Introduction to the Rewilded Gut

And I think we're going, I don't think, I feel like we're watching a mass extinction of these small microbes. And I think that what's scary is that as we start to lose these populations, we don't really realize how much work they're doing until they are fully gone.

And I think that a lot of patients, a lot of our patients do know what they're doing because they are experiencing all the time having reduced relative abundances of these different microbes inside of their intestines, they don't feel good.

If we continue to lose those populations, it's gonna be harder to feel good. This is Doctor Talks, real talk from real doctors on the issues that matter to you most.

Welcome back to Lime Bites, rebuilding immunity, reversing inflammation, and redefining recovery. Today's guest is Dr. Piper Dobner, a licensed naturopathic physician with a deep focus on complex chronic illness, gut ecology, and environmental medicine.

With a background in integrative microbiology, she blends ancestral frameworks and cutting edge science to restore balance to the immune system, starting with the gut.

In this episode, we'll explore the rewilded gut, how restoring microbial diversity and gut integrity. can support immune resilience in those recovering from Lyme disease and other vector borne infections.

As we now understand, chronic infections don't just affect immune signaling, they reshape the terrain of the body, often beginning in the gut. Dr. Domner will share clinical strategies for rebuilding the microbiome, restoring immune competence, and reconnecting with nature as medicine.

This is Lime Bites. Follow your gut and let true healing begin. Welcome Piper. Thank you so much for joining us today. Welcome Mariah. It's so great to see you.

You too, as always. So let's start out with your title, the rewilded gut. So what does that mean in the context of microbiome restoration? That's a really good question.

I think the rewilded gut in my personal opinion is for us to step back into that cohesive relationship with nature. And I think one of the biggest issues that we're seeing in this field of complex chronic illness is a result of so much of what is happening around us as well as what's happening within us.

And what I mean by that is the use of pesticides I think would be probably the easiest example to point to. World War II, 1930s was really when we started to bring in, I mean World War I really, but then World War II is when pesticides really started to take hold in our nation and people started spraying them.

You can walk the street nowadays and you've got neighbors who are backpack spraying their dandelions or they're trying to get rid of different weeds that exist in their different weed patches.

They don't realize is that there is a small ecosystem of microbes, actually a very large ecosystem. They're just tiny, so we don't see the degradation that we're causing when we're spraying these different chemicals on these microbes or on these small populations.

And what's happening is that we're killing so many of these microbes that actually are there as beneficial comrades. They're symbionts. They want to work within our digestive tract.

If we had good organic food that came from a garden that didn't get sprayed, you don't actually have to wash your vegetables. You can just take a bite with a little bit of dirt on there and you're getting those four forming microbes that are really important for our internal ecosystem, our internal diversity.

How Dr. Dobner Found Microbiome Medicine

And so the rewilded gut is really getting back to that connection with nature in a way that we're consuming the foods that are grown in a way where they have the influence from those different microbes.

And those different microbes can then come into our system and be part of who we are and support us in the way that they are meant to. That's great. So now that you've explained what it is, tell our listeners and tell me, because I don't think I've ever asked you this before, like, how did you get involved in this and the work that you do?

Oh my gosh, this is such a wild story. Most of my stories are kind of wild stories, but ultimately, I am what can I say? So, you know, I'm actually when I was in medical school and what got me to medical school was my love for nutrition.

I always thought nutrition was so incredibly. influential and it could do so many different things for us and in undergrad I studied nutrition in different ways that we can manipulate the diet to help support the immune system.

When I was in medical school I was in microbiology and I was not doing great in microbiology. It's all rote memorization and you've got all these complex words to define these small critters and some of them are toxi and some of them are you know, all the different types of microbes that we have.

And it's just like the amount of information and then making sure you have the right correlate and it's all rote memorization was not, I'm a global thinker.

My brain does not work in those, in those ways. And so I actually ended up getting a tutor who is now a dear friend of mine, Dr. Molly Parker, Dr. Molly Zabala now.

And I told her at one point during our tutoring session that I hated the microbiome and she goes, you don't hate the microbiome. you hate how it's being taught.

And she's like, and this isn't really the microbiome anyways. And she had been working with a provider out of Portland, Oregon, who was doing fecal transplants.

And then in that small little conversation we had, I ended up taking a sharp turn and started working with that provider myself and learning everything I could about the microbiome from that global perspective and getting out of this like reductionist world of we need to identify the bug and kill the bug.

and stepping back into how do we recover an ecosystem? How do we restore an ecosystem? How do we make sure an ecosystem has all of its functioning parts?

And what's cool about fecal transplant, which I'll define fecal transplant because not everybody knows what that is. And it's a very fun dinner party conversation when people have no idea what you do, but it is what it sounds like.

It's the transfer of stool from a healthy human and defining health of a healthy human is it changes depending on who you're talking to. But you take that stool and you process it in a way that it can be consumed by somebody else so that that microbiome from the healthy person can now inhabit the microbiome of somebody who wasn't healthy to begin with.

And so it's a really cool therapy that actually comes from fourth century China, like it is. eons old, which is so exciting and it has so many potential applications.

But I think the bigger global picture that it paints for us is that if we can restore a biome, if we can get the diverse

feedback into a system, we can restore health.

And I think that that was the coolest part about that entire side journey for me. And it's why I've stayed in the side journey is because as we know, things in natural medicine don't happen overnight.

You don't generally have overnight cures. There's oftentimes that saying that It took you this long to get sick and it's going to take you this long to get out of being sick.

With fecal transplant, there were overnight changes for these patients who had C. diff not responding to standard therapy and it was a really cool opportunity to take people who wouldn't have stepped into natural medicine but now found themselves face to face with an atropathic doctor.

offering them crap souls to consume and basically saying, and there's another way, let's show you this other way. And so I think that's the coolest part too, is that I end up working with populations of patients that I otherwise wouldn't work with because not everybody is searching for a naturopathic doctor, but when people are really desperate, they're looking for a fecal transplant.

And it's a nice way to kind of intersect the two worlds. Are you ready to revolutionize your approach to diagnosing and healing complex chronic inflammatory illnesses in both adults and children?

The Lime Bites Symposium is your gateway to cutting-edge education, groundbreaking research, and innovative therapeutic solutions.

Microbiome Diversity and Immune Education

Join us at the 2025 Lime Bites Symposium, November 14th and 15th at the Fort Lauderdale Marriott Pompano Beach Resort and Spa. Lion Bites is the premier functional medicine conference on complex, chronic, infection-driven inflammatory illnesses.

This year's meeting is jam-packed with leading industry experts discussing lung COVID, mycotoxin illness, PANS Pandas, as well as Lyme and other vector-borne diseases.

This conference will arm you with the knowledge, clinical pearls, and practical solutions that you can implement immediately into your practice Monday morning that will literally change your patient's lives and get them on their path to true healing.

So join us at Pompano Beach or virtually from anywhere. Register now at LymeBytes.com. That's L-Y-M-E-B-Y-T-E-S dot com. And, and ladies and gentlemen, she did say crap cells.

You heard her correctly. They're dead. I know there's a lot of these studies and we'll get into it towards the end where it's like, you know, when all else literally has failed and then being able to restore the microbiome was able to bring forth these changes in inflammation and in immune function.

And you know, fast forward, like resolution of like on. changeable chronic disease. So let's take a million steps back and let's talk about how the gut microbiome actually shapes immune function.

And then why is this so important to our patients that have Lyme and other chronic vector borne illnesses? Yeah, I love this question and I love taking all the steps back.

So we can take steps back and forward as many times as we need to during this talk. But I think what's really interesting and what we've learned a lot about with fecal transplant and using fecal transplant in mouse trials, right, is that we can do some really weird things to mice in science.

So there are ways that we can grow mice in an environment where they have no microbiome. So they're called nodobiotic mice. So they're absence of microbes inside of their system.

And what's really interesting is if you take these nodobiotic mice and you compare them two wild type mice who grew up they've got their standard biome that they get from the birthing process and all of that and you compare the two the notobiotic mice actually end up not getting the same barrier protection from the inside of the intestines that the mice get who have the microbiome inside of their intestines.

So if they've got all these, these microbes, they actually end up having all of these immune signals and they have all of this immune protection and they have stronger barriers.

And what I mean by that is, you know, the tube that goes from mouth to anus is our intestine and the lining of that tube is really the barrier between us and the outside world.

And that barrier is more protected when we have a strong, diverse microbial ecosystem living within us than if we have no bugs at all. Which I think is really interesting to think about because oftentimes when people go to the doctor for something, right?

You've got something in the gut. Okay, we're going to test. We're going to see what microbe it is. Okay, we've identified X microbe. Now we need to kill that microbe.

Nothing in our toolkit is that precise. Nothing is ever going to go and just kill that one microbe. It's going to kill various microbes who have similar developmental mechanisms or killer mechanisms that are being targeted by these antimicrobial options, right?

And so what's really interesting, and when I say antimicrobial options, I'm really meaning the pharmaceutical side because I think our herbal antimicrobials, I have a whole different viewpoint on those and so I will get there.

But I do think it's really interesting because when we start to look at outcomes, like long-term disease outcomes for even going into the human populations.

Kids who were born via C-section versus children who were born through vaginal delivery, those who are born through vaginal delivery get a little bit of mom's stool when they're coming out the canal.

So they kind of get this transplantation from their mom of a full diverse ecosystem that's actually seeding their microbiome and giving them better immunity, better immune tolerance throughout their life.

Versus the kids who were born through C-section, their microbiomes look more like the skin either of their mom, like coming out of the skin tissue being taken out of the uterus and or the microbe of the actual physician who caught the baby, right?

Who's taking the baby out. And what's really interesting is those skin microbes are not as diverse as the microbes you would get from stool. These kids have greater propensity for allergies, greater propensity for autoimmune conditions, chronic complex illness.

All of that starts to rack up in this lesser diverse ecosystem that's coming from the delivery method. And so across the board, it helps us kind of look at the importance of microbial diversity and having a diverse ecosystem with lots of different names of lots of different bugs and all of us being very uniquely different in our lots of different names and lots of different bugs.

That is what's providing us protection because these microbes, as we consume foods and as we eat different structured components, they're breaking them down and they poop out.

small molecules or post-biotics. A lot of these small molecules are actually educating and training our immune system on how to function properly. So when we step into things like Lyme or Borrelia or Bartonella and we have an immune system that's been hijacked, by another microorganism, if we have a strong enough internal ecosystem, we can actually continue to combat that.

One, it could potentially prevent the takeover of the immune system. If you have a strong enough gut barrier and you have a strong enough immune signal, that may be the reason why some people who are bit by infected ticks don't get Lyme.

Some people do, some people don't. And so it's really interesting to start thinking about where does the microbiome interplay into this? And I think a lot of it is it could potentially be the protector that prevents, but it can also be that signal where once we've done a lot of the treatments, because we know for Lyme oftentimes that first line is get yourself on that antibiotic or on those antimicrobial herbs.

I like the herbs better because they also have polyphenolic compounds and those polyphenols are feeding that microbiome. So as much as they're eradicating, they're also helping to support the internal community.

So it's not just an antimicrobial, let's kill everything, which is how I see the antibiotics coming through. It's like a let's be a little bit more targeted in trimming and supporting the other communities that need the help that we need because the ecosystem when it's whole will keep itself in check.

Are you suffering from Lyme disease or another complex chronic illness and aren't sure who to trust when it comes to herbal supplements? Hi. I'm Dr. Mariah Hinchey, founder of Lyme Core Botanicals.

As a naturopathic physician specializing in complex, chronic, infection-driven illnesses like Lyme disease, I needed herbal medicine I could truly trust.

That's why I formulated Lyme Core Botanicals. where our herbal tinctures are handcrafted in small batches right here in Connecticut. We use the whole herb, never isolates, to preserve the full spectrum of medicinal compounds.

Every single step from sourcing to extraction is done with precision to ensure maximum purity, potency, and consistency. These are the same herbal formulas I used to heal myself and have used for years to help my patients and family members heal, too.

And now I'm making them available to practitioners and patients everywhere. Lyme Core Botanicals, herbal medicine you can trust from a doctor who lives this work.

Learn more at Lyme Core Botanicals. That's L-Y-M-E-C-O-R-E dot com. That's such a great point, such a great point. You know, it's funny too, because, you know, when you think about, you know, so many things can go awry when we're just focusing on killing an organism.

And that's kind of like what, you know, what infectious disease has turned into, right? It's on killing an infection. And so, you know, if we look at how let's just use doxy for an example, and let's use Borrelia, the organism that causes Lyme disease.

So. you know, when you put someone on just doxycycline, you know, there's a lot of things that can go awry. So first we know that, you know, Borrelia is way smarter and it's going to go into its dormant or cyst forms, right?

Where the doxy is not going to be able to get to it.

Why Antibiotics Can Undermine Gut Resilience

And then if you also look at to your point, what doxy does, because it's such a broad spectrum antibiotic, what it does to the microbiome and then understanding how you know in the end there's no antibiotic that ever takes any infectious organism down to zero.

It's always back to the immune system and our immune system's strength and clarity and balance and being able to you know completely eliminate that organism.

If we now have caused severe damage to the microbiome, our immune system isn't going to be balanced or clear

or able to rid the body of that infection.

So even though pharmaceutical antibiotics like doxycycline are good at doing what they do, a lot of times the unintended ramifications of using them actually leave patients in such a worse state when it comes to the ability to control inflammation.

and have proper immune function. Totally. And I mean, I see that in my clinical practice often is somebody will take an antibiotic and then they suddenly can't tolerate foods that they had previously tolerated.

It's like, I used to eat this all the time and now I can't eat it. And it's like, well, you've lost some of the microbes that one, we're helping you break down whatever the fibers material is, but two are also signaling the immune response to not react to those types of proteins.

And I think that it's a two-fold experience of what's happening inside the biome. It's that lack of additional breakdown, but it's also that signal from those microbes that are now in such a low relative abundance to the other microbes inside of the environment that they're not able to send a signal out to the immune system, which then increases IL-10 and says, hey, we're good.

Like, we don't need to respond to this. We don't need to react to this. And so then it becomes a matter of how do we take where you are right now and rebuild back some of those populations?

Cause like you said, nothing ever goes to zero. Like, so many patients will come to me and be like, I have Klebsiella, I need to get rid of the Klebsiella.

And I'm like, you're never, you're never going to get rid of Klebsiella. Like, it's, it's an opportunist. Like, it lives in our ecosystem. And as long as we have.

to hundreds if not thousands of other microbes there to make sure that Klebsiella doesn't overgrow and take control, then Klebsiella is not a bad guy.

Like, I have a really hard time thinking of good guys versus bad guys. I think that it's the ecosystem that really matters. And I mean, I see this all the time because I see a lot of C diff patients, right?

And they're coming from infectious disease and it's like, well, we've done round one of vancomycin, also a very broad spectrum, very strong antibiotic.

And then it's like, well, round one didn't work. So round two, we're going to do it longer and we're going to pulse you and we're going to make sure that you're on it for a month.

And then they're on that and then they fail that round. And so it's like, well, now let's go to another like a second pulse taper and It becomes this battle of, like, how can we kill?

And it's like, well, you've tried to kill so many different times. How do we restore? Because if we can restore, not only are we actually handling the actual organism that's becoming the causative agent of the problem, but we're supporting the immune response.

which is a huge component how we're going to overcome a lot of these infectious agents is we need the support from our immune system, being able to do immune surveillance, being able to go out and find that potential organism that just looks a little different.

It looks a little bit wrong to be in our environment. How do we target it and then dissolve it and get it out of there? And I think that if we don't have those immune mechanisms in place, it's often because we don't have a strong microbiome telling the immune system how to work.

And if we go back to those mouse studies that I talked about earlier, that was really the essence of what they found

was if you don't have the microbes, you don't have the signal.

And if you don't have the signal, you're not educating the immune system. And so at the end of the day, the microbiome educates the immune system. And if we don't have a good microbiome, you're inherently not going to have a good immune system.

So it's like we're taking the steps back again to it all starts in the gut. It's all part of gut health. And so I think a bigger issue around that isn't just, I mean, we live in America, you and I could probably wax poetic for hours about how horrible our food supply is.

You know, but it's a lot of these things are things that people, they're not even consciously aware of how how toxic the world around them is. And then when they start diving into, how do I repair this?

It's like, well, can you talk to your local farmers? And can you talk to your local farmers markets? And can you do these other things? It can feel very overwhelming, but it doesn't have to be.

You can start with really small steps to repair and restore the biome. And it doesn't always have to be eating somebody else's shit, for lack of a better word.

Rebuilding the Gut with Food, Herbs, and Ferments

But like, you can actually do this without needing these. You know, I always call them kind of like, they're the big guns. When people come in for FMT, you're coming in for the big guns for microbiome restoration.

There are so many steps before that. Right. Absolutely. So can you talk to us a little bit about the imbalances that you see when you have patients that are suffering from complex chronic illness?

Like, for example, I see a lot of SIBO in my patients. And it's not a coincidence. And I always tell them like, look, whether you're having chronic vaginal infections, you know, with Candida, or you're having chronic UTIs, you're having chronic SIBO or chronic H.

pylori, or it's to me all kind of like the opportunistic infection because of a dysfunctioning immune system. But what patterns are you seeing in your vector-borne disease patients?

I mean, same, I see SIBO all over the place, but I see it almost in the reverse where I think that a lot of times again, it becomes, it's a dysbiosis.

At the end of the day, SIBO is a dysbiosis. Something has taken over the environment that shouldn't have the stronghold that it has in the internal ecosystem.

When that happens, the signals from the microbiome aren't able to tell the immune system what to do or how to do it. Well, and so the immune systems kind of starting to fly blind.

It doesn't have the direction or the mediators from the microbiome to say. Hey, we need you to chill here. Because a lot of the inflammatory aspects that come through, a lot of the hypersensitivity that comes through, it's the immune system trying to work on something that it may not need to be working on.

So it's kind of got this aberrant function, oftentimes because the microbiome is not telling it, hey, you don't need to focus there right now. And so usually what I'm seeing, I see SIBO all the time and unfortunately what I see with SIBO is the same.

off of action and attack for these patients who are like, I feel great when I'm on refaximin. I'm just going to continue to take refaximin. They get off of refaximin within a couple of weeks or a couple of months, all their symptoms return.

So they get back on the refaximin. They feel good on the refaximin. But it's like you're knocking down that population with all the other populations.

And then you're trying to tell the gut like, all right, come back and do what you need to do. And we're not giving the restoration to the internal microbiome to the internal ecosystem.

And so usually I agree with you. Like these are opportunists. That's all SIBO really is. It's an opportunist that has now taken a stronghold because. Other houses inside of the environment have been emptied from different approaches.

Sometimes it can be pharmaceutically led, sometimes it can be environmentally led, and sometimes it can be stress led. Like when people go through traumatic experiences, I see that a lot too, where it's like there'll be a car accident or a significant emotional abuse.

And then from that point forward, they now have these digestive complaints. Those types of signals and factors can also have degradatory effects on our microbiome.

So when all of that happens, I don't want to chase the bug. I want to support the ecosystem. And a lot of times, and I'm not sure if you're seeing this with your complex chronic illness patients, but when they're coming in, they're so afraid of food and they're afraid of eating and they're afraid of what is going to happen when this enters their system.

And a lot of times I have to do the mental health aspect of that where it's like, what does mindful eating look like? Like, do you actually sit and take a deep breath and welcome the food into your system?

Because if you're not doing that, your nervous system isn't going to accept it either. And so that's a huge component of what's happening with a lot of these SIBO patients is that there's the anxiety, there's the stress, there's this worry that something is going to happen if they eat a different type of a food.

And reasonably because they have that experience. They've eaten all of these different foods and they've had bloating experiences or they feel cramping or they feel like they can't fit in their clothes midway through the day.

And then what we have to do is really slowly start to reintroduce like one of my favorite go-tos of sauerkraut. A lot of your SIBO patients cannot eat sauerkraut.

It just bloats them, but you can start with the juice. and you can do like a quarter teaspoon of the juice every day if you tolerate that okay great move up to a half of a teaspoon of the juice move up then to maybe a tablespoon if you're at a tablespoon maybe get a little bit of that fibrous material in there too you know so it's like stair stepping them back into the world of how can we recover that system because ultimately these imbalances are everywhere like nobody has a perfect biome i hate to say that but it's just it's real in today's day and age nobody has a perfect biome And so I think that what ends up happening is that we start to focus again on who is the culprit.

And I really try and retrain that question asking for my patients because I don't think it's about who is the problem. I think it's about why isn't the community coming together to help support the problem?

Because if you have enough members inside of the community, they're going to work kind of as like your community police force. They're going to keep everything in check on the inside.

But if we don't have that signal from the community to help support, then that overgrowth of that particular microorganism is going to have detrimental side effects.

But I don't think that that's where we need to attack. And I think that the issue that we see on the immune zine is because of that overgrowth, you're getting all the byproducts or the post-biotic factors from that particular organism, which isn't signaling a full breadth of an immune education to the immune system.

So we lose that signal. We lose the ability for the immune system to function properly. And then you're at risk for all kinds of different things, because it's not just the microbiome that's out of whack.

If the microbiome's out of whack, the immune system is inherently right behind it. And so how do you help patients who cannot tolerate taking probiotics, like for example, with the sauerkraut, right?

Where they can't even tolerate a fourth of a teaspoon of the juice or whatnot. You know, I have a lot of patients who are afraid to take probiotics because they've been told they'll make your SIBO worse.

Or when they take them, you know, they have increased gas or bloating or discomfort. Yeah. I mean, it's tricky, right? Cause probiotics are really cool.

I love probiotics. I use them often in practice, but there are people who can't tolerate them. So usually with those patients in particular, I'll look for probiotics that do not have additional prebiotic fibers added to them.

That could be a starting place, but oftentimes even those are too intense for those patients. And so it really comes back down to encourage low and slow increases of plants into their diet.

And honestly, it's usually in the form of tea because it's not putting the actual fibrous material into their system, but it's giving them that signal of digestive benefit, digestive health.

They use a lot of digestive herbs mixed with nerve vines. And the reason I do the nerve vines is because again, it goes back to that anxious picture or that there's a fear that often comes with these patients where it's like, I can't, like it'll be too uncomfortable.

I can't, I can't do that. And generally if we can get those polyphenolic compounds and you know, the research around increasing diversity in the biome, it's like over 30 plants in a week.

So you have to have that amount of diversity. But what people don't realize is that plants can be in the form of tea. They can be in the form of spices.

You can get 30 different plants without even sticking a leaf of lettuce inside of your mouth. And so I'm usually starting with tea and we go through multiple different herbal combinations with teas and I usually start to start.

I start then if they're at six foods a week, then maybe we shoot for 10. different herbs that go into that herbal tea for that following week. The next week maybe we'd pop it up to 15. But we slowly start to increase because the hard part about a lot of these symptoms that people experience, especially in the realm of SIBO, is that if you hit them with 30 that next week, you're going to blow them up.

And that is the last thing that I want to do is blow up a patient because they're not coming back. They don't trust you, you've lost all trust in that person.

And so it's really about a low and slow reintroduction. There's also some really interesting research that's come out through Stanford University that talks about the importance of ferments.

And a lot of times, again, so we've got to get these people, we have to kind of stair step them up. to what they can and can't tolerate. And so I usually do start in the tea realm just because it's easier for people to consume that without getting the fibrous materials in, but they still get the polyphenolic compounds.

And what I mean by that is it's like the colorful variants, right? It's the colors on the flowers, it's the colors on the berries, it's the colors in the leaves even, like all of these small chemicals that come from these plants.

many of them can be absorbed in the water. So if you do a tea infusion for 10, 15 minutes, a lot of times you're getting all the benefit from the herb without actually having to chew it and put that fibrous material into your system.

And so we start there and then that's when I start to work them up to like, can you do maybe even an eighth of a teaspoon of sauerkraut? But I get that wild, crafted sauerkraut, not the baggied kind.

It needs to be provided to have probiotic materials still alive in there.

Helminth Therapy and Immune Modulation

Exactly. Organic, please, and thank you. Yeah, so I really work on slowly introducing and not overwhelming the system. And I also work in the world of helminthic therapy.

And so a lot of times when I'm seeing these over responsive, over reactive patients, then I introduce the concept of potentially introducing a worm into that internal ecosystem.

And that freaks people out because it's weird. And what's interesting about the worms though, is that they do a similar thing that the microbes do inside of our gut is that they, once they get there, in their saliva they have about 200 peptides just under 200 peptides that once they've burrowed into the intestinal lining and that's what they've made home for the rest of their life because they've got a limited life cycle they die inside your body but once they get themselves burrowed in they start to spit and their spit carries just under 200 peptides.

These peptides are very similar to postbiotics like the microbes are making. But these peptides signal the immune system, and they tell the immune system how to function and how to work.

And in different studies that have been conducted on the species that I've worked with and consulted with, which is Nicator americanus, what's really interesting is that they see an upregulation of T regulatory cell.

And this is where I always talk about the tater totter with my patients and pull out my pen because I'm a big fan of the tater totter. But a lot of times when we're working with chronic complex illness, we're working with more of a spiked TH1 response.

There is an immune signal that's a little bit too, it's turned on and it won't turn off and we need it to turn off. But oftentimes that mechanism to turn it off, it's like, it doesn't exist anymore.

It hasn't been signaled in a long time. So when the worms come in, when they're first introduced into the system, they actually spike a TH2 response. And so this is like a teeter-totter.

The pen is representing the immune teeter-totter. And when that TH2 response first comes on board, sometimes my patients will report what they call a bump, where they're like, holy shit, I believe in worms.

And I'm like, cool, that's great. But once the worms actually get in and they start spitting, they stimulate that production of T regulatory cell, which is the balancer of this teeter-totter.

So it's really what turns both sides down. It can tell both sides like, we don't need you to be spiking like this. So I'll use somenthic therapy in conjunction with a lot of these dietary suggestions in order to one, have that additional immune signal from the microbiome to tell the immune system, you don't need to be amplified all the time.

We can turn you down. And then as those start, as that signal continues to churn, I start bringing in more food so that my patients can start to have the experience of I never really could eat sweet potatoes before and now I had some last week and nothing happened or I've been so afraid to try things like this but I was in a desperate pinch and so I ended up eating wheat then but it was organic and then I didn't react.

These types of stories are the things that I start to hear coming in especially from that realm of of the worms, the worm world. So a lot of our listeners are on antimicrobials, maybe pharmaceuticals, maybe herbs.

So let's talk about kind of like your run of the mill, middle of the line patient, not ones that are super, super sensitive and maybe not ones that are as adventurous as, you know, going for the Hellman therapy or the fecal transplant.

What would you give as advice, general theoretical advice to support the microbiome while targeting the pathogens? Yeah, I mean, I think anybody who's on an antimicrobial agent supporting that intestinal lining is really important.

So I think about nutrients like L-glutamine, I think it's a really solid, standard, run-of-the-mill supplement that you can get from various different companies to help support that intestinal lining.

Because that intestinal lining, a big component of what's happening with a lot of people too, is that concept of leaky gut, right? there's so much inflammation that the tight gap junctions now are letting things squeeze through that otherwise wouldn't be allowed through.

And so we have to support that. And as we're doing some of these kill metrics, we need to make sure that we keep that integrity in check for the intestinal lining.

And so I think about, like I said, L-glutamines, great for support like that. I also like different herbs to help support the mucosal lining. So things like marshmallow or slippery elm can be really incredible supports for the microbiome.

And they come with fun polyphenols that help support the microbes. So I'm a big fan of that. But they also think about just your standard immune support.

Like vitamin C is so underestimated in our world. And it has such profound implications for the immune system. I think we under dose it a lot in our world.

So when people are really looking at chronic complex illnesses, they're having to tackle the microbiome, but they still want to support that immune system.

Vitamin C is incredible. I also think we undervalue vitamin A. I'm a big fan of the ACE combination.

Supporting the Gut During Antimicrobial Treatment

I use it with all of my patients. I vary the dose depending on where I'm at with treatment with patients. So I can do higher doses of A than some people would probably think is safe, but.

It's for a short period of time. It can be very, very beneficial for the immune system. And I also really like zinc. I think we underestimate the value of zinc.

So really I look at kind of small nutrients and what our patients need. And I don't like to give people a whole pantry of supplements either. I think it's really important for us to think about all the things that they can do as part of their lifestyle.

I'm sorry, realizing my computer is dying. Mariah, one of these days I will be on top of my life. Bye! So I'm detangling my cords so I can plug in before I lose you.

You're good, you're good. But yeah, you know, I think, I think that there's a lot of other things outside of supplementation that we can do too. And I think that that's where like getting outside and being barefoot in the soil, just allowing your system to ground with the energy of mother earth.

I think that that is something that people don't understand the value of it. It's connecting you again, back to nature or back to mother back to what we need as humans to survive.

Like we weren't meant to be on. in concrete jungles, like we were meant to be on dirt grass terrains. And so I think that taking your shoes off and walking outside and allowing yourself to calm down, because when the immune system is inflamed, when the immune system is unhappy, your nervous system feels that.

And so in order to really help target this. Yes, there's the gut brain access, but there's also the gut immune access.

There's the immune brain access.

There's taxis everywhere inside of our body. And so I think that not forgetting to support the mental health component of all of this too, I think the hardest part about complex chronic illness for these patients especially is the mental marathon, they're constantly running where, especially for Lyme, it can take a long time to treat.

And that can be mental fuckery for a lot of people because it's just like, how much longer do I have to do this? How much more of the antimicrobial therapeutic options?

I've done it for months and I'm still testing positive. There can be a lot of that internal mental dialogue that can be difficult. And so I try my hardest not to overlook that because I think that there's a lot that we can do day to day, deep breathing exercises, being mindful before you eat.

If you're eating on the run, which everybody does, I do it myself. There are times where I'm like, I am so hungry. I need a meat stick and I'm on my way to the store.

And it's not the best, but it happens. And so it's like, we're all human. But if you're dealing in that world of context chronic illness, that metric of importance where it's like, I need to sit, I need to take a deep breath, I need to get into my parasympathetic mode so that I can actually receive this food that I'm eating.

It becomes tenfold more important for that person. And so it's these little things that we need to continue to focus on every day because it's not just about this big, like, we're going to kill a lime and then everything's going to be great on the other side.

It's like, no, your terrain welcomed the lime in. And there's a lesson with that. How do we support the terrain and get you into these habits and patterns that are going to ensure a really strong terrain on the other side, but it also is going to teach you how to take care of yourself because there's so much more to this than just like battle the bug, win the battle, and now you're free.

That's just not how it works. Does that answer your question? Absolutely. Yes. And you actually transgressed right into my next topic, which is how does nervous system dysregulation on like limbic looping, vagus nerve dysfunction, et cetera, intersect with the ability to heal the gut and how does that affect the microbiome?

Significantly. Yeah, I mean, our vagal nerve controls digestion and it's mostly afferent, meaning it's mostly sensing. It's sensing what's going on around us and in our environment and the food that we're bringing in.

And what's interesting is that if we can't calm those sensations, you know, like I think about float tanks and I think about the vagus nerve is one. They're so cool.

Have you been in a float tank? Yes. Several times. Oh my God. I love it. It's so cool. But it's like when you fully immerse into a float tank and you actually like your body has nothing to worry about.

your sound sense, there's no longer any humming of an air conditioner blowing or a clock ticking in the distance or small scratching sounds, like all of these things our nervous system is tuning in on, right?

Because we used to like be hunters and gatherers and we were also hunted in the process of being hunters and gatherers. And so that like, you know, that breaking of a stick in the middle of the forest where you're like, Do I need to, do I need to be prepared for something?

We have that, do I need to be prepared for something as part of our everyday life? Like having a cell phone and having it ping you and be like, somebody texted me.

That is signaling your vagus nerve to be like, is this something we need to be alerted? Like, are we being alerted? Yeah, you absolutely are.

Nervous System Regulation and Gut Healing

And a lot of that when we can't get into the calm, if our vagus nerve is constantly on alert and we're about to be attacked, we can't go into the rest and digest side of our nervous system, which is where we repair.

And if we can't repair, Then you're just in a perpetual cycle of degradation. And so I think that that's the most important part about how the nervous system interplays is that we're all in a high sympathetic dominant society where we are here to perform.

We're here to do. We're here to make sure that we. get everything done that needs to be done on our to-do list. And if we don't, then we ruminate on it all week and long.

And it's like, shit, I didn't get that thing done. I didn't get this done. Oh, I got to do this. And it's like, you're not turning off if you're constantly in that ping state of like, oh no, I've got this to do.

I've got that to do. And so it's really hard is that if we can't turn off mentally, we can't heal physiologically. And so in order for us to actually heal, we have to put ourselves into that calm state.

And we're not good at it. Our culture doesn't support it. Our workforce doesn't support it. Our society doesn't support it. It's like, almost like a stamp of pride to be like, God, I worked like 70 hours last week.

What? No, that's not a good thing. Right. And so it's really again about kind of fine tuning and dialing back. What are the important things that we need to exist and thrive and survive in this world?

We need fresh air. We need access to sunlight. We need good water. We need a nice comfy place to sleep because sleeping your brain hopefully is turned off and you can actually go into that rest and digest state.

And so that's another place I look at with patients is, are you sleeping? Because if you're not sleeping, that's a really, really important cue to me that we're not going to touch anything else until you can actually get through a full night of sleep because I can't help you if your system can't heal itself.

Because I'm all about supporting the internal systems that help you heal yourself. And you do a lot of that during your sleep process. And so again, if your nervous system is so overrun that you're waking up at two or three in the morning, going through your checklist, we got to turn that off.

Not having all of that sensory input is a nice start to like, what are some of the small things we can do at night? Not watch TV or you can't give it up.

Get some really cool blue light blocking glasses and put those on while you watch your TV or put on your dark mode on your phones or on your computer screens.

Get that blue light influence out of the eyes, right? there's steps that can be taken to help support people in getting to this lifestyle pattern that's going to actually help them heal and recover.

Very, very good advice. Thanks. I'm sure you do it all. Sometimes I'm good. I go through spurts. Sometimes I'm really, really good. Like I did have my beautiful ruby red glasses on last night as I was watching television before bed.

Yeah, you know, it's like you go through spurts and you're reminded and you're inspired having these conversations often inspire me. And then I do all the things and then, you know, life starts life in and you fall off.

Yeah, exactly. I was actually having that conversation today where sometimes I'm really good about taking supplements. And then sometimes I'm like, Oh yeah, supplements could help with this.

When was the last time I took a supplement? So what happens? We're human. I mean, a lot of times people look at

us- Falling out of routine, right? When you're in routine, you're in routine.

And then as soon as you fall out, like with all patients, you just have to continue to bring it back. Exactly. And be gentle with yourself when you fall off the wagon, because it's one you can jump back on.

It's not like you should shame spiral yourself because guess what? It's not good for your nervous system. I was just going to say, it's just going to make it worse anyways.

So you mess up, dust yourself off, keep going. Exactly. I love that. So before we end this episode, tell us one piece of advice, whether it's for a patient or a practitioner that wants to reconnect with nature, not just for wellness, but for deep microbial and immune restoration.

Hmm. I mean, I would probably say having like a small organic garden of some sort, whether it's you can do it in a pot in a windowsill if you don't have access to an outside location, but getting good soil, realizing what good soil feels like in your hands and your fingers and growing something, even if it's an herb, you know, some people have like small little herb grows where it's like their cilantro and their basil and their rosemary.

So you don't have to get all three. You could choose one that you really like that you think you'll use, but getting into communion with, you know, take a sprig off and take a bite without washing it because you know the soil is good.

You know that where it's coming from is good. You've watched it from seed to plant growing and getting used to what that feels like. to not be so concerned about something needing to be epically clean before it enters your ecosystem, because guess what?

We got lots of bugs inside of us. And they're going to break it down. And I just think that that could be a really nice way to reconnect back to where our food comes from, what it looks like to be in relationship with a natural process, like the growing of your own food, and then consuming it and being excited about getting those microbes in your body.

Yeah, I love that. I think that's a wonderful piece of advice, getting some dirt in your hands and maybe in your mouth. My grandmother used to say that we should eat a pack of dirt a day or something crazy like that.

But, you know, it's true, you know, we live in these crazy, sterile environments. And the truth is, is that we're exposed to so many microbes, so many microbes, but our bodies have this beautiful, innate wisdom and ability to protect us from them if we treat our bodies right.

Exactly. Why do you think we have such a high acid environment in our stomach? If you consume the wrong bug, the wrong bug, I say that in quotes because I think all bugs have purpose.

But if you consume it and our body doesn't want it, it will kill it. It'll do its best to get rid of it. And if it doesn't, you've got all the other microbes in the other part of the tube below that are going to do everything they can to combat that microbe.

And so it's just like, let's be less afraid of the bugs because we actually need more of them inside of us. And I think we're going, I don't think I feel like we're watching a mass extinction of these small microbes.

Reconnecting with Nature for Long-Term Recovery

And I think that what's scary is that as we start to lose these populations, we don't really realize how much work they're doing until they are fully gone.

And I think that a lot of patients, a lot of our patients, do know what they're doing because they are experiencing it all the time. reduced relative abundances of these different microbes inside of their intestines.

They don't feel good. If we continue to lose those populations, it's going to be harder to feel good. So let's keep them. And not to go down a rabbit hole, especially when we're wrapping up, but the hand sanitizers and just the over all obliteration, right?

This sanitary approach, like it's not good. It's not good. It makes everything worse and it doesn't even really kill what you're trying to kill. That was one of my biggest complaints during the pandemic was how obsessive people became with their hand sanitizers and I really struggled because I was like, we have microbes on our hands to protect us.

And here we are trying to kill every positive good guy on our hands, almost like asking the environment around us, like, where's the pathogen? Bring it to us.

You know, and so I just am like, why? And I struggled because I would be with some colleagues and they'd be like, you know, we'd walk out of stores and they'd be like, hand sanitizer, you know, we have to be the models of public health.

And I'd be like, if you're the model of public health, stop using that shit. Right? It's not good breaking down the oils, right? We have oils on our hands, we have enzymes on our hands, all of these things that again, protect us.

And then what happens and then your hands start to crack. and now you've disrupted the barrier on your hands that keeps microbes out. Thank you so much for listening.

If any of you would like to learn more about the microbiome, about fecal transplants, helmet therapy, All things really about the microbiome, you have to listen to Dr.

Piper Dobner's presentation at the Lime Bytes Symposium. So you can join us virtually from anywhere or you can come to Pompano Beach in Florida and join us live at the Lime Bytes Symposium.

And, um, thank you so much for listening to the line bites podcast. We hope this brought you one step closer to true healing. If it helped you share it with somebody who needs to hear this too, because together we all heal stronger.

We'll see you next time. Thank you for tuning into doctor talks. We hope today's episode has enlightened and inspired you on your path to optimal health.

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