Introduction and the Lyme-immunity connection

Everybody. Dr. Tom Moorcroft, back here with you for this episode of The Healing from Lyme Disease Summit. And today, I have the great honor and privilege to be chatting with my great friend and our co-host, Dr.

Darin Ingels, for this interview. So, Darin, welcome. Hey, it's always glad to hang out with you, Tom. You know, Darin, I'm just it's always tons of fun for me to sit down and have these conversations, you know, and and really be able to share your expertize with other people as a lot of people know.

One of the things that is important to me is married, marrying, sort of like, you know, the best of all the things that we have out there and especially being true to science, where we have science to guide us when we don't have that science, that's kind of where we are.

And even the implementation of the science is so much where the art of medicine comes from. But one of the things that I've always appreciated, you know, whether it's through your lyme solution book or just our conversations that we've had privately or a lot of the public work we've done together, it always is that balance of the science to me, which gives hope and then how do we apply that science to the person in front of us?

So I'm always really happy to have the ability, the the the opportunity to have a conversation where we can dispel some myth, maybe, you know, lay down some some good street knowledge and help people.

So I think we're going to be talking about I mean, any time we talk about chronic infections, Lyme disease, you know, we end up talking about immunity and autoimmunity.

And, you know, one of the things I don't know if people know about you, you know, you're a microbiologist as well as a natural pathogen physician. So you are uniquely qualified to talk on this topic.

But so what are some of the important things that we, you know, just sort of knew that the top down approach, what are some of the important things that we need to start considering when we think about, you know, Lyme, other tick borne infections and as bigger topic of immunity, autoimmunity?

That's a great question. You know, I think one of the biggest hang ups that people get when they get exposed to Lyme and really any other tick borne illness is this idea that the infection is responsible for the totality of everything they experience.

And you and I know that that's not really the case in most cases. You know, it's a combination of what that infection does. We know that Lyme and Bartonella and really any number of these other infections can be catalysts for autoimmunity.

And of course, you know, people with chronic infection, they've usually got a litany of other things like mold, illness and other environmental toxicity things and yeast overgrowth and heavy metal poisoning.

And it kind of goes on. A whole nine. You know, we're always, you know, looking at the whole of the person. So we're not just hyper focusing on the tick borne illness, but looking at all these other factors and this autoimmune piece.

You know, I think this is if we want to say there was any advantage of the pandemic. I think the one thing it really highlighted, though, that, you know, we saw so many parallels to COVID and Lyme, right.

In terms of you've got this an agent that's difficult to test. We don't really know what the test results many mean. We're still treating people clinically.

And then we get these people with long haul syndrome. I think everyone in the lying world, you know, kind of said long haul, you know, welcome to our world.

You know, we've been dealing with this for decades. And one of the things that we know from the research is that Lyme and these infectious agents, again, are catalysts for autoimmunity.

And what's confusing is if you go to the rheumatologist and you get standard bloodwork done more often than not, your bloodwork looks pretty normal. You know, you run a CERP, which is an inflammatory marker.

You might do rheumatoid factor and a and a and I find a lot of Lyme patients have this very low titer and a, but it's not enough that really qualifies for having an autoimmune disease.

But we know that the kind of antibodies that are being produced are not the kind of antibodies that we're testing for. So if you go to Quest or LabCorp and your doctor orders a battery of blood work again, most of it's going to come back looking pretty normal.

But if you start looking at where these organisms target, well, we know what targets the gray matter. I mean, Lyme in particular, Borrelia, the gray matter of your brain.

The white matter of your brain. Oh, well, what's that going to mean? Could be migraines, could be headaches, could be brain fog, could be sleep disturbances, could be mood changes.

You know, we think about all of these neuropsychiatric symptoms associated with Lyme and, you know, you've got this idea that, you know. BORELLI Is this organism that digs a hole in your brain.

It doesn't do that, you know, yes, we have found Borrelia in and around the brain, but it's not like a gopher that's tottering a hole and it's eating your brain apart.

That's not really how it works, but it can become an immune trigger that cross reacts with your brain. We know what can happen with your peripheral nerves.

What's that going to translate to? A Well, that's neuropathy. That's numbness and tingling and these weird, creepy crawly sensations and people who feel like they got a second degree sunburn all the time, you know, that can be an autoimmune reaction to your nerves.

We know it can be an autoimmune reaction to your joints. Well, you get chronic joint pain. Is it an infection in the joint? I mean, come on, how many times have you had patients that go get their joints tapped?

They don't find any evidence of infection. Typically, when there's infection, you'll see blood, you'll see white blood cells, you'll see other changes in the fluid.

And we don't typically see that with Lyme arthritis.

How Lyme and infections trigger autoimmunity

So, you know, we get into this fine line of, well, how much of it's the infection and how much of it's the autoimmune reaction to the infection and maybe the compound that's a little bit more not to confuse everybody, but this is a common scenario.

You know, you go to the doctor and they say, okay, we need to run a Lyme test. We're going to do all these other blood tests because I don't really know what's wrong with you.

So we're just going to order the kitchen sink and then they start ordering all these other viral titers. Or maybe you've got Epstein-Barr or parvovirus or whatever else, and you get this lab report back that's usually like 20 pages and you start seeing all these hits.

You got IgG to Herpes six, you got IgG and Epstein-Barr, you got IgG to all this stuff and you look at it and if you didn't know, better to go, Wow, man, my body's just getting riddled with all these infectious agents and take a deep breath.

The good news is that's not really what's happening, at least in most cases. And, you know, we see so many people that say they have reactivation of Epstein-Barr and that can happen.

But more often that what we see is that we'll see high IgG titers to Epstein-Barr and not necessarily ICM, which is the antibody that we associate more with acute infection or at least active infection.

And sometimes that comes up, but more often the other doesn't. But when you start to see all these high IgG titers, there's a concept in immunology called polyclonal activation.

And polyclonal activation is essentially your immune system kind of freaking out, saying, hey, something's going wrong here. I'm not sure what it is, but I need to, you know, amp up my defenses because something's trying to invade me.

Something's trying to attack me. So we'll see that there's kind of this broad stroke up leveling of your immune system. And therefore, when you were doing antibody testing, you know, that's part of your immune system.

You start seeing, you know, high levels of all these different things. So, you know, when you come check on your blood work, the good news is you don't have to panic or freak out about it.

You know, in many ways you can say this is almost maybe a good thing that your immune system is responding. It is maybe not responding in the way that we wanted to, but it is showing you there's some activity to it.

I would worry more about someone who has like no immune response or has a very poor immune response, but this polyclonal activation really gets overlooked in medicine and people tend to misread it, even though a lot of our colleagues that they then start you down this treatment path of wanting to get you on antivirals and kill all these other things that may not necessarily be causing a problem for you.

So I know you and I, you know, we try to be very thoughtful and selective about what we're giving our patients because it's easy, again, to throw the kitchen sink and people, which it's expensive, it can be hard on the liver and hard on your other parts of your body.

They have to process all this stuff. So we want to be mindful about whatever recommendations were we're giving you. You know, there's a purpose. There's an end point.

There's something we can measure for that. But I just wanted to mention that because, again, it's such a common thing I see in my own practice. And I just want people to realize that, you know, it's very easy to get bamboozled in this world, much like, again, if you do a Lyme test, your lyme test comes back negative.

Does that mean you don't have Lyme disease? No, it just means that for that particular test kit, it didn't show up. And I guess I should qualify this again.

You know, I was a microbiologist before I was a doctor. I used to do Lyme testing for a living. And if you think about the standard Lyme testing, this is how crazy it is.

So, you know, when we would run a new test in the lab, you would always have to go through and do some sort of study to compare it with a previous test, another test kit.

You need some measurement of a gold standard to know that your test kit is accurate and the results you are getting are reliable. So tests are measured by their sensitivity and specificity.

So the sensitivity is if you have the disease, what's the likelihood your going to pick it up? And the specificity is, is it

specific to the disease that you're looking for?

And generally speaking, you want both to be at least 95% or higher early somewhere in that range? Well, if you look at the research on the Lyme screen, so if you think you have Lyme disease, you go to your primary care doctor.

The first thing they're going to order is a Lyme screen, which is an ECG and IgG antibody test. And we know from the research that the sensitivity of that test is somewhere between 43 and 46%.

Sensitive, literally misses more than half of the people that have Lyme disease. That, by all standards is a terrible test. A terrible test. And you know, myself, I mean, I had classic Lyme disease.

I got beat living in Connecticut. I lived 30 minutes from Lyme, Connecticut. And I had all the classic symptoms. I had the headache, the bullseye rash, 105 fever, neuropathy.

You name it, I had it. And when I went into the lab and did my Lyme screen, the test came back negative, completely negative. And then. I and you had a rash.

And blot and I had the rash and I waited like, you know, two, three weeks afterwards. It wasn't like I did it right away and I might have missed the window.

I'm like, No, I knew enough to give my immune system a chance to respond. And and the the screen was completely negative. But I did the Western blot, which is a more specific test of IgG and IgG antibodies to time.

And it lit up like a Christmas tree and this was through Quest, which I would say is not the greatest test kit anyway. But even then it came up. So, you know, we've we've got these, these issues around how the immune system responds to Lyme.

And this is why, you know, testing can be a bit problematic because if you don't make a robust immune response, your test is going to look negative. We know there's a threshold that every test kit has because it compares you to a control.

If you don't meet that threshold, they call it negative. And the threshold that set is generally pretty high. The idea is that if you have Lyme, you make a lot of antibody and then concept.

That sounds great, but in reality that's not always true. And one of the labs I work with, MDL, they've changed their test kit, but when I started doing it with them, they would actually send me a copy of the patient strip and the control with the percentages, and it would come back at 59%.

I'm like, Well, that's a function of how much water you had to drink that day. So that's the difference between you do or do not have Lyme disease. That makes zero sense.

So, you know, the depending on how far you get away from your exposure and we know that immunity naturally wanes with time. So if you're exposure, like most of our patients happened months or even years ago, the likelihood of picking it up on a Lyme test goes way, way down.

And of course, if you're on any medication under chronic stress, there's a gazillion things that can suppress your immune system and therefore alter that antibody response.

That's why, again, you know, at the end of the day, Lyme disease is a clinical diagnosis. If you go to the CDC website today, it says it's based on signs and symptoms, and particularly if you live in an area for endemic for ticks.

So I just want to throw that in and we're talking about immunity that this is very relevant to testing. And I know so many of you tuned in, have been gaslit by your doctor.

You've been completely dismissed because you didn't have a quest or LabCorp CDC positive Lyme test or even worse, you live in a place where they said Lyme doesn't exist.

I mean, I live in Southern California now. I lived in Connecticut for 20 years. I've had doctors tell patients there's no Lyme in California, despite the CDC saying California's the fifth fastest growing state for Lyme in the country.

I haven't had one doctor tell patients there's no deer in California. I'm like, dude, you need to get out of your house more because there are deer all over the place.

You'll see deer crossing signs, you'll see deer everywhere. And deer aren't even the biggest vector anymore, by the way. But this is sort of the the the medical system that we're working against and just trying to get an accurate diagnosis.

It's really interesting, man, because, you know, there's so much misunderstanding and I think it's really important to kind of talk about that sensitivity and specificity.

Why Lyme tests can miss real infections

And and so couple of questions about sort of the viral titers and stuff. So if one of the things I see and I've always sort of wondered about is you'll see people who will have like all their viral titers are like through the ceiling.

Mike And picture perfect. They meet like kind of like that polyclonal activation. But then I go and I do a Lyme test and I got like an indeterminate 23 and nothing else.

Yeah. You know, so, and I'm sure that this is a question that a lot of people have, but from that microbiology and as well as your clinical expense, like what does that actually mean?

So think about this. You know, you've got really two parts of your immune system. If you want to think of it this way, it's more I'm trying to explain that it's horribly complex, but to simplify it, you know, when you make antibodies, your immune system is designed to create sort of two types of antibodies that creates antibodies that are nonspecific but just says, I don't know what you are, but you don't belong.

You're not part of me. I don't know who you are. And so whether it's a virus, a bacteria fungus, a parasite, you get those antibodies and then you get other antibodies which are, oh, I see your Epstein-Barr, you don't belong.

And so my antibodies very specific to you. So in polyclonal activation you can get activation of a nonspecific antibody, but even within that antibody type, it may target different antigens differently, and particularly with herpes viruses because they're in the same class.

So Epstein-Barr, CMB, herpes simplex one, simplex two herpes, human herpes, six varicella zoster chickenpox. All of these are herpes viruses. So that's often why we see herpes viruses will have the sky high titers.

And it doesn't mean you have all these viruses, but because there's so much cross-reactivity of that antibody among that family, that's often why we see because I'll see this where you will get a lot of herpes viruses, where the tires are high, but not necessarily parvovirus or a virus that might be of a different camp.

But I think that's why sometimes we see these really high viral titers and not necessarily a high Lyme titer. It says even those nonspecific antibodies aren't necessarily specific for that antigen that we're looking for.

Nice. That is like literally the best description I've ever heard of that. And it is definitely totally accurate and super simplified in a way that I think is just great there.

And I love it because, you know, it is it's complicated. We talk about all these different pieces. And one of the challenges that I run into, and it sounds like you do as well and I know so many of our other colleagues do, is where it's so hard to say to a patient, hey, you know, I've gone to school for like 27 years in a row to become a

doctor.

And so it's going to be a little hard to maybe for me to explain to you why, like seven different herpes viruses reacting, you know, is is not directly related to your Lyme test and you don't have all these these things.

So I think that that's just kudos, man like well handled. Well, you know you and I talked about this in my interview with you. So folks want to go back and watch that, but I want to bring it up again because again, this is important point.

You know, when people as they identify with their illness, got to be very cautious about I mean, I know it makes both of us a little crazy when patients walk in and go, my Epstein-Barr is terrible today.

My Bartonella is terrible today. And as a practitioner, that doesn't help us help you in the best way, because we want to know about what symptoms you're experiencing.

And again, it's very easy to chalk up something to being a viral illness or being bartonella, but in reality, it may or may not be the thing that you think it is.

And that's an important distinction because it's hard for us to gauge how best to treat you. I mean, I can do a lot more when I know your neuropathy is worse, when you're having more foot pain, when you're having more migraines versus my bartonella is acting up today.

So it's it's helpful as someone dealing with the tick borne illness, you know keep good track of your symptoms that's going to give your practitioner the best way to guide you on, you know, whether you need to change your treatment protocol.

But be careful about using this kind of language just because I find more often than not, it's not the case. You know, often we will do tests. I mean, I've had patients tell me they're absolutely convinced they have babesia because they've got air hunger and we've done a gazillion tests for visit and nothing comes up.

And by the way, babesia, because it's a blood parasite, is not difficult to diagnose. You can actually put it under a microscope and you will see them inside your red blood cells because that's where they live.

So if you've done several tests and you can't find it, that probably doesn't explain your problem. But, you know, we talk so much about mindset and I see so much of this, this like in training in the brain that you convince yourself that certain symptoms are related to this one specific thing.

And the downside to that is that that sometimes cut you and maybe your practitioner off of exploring other possibilities. You know, if you've got it in your head, that is absolutely babesia and you need to give me a B. S. treatment.

And if you don't give me a map, Ron and is that there myosin? I'm going to go to the doctor down the street who will. Oh, and our tests, you name Tiffany Quinn and blah, blah, blah.

And that doesn't serve your higher purpose because, you know, you've got to give your Rochester an opportunity to make their own assessment. You know, examine you again as a whole.

But again, understanding how your symptoms change, because, again, we don't have a biomarker out there that tells us how you're doing. And I've argued with other doctors, if anyone out there can give me a good, rational explanation of any one biomarker out there that we can measure on a blood test imaging study, again, for someone who worked in the lab for years before I'm a doctor, I don't know of any biomarker that we can apply to everyone.

See, the 57 is not helpful ever, you know, and nobody I know with Lyme they said, Well, my CV 57 is low. I'm like, What was it before I had Lyme? I don't know.

Nobody ever measured it. I'm like, So is your CV 57 low because you have Lyme or do you have Lyme because you had a low CV? 57 Who knows? So again, in absence of a good biomarker, at least to date, you know, we rely on how your symptoms change again to give us guidance on, you know, whether our treatment's doing what we wanted to do, whether we need to change protocols or do we need to start investigating other possibilities.

I mean, you and I have both been through this. I mean, now hundreds, thousands of times with patients where they do three, four or five, six different Lyme treatment protocols and they feel no better.

At what point do you draw a line in the sand ago? Maybe this really isn't Lyme. Maybe there is something else that we're overlooking. And again, mold, illness and Lyme.

There's a lot of clinical overlap. There can be other factors, toxicity of different types. So again, I never want to hang my hat that everything you experience is just Lyme or tick borne illness, but be be clear with your practitioners and again, if you've got brain fog, write it down.

It's I know it's hard to remember when you go to your visits and sometimes it's months apart and you can't really remember. So keep good notes, keep a little log, you know, pull out your phone, just keep little notes.

And it's a portal message like an email, you know, just for you don't even have to remember. We're in the technological age where it's really easy to track this and communicate with your practitioner, but that helps us tremendously.

And again, being able to give you the best advice based on our experience and what you're feeling to know whether we need to change treatments Daryn. I think it's so important what you're pointing out and that, like I like I have a patient that I've recently been talking to who had an atypical presentation of C difficile.

Right. So what we found, though, was they didn't have C difficile, colitis, diarrhea, but so Quest won't even do their test. We do testing through another company.

We find it and they're symptomatic with GI symptoms. But then and then so someone treated them and you know, because they're getting antibiotics during this whole period of time before they saw me.

So they basically got three different episodes where they had C diff and I've been working with them with an herbal protocol. Everything's been good. They added in an extra herb like, you know, on the side.

It turns out it's very active in the gut. All of a sudden, other symptoms come back and you know, and I was just like, okay, so I know I wrote down what you see, the symptoms were last time, but what symptoms are you experiencing now?

And they're like, my c diff symptoms like no, actually rewind and answer the question and I mean this lovingly because my point is they told me the same the story of what their C diff symptoms were exactly like, what they had experienced in the past.

We decided to do a C difficile treatment because they had responded to it in the past and they were suffering. I said, I will prescribe this medication to help with this, but RDL is four weeks after you finish it, assuming that we, you know, whatever, however long we have to treat it for.

But it should only be like a ten day course that you're doing a stool test. So I can find out why you're getting back. And again, we can argue stool tests all day long, and I chose to do a different one than they previously did.

But yeah, my point being is I don't going back to what I said, like you brought up when we were chatting and when you were interviewing me, it's like, I don't care what's wrong with you.

I don't care about the label. I just need to know what it is. And if you're getting symptoms that you're calling C deaf symptoms and someone's able to isolate an overgrowth of C diff without colitis, I want to know why.

Because you're suffering from it and I want to help you get better. And I remember and you reminded me of a patient I saw from Florida. I had seen family members from from the Northwest, mid-Atlantic or wherever that is up above me, near Chicago.

We know where that is. But the point was they had referred some folks from Florida. I saw mom and the kiddo and they had Lyme disease. They had really classic symptoms.

Labs lined up, response to treatment that every so then, you know, this lady's husband it was like having brain fog, joint pain and fatigue all of a sudden.

And he hadn't left Florida in a while. And so he goes to his doctor. And I'm assuming I know how the conversation went, which was my wife said I had Lyme, so I need you to test me for Lyme and the guy's like, There's no Lyme in Florida.

They did it. Eliza and kicked him out. This guy came to my office from up in Connecticut, from Florida, had a thyroid stimulating hormone, a test of 97. Oh.

That's a little off. So he severely hypothyroid. And it just so happens that Lyme disease is not treated with thyroid, but brain fog, fatigue and joint pain can also come from low thyroid getting the right test.

We he didn't have there are actually people who don't have it to your previous point. Yeah.

Reading viral titers and polyclonal activation

Well again, I think this is a common scenario, particularly within family members that if one family member has Lyme, other family members start to experience symptoms particularly.

I see this a lot with moms and their kids are so afraid that they, you know, had congenital Lyme and they pass it on to their children and again, in my experience, it's actually been a very rare circumstance I've seen of congenital Lyme.

But if you live in the same area, you know, it's possible that a child could develop it just because, you know, it's out there in the world. So, you know, it's it's it's tricky to navigate, but I just want to encourage everyone who's listening again to be again, just thoughtful about, you know, keeping track of your symptoms.

Again, that's going to help you and your provider give you the best path to treatment. Because, again, we sometimes get so caught up in the lingo that or the label that we're not really address ing how these things are changing.

And again, because that's our best way of managing your care, we rely on what you tell us, on how things are changing. You know, I think one of the hardest things that we've both experienced, particularly if it's been a long time between visits and it's like, well, what's changed?

And they kind of go, I don't know, everything's the same. And, you know, if you're starting from here here and you get to here, but you want to be here, it's very easy to minimize that difference between here, to hear that little bit of improvement.

And, you know, as we start going through and like, well, do you still have headaches? Oh, well, you know, they're not as frequent then they're less intense.

Okay. So the headaches are actually better. Do you still have insomnia? Well, no, actually, I've been sleeping a little better. Okay. So your initial kneejerk reaction is I'm no better.

And we come to find out as we dig a little deeper that you're not 100% better. And of course, that's our goal. But, you know, when we see those little things changing, you know, for some people, Lyme treatments like watching

fricking grass grow, it's painfully slow.

And but that slow, steady progress, I mean, as slow as grass grows, it does grow. It does change. It does move in the right direction. So I'm always very hesitant about changing people's protocol when I see improvement because I know about you, but I've had the experience where the progress is slow.

People get impatient and know we need to change protocols and against my better judgment, we change it and then we lose all the gains. We get more die off.

You know, something bad happens. And I keep thinking in my head, I'm like, Why did we do that? Why do we change? And I know why we did it. Because you wanted a faster improvement.

I felt bad that you weren't improving fast enough and compromised. So, I mean, I've been doing this long enough now. I don't really do that anymore, but this happens a lot.

So, you know, there's there's a process and once your body heals again, it's built into your DNA to heal. We just need to get things out of the way to allow that process to happen.

And everyone heals in a different path. I mean, I had literally I mean, in the thousands and thousands of patients I've treated in 24 years of doing this, I have had literally one patient, one who came in with very severe neurological Lyme symptoms.

And in my mind I'm thinking my and she's she's in for a long road. I mean, she had bad neuropathy, bad joint pain, migraine headaches, terrible brain fog.

I mean, all of it. And she comes back a month later. I changed her diet. I put her on Chinese herbs, and literally every single symptom went away, 100% gone. Not an inkling.

And I monitor her for many years after the fact, never came back. So, you know, we get those cases that people can respond very rapidly. I would say that's definitely the exception more than the rule.

But just understand that your body has a wisdom. There is a process. You know, our job as your practitioner is to make sure that we're keeping you on that right path.

But, you know, be aware that if you start taking matters into your own hands too often without talking to your doctor, more often than not, that ends up making a mess.

And I just had this conversation with a relatively new patient. I saw who's got patterns. She probably has Lyme disease. And the parents want, you know, three or four different doctors all involved in the case.

And I'm like, that's great. Except you're going to get very different opinions. We all philosophically on different pages of the best way we think to approach it.

And again as parents, because with Lyme it's really confusing. And as you as the patient, it gets to be very confusing. So I think at the end of the day you need a captain of your ship, you need someone who's really minding the store and can give you that guidance and you got to trust the person you're working with.

If you don't have the faith and the trust in that person, please find someone you do. Because honest I can. I can promise you, if you don't trust the person you're working with, there's you're always going to be second guessing what they're recommending.

You're going to go on the Internet. You're going to read something that contradicts what that person told you. And again, it just creates more anxiety, more fear, more hesitation, and then it just leads to paralysis.

And then you end up doing nothing. So it's in your better interest to, again, find someone that you feel jives with

your philosophy on health and healing.

Here's who understands you is willing to work with you. I mean, again, you know, we might be the captain of your ship, but it's still your ship. And, you know, at the end of the day, you make the decision that you think's in the better interest of your body, your health.

We're here to give you our best advice based on our experience. But, you know, you've got to have somebody who really is minding the store for you and can give you that good advice.

Yeah, I got nothing to add. I mean, so. Well, this is like if you want to know, it was funny, like watching a YouTube video the other day by a reptile breeder and like all these people are talking about, you know, they made these videos of what they don't like about reptile breeders.

And he's like, this is what you want to do if you want to piss off your breeder. And I think one of the things that I see in my practice is exactly what you said.

It's it's so frustrating to dedicate your life to helping people with this, to teach them before and they come in. And when they're first coming in, what your philosophy is, they can know they resonate with you.

And then they have them just looking and looking. And I think if for a different answer and it's not like you can't have different people on your team and it's not like you can't have a consultant.

But one of the things that's so important of what a consultant means is they're supposed to consult and give an opinion. And the captain of the ship, the primary provider, is supposed to be the final filter.

And one of the reasons there and I think that what you said is so important is, yes, all the patients are captains of their own ship. Ultimately, it's their life, their health, their insurance, their everything.

They have to make the final decision. But one of the and I am, as you know, from watching the summit and all my interviews and when Darin and I talked and he interviewed me, I'm so into you taking back control over your own health.

But the part that we have to talk about, I think, is your doctor, your provider, whoever you choose to work with, generally speaking, will have a more objective view of what's going on in your life than you will.

And this is a part where it's hard to be why they tell doctors not to treat their own family tomorrow. My daughter has a she has an appointment with a pediatrician.

Both my wife and I are board certified family practitioner and I serve as pediatricians. For many people. I don't need another pediatrician. But what I do need is a pediatrician who's not me.

So that day I can take the time to be a parent. So as as a patient who's a consumer of all this amazing information, I as you're talking to there and I want you to see like the summit, you will hear differing and diverging potential possibilities.

And this goes back to kind of like when I when I talked with Paul Anderson and great interview, we were talking about the difference between a protocol and a plan.

And Darin and I and everybody that we've brought on to the summit have many, many, many, many different protocols, many different possibilities that we would like to put into a plan, which is we sit down, we talk to you, we get your subject, all of you know, your story, the changes that have happened in between appointment.

We get all the relevant lab data and then we make a decision on what next step to take. And when we do that, the way we decide what the next step in the plan is is to see how your body responds.

So all this like comparing yourself to everybody else, stop it. Literally, go on YouTube, look up Bob Newhart and stop it. Watch that video and stop comparing yourself to other people.

It is the number one way to fail at life and fail at healing. So there and I just wanted to piggyback on what you said. So key one of the. Things I was just too quick at, you know, wherever you are today, whatever you've done as far as you've gotten, that's the result of what you've done.

Tracking symptoms instead of labels

And if there's still room for healing and improvement, I mean, there are literally, many, many ways that you can approach that. So, again, you know, I think it's that mindfulness of, you know, having that understanding about whether you're on the right track and, you know, be clear about that on the back end of that.

I just want to add that if you've been on a particular plan for a certain period time and there has been no improvement, I mean, in anything you also need to have that conversation with your practitioner about, okay, maybe now it's time that we need a different plan because this isn't working.

I also get frustrated where I see people who've been on the same plan for six months, 12 months, and there's been zero improvement in any of their symptoms.

I'm thinking, what are you waiting for? To to see the needle move it? I mean, that's been well enough time that if that was the right approach, you should see something change.

So there's that balance between be patient enough to see some improvement, but don't wait so long. So for me, just to put it out there, two months is my benchmark.

Whatever plan, I start with people, I give it two months. If we don't see really anything, move at all in two months, then we'll change plans completely.

If we see some improvement on some things and maybe on others, then maybe it just needs a little bit of a tweak. You just make an adjustment. But again, this is where you got to have that conversation.

You know, make sure you have your follow up appointments and whatever that time frame is so that you're in contact and you're not letting it slip through the cracks.

Yeah. And one of the things that's interesting, too, is you mentioned die off and and it was funny, like I was looking for a crack and I have a particular patient now for oddly positive Lyme Bartonella.

Barbie's like literally like easy, easy peasy. Like the easiest diagnosis ever made. Do all the treatment, nothing happens. You know, it's probably like we've tried different things over 4 to 6 months and somewhere in that mix I go, well with your history, private mold exposure.

So we have more exposure in there. Like, Oh, that's what's blocking the Lyme, the budget. So then we start working on it. Darin and like nothing changes.

So then I'm like, well, there's a problem. Then they're like, Well, I had this reactivated Epstein-Barr pattern and I'm like, Well, based on what you were just talking about, probably not, but nothing had changed.

And I was like, You know, let's give it a shot. Let's work on that. Herbs didn't do anything, medicine didn't do anything. And I'm finally like, Dude, we got to relook at some of this.

We're missing something. And when I first met him, his testosterone was like this. But after we kind of tried to treat all these, it was really low. So then I get him on testosterone.

He feels horrible. And I call all these, like, male hormone optimization people. I know because I thought I knew the

answer, but they're all like, they should just feel better.

And the only thing that any of us could come up with was that now this person's system had the strength to actually go after what it needed to go after.

So a lot of times the people are telling us something's acting up like we've been we've been killing this horse. Unfortunately, like beating it over and over.

But it's like we need to know your symptoms so that we can figure it out, you know, because low testosterone, low thyroid and Lyme all look pretty similar to.

So my question kind of comes back to this, though, is because this person essentially looks like they're having a severe die off when I optimize when I started to optimize their testosterone.

But every but it seems to me, Darin, that like so many of our patients are saying that anything that's the any negative experience they have is a Hertz or a die off.

What are you seeing? Like what is how do you define die off, maybe touch on Hertz Heimer Because the so that people understand this but is going on in the immune system that that is this and is everything that's kind of negative or a die off a bad thing?

Yeah, that's a great question. I mean, this is a. I pulled it out of my rear end just now, so. Well, no, I mean, this is a thing. I again, I see a lot in my practice where I think people aren't fully understanding what a true Turkheimer reaction is.

So I mean immunologically it's kind of a combination of the organism literally dying off. I mean if inside the organism of the balloon pops it releases all his inner constituents which can, you know, provoke the immune system and it's the immune reaction to the organism itself.

You know, we know that Lyme is an incredibly slow growing organism. And the most bit or I should say the best time to kill a bug is it's the bacteria is when it's in a replication phase.

So that's often why people like every two or three weeks might have a worsening of symptoms that may just correlate with the replication cycle of the organism.

So the die off reaction itself against kind of this combination of the balloon popping with the immune activation against it, a true die off though is tends to be more of like flu like symptoms.

It can be fatigue and headache and just kind of that blah yucky feeling. Sometimes it's just an exacerbation of their current symptoms. However, a true die off reaction should be transient.

It can be anywhere from a few days up to maybe a week and a half, probably no more than two weeks, because, again, if it's correlating with the life cycle of an organism, at some point that lifecycle is going to change.

It doesn't go on and on and on. And I've seen people that tell me they've been hurting for three months. I'm like, No, dude, that's not a Hertz reaction.

That's you having a problem with something that you're taking. That's you having some other adverse reaction to, whether it's the antibiotic, the IRB, another supplement you're taking, but there's something in your program that your body's not agreeing with.

So if it really is a true die off again, that should be relatively transient. If you've been hurting for more than two weeks, probably the likelihood of it being a Hertz reaction is pretty low and you're probably having some sort of adverse event from something that you're taking in your regimen.

Ali A preacher like. Sure. It's like I'm happy we're able to dispel some of these myths. And and to be clear, Darin, I don't hear you saying something's not happening.

What you're just saying is the label of what's happening is incorrect, which then delays us in figuring out what's really wrong. Again, going back to tell us what's happening, not the label that you put on it, because.

Yeah. Well, you know, I think so many people with Lyme at some point and I see this often for a lot of people after they had Lyme, you know, before they had Lyme, they tolerated everything food, mold, pollen, nothing bothered them after Lyme, now they're hypersensitive to their world.

So we know there's a shift in the immune system. It can really upset your to want to balance your to your t helper cells and th1 cells kind of, you know, are the defenders of your immune system.

They go after anything that's foreign and kind of gobble it up where it too is more antibody driven. That's what drives allergy. That's what drives a lot of autoimmune processes.

So, you know, we're always trying to keep that seesaw relatively balanced. But, you know, in that when we disrupt the immune system, you know, we create this sort of storm of hypersensitivity where now, again, your world becomes foreign.

And in that, you know, that can happen with anything that's been prescribed to you. Again, whether it's an antibiotic, herb, vitamin mineral, anything like that can be problematic.

And, you know, I try to generally start people at relatively low doses of things and kind of make sure they tolerate it first before we increase the dose.

But it doesn't always work out, but as much as we can. And it's amazing how many people, when they start to take things like an amino acid or something that's unrelated to killing Lyme, they start to have this reaction that sounds like a hertz.

Oh, my stomach aches. I feel more tired, my brain's foggy. That may have absolutely nothing to do with a true die off. Unless you're giving something to kill the bug, it's probably not a Hertz reaction because that's that's part of killing the bug.

So if you're having these symptoms, after you start taking something else, it could just very well be that your liver doesn't process it.

Die-off, Herxheimer reactions, and treatment tolerance

Well, you're having a mass cell activation from that substance. So it's the the tightrope that we have to walk with you to make sure that we're giving you things that work well for you, but nothing that's provoking any kind of mass cell problem, allergy issue, hypersensitivity issue.

And if it is, you know, we need to either stop it or we need to scale the dose back. Yeah, it's just so well said and, and so important to understand that all these things are happening.

You know, it's like you mentioned medical gaslighting and it's you're not the first person who said that to me, you know, and it's like we've all been there.

We are right now, not we are not part of that group that's trying to say that. But what we're trying to do is clear the air so that you can actually get better.

And one of the things that you keep talking about, Darin is is immune dysfunction and how maybe Lyme kind of tweaked out your immune system is very, very well known.

Do that. What are some of the things that you're using in practice that might be ways to because like in my brain, I think since I see a lot of kids, I think about and pandas.

Right. Charles Ray Jones said infection triggered autoimmune encephalitis and I just go and step out a little bit and infection is a type of toxicant, let's call it a toxin or both.

You'll call toxicants toxins incorrectly, but whatever toxin induced autoimmune encephalitis or inflammation. And I need to think about those other pieces, including that big part called immune, you know, immune system modulation and autoimmune kind of rebooting or whatever you wanna call it.

What, what do you. Because the thing is, people are suffering, right? As we said, we're not saying you're not having these symptoms. What we're talking about is you have them, let's find out if they're from lyme or mold or bartonella of the BCA.

And if they're not, doesn't mean you don't have them. It just means that we need a different label. And if we, the doctor comes up with a different label, then we can do that.

So what are you doing in your practice to kind of reboot the immune system, get it back on track so that maybe I came to see you with Lyme? I now I'm sensitive to my whole world and I am even convinced.

You're convinced the labs convinced. Everybody's convinced. I don't have Lyme anymore. And what do you do? We do a lot of immunotherapy in our practice, and there's different types of immunotherapy.

You know, one of the things that's come out in the last, you know, less than ten years is called LDI or low dose immunotherapy. Doctor Ty Vincent, who's a medical doctor out of Wiley, really kind of developed this and it comes out of another allergy treatment called LDA or low dose allergy therapy.

And the idea is that if your immune system is treating this bug as an allergen instead of a pathogen, it's engaging a completely different part of the immune system.

And I think that's what triggers a lot of symptoms related to these infections, including the autoimmune process. So basically you take dead bug, you can take Borrelia, you can irradiated, you kill it so it can't reproduce that can't cause infection, but it maintains all those little bits inside its little bacterial body that we can use to retrain the immune system.

And then we blew that out literally millions, billions of times to the point where it's really homeopathic and we mix it with an enzyme called beta glucan a disease.

And this is an enzyme that's naturally found in your body. It's in white blood cells. But we found that it seems to modulate whatever you mix it with.

So we've got different dilutions of Lyme and and Epstein-Barr and Candida. And so we can select the antigen that we think is provoking the symptoms. And sometimes that's based on bloodwork or a stool tester, a urine test to give us clues about what your exposure is.

And then if we find the right antigen, the right dilution, I mean, for some people, it's been a game changer. And if you think about it, it's like, well, okay, if there's a million barley in your body that's going to provoke a big immune reaction.

If we can use herbs or antibiotics to bring that down to a thousand, well, now there's less stuff to aggravate the immune system. And then we can use something like LDI to modulate the way the immune systems are reacting to whatever is kind of residual.

And, you know, for something like patterns, this is important because it's not uncommon that patterns is triggered by something that's part of you. It's part of your normal flora.

You know, if you react to strap for most people stress part of their normal flora. So this idea that you're just going to eradicate your way out of it, that's just not going to happen.

And we see this often with patterns where kids go on antibiotics, they get improvement because now you brought that organism low down. But as soon as you come off the antibiotics and the load goes up again, they're right back to having symptoms again.

So we need different strategies that just aren't targeted. On killing the bug and LDI. I mean, again, for some people it's really been a game changer.

The downsides of this therapy that people need to be aware of if you haven't tried it, is if we have the right antigen and the wrong dose. So if we give you a dose that's too strong, you can actually make your symptoms worse.

And here's the good news of that, is that it's also proving that that's what causes your symptoms. So if I give you a Lyme 14 C dose and you're headaches get worse.

I've now just proven that Lyme so it's making your headaches worse it's the headaches specifically are Lyme where you know what my joint pain didn't change at all.

Oh, maybe your joint pain isn't Lyme, maybe it's something else. So there is a little bit of a diagnostic aspect of this therapy. You know, Doctor Vincent's been doing this for a decade.

We were there at the beginning with them. So we're about the same timeframe. And I know he's trained hundreds of doctors around the country, around the world on doing this therapy.

So it's out there. But the nice thing about it is and again, it's it's safe. There are people who do get aggravations in our practice. You know, often we will start people at dilutions that we think maybe aren't going to do very much.

And then if there's really no change, then we'll inch our way up because each one C is a 1 to 100 dilution. So mathematically it's a 1% difference. So we keep inching up by 1%. Do you think about like a drug?

Immune modulation with LDI, LDA, and LDN

If you started with one milligram, then you went to five, then you went to ten, then you went to 25 and maybe your doses 100 milligrams. It might take some time to get there.

But in doing that, the likelihood of getting any kind of adverse reaction is just goes way down. And I know in Dr. Vincent's practice, he he kind of goes the other way.

I think he's willing to give people a higher dose to provoke somebody to prove it's part of the problem and then figure out the right dose. But I've had enough experience of people getting really bad reactions and it sucks for people.

So I've learned that it's usually better to to start small and kind of work your way up, but LDA again can be really helpful. And then again, if you become hypersensitive to pollen or mold or food or chemicals, you know, we can do lda or low dose allergy therapy.

I do a lot of what's called sublingual immunotherapy. These are drops you put on your tongue that are very much akin to doing allergy shots. We just don't inject it so we can do allergy testing, find out what actually provokes you.

And then based on that information, make up drops that you put under your tongue. So we've got all these different types of immunotherapy that can be powerful tools to really transform your immune system, build your immune tolerance again so these things don't keep upsetting the balance in your immune system.

Stuff is awesome. Like to me, I think one of the the big pieces of this is that the dysregulated immune system that

kind of gets in that survival mode, that it's trying to protect itself and it's reacting to against things that are not even like autoimmune is like kind of going in yourself as not self, you know.

So having the opportunity to use something that's so safe and so effective and I really like it's interesting, when I started my practice, I would do a lot of proving with herbs.

I was taught you do it, you do like a, you know, you do the trial to confirm your diagnosis and then you do the treatment. And I did that for a couple of years and I was beating the crap out of people.

It's like, you know, you start at the highest dose of the IRB and I'm like, no, no, no. I'm, I, I'm pretty sure I know what's going on right now. My spidey sense as well.

Ten Taken a good history, done a great exam, done some lab. Why don't we just start the treatment and work up to it? Because I don't I definitely don't see the people.

I see people kind of like you, too, who probably aren't going to want to tolerate a big nuclear fallout just to prove that they have what we all know they already have.

So I think that that's a great way to do it. Yeah. And I should also add that low dose no track zone again for some of my patients has really been a game changer.

You know, even though it's a medication, I mean, I'm a natural path. I'm supposed to tell you that medication's bad, but I use a lot of low dose, no track zone and have found it again being a very potent immune modulator for a lot of people.

And also, if you really helpful for pain, you know, for a lot of Lyme patients, whether it's joint pain, muscle pain, headaches, you know, this medication binds to opioid receptors in the brain.

And then when it binds, it stimulates the own release of your own natural opioids is your natural painkillers. So they've done research on, you know, inflammatory bowel disease and rheumatoid arthritis and other autoimmune diseases and autism.

Unfortunately, they haven't done any studies in Lyme specifically. I actually wrote the chapter for the LDN Trust book on using LDN for Lyme disease. Again, I've treated, you know, hundreds, if not thousands of patients with LDN.

The nice thing about it is that it's incredibly safe. The side effect profile is very, very benign. Some people, when they take it, take it, usually we recommend you take it at bedtime.

They might get weird, wonky, vivid dreams. And sometimes that goes away after they've been on for a while. And for people who really doesn't go away, we haven't take it in the morning.

So I've had very, very few people that just for whatever reason, didn't tolerate it. And then a nice thing is that it's very inexpensive, like our pharmacy here in California, a three month supply is about $45.

So for something that's reasonably expensive has a good probability of helping. You know, my experience with LDN has been about 50, 50, 50% of the people get clear benefit, 50% of people does nothing.

But for the cost and the safety. I think it's worth trying for a lot of folks and this is something else to consider as part of your your regimen. Yeah, I'm with you all the way.

Like I was actually going to chime in that my pharmacy is $54 for nine for three months. But you got me. Well, no, but what's really interesting, Daryn, is like I've seen people who are on a high bag with pans diagnosed as get better, but when they try to stop the IVIG, they relapse immediately.

That I've put on LDN and been able to get them off of my bag. So you're talking 45 or $55 for three months versus $15,000 a month. And getting a human blood product where I've seen people where they can't get IVIG or they can't get their immune system balance, that works really well.

I think the way you describe it as a way to describe it to my patients, I just think it's very interesting because I mean, we talk about LDN a lot, but it's like literally I was like, that's exactly how I describe it.

So the profile is really safe. It works really well. I also have seen people like scleroderma and other manifestations. Some people look like they have a sword cut on their face and it's all indented.

And I treat them with the antibiotics that are going after the infections that we find. And I add in the at the end, they're off antibiotics, they're on the LDN, their pain is completely gone.

And this big divot in their foreheads, it's 50% better. And I've seen people with like really it's like it's crazy and like I've seen scared like people with more instead of the localized scleroderma, like their whole chest is all like, like looks like a dried out leather.

Like, you know, I don't know what I'm trying to think of, like chainmail garment shield thing and you get them on the proper treatment for their infections.

It doesn't change much, but you get them on the proper treatment for their infection. You modulate the immune system really that you're talking about using then.

And all of a sudden they, you know, seven months go by. They have almost normal skin, a year and a half go by. You wouldn't even know. So I think that there's so much to be said for the different immune modulating pieces.

So I'm really glad that kind of like you're able to bring that together. And also just so excited about hearing that your experience in mind with the safety profile of all this is very similar.

And, you know, so I agree a lot with taking those as we kind of land ourselves here because I have no idea how long we've been talking, but I just like just you guys know, like Darin and I, when we do this, sometimes we've been known to have a schedule in our live event and we'll do it for two and a half hours just because we get going.

So but we're going to try to, you know, minimize that as we're going to land it for today, at least, Darin, because I know we've got a lot of extra bonus things we're doing as part of the summit and after the summit so people can get a lot more of this.

If as we wrap this together, I mean, are there any pieces of immunity, autoimmunity, the immunotherapy that you do that we've kind of not touched on? Or is there something you want to kind of land us with?

No, I just want to let folks know that, you know, this is not something that a lot of clinics do, unfortunately. You know, there are a lot of doctors out there, a lot of environmental medicine doctors that work with immunotherapy.

But again, it can be such a an incredibly powerful tool. And again, because Lyme looks like so many different things, if Lyme has cons cause some element of immune dysfunction, it's difficult to know what's Lyme and what might be due to something else.

I mean, I've had people with terrible joint pain that they chalk it up to Lyme. We're going to find out that they're sensitive to Nightshade Foods. They get Nightshades out of their diet now their joint pain goes away.

Had nothing to do with Lyme. So, you know, we you're a practitioner of your constant detective work, always digging deep, always looking at the clues, looking at how you respond to treatment, because this, you know, tells us the broader story of what's going on with your body and how we need to change things.

But if this isn't something you've really investigated, Dr. Vincent has a lot of great YouTube videos on LDI. I've got

blogs on my own website about LDI and immunotherapy, so definitely check it out. Cool.

Well, Dr. Darin Ingels, every time we get a chance to hang out, it's a pleasure and honor. And just so it's a I'm so grateful that you're taking the time out of your busy schedule to help bring in a different perspective to the summit, bring in some of the people that you know and interview people from a different perspective than I would so that we can give the best to everybody.

And, you know, if you guys aren't aware, you haven't seen some of Darin stuff, definitely check out his book. The One Solution I think it's your website is what?

dariningelsnd.com. It's not mistaken.

Closing thoughts on individualized care and healing

Yeah, I've been stalking you so but you know, like I said at the top of our conversation though, the reason I love working with Darin is we have similar but very vastly different experiences and we really like to blend that science with the art of medicine and then dispel some of the myths and all the stuff we talked about.

You know, there's a scientific base and as we move forward and you're going through learning the different things, find that practitioner like Dr. Darin saying that really resonates with you so that they can help you be the captain of the ship, be that objective person that really helps you be able to implement these things.

There are so many options and just because Darin just said LDA, LDI in LDN, it doesn't mean you need all of those, right? You may or you may not, but work with someone like Dr.

Ingles who is an expert in figuring out which ones you may or may not need. There are a lot of people who need a lot, but a lot of times what it's interesting, Darin and I think about like how many people have done so many things.

And then one thing works and they say, oh, everybody in this support group, you need to do what I just did. If you're not doing it, you're doing it wrong.

If your doctors not recommending it, they're doing it wrong when really what it was was they got lucky after doing a bunch of things or they're working with someone who is very strategic and, gets them to that point.

But they also did 75 other things to get there. So just to kind of really highlight working with someone who's got that really expert level who and can be objective for you I think is really important.

So I appreciate how you brought that together. Love the conversation about polyclonal activation because it is such big deal. So Darin, thank you so much for this opportunity and for being part of this.

And everybody, make sure you keep tuning in and, you know, check our show notes, make sure we're going to do we're doing our things every day for you to kind of like help go through and guide you through the summit, but also some of our the things that we're doing together at Post Summit to help with some ongoing learning and healing.

We're really excited to share with you. So and Dr. Darin Ingels, thanks for joining me. Love partnering with you on this one. And it's so great to be able to share this amazing information with the world and doing it with you.

Great. Thank you, Tom. Thanks, everybody. Dr. Darin Ingels, naturopath and immunologist extraordinaire. With me, Dr. Tom Moorcroft. And we're signing off for this episode of The Healing with Lyme Disease Summit, but we're both looking forward to seeing you in our next episode.

And until next time, lots of love heal up soon soon.