The 16-Point MSIDS Model: A New Hope for Chronic Lyme and Complex Illness Transcript

(Transcripts are generated by AI and may contain errors)

Migratory Pain as a Lyme Clue

If you have any of those symptoms that migrate, migratory joint pain, one day your joint pain's in your shoulder, then it's in your knee. Another day you have muscle pain, right, in your thighs and now it's in your forearms.

The pain is moving around your body and especially the migratory nerve pain. There is no other disease in medicine that causes migratory nerve pain. You can get nerve pain from carpal tunnel syndrome, and diabetes, and hypothyroidism, and heavy metal toxins like mercury, lead, and arsenic, and mole toxicity, B12 deficiency, folic acid.

There's many reasons why people can get nerve pain, right? But with Lyme, the migratory aspect tells you it's very likely that someone has active Lyme disease.

Hi, and welcome to the Lime Bites podcast, where we shine a light on the misunderstood science of Lyme and other vector borne diseases, as well as the truths that many still miss.

I'm Dr. Mariah Hinchy, naturopathic physician and fellow of the Medical Academy of Pediatric Special Needs. I specialize in treating chronic Lyme disease as well as other complex inflammatory conditions.

In this podcast, we break down what's working and what's not. We share the facts that most people miss, we challenge outdated thinking, and we give both patients and practitioners the tools to heal smarter.

So let's get into it and change the way we heal Lyme. Hi, and welcome to another episode of the Healing Lyme Summit. I'm your host, Dr. Mariah Hinchy.

And here with me for tonight's discussion is Dr.

Podcast Introduction and Guest Background

Richard Hurwitz. He is the medical director of the Hudson Valley Healing Arts Center, as well as founding member of the International Lyme and Associated Diseases Society.

He has published numerous articles on the treatment of Lyme and tick-borne disease, He has treated over 13,000 patients for Lyme and tick-borne illness over the past 30 years.

Welcome, Dr. Horowitz. Tell our listeners a little bit about how you got started treating or specializing in Lyme disease. Thank you, Mariah. It's great to be here.

And I'm really happy to have you as my co-host, by the way. It's been a great experience. So I basically got into Lyme disease simply because my patients needed me to.

When I graduated from medical school and moved to the upstate New York area of Hyde Park, New York, I didn't realize I was walking into the largest Lyme endemic area in the United States.

And people were coming in with bullseye rashes, You know, you learned that 28 days of antibiotics time, it might've even been 14 days of antibiotics was the treatment.

Many would get better, but some wouldn't. And you know, the ones who came back and were well, it made me think back to a teaching that I got in my last year of medical school when I was in Belgium.

And for those of you who don't know a little bit about my background, I have studied with Tibetan Buddhist teachers for the last 40 plus years. And I started training with them back in 1981 when I was in Brussels doing my medical school training when I was doing it in French.

And when I was finishing up medical school, I went to one of my teachers, Lama Gendin Rinpoche, and I said to him, Lama, what is the most important thing you want me to know going out into the world as a doctor?

And he said to me, Richard, the most important thing is compassion. He said, put yourself in people's shoes and do for them what you would want done for yourself.

He says, if you do this, everything will go well. Now, for anyone who has studied any of these type of teachings, you'll know that it is a pretty common teachings probably in most religions.

Really not that special, but it's interesting that when the Lyme patients came back in and they weren't well, it hopped into my consciousness and I went, gee, Well, if I was in their position, I would want a doctor looking for answers, because at the time, I sent them to the infectious disease doctor, who did not have an answer, and I sent them to the neurologist and the rheumatologist.

Nobody had answers back in the early 1990s. So I started going to Lyme conferences and reading the medical literature and, you know, started speaking to people like Joe Boroscano and Sam Danta and Ken Liegner, who were, you know, the giants whose shoulders I've stood upon.

Um, and basically they started teaching me and I started expanding my practice, but it was really just the need of being in the middle of an epidemic, people being sick and saying, Hey, I'm a doc.

This is my job. No one else is figuring it out. I would want a doctor to figure it out. And 35 years later, um, 13,000 people later, it's been a quite an interesting journey, something I would not have expected.

And you're figuring it out. We are figuring it out. In fact, this year I think was the hallmark with the article we published in Microorganisms, the journal Microorganisms in September, 2023 on Dapsone combination therapy, comparing longer pulses to shorter.

I think for me, that article is probably the. For me, maybe the best article we have ever published online because it actually offers for some people the closest to a cure or at least a long-term remission if we're not getting rid of all the bacteria.

We are getting rid of enough that many people using the protocol published in that article are going into long-term remission. So it's a very exciting time.

It's taken me a long time to figure it out. I thank my patients gratefully because they allowed me to play with these protocols and figure it out, explaining the science to them.

Yeah, we're in a very good position at this point this year to do a randomized control trial on Dapsone and show to the world that we do have an answer.

That's wonderful. And to our listeners, make sure that you listen to the discussion that we had earlier on Dapsone and the effectiveness of Dapsone treatment for persistors.

So as far as this talk goes, though, let's talk, you know, I was always taught Lyme and tick-borne disease is a clinical diagnosis. So, let's get into that aspect of it.

And you've developed a questionnaire that has the ability to detect tick-borne illness in patients about as well as any other test out there.

How the HMQ Questionnaire Was Developed

So, I'd like you to speak a little bit about the clinical diagnosis of Borrelia, Bartonella, and Babesia, and then let's get into talking about the questionnaire and how to use it.

Okay, great. So first of all, the important point you said that with clinical diagnosis is people out there listening need to know that, number one, these are clinical diagnoses.

So Lyme is a clinical diagnosis. If you have an EM rash, an erythema migrans rash, you do not need a positive blood test. So the point being that there are certain clinical symptoms that tell a health care provider that you have Lyme.

And what we did with this questionnaire that you're referring to, and by the way, the name of the questionnaire, the shortened version, I call it the HMQ, or Horowitz-Emsid's Questionnaire.

And this questionnaire was developed based on some of the questions which were initially developed by Dr. Joe Boroscano, who had been doing this in Long Island, and of course has paved the way for many of us along the way.

But what I did with his questionnaire is I decided to spore it. So for example, questions 1 and 22 on the questionnaire are for Babesia, day sweats, night sweats, chills, flushing, air hunger, difficulty catching your breath, unexplained cough.

If I have a patient fill out that questionnaire, this 38-item questionnaire, which has four sections, which I'll discuss with you, and I see questions 1 and 22 positive, and let's say I see moderate or severe for sweats, day sweats and night sweats, it says to me automatically, oh, this patient may have a case of babesiosis, which is a malaria-like organism.

Now, always in internal medicine, you always do a differential diagnosis. So I kind of have a way that I've thought about these diseases over the years where, for example, if someone has these sweats, I say to myself, all right, what are the top eight or 10 causes of drenching sweats?

And I've memorized them. And by the way, for those of you who haven't memorized them or don't ever want to memorize them, if you go to my last book, How Can I Get Better, pages 50 to 66, I think it is, it describes for every symptom with Lyme on these 38 items, all the differential diagnoses.

So the biggest one, of course, is fatigue, right? Because there's probably 100 different things that cause fatigue. But for sweats, you have to think of malaria.

Did they go to India? Well, now actually we have malaria in the United States and in Texas, right? And in certain other parts of the U. S., they're now showing up with malaria.

But maybe they've got hyperthyroidism. Do they have a cough where they might have hemoptysis, blood in the phlegm? That might be indicative of tuberculosis.

Or do they have really large lymph nodes and they're losing weight with drenching sweats? That might be non-Hodgkin's lymphoma. Is a woman over 50, she might have menopause, right?

Maybe I have an autoimmune disorder. So the point being, you always have to do a differential diagnosis for every symptom. But the beauty of the questionnaire is by identifying every one of these symptoms, it gives you kind of a sense of what might be going on.

And on this questionnaire of these 38 items, there's specific questions that are very important. Now, Lyme being a multi-systemic illness, it means that most people with Lyme, when they fill this out, out of the 38 items, 30 out of 38 for the most part in most patients will be filled out when they come to my office.

So it's a multi-systemic illness. The way you also can identify it is symptoms come and go with good and bad days.

People will tell you, some days they feel better, some days they feel worse.

They don't know why. But the hallmark, and this is on the questionnaire in section two of the Lyme incidence score, is is your pain that you have in your body, joint pain, muscle pain, or nerve pain, and nerve pain can be described as tingling, numbness, stabbing, burning sensations.

If you have any of those symptoms that migrate, migratory joint pain, one day your joint pain's in your shoulder, then it's in your knee. Another day you have muscle pain, right, in your thighs, and now it's in your forearms.

The pain is moving around your body, and especially the migratory nerve pain. There is no other disease in medicine that causes migratory nerve pain. You can get nerve pain from carpal tunnel syndrome and diabetes and hypothyroidism and heavy metal toxins like mercury, lead and arsenic and mole toxicity, B12 deficiency, folic acid.

There's many reasons why people can get nerve pain, right? But with Lyme, the migratory aspect tells you it's very likely that someone has active Lyme disease.

So in this questionnaire, there's 38 questions. The migratory aspect, very important when you're filling it out. And then I look at the constellation of symptoms.

So for example, most of the Lyme patients have fatigue, they have pain, muscle joint, nerve pain. A lot of these patients have memory concentration problems with brain fog.

They have sleep disorders where they can't fall asleep or they keep waking up in the middle of the night, right? Very, very common in this population.

In my population, most do have babesia. They do have day sweats, night sweats, chills, air hunger. Many of them also will have chest pain, palpitations and shortness of breath, right?

We see this with POTS, Postural Orthostatic Tachycardia Syndrome, which you get with chronic Lyme and you also get with long COVID. So we look at all of this constellation of symptoms of depression, anxiety, sleep disorders, brain fog, memory problems, pain, fatigue.

Now, the problem, of course, is those symptoms overlap chronic fatigue syndrome and fibromyalgia or myalgic encephalomyelitis. So how do you differentiate those diseases from Lyme?

And again, it is the migratory aspect. With symptoms coming and going, with good and bad days, and with women also, they'll tell you around the menstrual cycle.

The symptoms get worse when the estrogen goes down, right? And the symptoms get better when they're finished with their cycle. They also will get better or worse with antibiotics, right?

They hurts, they get an inflammatory response when you kill off the bugs with doxycycline or amoxicillin, or they might feel better. So antibiotics make their symptoms better or worse.

So for example, if your chronic fatigue or fibromyalgia was due to a virus, like herpes virus 6, or if you had long COVID, where you might also have loss of sense of smell or taste or pulmonary problems from the COVID.

Those are not normally things we're seeing in chronic Lyme. They're not going to normally have those good and bad days with migratory pain. They may have pain.

That's part of the complex of long COVID, but it doesn't migrate. Right? And their brain fog can look like Lyme as can their fatigue. And that's why this questionnaire is so important, because we needed to validate a questionnaire to figure out, before we do a gazillion tests on patients, what is actually the likelihood they have it?

So in these four sections, the Lyme incidence scale, we have a CDC healthy day scale, how many days in a month

did you have good and bad days with your physical, mental, emotional health?

And finally, a Lyme score of like, where we put five points, for example, if you have the constellation of fatigue, brain fog, insomnia, pain, right? We would put these kind of symptoms together.

And the way the questionnaire was validated is we looked at 1,600 people from three medical practices. And this was done at the University of New Paltz with Dr.

Mariela Cetera and my good friend, Dr. Phyllis Freeman. And we validated it statistically. And what we found is that there was convergent, divergent validity and also predictive validity, which means that from a statistical standpoint, when you're looking at a questionnaire, it had all of the aspects statistically with the p-values, meaning it's effective in finding out, at least giving you a sense of what is the probability of LIME.

So the way you score the questionnaire, and you can find the questionnaire, by the way, on my website, www.cangetbetter.com. Just go under the questionnaire, symptoms questionnaire, you'll find it.

You just download the PDF. When you score it, if you have a score of 63 or higher, very high probability you have active Lyme disease. If it's between 45 and 62, it's very probable you have Lyme disease.

If it's between 25 and 41, 44, it's likely, it's probable, right?

Clinical Signs of Lyme, Babesia, and Bartonella

But if it's below 25, it's not likely you're generally gonna suffer from Lyme disease. So at least it gives the patient and it gives the physician a sense of like, okay, they scored high, I should do line testing because if someone's scoring low, it may not make any sense to do a battery of tests.

But again, when I look at this questionnaire and I look at the constellation, the minute I see severe fatigue, severe brain fog in a 30-year-old person with chest pain and palpitations and sweats and pain, and they tell me it's migratory, I already know what I'm dealing with.

I don't need to get a light test back. And what everyone out there needs to know is there's only seven diseases in medicine that cause migratory pain.

And I like making a joke for my doctor friends that unless you're at the lower end of your medical school class and graduated at the bottom, you'll generally be able to tell the difference between hepatitis, acute rheumatic fever, gonococcal arthritis, right, with a discharge, Reiter syndrome from Salmonella shigella eosinia, I mean, having ulcerative colitis or Crohn's disease or having lupus.

Those are the other six diseases that cause migratory pain. And believe me, they look nothing like chronic Lyme disease if you've ever seen these diseases.

So it's actually quite an interesting questionnaire focusing on the migratory aspect of the pain. Questions 1 and 22 for Babesia. And we use the questionnaire to follow patients.

So when after we do, for example, the Dapzone protocol, I go back and look at the questionnaire and go, oh, look. You had severe fatigue two months ago.

Now your fatigue is gone and your joint pain was severe. Now it's mild and you only have it a couple of days a month. So I can kind of track all the symptoms using the questionnaire and really it tells the doctor how to track the question, the symptoms in the patients, but also what is the likelihood and should I do a battery of tests looking for Lyme disease.

So that's essentially some of the clinical characteristics of Lyme. Babesia, just quickly, is a malaria-like organism. So malaria, day sweats, night sweats, chills, flushing, air hunger, can't catch my breath, unexplained cough.

Now, for those of you who went to medical school and you read the textbooks on babesia, you would expect me to say anemia, hemolysis, where the red blood cells are bursting apart.

Don't see it in my population. Interestingly enough, when patients get Lyme and they get Babesia, many of the patients never have hemolysis. They never get kidney failure.

They never get the liver problems that you read about in the textbooks. And it's because of the interaction of the way these bugs are working together.

And finally, for Bartonella with the three Bs, because these are really the three biggest bacteria as well as parasite that I see affecting my patients, Bartonella kind of looks like Lyme.

but it's a way more severe version of it. So with Bartonella, severe fatigue, severe headaches, severe memory problems, severe joint pain, severe neuropathy, it really does look like Lyme, but the difference is you can get new onset seizure disorder.

Oftentimes, you'll get eye disorders like optic neuritis can happen with Lyme, but it also happens in BART, but you'll get like retinal problems with Bartonella that an ophthalmologist will be able to pick up.

You will occasionally see really large lymph nodes with Bartonella. I will tell you in clinical practice, oftentimes I actually don't see it, however.

What I do normally see is the classical stretch marks, the striae of Bartonella that kind of look like either white lines or sometimes they're purplish and they can be in a Christmas tree pattern or horizontal.

We'll see that with also granulomas, these bumps that'll show up on the extensor surfaces of the fingers. Those are really kind of the things we're looking for with like severe neuropathy.

severe neuropsychiatric, these are the people with schizophrenia, the people with bad bipolar, the bad obsessive-compulsive disorder with Lyme, almost guaranteed these people are going to have Bartonella.

And in the study we just published in Microorganisms, we showed that it was the people with multiple Bartonella species and Babesia species. the worst neuropsychiatric, the worst neuropathy with pain, with this burning, stabbing pain, sometimes it's numbness, also the worst autonomic neuropathy with POTS, and the worst immune deficiency.

The people who had no immunoglobulins or lacked subclasses, that was all from the Bartonella and the Lyme together. So when I look at the laboratories and I look at the symptoms and the pain in the bottom of the feet for Bartonella, very, very classic symptom.

Joe Boroscano described this decades ago, and he was right. Very, very classic symptom. That's kind of what you're looking for in these patients with Bartonella.

But I will tell you, the overlap is quite strong. There are some patients with Babesia, they never get sweats. About one out of 100, they're just horribly sick.

And I'll get a Babesia fish test, fish stents for fluorescent and C2 hybridization. It's an RNA test where the babesia is in the blood, it fluoresces green.

I will be shocked that they have babesia, which is active and they've got no malarial symptoms. So this is a tricky disease. You see enough patients, you'll always see kind of outliers at all end, but that's kind of the clinical presentation that you're looking for in most of these patients.

So as a clinical presentation, and it's blatantly obvious to you or other medical practitioners what is going on, you already know pretty much what the diagnosis is, say that you need to prove it to the patient or you need to prove it

to another medical professional or you just want the proof.

What are your favorite tests and laboratories who conduct these tests when it comes to the big three Bs? Are you ready to revolutionize your approach to diagnosing and healing complex chronic inflammatory illnesses in both adults and children?

The Lime Bites Symposium is your gateway to cutting-edge education, groundbreaking research, and innovative therapeutic solutions. Join us at the 2025 Lime Bites Symposium November 14th and 15th at the Fort Lauderdale Marriott Pompano Beach Resort and Spa.

Lion Bites is the premier functional medicine conference on complex, chronic, infection-driven inflammatory illnesses. This year's meeting is jam-packed with leading industry experts discussing lung COVID, mycotoxin illness, PANS Pandas, as well as Lyme and other vector-borne diseases.

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

So join us at Pompano Beach or virtually from anywhere. Register now at LymeBytes.com. That's L-Y-M-E-B-Y-T-E-S dot com. Yeah, it's a great question. So I try and limit the tests to specialty laboratories, obviously, because I don't want patients to pay too much out of pocket.

Although, I will say, if you're Medicare, igenex will cover basically all the testing that you need for free. It's great. I usually will start off, if someone says I'm financially challenged and I cannot afford a lot of testing for Lyme, I will tell them minimally, just do an IgM IgG Lyme immunoblot from igenex.

And the reason being, If you do a Western blot from a standard lab from LabCorp or request a bioreference, it looks for one strain of Borrelia. Now, Borrelia burgdorferi sensu strictu is the original bacteria that was described 45 years ago, right by Alan Steer.

We now know that there are over 100 different Borrelia species of the most common pathogenic species, including some of the IgG immunoblot, because it checks for Borrelia sensu strictu, Borrelia afzellii, Borrelia gorini, a lot of the different organisms.

and I play a game called Lime Bingo, and I suggest everybody take notes on this one if you've not played this game before, because this is how you ultimately diagnose Lyme.

Someone who comes in and says, I have all of these symptoms on the 38 item questionnaire, the HMQ. I have good and bad days. The symptoms are coming and going.

The joint pain, the muscle pain, and the nerve pain is migrating around my body. I've got horrible brain fog, and I do an immunoblot, and I see any one of the following five numbers 23, outer surface protein C.

31, outer surface protein A. 34, outer surface protein B. 39, very specific, and the 83 slash 93. If any one of those bands, because this is recombinant DNA, this is not a Western blot that we can get false positives.

This is positive or it's negative. If any one of those bands shows up on an immunoblot, Bingo! You have been exposed to a Borrelia species. It may not be the original Borrelia burgdorferi sensu strictu, but it's what we call Borrelia sensu latu.

It's one of these cousins of Lyme disease that is now making people sick, like all of the different species in the U. S. and in Europe. So, I love the immunoblot, and I might do an ELISA locally through LabCorpQuest, or C6 ELISA, which the advantage is that it checks three strains of Borrelia.

Sensus strictu, Borrelia afzellii, and Borrelia gurenii. But that being said, I have many patients where the ELISA is

negative and the C6 is positive, or the C6 is positive and the ELISA is negative, or both are negative, and a Western blot or an immunoblot may be positive.

But the point being, you don't use CDC criterion. with an ELISA followed by a Western blot to make the diagnosis. Lyme is a clinical diagnosis, as we've talked about.

And the way you make the clinical diagnosis is use the HMQ questionnaire, look at migratory pain, and look for those Borrelia-specific bands, having also, of course, ruled out other diseases.

Because there's a lot of things, and we'll talk about this today on the MSIDS map, there's a lot of other overlapping factors that keep people sick. But I'll do an ELISA.

If it's negative a C6, I'll occasionally do an immunofluorescent antibody. If I want to do direct testing, I will do PCRs. I like the FISH test, fluorescent and C2 hybridization for Babesia and Bartonella.

Those are my go-to tests. Babesia fish, Martinella fish, for my genetics go-to for diagnosing Babesia bart. But T-Labs also has some very good fish nesting.

I picked up a Babesia species like Babesia otocolli through T-Labs that I was not able to pick up in other places. But all the other tick-borne testing like Ehrlichia, Anaplasma, Rocky Mountain Spotted Fever, Typhus, Q Fever, Jularemia, Brucellia, the viruses, Epstein-Barr Herb, I do this through the local labs, right?

So it's covered by everyone's insurance. And direct testing, it's useful, but I will tell you, you usually need Indirect and direct testing. Direct testing is like PCR, FISH, RNA testing, or Fage.

Red Laboratories in Belgium will do Fage testing. That's direct testing. Or you can do NanoTrap, OspA testing. I can't do it in New York, but it picks up the OspA in the urine.

Those are direct tests that you can all use to diagnose Lyme. Usually, you're going to need a combination. of many of these tests to prove it. But remember, it's a clinical diagnosis, a high score in the HMQ, any bands on an immunoblock.

You pretty much got your diagnosis, but usually you have to figure out what are the other bacteria? What are the other parasites like Babesia or intestinal parasites?

What are the other viruses? Do they have long COVID? Do they have Epstein-Barr reactivation or herpesvirus 6? Do they have fungus, Candida, mold? You've got to look for all of the overlapping factors because in my world, it is never just Lyme disease that's keeping these people in.

Yeah, that's true. Okay, so Dr. Hurwitz, let our listeners know how they can get a hold of you if they would like to. And let us know if you have anything new coming up.

So people can get in touch with me through my medical office at medical at hvhac.com. And for people who are interested in the DAPZone study, eventually at the end of the year, whether it's doctors or patients, research at hvhac.com.

But I would ask people, please follow me regularly on Facebook, Dr. Richard Horowitz, dr. Richard Horowitz.

Testing Strategies and Lab Options

Anything that's new in medicine regarding the MSIDS map or Lyme or Babesia Bartonella, I'm regularly posting for the community out there to make sure they are up to date with all of the new things that are coming out in literature.

And I will be working, by the way, on a third science book. I'll be starting it sometime this year. I don't want to give away the title yet. I think I know what it is, but I don't want to give away it yet.

And I will be speaking at the Southeast Regional Integrative Medical Conference in Asheville, North Carolina this summer. I was invited by Sonya Rapport and the organizers, so that's going to be great.

I'll be speaking for several days. It'll be a very intimate conference. I think docs are going to learn a lot. And I'll be at ILADS in San Antonio, Texas at the end of the year for people also to follow the work.

Let's talk about the questionnaire and the validity at all. The main thing I would say about the questionnaire is all docs is that a score, a high score On this HMQ questionnaire greater than 63, which is two standing deviations, it's a really high probability.

And whoever's looking at your medical charts, it tells them you've used a validated questionnaire. But regarding the testing and the questionnaire, the average ELISA followed by a Western blot.

It's a coin flip. It's about a 50-56% chance of picking it up. The questionnaire has an 87% accuracy with validity when we looked at it from divergent, convergent, and predictive validity.

So the point being, the questionnaire is actually more accurate. than doing a two-tiered test within ELISA and a Western blot. So keep in mind that I think you've got to use all of these together.

And I think it shouldn't be one or the other. And again, we'll even follow the bands on the immunoblots or the Western blots to see how they change over time.

Let's say somebody has done with treatment. and they had a 23-31-34-39-83 ban. And you check them years later, those vans may still be there, but usually they'll be gone.

But let's say they didn't have a 23-31, and two years later they're complaining to you. their symptoms are coming back. They've got fatigue, they've got joint pain, and now you see a new 2331 band, you know that the Lyme is reactivated because the immune system is picking up the very specific proteins on the outside of the bacteria.

So I'd say use the immunoblots and use the variety of tests we've discussed in the questionnaire together, and usually you'll be able to figure out kind of where patients are, do they have the disease, and it's a very good way of following them over time.

But it is clinical. I look at the migratory pain. I don't follow their elises and, you know, Western blots to figure out if they're in remission. It's the patient who tells me they're in remission, right?

Their symptoms are gone or much better. I just use the immunoblots and bands to figure out do they still have a little bit in their body, right? I might repeat a Bartonella fish to see if they were positive.

Can I still find it? Is it still active? That's where I want to use some of these tests in these chronically ill patients. Yeah, I love that. And I love that, you know, when you're working with a patient, it's not, you know, there's, other than looking at, you know, maybe some inflammatory tests or immune system evaluation tests, you know, we can't, A, it's cost prohibitive for most people to be able to do this testing so close together, you know, looking at antibodies with indirect tests, but also it takes so long for these antibody levels to come back down.

And like you said, that could be present years later. So what I love about your questionnaire is that you can use it as a tool to see this resolution of symptoms, right?

So the decrease in overall number of symptoms and decrease in the severity of symptoms not only guides you as a practitioner that your treatment is working, but it's very reassuring and it almost becomes like, and even though it's subjective and the patient is filling it out over time, when you're looking at their original, you know, compared to two months in, compared to six months in, compared to nine months in, it's becoming objective information to the patient that they are getting better and that this is working.

And because the patients are stuck in their bodies 24 hours a day, they don't realize the progress that they're

making. So I think it's an invaluable tool to be able to show the medical provider as well as the patient that treatment is working and it's free.

Then there's not much else you can say that about. It is free. Just download it off of the site. It's absolutely free. Yes, it's a great point. That's at cangetbetter.com.

Yes. All right. So moving on to the 16-point MSIDS evaluation or map, can you tell us a little bit more about that and how to use it? Sure. So the example I use for patients who come to see me in my medical practice, it's like coming to a doctor with 16 nails in your foot, telling the doctor you have foot pain, and the doctor finds one of the nails, pulls it out, tells you to come back in a month, and then says, how's your foot pain?

And it's like, obviously you're still going to have foot pain. You have 15 nails in your foot. Well, that's kind of what the EMSIDS map is like. So the way I designed the EMSIDS map, it's not like I came up with any of this separately.

These things all existed in medicine. It's not like I made any of these points up. But what I did do, by seeing 13,000 chronically ill patients, I would keep seeing like, well, what is keeping these people ill?

So the way the EMSIDS map works is six of these factors of the 16 are inflammatory, meaning, and the way I describe it is kind of like, rivers of inflammation going into an ocean of inflammation.

So the reason Lyme patients, by the way, are sick and tired and foggy and have psychiatric issues is from inflammation. And there's a lot of inflammatory molecules that are produced when you have Lyme.

A lot of biochemical pathways are activated. So the first part of these six points of this inflammatory response is what I call the three B's, which we've been discussing.

Borrelia, Babesia, Bartonella. Now that's not to say there are another infections, because there are. Do we see viral reactivation with Epstein-Barr or herpesvirus 6? Absolutely, just like you do with long COVID.

Right? Do we see in some of these patients candidiasis, a Candida overgrowth in their gut, where they might have a fungal overlap and they do Dapsone and they're finished and they say, I still feel tired and foggy and achy, but gee doc, I eat carbohydrates.

I get gassy and bloated. I've got a coated tongue or a woman might have some vaginitis and discharge. And I go, oh, it sounds like you're overloaded with Candida.

Here's a course of fluconazole and they come back in a month and they go, I feel completely fine. That the last 10% was fungal, it was candida, right?

So keeping in mind that there's four classes of infections, bacteria, viruses, right, fungus and parasites. And although Babesia is the most common parasite, we do occasionally see intestinal parasites, right, that show up in these patients.

And even for the bacteria, many of these patients with gut issues, which is the second and third point on the MSIDS inflammatory, is microbiome issues.

You've got the wrong types of bacteria. You might have too much Prevotella species, too much Clostridium, not enough of the right type, or you've got leaky gut.

You've got food sensitivities, you've got mast cell activation, a lot of inflammation from eating the wrong foods. That also causes an inflammatory response and causes the same symptoms as Lyme.

So it causes fatigue and pain and brain fog. So the first three is the infections, the three B's, microbiome, leaky gut. But then we have sleep disorders.

If you are a Lyme patient and you don't fall asleep, Inflammatory molecules like interleukin-6, they don't shut off. You will never have, without a good night's sleep, you know, I sleep six hours one night and I'm fogged out the next day and tired, right?

I need eight hours of sleep. These are Lyme patients who sleep four hours a night. The inflammation never shuts off. So you've got to deal with sleep disorder and Lyme causes delayed sleep phase syndrome and actually causes a circadian rhythm disorder where these people don't fall asleep, right?

Or keep waking up or they sleep for 16 hours and they never feel refreshed. The last two of the inflammation is that there are toxins, many toxins, getting into people.

We'll talk mainly about heavy metals and mold, but truthfully, there's hundreds to thousands of chemicals getting into people. And then there are nutritional deficiencies, whether it's vitamins and minerals, where people can detox.

these chemicals properly. So if you don't have enough magnesium, the 300 enzymes in your body don't work. You don't have enough copper. There's an enzyme called superoxide dismutase.

You get a lot of inflammation. You don't have enough zinc. Also, you can get aldehydes being produced, which cause brain fog. So all of these six factors out of the 16, they're like rivers of inflammation, and they have downstream effects on the body.

And what are the downstream effects? Autoimmunity, just like long COVID, right? You'll get ANAs that are positive, anti-nuclear antibodies, rheumatoid factors, Hashimoto's antibodies with anti-thyroid antibodies, anti-ganglioside antibodies, anti-myelin antibodies.

It's a big autoimmune factor, but that doesn't mean You have rheumatoid arthritis or lupus or an autoimmune disorder. It means that the inflammatory response from the bacteria and everything else going on is causing autoimmune reactions, but usually once you treat the underlying factors, the autoimmune reactions actually will get much better.

but you'll get this inflammation affecting the vagus nerve, the part of your body that controls your heart rate, your bowels, your blood pressure, your bladder, and that causes POTS, Postural Orthostatic Tachycardia Syndrome.

The MSIDS Model and Hidden Drivers of Illness

You stand up, you feel like you're gonna pass out, or you do pass out. You're tired, you're foggy, you're anxious, you have palpitations. Well, those are symptoms of POTS.

Now, you could have gotten rid of all of the bacteria with Lyme and Barrett and treated the Babesia. But if you don't treat the pots or know you have it, you may keep giving people antibiotics or herbs ad infinitum thinking it's still an active infection, but it was the vagal dysfunction that caused the problems or the inflammation affected their pituitary gland and their hormones.

They get low adrenal function. Men get low testosterone. the mitochondria, the parts of the body that make energy. There's nothing to protect them from all this inflammation.

So you get mitochondrial dysfunction. You get nerve pain and pain disorders and liver dysfunction and a lot of neuropsychiatric dysfunction from all of the inflammation.

So what's important here to realize is when someone comes in and we call it chronic Lyme disease, right? It is not chronic Lyme disease. It is really for me, Lyme emsids, meaning Every person is going to be completely different.

Some people will have four nails in their foot. Some people will have 12 nails in the foot. And your job as the medical detective is to figure out what are the nails and to treat it.

But that's kind of an overview on why the MSIDS model is so important and why when we do this randomized trial, I'm going to probably screen for at least three months before Dapsone.

because these are factors that interfere with the success of the antibiotic protocols. So we need to show to the community that it's not just Lyme. And unfortunately in medicine, I don't know if you were taught the same thing, Mariah, but we were taught one cause for one disease, right?

It's like Pasteur's Plastilid or Cox Plastilid from the 1800s. Well, in the 21st century folks, it's not, it's multifactorial. It's no longer one cause for one disease, right?

It's usually in my patients, Lime, babesia, artinella, POTS with vagal dysfunction. Most have mold. Many have heavy metals. Most have nutritional deficiencies.

Many have mitochondrial. They have pretty much all of this. And in the articles we published, about 70% of the time, most of the patients have most of these absence factors.

So it's a really important, and I discuss these in my first book, Why Can't I Get Better? Solving the Mystery of Lyme and Chronic Disease, which was a New York Times bestseller.

And in How Can I Get Better? An action plan for treating resistant Lyme and chronic disease, both from St. Martin's Press. So this 16-point MSIDS model and treatments, it's all in these books.

And the last book, How Can I Get Better? has some of the DAPs on, although I will tell you, when I published the last book in 2017, I was just discussing Dapzone at that point.

I started it in 2016. Boy, have we come a long way. If I was to write the third book, which I'm going to write, it will be beyond Lyme. It will be about how this MSIDS model affects a lot of these different chronic diseases because Lyme is showing up under Alzheimer's biofilms.

We're seeing Lyme in some cases in autism spectrum disorders, in people with ADHD. I mean, all of these chronic diseases that we're having, 87% of the healthcare costs and 70% of the debts in this country are chronic illness, and we don't have a model.

I'm proposing that this 16-point EMSIDS model is a good starting point because it doesn't matter what you're labeling. You're chronic fatiguing, musculoskeletal, neuropsychiatric illness.

Usually the EMSIDS model is going to kind of put you on track to figure out what's going on. Yeah, I agree. I think that model is fantastic. And, you know, from someone who was trained pretty much in the functional medicine arena, like straight through and out of medical school, yeah, this is more how my mind works.

So I often, you know, will tell my patients Lyme, you know, if it's an infection, whether it's Lyme or some other tick-borne disease or any other infection that comes in, causes massive inflammation, kind of breaks the immune system, and then all hell breaks loose, right?

And it's your genetic weaknesses and your SNPs, but it's also previous injuries. It's just, it's what makes you you and what those weaknesses are. That's where these infections are going to go to.

And so if you have gut issues or your microbiome is not balanced and you have issues in the gut and that's your weakness, that's going to be one of the places where Lyme is going to wreak the most havoc.

And then if you have Bartonella, forget it. But it's different in every person because we all have different weaknesses. And I always say the infection goes there like a magnet.

You can focus on killing the infection until the cows come home, but if you're not restoring the terrain and restoring proper function to the body and helping to inhibit the inflammatory cytokine cascade, balance the immune system,

heal the patient, they're never going to end up better.

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

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

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

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

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

Learn more at Lyme Core Botanicals. That's L-Y-M-E-C-O-R-E dot com. And that's the point, you know, you learned that in your med school. I had to figure this out, by the way, myself, because even though my seven-year medical program in Belgium was great, I wouldn't say terrain, the notion of terrain, even though the European system is generally much more open and broad, that notion of terrain, I don't think was stressed in exactly the same way.

And you brought up an important point about like the immune system inflammation. Just for example, one of these points on the MSIDS model, immune dysfunction.

We talked earlier that Lyme and Bartonella can affect the immune system. In the studies I've published, and Nicole Baumgar showed this in the mice model, when Lyme goes into the lymph nodes, it gets rid of the B cells, the cells in your body that make antibodies.

So it gets rid of the IgG antibodies, the ones that are the most effective in clearing the infection, and it leaves IgM. So when you're a Lyme patient and you go for a Lyme test, and you bring to your doctor your CDC positive IgM, not IgG, IgM, immunoblot or Western blot, and your doctor says to you, oh, that's a false positive, right?

That's only an early lime. It's not true. That actually is the most common manifestation in late Lyme is a CDC positive IgM block because Lyme knocked out the IgG antibodies.

And if you go check people's immunoglobulins and subclasses, you'll see with bad active Lyme and Bartonella. it's been knocked out, they're immune deficient.

So how can you throw herbs or antibiotics at people and you've never checked their immunity to see how they fight? It's like with COVID, if you don't check natural killer cells, the type of cells in the body with the CD8 that go after the viruses, and you don't know how they're functioning, how do you know how someone's gonna get over COVID, right?

Or you don't know their antioxidant pathways and their glutathione. And long COVID is really becoming a problem because it does look like chronic Lyme, right?

Rain fog, fatigue, pain, HOTS disorder, insomnia, sleep disorders, neuropsychiatric. It's pretty much got the same symptoms, but with Lyme, it's good and bad days.

Symptoms come and go. Antibiotics make it better or worse. Women have the hormonal flares, right? You've got the bands, of course, on the immunoblot, but let's face it, there's a lot of people out there.

It's not going to be just long COVID. It will be long COVID and chronic Lyme and BART. Or it might be Bartonella without Lyme with long COVID. We're dealing with an infectious soup these days.

And doctors really need to know how to make the diagnosis and differentiate this because we're seeing this in our practice. Fortunately for me, by the way, we published the first article in April, 2020, after the COVID pandemic just started on a glutathione deficiency in COVID.

We actually published the first article. It's been cited over 250 times and. What we discovered is that, and I knew this from Babesia, the patients they came in with Babesia who was short of breath, and I gave them a two gram shot of glutathione and they said, oh my God, my shortness of breath is gone.

When patients were coming in with COVID and describing the shortness of breath, I said, Gee, I wonder if that's going to work like it does for Babesian Lyme patients, and sure enough it did, so we published two case studies.

Now it turns out all the people in the ICUs, they've now shown that these are the people with the lowest glutathione levels because there's 140 times more glutathione in your lung tissue.

than any place else in the body. So if you've used up glutathione, which is your primary antioxidant to detoxify the body from chemicals, right? If you don't have enough and you get COVID, that's where you can end up with problems with lungs and of course inflammation in multiple body tissues.

So, you know, knowing the biochemical pathways and having done this for Lyme, it turned out I was able to provide at least a protocol. We've not had one COVID patient die.

in the last four years and I've only had two hospitalizations. One was on a ventilator, she was in her seventies and both were boosted and immunized, right?

And it just was, you know, one was immune deficient and the other also had problems. But other than that, no hospitalizations, no deaths and no long COVID just by using the protocol for COVID that again is on our website, go to cangetbetter.com under the COVID tab and look at treatments.

And by the way, those treatments are the treatments for Herxheimer reactions. It's the same treatments we used for Lyme. We block a pathway called NF-kappa-B with N-acetylcysteine, alpha lipoic glutathione.

We stimulate an anti-inflammatory pathway called NRF2 with turmeric, curcumin, broccoli seed extracts, sulforaphane glucosinolate, resveratrin, and green tea extract.

We block an inflammatory pathway called NLRP3 inflammasorms with low-dose melatonin. We block microglial activation in the brain with low-dose naltrexone.

All of the tricks we've learned for Lyme, I know you've done this too, they ended up working for COVID. And just yesterday they published that earlier studies showed Paxlovid was helping stop long COVID, now they're not so sure that we don't actually have an answer for it.

So I'm thinking maybe blocking these inflammatory pathways early on has helped my Lyme patients, because I'm seeing a lot of long COVID in the chronic Lyme population.

I was just going to say the exact same thing. Most of my patients, so same… I don't think in my practice we even had, well, we did have one person who was severely immunodeficient and on immunosuppressant drugs who ended up in the ICU with COVID.

But other than that, I mean, we have not had really any severe cases of COVID. And, you know, my sort of theory behind that is that most of our patients who are being treated for chronic tick-borne disease are on a myriad of herbal medicines that shut down interleukin 6, interleukin 8, interleukin 1 beta, tumor necrosis factor alpha, NF-kappa-beta, you know, all of these that the MAPKs, like all of these cytokines, inflammatory cytokines that are

causing a lot of the issues.

COVID, Inflammation, and Overlapping Mechanisms

And a lot of these herbs actually protect like the ACE2 receptor and linkages and actually stop that whole ignition like right from the beginning with the cytokines.

On top of that, with people eating the best that they can eat and trying to live a healthier lifestyle and all of the things that we do to really address all of the things that you're talking about.

And I just think that the healthier you are when you're exposed to something like this, and if you have all of those little blockages in place, you're going to do so much better.

But what do you think the relationship is? Do you think it's the inflammatory cytokine cascades and like the alteration of the immune system and that immune imbalance that the spike protein, whether it's from a vaccine or whether it's from having wild COVID, do you think that that is what can cause a reemergence of a dormant tick-borne infection?

Or do you have a different theory? You know, I mean, these, of course, are really great questions. They're unanswered questions for the most part. When I look at the literature on long COVID and I look at the MSIDS map in Lyme, what's interesting is seven to eight of the factors of the MSIDS map we've been discussing today have all been discovered for long COVID.

Why? Infections and inflammation causes immune dysfunction. So whether the inflammation is Borrelia burgdorferi Lyme causing inflammation and immune dysfunction, or it's a virus, COVID-19 causing inflammation, immune dysfunction, they've now shown in long COVID the same autoimmune reactions, the same changes in the microbiome of the gut.

They've shown mass cell activation in a lot of these patients. They've shown active virus in the colon of some of these patients, lowering down serotonin.

They found POTS dysautonomia because the vagus nerve was affected by this, right? They've seen viral reactivation with Epstein-Barr. We also see it with herpes virus 6 and other viruses.

So when we're looking at like the overlaps of the MSIDS model of chronic Lyme and long COVID, Infections, inflammation, and immune dysfunction applies in both models.

So I think the reason we're not seeing these complications is glutathione. What they've shown with the COVID virus is it needs the lower glutathione levels to replicate.

So this, and I didn't know that, of course, when I published the articles, we published two articles in April and in May of 2020 on this, one on the need for a randomized trial on this protocol.

But ultimately, now that we know that the MSIDS factors are showing up, I think it would be fascinating. And we designed the trial, it's just the FDA wanted me to use a placebo, it was too difficult.

to actually look at glutathione early on the same way we're doing it for our live patients who get COVID. And by the way, the other interesting fact apart from glutathione stopping viral replication is that Dapsone, which a lot of these patients have been on, it's shown that in some of the studies where they use Dapsone, like the earlier virus, like the alpha when it first came out, there was all of this ARDS with white out of the lung where people have dying of lung disease.

Dapsone stopped ARDS in a study that they published in around 40 patients where they did give them Dapsone. They didn't give them Dapsone. Dapsone completely shut down the inflammatory cascade.

And the reason, by the way, I love Dapsone and we've talked about in earlier talks, but the quality of the drug of why, like initially I said, can I use this with COVID?

The reason you can. It's anti-inflammatory. It hits an enzyme called myeloperoxidase. So it lowers down these inflammatory cascades that people also get with COVID.

It has great penetration into the brain. I don't have to use IV anymore. It's anti-malarial. Bebeziers shows up in a lot of these patients. It's used for autoimmune diseases.

We know that Lyme patients get these autoimmune reactions. And it's a persister drug, meaning it hits these persister bacteria. It checked off all the boxes that you needed for a drug.

So early on, I would think, gee, I can't leave them on it. But now, actually, when patients get COVID, I'm leaving them on the Dapsone protocol. I'm actually not changing it.

I'm just using like 2,000 milligrams of glutathione a couple of times a day with higher dose NAC, I'm just blocking all the inflammatory pathways. And again, for those of you listening, if you just go under cangetbetter.com, under the COVID tab, the entire protocol is there, including, by the way, all the biochemical pathways and studies that I wanted to do.

So do you think that your patients had a less severe outcome with COVID because the majority of your patients are on Dapsone? I'm not sure if it was just from the Dapsone.

I'm fairly sure the NAC glutathione played a role. And the reason I think it was also important with the NAC, which is the precursor of glutathione, is that these people that got microclots, right?

We were seeing all these pulmonary emboli and microclots in the people with COVID. I haven't seen one of them. And when you look at the properties of an acetylcysteine, which we use regularly in the Lyme population for Herxes with glutathione, it blocks von Willebrand factor.

So I take NAC on a regular basis. I've had COVID twice. I mean, I've been vaccinated, and I've had COVID twice, and I've used Paxlovid. I'm fine, as is my wife at this point.

But the point being, I think the NAC and glutathione, on top of blocking these other inflammatory pathways, NLRP3 with melatonin, and they're on vitamin D, and they're on zinc, and they're taking 3,6-beta-glucan immunotics to raise up their natural killer cells to fight.

I mean, I designed the protocol In fact, before I really knew all the biochem pathways of COVID, just to block inflammation and kind of support immunity and support a healthy inflammatory response, kind of what we do for Lyme, it's worked.

So I think the Dapsone may be part of it, but I actually think it actually is the NAC glutathione component helping to stop the viral replication and stopping the microclots.

And that of course would have to be proven on a, you know, on a randomized trial. So most of your patients are on NAC and glutathione as… Oh, absolutely.

In fact, the core protocol, they're all on NAC, alpha-lipoic acid, glutathione. It's a block NF-kappa-B. Minimally on a tumeric compound like curcuplex, oncoplex, which is sulforaphane, glucosinolate, broccoli seed for NRF2 activation.

If they have a sleep problem, they're on a touch of melatonin. Most are on low-dose naltrexone. So they're on all of these supplements because they help with HERXs.

They help to lower the inflammation because the Lyme patients get tremendous inflammatory responses. And

interestingly enough, in long COVID, the H1H2 blockers are helping some of these patients, like when they get mast cell activation.

So a lot of what we've learned about Lyme actually is overlapping and helping a lot of these patients with COVID. Yeah, it's amazing. I don't know if I would have known how to help anyone with COVID had I not specialized in treating tick-borne disease.

So before we wrap up, could you just elaborate a little bit more about mycotoxins, heavy metals, other toxins, you know, when it comes to treating tick-borne disease?

As you think the MSIDS map. Yeah, it's very important to look for these toxins that get in the body. And again, as we talked about earlier, there's hundreds to thousands of chemicals getting to everyone.

Toxins, Mold, and Detox Support

And these are hormone disruptors. They cause insulin resistance. They cause cancer. I mean, they're horrible, which is part of the reason I take NAC and gluten all day long, actually.

I take it at least twice a day. But mold and heavy metals, the reason you've got to look for them is when we did the studies early on, and I presented this at Lyme Conference is literally 20 years ago.

When we started looking for heavy metals like mercury, lead, arsenic, cadmium, aluminum, what we discovered is not only that patients had these, not just in their blood, but they had them in their tissues on a six-hour urine DMSA challenge.

But in certain of these patients, after we treated them with antibiotics and they said, gee, I still have fatigue and brain fog and pain, and then we pulled out the heavy metals, they went, doc, I feel completely well.

It was like, What? It's like, oh, the heavy metals were responsible. And interesting, there are studies published on bugs like Chlamydia pneumoniae that when you add heavy metals like mercury and put it in a joint tissue, the inflammation goes wild.

And if you don't put heavy metals in there, you don't get the same inflammatory response. So I think the metals. are increasing the inflammation we're seeing from these biofilm persistent forms.

So you've got to look for the metals and especially the mold because now that I'm doing Dapsone and pretty much everyone coming into the office. We are finding mold in the last study we published, it was 84% of our patients.

And earlier on, I used to joke with Neil Nathan, who's a good friend of mine and mold expert, and I'd say, Neil, I'm finding the mold in a lot of these patients, but it just doesn't seem to be playing as large a role as the Lyme, Babesia, Bart, and the MSIDS factors.

And of course, in the past year, now I've had a couple of cases, the last few months exactly, one is in Europe and one is in Florida, Lyme, Babesia, Bart, did the Dapsone, did the nine-week, did Dapsone pulses, would get better, but kept relapsing.

And more than I would have expected. And neither of them admitted to having mold exposure. And I said to them, listen, you're in Florida, which of course, there's a risk of it.

And this other patient was in a part of Europe where there's a lot of water. And I said, just do me a favor and send off the real-time lab's mycotoxin test.

Let's see what you got. They were positive on all five mold toxins. And what was really fascinating to me is I'm no longer doing any Lyme Babesia Bartonella treatment, but by simply opening up the detox pathways and giving them NAC, alpha-lipoic acid, glutathione, phosphatidylcholine, three grams of phosphatidylcholine twice a day.

With binders, if they have trichothichines, which is one of the mold toxins, we're using something like Optifibriline Glucomanin an hour away from food to pull the trichothichines.

But otherwise, we're using GI Detox. It's a product from Biobotanicals with charcoal clay, bentonite clay. We'll sometimes use chlorella. We use that two hours away.

But by using GI Detox, using optifibriline, phosphatidylcholine, glutathione, a little bit of n-butyrate, 500 milligrams twice a day. These patients that said to me, gee, I was getting better with the tick-borne and I'm now really ill, all of a sudden are miraculously well.

And I mean, I've been doing this for a long time. This shocked me. The one in Europe, he had done seven, he had six with six pulses for the BART. He was active.

and was better, but something was wrong. And after he started detoxing the mold, he got back to me and said, I am 99%, 100% better. I cannot believe, the only thing that was not getting better was libido.

We didn't really talk about this much, but Lyme kind of knocks the libido out, right, in most people who have this. And the one in Florida, I started detoxing her and she actually, she couldn't even tolerate one capsule.

She got sick as a dog. We gave her the Byron White detox too. It's another form of charcoal clay in a very small amount. And once we figured out the amount to pull the toxins through the detox pathways, when we found the right amount, she went, she emailed me and went, doc, that is it.

I feel the best I have felt in years. So. Even though I used to joke with Neil about, oh, come on, mold, we're all being exposed. What's the big deal?

I have to tell you the more I do this. Yeah, it's a big deal. And especially because the gliotoxins that are showing up as one of the mold toxins are immunosuppressive.

So if Lyme and Bartonella are suppressing your immune system, and anaplasma can suppress your immune system and cleotoxins because you don't want to have a lot of immunosuppressive factors in your body when you're trying to get over these tick-borne infections.

So we need to remove the mold toxins, both from the point of view of your immune system's response, but also because some of these patients, the fatigue, the brain fog, the pain, the neuropathy, it is related to mold and it's related to heavy metals.

So, really important points, and it's personalized as we talked about earlier, you don't actually know who is going to get better from this, right? People can test, by the way, and test positive, and it doesn't mean it's a major nail.

I've had patients where they have 16 MSIDS factors all show up, and it was the adrenal. It was the phase three adrenal dysfunction. You put them on a little bit of adrenal support, hydrocortisone, whatever, and they'll go, I feel great.

And they have all of the other 15 factors that have not even been addressed. So this personalized precision medicine model, even when you test positive for all these things, it doesn't even tell you the role of each of these.

You've got to kind of go in there for the patients and find out for yourself.

Hope, Treatment, and Closing Remarks

Like I say, it's one big giant ball of wax. A lot of times you have to deal with the whole thing at once. So any piece of advice, if you just had one thing that you could put out there to our listeners, what would it be before we wrap up?

So for those of you who are listening who have chronic Lyme disease and associated co-infections, the Dapsome

protocol that I have been developing during the last eight years, it takes a lot for me to be speaking to you directly and telling you with confidence that if I had chronic Lyme, this is what I would be doing with my doctor.

We do doctor trainings every year to train the doctors in this. I would just tell you, it is published in the medical literature, the entire protocol.

And if your doctor needs help, your doctor can contact me. I do this all the time. But please do not lose hope. There is hope. And the Dapsone protocol and other persister drug regimens, occasionally even disulfiram, which we haven't talked about today, but we'll talk about in future episodes from Ken Liegner's work, These persister drug regimens are working, and the MSIDS model, once you figure out what are the inflammatory factors, the rivers of inflammation going into the ocean, do you have POTS, do you have mitochondrial, once you figure out all of these 16 factors, you will get your health back.

I mean, I would not be here doing this. Mariah and I will tell you this, that these talks are a lot of work. The only reason we're doing them is for you.

It's because we care about you. We care about your health. We want you to be better. This is an epidemic worldwide at this point. and we have solutions for you that are being discussed during these doctor talks.

So I hope you will stay tuned and listen to the episodes. We do have solutions for you, but please don't lose hope. There's a lot of discoveries that have happened in these past couple of years, and I'm really excited to share them with the Lyme community.

Thank you so much. Thank you for all of that information, and thank you to all of you at home for listening. We will see you at the next episode. Take care.

If this episode gave you an answer, brought you new insight, or made you think differently, subscribe to the Lime Bites podcast and share with someone who's ready to take control of their healing journey.

And if you can, please leave a review. It helps others to find the show. Thanks for listening and we'll see you next time.