Bartonella, can be pretty nasty. But I learned a whole lot about distinguishing I don't tolerate that treatment from.

You're actually just having a Hertz reaction and keep going, which has been a huge gift clinically. And so here we are. Well, thank you for sharing that.

And I mean, I like that you gave us the long winded version because honestly, I think so many people, like you said, you're listening to Tanya and you're like, whoa, wait, that's me.

And there's probably people that are listening to this, you know what I mean? That it's like, you know, you pick up clues as to what's going on with yourself by listening to other people's stories.

Sure, sure. All right, well, let's dive in. Talk to us about in your. You know, from the way that you look at it, what role does gut health play in enhancing or destroying the immune system?

You know, in the treatment of vector borne infections like Lyme? Yeah. Well, I think one of the reasons why the gut treatment for me way back when in college was so helpful for the vector borne infections was exactly the reason of the impact, either good or bad, on the immune system.

And if we just look at the physiology, 70% of the immune cells in the entire body are in the small intestine. And that's on purpose, right? Because that's where all this stuff is going to try to enter the body or be policed out.

Potential problem with that is if the gut's unhealthy, if there's an overgrowth of bacteria or fungus, or if there's a leaky gut. Now the immune system is really preoccupied with surveilling that border that's not functioning correctly.

And so you essentially weaken or attacks your immune system through unhealthy gut function. And it kind of compounds because that immune reactivity or surveillance will cause increased inflammation.

It'll impair detoxification because everything from the gut drains through into the liver. If the liver is backed up, this can lead to toxins building up in the brain and can cause a whole slew of cognitive impairments and nutrient absorption.

There was just one study we were looking at where people who had Sibo develop thiamin, vitamin B one deficiency. And in this research study, the researchers could not get people back to normal levels of thiamin until they treated the Sibo.

So presumably, even if you're eating enough thiamin in your diet but you have Sibo, you may never really be replete or fully absorbing those nutrients.

So it's really multifold the way the gut can impact your immune system. Detoxification, your brain inflammation and nutrient absorption. Yeah, absolutely.

Do you find a lot of your tickborne infected patients having increased intestinal permeability and food sensitivities and kind of like, you know, the gut from that aspect as well?

Yes. And I think it's it's bidirectional. And this is something that's been really clarifying for there's a subset of people wherein we do all of the sort of research based vetted gut therapies, and the needle just only moves ever so slightly.

And in those people, when as a clinician, you're scratching your head and saying, geez, you know, we've gone through X, Y, and Z and you're you're not following the trajectory that most people do.

That's where we think there's probably something like a Lyme or a Bartonella or BCR interfering with endothelial function or blood flow to the gut, or maybe the brain gut connection leading to digestive symptoms.

And there was a really interesting paper by Erdmann a few years back where he found that if people had more than three chronic digestive symptoms, their risk of a vector borne infection went up significantly.

So again, a new thing is bi directional because if you work on the gut health, you may improve the immune system and therefore be able to fight the infection.

How gut health affects immunity in Lyme and co-infections

But if you do that gut work and you see a little bit of movement, but not the appropriate amount of recovery, that's when I think, okay, that there's a layer beyond the gut with some other sort of microbe that's interfering with gut function.

Yeah. And I think like when I look at it too, it's like, you know, if you look at just the sheer number of inflammatory cytokines that these infections stimulate, and then you look at how those cytokines like nuclear factor, kappa beta, like how that breaks down the tight junctions in the gut lining and increases permeability.

Right. Then the more antigenic food particles that are getting in, and that's stimulating or overstimulating the immune system causing more inflammation and perhaps mast cell issues.

And then on top of that, we know that these infections negatively affect the microbiome. And then when you end up with dysbiosis now that's like a whole nother angle of inflammation and immune dysfunction.

And it's like this big, giant nasty ball of wax. And it's like you can't heal the gut without treating the infections. You can't treat the infections without healing the gut.

Yeah. And it's I guess it's with the right frame a good thing because it gives you the playbook to run, to heal. It's, you know, if someone's looking for, well, I just want to zap the bugs and be done with it.

That paradigm, I think, isn't going to work for most people. For some, I do think it will. And those are the highly responsive people who just a little bit of therapy and they're good and and they come in a month later and they're singing your praises.

That's awesome. But I would say that's maybe a third of people at best. But if it's more longstanding, then to your point, a holistic approach is really what's needed to rebuild these multiple systems.

Yeah, yeah, I think it's funny too. Like we attract the people that I think respond, you know, to, to our way of doing things. And yeah, for most of my patients, it's like they need the overhaul.

They need the whole full body approach. And there's been so much damage done. You know, a lot of my patients have been sick for so long that, you have to kind of leave no stone unturned.

Yeah. I'm with you for sure. Like, some people just they need that more comprehensive approach. And I wish that wasn't the case. I was having this conversation just last week where a gal at the BCA was about a month to six weeks in a treatment, and to us saying a doc, you know, just tired a lot, when is this going to end?

And, you know, sort of the the response is, remember, like we're trying to get you there as fast as we can, but it can be a few months sometimes of, of fighting or maybe even longer of fighting through diet.

The diet should get less severe and less prolonged every cycle. So that's one of the clues we can look for compared to something like candida overgrowth.

And a lot of it's just that oftentimes 2 to 4 weeks later, people are feeling great, or at least noticeably better. Maybe they had a few days of die off, but with the vector borne infections, it does seem to be a little bit more challenging, and probably because they're more attuned at evading and suppressing the immune system.

Yeah, it's their specialty. Jake has a track, so I think, you know, with that how slow growing a Borrelia is the organism that causes Lyme, you know, that can have a lot to do with it, too.

It takes a heck of a lot longer time to kill something that, you know, that is reproducing that slowly. You use a lot of life lifestyle therapy, as do I in your practice.

Correct? I do, yeah. So can you go over some of the suggestions that you give your patients or some of the therapies that you do from a lifestyle perspective?

Well, the one that for some people really moves the needle is just their perspective on their health and their diet. Some people come in having done such a good job with their own health care research.

What? That can be a double edged sword in the sense that they read about lectins and gluten and salicylates and histamine and Fodmap and dairy. And by the time they get to you, they have this really pathological perspective on their symptoms, and they're on a very restrictive diet.

And sometimes they're actually making themselves noticeably worse because they're just so fearful, so tight, so restrictive, and just having a sort of reframe of that perspective and letting them know that you think they can probably broaden their diet.

And it's not to say if you have one bite of a high histamine food, that you've ruined your immune system and it's going to take you three months to get back to that.

But some people come in thinking, right, and it creates this cascade of stress like, oh, I was at a wedding and I really just wanted to have a few bites of cake.

And then I had some cake, but I felt a little bit bloated. Does that mean we've set back, you know, the 3 or 4 or five months of work that we've been doing?

And then I get really freaked out about that, and there's this whole sort of rumination cascade. So just helping people with a perspective of with the right support plan, the right diet, it's very similar to rehabbing, let's say, a back injury where most people, if they hurt their low back, they would understand, like, okay, maybe for a month I'm a little bit more apprehensive about movements.

I'm doing some hot cold ice therapy, maybe some foam rolling, then want to kind of start back into my exercise plan. And probably by month three or maybe even sooner, I'm back to a normal level of activity.

Did they get that for some reason with with diet and with food reactivity? Maybe because I feel so internal, people tend to hold on to that thinking that this is going to be a forever thing, and I'm never going to be able to eat more foods.

So just giving them that expectation that you can heal your gut, you can improve your food tolerance. And it also is usually not correct to say the more you restrict your diet, the healthier you're going to be.

Those can really help people, I think, stop putting themselves in a dietary prison, thwart them being under so much stress, open up their diet a little bit and get kind of a win psychologically, which does have a carryover impact on the immune system and on inflammation.

Gut permeability, dysbiosis, and chronic infection patterns

Absolutely. Now, what do you do for the patients that are on the other side of the fence where they're coming in, you know, eating the standard American diet, fast food, seed oils, you know, all all of the things, ultra processed foods.

Yeah, you know, we we don't see a lot of those people. They leave the I think. Yeah. Wow. And I think it's, I think it's because we, we tend to attract a really well read audience for, for whatever reason.

And so a lot of those people, you know, they listen to podcasts and they read books. And so they've kind of already gone through at least the basics. And so we tend to start a little bit more with refinement in terms of, okay, you're on like a paleo diet now, but maybe paleo doesn't serve you.

And we want to go low Fodmap or, you know, maybe our Mediterranean, but it looks like you have a fungal overgrowth and there's too much carbohydrate in that diet.

But I mean, to your to your point, as long as those people are a little bit motivated, giving them a general diet template and really moves the needle because as I'm sure as you've seen it, people make those basic but important changes.

A month later, they come back and go, Holy smokes, my skin is better. My hair's not falling out as much. I'm sleeping better. I'm less bloated. I'm pooping better just from modifying what they're eating.

But the one thing I'd want to maybe pitch up here as an idea to to go back and forth on, is one of the frameworks we've developed that's been really helpful.

Is does the person have a bacterial overgrowth type gut or a fungal overgrowth type gut because this can steer dietary recommendations the bacterial overgrowth type people.

So this would be Sibo not only Sibo but it's sort of a loose proxy. They tend to be really reactive to lots of

vegetables, prebiotics fiber. So these are the people who might try to go on the healthy diet kick.

And you know, doc, I was on broccoli and asparagus and kind of all these, you know, brassica family vegetables because I heard about the sulfur and the metabolism and the detox.

And boy, I got bloated, I got foggy, I felt a lot worse. Like, what the heck? That's your classic bacterial overgrowth type person. And ironically, though sometimes say the worse I eat, the better I feel because they go and they eat things like tortillas and rice is lower in some of those prebiotics and fibers higher in carbs.

But that works for that gut type. And this is sort of the low Fodmap diet to some extent. But then the mere opposite of that would be a fungal overgrowth type, where they will actually thrive if they go on that health kick diet of lots of vegetables and brassica and asparagus and broccoli and whatever.

They'll thrive on that. But if they eat the the rice isn't the, you know, the carbs and things like that, they'll really flare. So that can be helpful just to give them some direction on okay, this this general diet plan followed with looseness, never being anal about the diet because like we were talking about a second ago, that can cause a lot of stress.

That right there can give you some lift out of the gate pretty quickly. Yeah. That's a really good way to look at it. And then for the for the patients that have a combination of both, you know, that's that's pretty pretty tough.

Yeah. And that does happen. There was one paper by Satish Rao that found about 20% of people have bacterial overgrowth, 20% of fungal, and then 20 have both.

But, you know, for those people, they may just need to be a little bit more restrictive for about a month. And then usually they can start opening things up, especially if we leverage the diet with something like a good probiotic.

Yeah. I mean, I don't know about you, but I also find like as you really get into, you know, to treating. So I use a lot of herbal medicine, you know, to treat tick borne disease.

And once you really like get into the treatment and you're making a dent in the overall sort of like load of the infections as well as the inflammation and the immune system starts to function better.

I tend to see that things like Sibo, like they will they will get under control. I started looking at Sibo, especially in my vector borne disease population, as almost like a just another sign of immune deficiency, right?

Like it's a bacteria that is growing where it shouldn't grow. I think partly because the immune system isn't doing what it's supposed to do because it's compromised in that patient.

What do you what do you think about that? Sort of very I agree, I actually had this growing suspicion that the the chronic Sibo cases, a lot of them, they're actually misdiagnosed as some sort of vector borne infection.

Coming back to the point we were discussing earlier, which is their specialty, as you put it, is sort of suppressing and invading the immune system. It just doesn't seem that Sibo is that challenging to treat, unless there is some type of anatomical or frank motility issue, which does occur in some people.

But I think it's actually much smaller. And this is borne out by some of the literature looking at things like the there are certain antibodies that will predict if motility isn't working, like Venkman and CTB antibodies.

And there's a quite a subset of people who are negative for those antibodies, but still either have chronic Sibo or chronic Sibo symptoms, because the other problem that confound some of this read is sometimes people don't even have Sibo, they just read about Sibo.

It sounds like them. So they start saying my Sibo. It's something that they've been saying for years. My Sibo, there's my Sibo that, but they may not have ever had a formal diagnosis or even like a recheck to see if they still have Sibo.

I agree with you a point hundred percent. I know that we're talking about the gut and we're going to stick to it, but it's funny. I look at so, you know, so many of my, in fact, tick borne disease infected patients, like they get chronic UTIs, they get chronic vaginosis, they get chronic Candida infections in a multitude of areas of the body, each pylori and again Sibo.

And it's like I kind of just started looking at it again like as immune dysfunction. And as you can correct the immune dysfunction, all of a sudden these infections that have been chronic sometimes for like years or decades go away.

Yeah I agree. Yeah. And that's been one of the big gifts of getting more into vector borne infections is for the chronic people. And especially if there's multi-system dysfunction.

Yeah. Right. Because Sibo and Candida can cause things like brain fog and fatigue. But when you're seeing brain fog plus fatigue plus insomnia, plus skin issues plus joint pain plus maybe tinnitus, plus maybe spider veins or circulatory issues.

Plus maybe some neuropathies are when you're seeing these things sprinkled in for every one of those you add, it makes it more likely that it's it's not just Sibo or Sibo might be secondary to some sort of vector borne infection.

And in my view, I agree 100%. So tell us. Talk to us about how restoring gut function can increase the effectiveness of other treatments that we had before removing.

Lifestyle, diet, and identifying gut type

Yeah, there's something that I think is so interesting because there's a surprising amount of research that's showing gut therapies can enhance treatment of a given infection.

And you see a lot of studies that are looking at antibiotics use maybe for H. Pylori or maybe antifungal agents for vaginal candidiasis or thrush. And when they add a probiotic to that, the clearance rate of the infection goes up significantly.

So what this tells us is, I think two things. One, the obvious, which is a gut intervention. Probiotics strengthens immune function and helps with clearance of the infection.

But the other thing about probiotics I don't think is discussed enough is probiotics are actually antimicrobial. Probiotics release a multitude of antimicrobial peptides.

And this is why even in randomized controlled trials where you take a group of people with Sibo, half are given a sugar pill and half are given a probiotic.

There's about a 50% clearance rate of Sibo with just a probiotic as a standalone therapy. So, I'm a really big advocate of whatever we're trying to treat.

Let's use a probiotic synergistically. And coming back to that 50% clearance, I was probiotics rifaximin the antibiotic for Sibo. Looking at meta analyzes summarizing clinical trials.

There's about also were 50% clearance rate of seaborne using rifaximin. So about 50% for rifaximin about 50% for probiotics. Put them together. It goes up to about 85%.

So it's a pretty notable improvement in efficacy when we pair a probiotic with an antimicrobial therapy. And the same thing also been found in some studies for Covid.

When adding a probiotic to the Covid treatment plan, the treatment efficacy went up. Yeah, and I think that just highlights the importance of the microbiome and its balance, right, to help to really deal with inflammation.

Exactly. Yeah. Yeah. The one thing I wanted to say about probiotics is, you know, we've been using this triple

therapy approach where if you look at many of the research studies and the formulas therein, there's sort of three types for without getting into the exceptions that the majority of probiotic research uses, either a blend of Lactobacillus and Bifidobacterium, that's like you're you're kind of old school, the SL3, this biome been around for a long time.

Saccharomyces molarity is a little bit different of a type of probiotic. It's actually a fungus that's flora store. And then there's also soil based or spore forming probiotics.

And there's good research on all of these. But what we've been doing is using all three together in an approach we call triple therapy. It's very similar to, well, vector borne infections, right.

Using multiple antibiotics or multiple antimicrobial herbs H. Pylori, multiple antibiotics, histamine intolerance or M-class multiple antihistamines. Right.

So this approach of using more than one agent doing the same thing is used across multiple domains of healthcare. We've just been sort of applying this to probiotics.

And the reason why I want to underscore that is it's such a safe sort of trophic multi benefit therapeutic probiotics that if we can get more yardage out of that, I think it's worth using a little bit more of a comprehensive therapeutic and not just kind of glossing over it and saying, well, yeah, I'm taking a probiotic. Move on to the next thing.

Yeah, I have a lot of patients, you know, it's like, are you on a probiotic? Yes. And it's like, you know, they're grabbing it from the local drug store and it's, you know, not better than nothing, but could be for sure.

But yeah. Yeah. So when you're talking about using it all together now, do you rotate by the month, by the week, by the day, or are you talking about taking all three different forms every day?

The latter will we typically do is because, you know, zooming out, the context we're trying to use, this thing is really optimizing for gut rebalancing.

And bolstering of the immune system. So we're thinking more aggressive rather than less. We might come to a rotation down the line once for in maintenance, and then for people who are historically reactive and sensitive, we give them each formula in a separate bottle, and we have them layer just so they can sort of distinguish.

There's some die off and write it out for a few days to a week, and then get back to center and layer the next. On a rare occasion, someone may not tolerate one of the formulas, so that's where why?

It's nice to be able to break them out, but we also have these in all in one. So for people who are not sensitive, it just reduces the amount of bottles to open.

And especially when you're treating a chronic infection it's a lot of stuff. Right. So three bottles, two pills from each two times per day as compared to just one stick twice per day.

It just adds another layer of convenience. So if someone's not sensitive, we'll start with the all in one triple therapy sachet. And if they are sensitive, we'll start off with a three separate bottles.

Is this I production point? I was just going to say is this something that you've formulated. We have. Yeah. So that's great. We're doing this. Yeah. Thank you.

It's it's one of the products I'm really proud of just because it's a convenient safe I mean you can totally do it with separate bottles. And after a number of years I said, gosh, I'm just I end up going here with almost everybody, you know, let me speak with the manufacturer and see if there's a way that we can just put all this in one. And yeah, we couldn't.

So it's like, yeah, this makes someone's life, myself included, a lot easier. Yeah. Because I mean, what ruins your

probiotics is moisture and air. So the less times you have to expose them, right, the the longer the better.

The product that you're taking is, is going to be. And that way travel too. And that was one thing people would say, you know, just so many bottles to, to take with me.

But a small sachet is really easy even to slip into your pocket. If you're going out to dinner and you want to take a, you know, probiotic while traveling or on the go.

Yeah. So it's been a pretty nice formula to have in the line. What is that called. Triple therapy probiotic. Very simple. Very plainly aptly named. Hey it says what it is.

And you know, for our listeners, we're going to talk about how they can find you and your website and all of that in the end. So I assume they can find this there. Yeah, should be easy enough.

And even if they search triple therapy, probiotics should be easy enough to find online. All right. So you touched a little bit on you know different food types kind of indicating whether, you know, you tend to have a fungal gut or a bacterial gut.

Do you have other practical tips for our listeners to kind of are there other symptoms and signs that you would advise someone to look out for, to try to know what type of gut they have, or if they're the dreaded combination?

I think histamine intolerance is also something that, you know, knowing your audience and some of the chronicity there in that histamine intolerance is probably going to be somewhat prevalent.

And some of the clues here are do you notice that fermented foods flare you? And that might be a runny nose when eating it might be able to carry it. Yeah. As a skin reaction.

Flushing. Itching. Insomnia. Anxiousness. Lability of mood. Loose bowels I mean a lot of stuff overlaps with other things too. The more allergic you are, if you have a lot of, let's say, seasonal allergies or food allergies or a lot of sort of sinus reactivity, and especially if you tried to go higher in fermented foods and you notice too much fermented foods, just do not sit well with me.

That's one indication of histamine intolerance. And also when someone is doing and I made this mistake a number of years ago, what I call the lazy man's paleo diet.

So you have kombucha, sauerkraut, kimchi, spinach, avocado, canned meat, canned tuna, jerky, all these are high histamine. They're healthy. Right? They're nutrient dense, largely speaking, and they're convenient and minimally perishable.

So it's really easy to, you know, if you're trying to be quick to have a breakfast of it's not the tastiest breakfast. But as a busy professional, I'll admit, having like a can of tuna and a few handfuls of spinach leaves on the go, and then washing it down with kombucha and wondering why, 20 minutes later I felt foggy and irritable.

And so that's one of the ways that histamine intolerance can manifest. And same thing applies here where a low histamine diet for about a month. I mean, usually when people go on a low histamine diet, they're going to notice within days to a week.

It's pretty quick to notice if it's the right fit, but then adherence. So that's only using it for a month.

Probiotics, elemental diet, and fasting strategies

And like you were saying before, once we start making a dent in the primary issue, the food tolerance in the symptoms start to improve. But that would be another one I would think about.

Is histamine intolerance okay. And are there other symptoms too, like a, you know, a bacterial type gut versus

fungal besides just how they're reacting to foods.

So some of the symptoms that partially denote fungal overgrowth risk would be if someone has watery eyes, if they have a white tongue, if they have that armpit or jock ration, recurring vaginal East toenail fungus.

And of course, you know, if they notice that carbs flare them, those would be some of the hallmark for bacterial overgrowth. If there is a history of food poisoning or traveler's diarrhea that was at the inception of their symptoms, like, oh boy, I had this really nasty bout and you'll hear this.

And then, you know, I wasn't having the from both ends you know, episode that we all dread. Things got better but I still had this residual bloat and, you know loose bowels and irritability that's more demonstrative of a bacterial overgrowth history and sort of presentation.

Okay. Good. So hopefully that's helpful for the listeners to kind of try to like tease out between those three at least. So what else would you give us.

Sort of like practical recommendations for general guidance on healing the gut. Well, there's two other therapies that I think are really worth considering.

One is an elemental diet. So elemental diet picture a protein shake essentially that's formulated to be hypoallergenic and also pre digested. And it's the pre digested nature that I think is the most unique.

I mean obviously as clinicians if we're going to recommend something it's always going to be hypoallergenic right. It's a pre digested nature that I think is a little bit maybe counterintuitive.

And the way that we described this in the clinic is if you sprained your ankle and you were running three miles a day, the ankle would probably never heal because it just needs rest and then it can heal.

So if there's a lot of inflammation or overgrowth in the gut, then eating three meals a day is always kind of triggering that issue. So this is where the elemental diet pre being pre digested it absorbs within the first 2 to 3ft of the intestinal tract which is over 20ft long.

So the vast majority of the GI tract just has a chance to rest. And there's really impressive data for inflammatory bowel disease. So Crohn's ulcerative colitis it's kind of the treatment of choice at least I've been told in Europe.

Rather than going to steroids out of the gate, they'll recommend elemental diet. Not so recommended here, but, there's a number of trials showing benefit, and there's been 2 or 3 trials with the elemental diet in small intestinal bacterial overgrowth.

And the one thing I'd want to give people a heads up about is one of the trials recommended people do nothing but these meal replacement shakes for two weeks, and it worked really well.

85% response rate, I think. But not everyone has to go that extreme. So what we do is we have people do this sort of liquid meal replacement as a reset two, three, four days, and then they kind of do a half and half approach where they might skip a meal or two and then have a, you know, and use a shake and then have a normal food meal or two.

So it's kind of like taking a few days off of the ankle and then doing light activity for a week or two and then going back to normal activity. And that for some people, can really just take the edge off and get them a little bit of a bump of healing.

That really helps open up food tolerance on the other side. Yeah. I mean, it's, you know, there's a lot to be said for just kind of removing the roadblocks and letting the body heal itself.

Yeah, yeah. Agreed. So from that perspective, how do you feel about intermittent fasting or fasting in general, as

far as a tool to really give the gut rest and allow it to heal itself?

Yeah, I'm generally a fan. I mean, not so much of extended fasting. I think for a lot of people, they're just too depleted and to sort of stressed already for them to really be the the optimum person for, two, three, four day fast.

Maybe if someone's in generally good health, but they're in a condition of metabolic excess, right? They have high blood sugar, high triglycerides, overweight.

That's an application where I think maybe this makes sense. But if someone's got chronic symptoms, chronic inflammation, I think we want to be considering maximizing nutrient intake to fuel all these pathways that are sort of taxed.

Coming back to thiamin D1 that is very readily taxed by inflammation, as are a number of these vitamins. Right. But just as one example, and the polyphenols in the diet for repeating antioxidants.

So yeah, I think maybe skipping one meal per day if that feels good for someone and using that as an approach. But, too far beyond that, then people will start saying, well, my guts happy, but I'm not sleeping well and I'm really tired.

So I generally tend to avoid prolonged fasting. But like I said, maybe skipping a meal a day for a period of a few weeks. I think as long as a person appears to be doing well with that, I think is justifiable.

Okay, great. Any other tips you'd like to give our listeners before we wrap up today? Well, I want to reiterate that people can regain their tolerance for food.

I think that's just such an important thing.

Final advice and where to find Doctor Ruscio

And again, my my perspective is seeing a primary GI population who are already self restricting. So that tends to be what ends up being kind of near and dear to my heart, because we see so many people who are overly restricting food and making their lives more difficult because of that degree of food restriction does not equal the degree of benefit, I think would be an important, remark.

And then also, and I think this is especially relevant for the vector borne infection crowd, unless you've noticed a pretty clear association between a food eliciting a symptom and the food might not be the problem.

And this was me for so many years with insomnia. And if you could see my food journal about all the things I thought. Question mark, cause insomnia, your jaw hit the floor.

And the reason was because sometimes there was a correlation. But it was, you know, as the bezier was sort of going through its cycles, then whatever I was doing differently during that time I thought was causing insomnia, but then later that same food wouldn't cause insomnia, but I wasn't sure.

So I just cut and cut and cut and cut. So, you know, I don't say this like pointing a finger because I was making the same mistake. But rather trying to lift people's perspective up to be critical of how, you know, how quickly you conclude a food is a trigger.

If a food is a trigger, it should be consistent and repeatable for now, for the most part. And if it's not, then maybe give yourself some grace with your diet and focus on like your internal eating.

The things upstream that are probably driving the symptoms to begin with. Right? Well, thank you so much for being here. Are you taking new patients at your clinic?

We are. And we're more than happy to help people get out of the lurch that I was stuck in at one point myself.

Wonderful. So how did people find you drruscio.com drruscio.com.

Okay. And there is information about your podcast and everything you're doing they can find through that one website. Yeah, they can plug into the book the podcast, the submit line, the clinic.

Everything is accessible through that hub. Okay. Awesome. Well, thank you so much for being here with us today. We really appreciate it. Thank you. This was great, awesome.

And for all of you at home, thanks for joining us for another episode of the Healing Lyme Summit. We'll see you next time. Bye bye.