Exploring the Connection Between Lyme, Mold and Gut Health Transcript

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Introduction and Guest Background

Everybody. Great to be with you again. Hey, we have a special guest, Doctor Jamie Kunkle And he's a nature path doctor, actually, in the state of California where I'm at.

He's got a lot of special needs and some good stuff today to help people with chronic digestive problems. And so, Doctor Kunkle great to be with you. Yeah. It's a pleasure to join you this morning.

Thank you. Mark. Yes. My name is Doctor Jamie Kunkle and I've been practicing for about 11 years now. And complex chronic illnesses. I went to Boston University in Washington, and I also have a training in acupuncture and Chinese herbs.

So yeah, I look forward to talking more about the gut here. Yes, but spent more about how you got into, like, got health associated with chronic illness or chronic illness, you know, affecting health policy.

The two can go, you know, both ways. So it's very important to address it from both sides. How you got interested in that. How you help people, you know, chronic environmental illness, chronic infections a very underrated thing in medicine, why people have chronic health problems, but also about that.

Sure. Yeah, it's kind of interesting, really. I mean, I think having all my training and natural medicine and Chinese traditional medicines and, you know, dabbling in other traditional medicine practice, it's.

Yeah, it gave us a great gave me a great foundation. And all of us who had the same training for the importance of the gut and gut centered approach to healing and wellness and prevention and everything in between.

The gut is central to everything. So I started there. My undergraduate was in neuroscience, so I started learning about the brain, and it was very interesting how the brain was obviously affected by and effects other parts of the body too.

So that whole gut brain connection was sort of a very early foundation for me, and I got really interested in that. And how did I get into chronic illness?

It's really a good question. They always say that, you know, people find you, I guess, if you're suited for them. I've always just had a mind for it, I guess, and it doesn't overwhelm me easily, I guess.

So as a result, I've been able to kind of piece. A lot of very complex puzzles together. And I have a continued drive to learn and just better, better myself in this world.

And collaboration. Collaboration, you know, speaking to other people who've been in the game for a long time and working with groups, it's it's been wonderful.

So, yeah, so I mean, I kind of just fell into it because I like puzzles and I like knowing a lot about a lot. And but connecting and distilling complexity into actual actionable steps, so to speak, for folks so that they can move towards healing and wellness.

So, yeah, that's kind of the long and short of it, really, I presume just because so many Americans have chronic disease now. And, you know, it's one of those things where in traditional medicine they struggle with helping people.

There are so many different aspects to it. So there's just people looking for doctors like yourself who have chronic illnesses. Yeah, absolutely. I think chronic illness is on the rise, really.

And I mean, you can look no further than Covid and what happened in the post Covid world.

Gut-Brain Connection and Chronic Illness

But even before that, it was on the rise. It's just that added another layer to things. And certainly it exposed a lot of issues with our health care system that we probably you and I new prior, but I think it was more exposure in the, in the masses.

So people have actually lost a little bit of confidence in conventional medicine if they hadn't already before. And so they're seeking more care like this, more holistic care, and it's being better validated even amongst the conventional practitioners of collaborate with a lot of conventional practitioners now.

And some of them are still kind of like, you're a quack, you're crazy. And but more coming around. We're coming around to having the conversation. So yeah, it's well, tell us more in your mind how you see the connection between, let's say, leaky gut, the microbiome imbalances, and then things like Lyme disease, which you have a lot of good training in and experience in, you know, mold problems, other infectious diseases.

I tell us more about just what you're seeing with that interaction there. Sure. And I think as far as the research goes, we're really just scratching the surface of what is actually happening in these conditions.

We don't have perfect testing to recognize that, other than we're getting better at extensive microbiome mapping, and we're realizing at large in the US here we have much less biodiversity, as many have probably heard than other places in the world and probably been our ancestors before us.

So we already have sort of a possible susceptible state, just being as we are with the standard American diet and the overuse of antibiotics and other environmental influences.

You can think about glyphosate, for example, even things that have affected our microbiome from the time we were born, sometimes even our mothers before us, so to speak, because we all inherit from our mothers.

So how does it work in Lyme and mold and all this? They kind of have some common features and some non common features. I'd say some of the microbiome lines that get affected the most that have been studied recently or like for example, to bacteria.

And there's devastation in some of these really important immune regulating bacteria in the gut. And Lyme seems to do that. Covid seems to affect it in some way.

Mold is a little more complicated because molds probably a combination of factors. There are theories that mold can colonize in the gut and can can cause not necessarily a full on infection, but certainly a disturbance in metabolism because the food you eat interacts with your microbiome.

And whatever happens to that interaction is ideally just giving you good nutrients and feeding your body at large. But a lot of things can go sideways in that interaction.

And when there's more mold in that environment, it can be problematic if they're some of their metabolites or mycotoxins or mold toxins, they can potentially t gut.

Like other fungi, they can activate the mast cell line, which is a protective part of your immune system. That's right on the other side of where the food and the microbiome are.

That was called the gulp. They're part of that line, too. There's a lot of mechanisms within that. I found it fascinating that in Covid situation that it can actually just also go into the gut and colonize the gutter, you know, infect the gut, so to speak, even in a primary infection.

And they're thinking even that the spike protein itself might be interactive in the gut in some way. So that would also

indicate that there's a possibility vaccines may affect the gut, too.

And I've had some patients who haven't had any problems with Covid or any problems with the vaccine, and their guts have been seemingly fine and resilient, and others that have had quite a bit of devastation, and they may have predisposing factors to so and with Lyme.

The other issue with Lyme especially, is that there's an inclination to always kill and kill hard and using really big antibiotics. Oftentimes at least that's the tradition of the lime world.

And there's a lot of people who still do that. And I can't say I don't do that. If it's like a rescue situation for somebody, you kind of have to just know the consequences of those actions that you're going to the microbiome, possibly, although there is a subset of people you can just sort of apparently hammer with antibiotics, and they never really have major gut issues.

It's quite fascinating how some people you can devastate a whole cell line and all the phylum, it'll just grow right on back. And it seems that way anyway.

He doesn't seem like they're doing too bad. The other people, you'll you'll you'll get them down to like, small amounts of bacteria that are running the show completely.

And those guys aren't necessarily serving you all the time.

Lyme, Mold, and Microbiome Disruption

They may be producing toxins, they may be affecting how you're absorbing food and stuff. So and Blake, you got so those are just a few possible mechanisms I can well maybe tell us just a bit more about live because we haven't talked a whole lot about it in this series.

So talk just a bit more. How common is it? Maybe some of the key symptoms? A lot of people I don't know, there's challenges with testing it, especially if you don't catch it in the early stages.

Maybe just a little overview on that if you were sure in the term line is kind of I guess it could mean a lot of things if you just refer to Lyme really free, which is classic line Borrelia, it means one thing, but Lyme syndrome is sort of meaning tick borne infection in general.

So it can mean a lot of different things. And then some people say, well, ticks aren't the only vector, so you might as well just call it vector borne infection or vector borne disease.

So these are oftentimes a lot of infections that affect many mammals, not just humans. They're considered what's called zoonotic infections. They kind of transfer from human to or from animal to whatever insect or biting thing.

And there's a blood exchange and then they affect humans. So theoretically, even if we haven't been bit by a tick, we could have had exposure to these things.

And there's potential that they could be passed on to from mother to child. And it's kind of interesting. So it seems to me it's most likely that humans have been able to adapt around the world of these infections for some time, but it hasn't been as as great as a relationship lately.

Wine was first identified in 1978. And why I'm Connecticut and that's why it's called wine with tick borne infections and kids affect causing joint pain in various elements.

And lime comes in two major forms, though. It's like the acute form of it, maybe easily recognized or may not like. Not everybody has a bull's eye rash.

Not everybody has the classic symptoms. There may be a delayed onset of symptoms, and a lot of times they're

really not very descript. They may be flu like things.

Headaches maybe, or maybe not. A fever doesn't have to be a rash. Nausea. I mean it's really not very obvious. So a lot of times acute infections get missed.

The best time to treat it like a classic infection is defined acutely and just beat it up. And hopefully the short term of that antibiotic use or whatever substances you're using are not going to devastate your gut too hard.

But in the chronic form of wine, it's a lot more complicated because you have whatever the infections were that may have come in with the wine itself.

But if you're talking about Borrelia, because it could be, you know, the Busia Bartonella in a plasma or lithia Brucella could be so many different things.

But then you also have the bugs that your body normally is supposed to be regulating, and that might be Epstein-Barr virus and mycoplasma. Some people have Coxsackie whatever.

There's all these other things that also get lumped into the dysregulation of infections. And that's where, you know, mold can interface with wine quite a bit.

Most of the worst cases I've seen of lime usually have some sort of toxin interface. And there's something additionally suppressing the immune system's ability to actually deal with these infections further.

But Lyme Borrelia as a central point, Borrelia burgdorferi is known by as many names. It's the great mimic. It's some people call it new HIV. And what they mean by that is just is very immune suppressive, very immune suppressive.

And its surface proteins can mimic our neurologic tissues joint tissue. So it can potentially eat autoimmune type. And I can't tell you all the reasons politically why it hasn't been acknowledged or, you know, maybe more prevention has been practiced or more education to the masses.

It's just that it's a very complicated illness. It manifests differently in each person. And to acknowledge it is also to have to pay for it as a society.

And I think that that comes into play sometimes with why we're not seeing more movement toward the recognition of chronic Lyme, which can be a debilitating, sometimes lifelong condition in people.

But there's hope if you do catch it. The earlier you catch it, the younger you are, the better older you are. You still have hope. And there's just it's navigating it as it evolves.

As it changes, it's just you have to see where that person is in that process, in that journey and really understand it, because it may not be in the later phases to really primarily just treat the infection.

At that point, you have to do a lot of other things within the body to bring it back into balance. So that's kind of the general trying to trying to talk about subject.

That's a good overview. Tell us about some of the treatment approaches. You take the line of disease and then you can talk about some stuff with line to your clinic there, which we'll talk more about in the house.

How you generally coach out there. One's different. But where are some of the therapies you like to employ? Yeah, for sure I like to first of all, in terms of the gut, I like to do extensive gut testing.

When I first meet somebody who's been diagnosed with Lyme, whether they've had treatment or not, it's really nice to know kind of what I'm dealing with.

And I know that the microbiome isn't the perfect science yet, but at least I can get some insights. I can also check inflammatory markers, I can check leaky gut markers.

I can do all those different things and try to get a perspective on how much their guts playing a role. And clearly I'm also doing extensive history and physical examination in that department because they may some people don't have quote unquote gut symptoms, but there's actually a lot going on there that may be interfacing with their body at large.

So I'll look at that. And overall, you know, I think I'm looking at how I can connect all these dots together with people and I and one of the things I see a lot with Lyme is, is autonomic dysregulation.

So it can come in many forms. So the autonomic nervous system is that unconscious regulatory part of your nervous system that controls our breathing and our heart rate and all these different things, including our gut, our gut motility, all this stuff.

So you'll see people presenting with some form of autonomic dysregulation. And in the gut it may look like or it may look like small intestine bacterial overgrowth, bloating or, you know, constipation or, you know, some sort of motility issue in their brain.

It may be a lot of like neuroscience, distress, low stress, resilience and different things like this. And of course it can come in other forms to like Pots foster syndrome, where people, you know, stand up from sitting down and they don't they don't have good regulation.

They may feel like they're going to pass out or their hearts beating really rapidly in their chest. So that can have a strong connection with the gut, because the vagus nerve, that cranial nerve that comes from your brain and affects your gut and a lot of your broad regulation in your body and the mast cell system is also something I evaluate for early on, which has a lot of interplay in the gut.

As I've mentioned, this is a part of your innate immune system response or initial immune system response to the outside world. Skin got blood brain barrier signs, whatever.

All of it has mast cells, and if they become overactive, it's going to affect the autonomic system too. It's going to affect the leaky gut. And I'm basically looking for cycles.

I'm looking for negative feedback that aren't serving that individual. And how can I sort of work on them foundationally to correct them? I'll also be looking at the hormone system because of course it's affected.

The adrenals and the autonomic have a lot of interplay, you know, and on and on, and even up to sex hormones, thyroid, insulin systems, everything in between.

But so you're looking for where the lack of regulation is. And how can I start to provide some of those signals of regulation as the body's been struggling to maintain homeostasis?

Lyme Disease Overview and Symptoms

Excellent. I talked about diet and some of the supplements and pharmaceuticals you're helping people live disease with. Again, I know obviously varies depending.

Like you said we find the weak points. But what are maybe some things of doers I would like to hear about? Yeah, sure. I think the most interesting thing about Microbiome Project is, is that it's not so much about giving probiotics all the time.

It's about trying to achieve the best diversity possible. And I think when I map people, when I look at those things, I try to figure out how I can support them through diet in those arenas.

And that's something I'm working on getting better or more precise with. And so I try to, if I can try to individually tailor the diet, I will. But there are some general foundations and principles I'll usually follow.

And most of that is no processed foods, usually gluten free. You know there there may not be good, probably dairy free, and I'll make sure they have if they can handle them and they don't have like a small intestine bacteria overgrowth situation, they'll have good prebiotics in their diet, things that are going to encourage that diversity just at a base level and getting dense micronutrients.

And I tend to go lower insulin, lower glycemic with people, generally speaking, because a lot of people that are really inflamed have issues around insulin systems and that can further inflame them.

And yeah, anything I can do basically from that. So I may follow like a paleo style. And some people, I've had some patients who can't firm, they don't ferment very well in the beginning, like anything that ferments them makes them feel yucky.

So any prebiotics can really hurt them in the beginning. And some of them have gone carnivore briefly and have had good effects to it. It's quite interesting.

Some of my patients with connective tissue disorders, which I didn't talk about like aliens, demos, hypermobility syndrome and stuff like that do well with more of these types of diets sometimes too.

So I try to just individually tailor it, but I'm definitely trying to clean it up. Getting rid of glyphosate, like I mentioned, all organic if possible, which it's not super possible in this country to avoid glyphosate, unfortunately, but it's nice to try your best to do that.

And then I usually measure it in the urine or whatever anyway. And then as far as other things I do, like I said, it's all foundational first and pending on how strong the person is manifesting and where they are in their journey and their diagnosis with Wyrm, I will consider working them into infection treatment sooner or later in the process.

And sometimes they've tried to treat and it hasn't gone well at all, made them worse, or made them really, really bad. So I've course at our clinic we get a lot of those patients who have been to like five, ten docs that have tried treatment and it just hasn't hasn't worked for them.

I'll use other immune modulating therapies with these people, like for example, with infections. I've used low dose immunotherapy, which is kind of somewhere between where allergy shots and homeopathy interface.

But it's about just normalizing immune system response or keeping it from being destructive or out of control. And hopefully that brings them into better regulation.

And I'll use low dose and I'll track sun sometimes, you know, from the drug world and a lot of herbals that do similar things to that process. So it's not always a once again, a kill first approach with Lyme generally.

And we do use a lot of IV medicine, other things it really depends because if the gut is really compromising somebody, I have a lot of patients that can't take a lot of oral stuff, so they can't take a lot of oral nutrients even.

It's just it doesn't go well. Whether that's that fermentation issue again, that I mentioned, where things are being processed abnormally, abnormally in the gut or whatever it may be, the masculine or something different, you can blame a lot of things, leaky gut, what have you.

I'll have to sometimes replete them with IV nutrients or other bypass methods first. And so yeah, I'm a foundationally micronutrients really key with a lot of these people they become very deplete over time as mentioned.

But yeah, so it's not a one size fits all approach as you can imagine. But when when people manifest with extreme like autoimmune manifestations in line, sometimes I do have to use heavier antibiotic therapies to try to rescue that

situation.

And we have some people with really severe encephalitis too, that sometimes we've had to use like IVIg or get them referred for. I mean that those are extreme ends of the spectrum, as one can imagine, but it happens.

We see them. So we have to be. What I've learned is I have to have a lot of tools in my toolbox or a lot of resources and referrals, whatever I need that my goal is to get the person better however I can, whoever that is.

I love it when it's down here and foundational, but most of my practice is living somewhere up here these days. Yeah. How about you? You find a lot of your patients Lyme disease.

You have to treat the digestion right from the beginning or somewhere along the lines of treatment. What's your experience with that? Yeah. If you can treat it in the beginning, it would be wonderful.

I think you probably have to treat it in the beginning. In in the end when people are on the road to recovery, a lot of the work that I do with them is really gut centered.

So if you've really gotten things into relative remission or under better regulation the long term, where you can try to create more resilience in that, in that state, to keep them from falling back is to definitely work on the gut.

But sometimes, as I mentioned, I can't give anything by mouth with some of these people. I have to calm the gut down first, and if I don't do that, it's not really going to work very well.

Testing and Treatment Strategies for Lyme

Even if I bypass the gut all together, just put things in the veins. It's it's not really going to work because the gut is still not regulated. And a lot of those people, you're doing that kind of desensitization maybe get some nutrients in IV to their better and then you start getting stuff in.

Is that. Yeah. Yeah. That's a good way to start with these people if you can. It's certainly it does work when it works. And sometimes you have to step back even further.

But if you can get the desensitization going and get them some, some basic micronutrients, you'd be surprised how much things can kind of calm down, even just at that, so they can accept treatment better.

And you know, they do. They may need other types of therapies like limbic system retraining, neurofeedback counseling, and general trauma work. There's there's a lot of other obstructive forces, because there's the traumas before the illness that may contribute to the illness.

Then there's the trauma of the illness and not being heard and being gaslighted all day long, over and over and over again. So I wanted to say it's very important to recognize the role of trauma and these illnesses to.

Excellent. Now tell us about a bit more about mold if you would like. How common is it? How do you see it connect to the digestive tract. And then systemically, you would. Sure.

You know, it's interesting to think that humans have probably been around mold for how many thousands and thousands and thousands of years. I mean, a long time.

Why are we having problems with it now? It's kind of a good question. I don't I don't that's something that perplexes me too, because the general consensus on that in the environmental medicine community is it's a toxic burden issue.

There's just too much coming out of us at any given time, and we're not really able to process those things as effectively or efficiently as we once were.

It is possible with our new building, the way we build things now, that sometimes we're more prone to to mold infestations and stuff like that too. But I would venture to say it's probably a little more complicated than the simple presence of the mold itself.

But the mycotoxins are metabolites of each of the molds. Depending on the person and the mold and the toxin, they may have a different type of interaction with it.

Some people are really good at getting rid of these things, for some of our parents have lived in moldy houses most of their lives and kind of gotten through.

Some people just do that and it doesn't seem to be a problem. Other people just by accumulate like crazy. And a lot of the toxins are neurotoxic, so they affect the nervous system quite a bit.

But they do once again starting in the gut, because usually you're inhaling it and swallowing some of it. It's going to contact the sinuses and the gut and that whole sort of access one way or another.

And then it, you know, absorbs, it's going to start getting into the bloodstream and causing a lot more like neurovascular issues over time. So the way I see it, though, with its interface with a lot of other illnesses, is that its immune dysregulation, immune dysregulation, immune suppressive, as far as that goes, directly toxic to certain tissues like mucosal tissue and different things like this.

And it basically leaves you kind of open, open to other things getting in or being problematic in your system like infections. So it's rare that I see a big mold case without some sort of infection interface.

But if you go and just treat the infection first, especially if you're going to use antibiotics, you're going to have a very unpredictable result. Let's just say that.

So it's important to recognize mold when you're trying to interface with a lot of other illnesses that have been diagnosed, like is there a mold in this equation?

I've had some people that are so sensitized to mold that they have to either go above and beyond to remediate or change their environment in their home, but I mean above and beyond in some cases, and really extreme cases, they've had to move to Arizona or something. It's crazy.

But there's there's an extreme on both ends. If you most people if you identify it early, just like the lime situation and deal with it appropriately and you can help desensitize it, they can dabble a little bit because in the winter we're all getting hit with him mold.

If we're in a wet environment anyway outside, it's usually when you're in a box with it practically like in your home, and you're just breathing it in at a high rate every day, that's when it really becomes problematic.

But once it sets off the immune system, it is a challenge sometimes to get people back to zero if you're if the environment isn't under some level of control.

So what are some of the classic symptoms you see with mold issues? Yeah, sure. I'd say it can manifest in many ways too. I think in some cases it's simple dis biotic type reactions, I guess, you know, like you might see anything from the upper to the lower area, indigestion, reflux or something like that.

A lot of sinus and post nasal drip and things. But it's kind of affecting, you know, this whole arena all the way down to the stomach and probably into the small intestine if it goes on, you know, certainly you're going to see large intestine stuff to like constipation or loose stools.

What I really see a lot is the development of food sensitivities. And that gets a lot worse over time the longer they're in it. So things they used to be able to tolerate, they don't tolerate very much anymore.

And so they just start getting these abnormal interactions with their with other aspects of their environment. And some people theorize that might be, you know, a mast cell issue that develops around it.

It's hard to say, but and then eventually leads to them probably not getting enough nutrients.

Mold Exposure, Symptoms, and Detox Support

And because they're avoiding foods or they're not absorbing effectively or anything like this. So yeah, a lot of times in the early phases, though, I might see stuff kind of like in this upper region, and then it does get worse over time, as it probably contributes to the actual functional change in the microbiome at large.

Yeah. And what kind of protocols may tell us about diet for mold and some of the supplements use or medicines that do it. Yeah, sure. There are low mold diets quote unquote out there.

And I think they're good to try with people. They're very they can be very restrictive sometimes for sure. But like they avoid a lot of like fermented foods, for example, things that can sort of cross react in the fungal land or foods that get contaminated with mold.

Certain grains can get contaminated with mold. A lot of times we'll try putting people on a green free diet if we think there are a lot of fungal elements with them anyway, and there's just other ways they can maybe get complex carbohydrates, they don't have to be completely carbohydrate free. So, you know, you might do.

Sometimes root vegetables are okay in some cases, although mold sometimes potentiate oxalate absorption in a lot of different ways. And so people will have very high oxalates.

They may not form stones per se, but oxalates can be very inflammatory. So sometimes we have to put them on a temporary low oxalate diet until we can fix the mold situation and fix the gut barrier better.

Maybe give them some calcium citrate or something temporarily, and then we'll use binders, of course, things which, you know, you have to be careful when people are really sensitive, even with binders, you can make them react to them.

So you may have to start with something really, really gentle. If they can handle something like fiber, that's great, but any binder that's going to constitute them is is going to not be to your favor if you're trying to get things moving through the gut, because one of the most important principles is to keep transit and mold in all ends.

You know, the if you got, you know, the liver, gallbladder, the interfaces with the gut, and of course, the skin and the sweating and the lymphatics and the kidneys and the urinary bladder and all that good stuff.

So make sure all their detox pathways are nice and open and kind of get, get rolling with it. And a lot of them have very high demands for antioxidants because my sons give them such put such oxidative stress on their system.

So you're going to see a lot of use with fire. And if they can tolerate it, any C plant based antioxidants and flavonoids a lot of good stuff there. So a lot of mold diets are very antioxidant rich too.

And that's a good way to kind of, you know, usually stabilize the mast cells and help the liver and just help the vascular system at large, because mold can, you know, make your make you a little more blood thickened, too, like other other things other chronic illnesses can doesn't necessarily mean you have heart attack or stroke, but fibrin is a response to inflammations and things that create inflammation enter into the bloodstream.

So yeah, you're going to have to consider that especially in the Covid world to that because it also does that. So that can make people very fatigued and very achy and very yucky feeling using any like direct anti-microbial approaches as well.

Seems like different thought on that. Yeah. Well, yeah, I'd say sometimes we do because I don't think we know for

sure when we don't have perfect testing all the time, when we should do that, when we shouldn't do that.

I think if I can swallow the sinuses and find fungal colonization up there, which I have, I've used the the microbiology mark on kit and Marcus is actually a staff infection.

But you can also do fungal cultures up there is a staff infection is associated with mold colonization. You can consider that and also do next generation sequencing with micron up here and see if I find stuff.

I've found Aspergillus and Penicillium and I found Candida colonization and all kinds of weird areas in the respiratory tract too. So if you see fungal elements, you know, you might want to think about treating them.

You might want to start in the sinuses because it's a little less reactive for people. If you can do nasal sprays, or my favorite new thing is the name of neb, the nebulizer of the nasal passages, because it gets into the very high sinuses and the maxillary really well.

And that also gives a really deep rinse into those areas. So rinsing is wonderful in general for this area. If there's been mold exposure. And then if you're going to just gut agents, there's in the drug world they have a few that don't absorb, which is kind of beneficial in this case.

So you're not less silly pushing them into the liver and the system at large. So I'll use nice satin sometimes or in really severe cases I'll use the terrace.

And but that's when I've demonstrated that there's a key. There's a, there's clear either there's a clear fungal element there or there's clear benefit to fungal treatment prior before I use big guns because there's a lot of fungal resistance out there too.

So we have to be careful. And if I can do it with plant based stuff like a regular essential oils, berberine, grapefruit seed extract, whatever, if I can do it with those, then I'm winning because in biofilm support, biofilm support all over the place here it whether you're up here, whether you're down there, biofilms are little colonies of bacteria and other microbes.

They can cohabitate. It can be fungal and bacterial or viral and bacterial. And they all just live there. And no matter how many drugs you throw at them, sometimes they won't always penetrate.

There's drug resistant biofilms that are out there down to. And they've acknowledged that in the fungal realm. So it is a complex question in that regard.

I have to consider all those variables. But there have been plenty of my patients that that's been one of the things that's really helped them. We've done everything else.

You have to make sure that they're out of the mold. You've done detox work with them, or you've tried at the very least, and you've rounded out all your other foundational supports or whatever else with them that they need, they need support on.

And then you might want to try killing it. And at that point you'll get your answer probably pretty quick. And it's nice in that way. And if it's helping, it's helping.

Gut Health in Complex Chronic Infections

And we'll just support the system around that and make sure we're recovering the gut afterwards, because some of the stuff will will also hit the the bacteria, even though they're antifungals, a lot of drugs, you know cross crossover.

Yeah that's good information. Well maybe an ending. Give us time. Maybe just your summary of how you see the connection between gut health and rock infections like Lyme and mold and stuff like that.

Sure. Well, the gut itself has so many interfaces with the body at large, and I think that I've mentioned a lot of them here today. And I think that if you're seeing a system that's dysregulated at large, like the whole body, there's a lot of multi systemic issues at hand.

You got to come back to the gut and really put a lot of intention and focus into healing it, or else you're not necessarily going to get some of these complex chronic illnesses to move in the long term.

And I think that as I mentioned, Lyme has a lot of inner plays in the microbiome that we don't fully understand. And it also leaves, but we're starting to understand.

So there are patterns of imbalance that happen with Lyme specifically in the gut. And we need to better understand those and better address those over time.

And we need more directed therapies if we are going to kill toward Lyme and they're starting to try to develop drugs, there's this thing called hydro mice and it's a soil based antimicrobial.

They're going to try to do studies on. They're trying to make sure it's safe in humans. And hopefully they're doing phase one trials right now. But if we can directly target some of the infections without a lot of collateral damage, I think that's kind of exciting, especially for the lime borrelia world, because if you can get that out of, you know, marginalized, at least you're hoping it's opening up the immune system to potential.

And we can hopefully then better recover the gut and the immune system is is more able to tolerate those types of treatments. Because if we sometimes if we don't get that done, it's it's going to be really a long journey.

Yes. Well well said. So doctor, thank you so much for your time. And I know people want to get more information on you or see you at the best website is Gordon medical.com.

That's GORDON medical com. That's correct. Find you there. Thank you. Thank you so much for your time. Thank you so much. It's been a pleasure.