Avoid These Mistakes With Lyme Disease Transcript

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Introduction to Lyme Treatment

Hi, and welcome to another episode of the Healing Lyme Summit. I am your host, Dr. Myriah Hinchey. And today we're going to be talking about effective treatments for Lyme disease.

I am so passionate about this topic because there's just so much false information out there regarding the treatment of Lyme disease. And it's not just chronic Lyme disease.

It is surprising how many medical professionals out there are treating acute Lyme disease and appropriately. And as you can imagine, this leads to a lot more cases of chronic Lyme disease.

So here, to navigate this often controversial topic with me is Steven Harris, MD, and Dr. Harris's father, Nick Harris, actually founded IGeneX Labs which is one of the or is the gold standard lab for, tick borne disease testing.

And Dr. Harris actually, grew up, spent a teenager being basically immersed in the world of Lyme disease. So without further ado, I'd like to introduce, Dr. Steven Harris.

And we're going to jump right into questions because we have so much to talk about. So welcome, Dr. Harris. Thanks for having me. Absolutely. All right, so what would be the primary modalities used to treat Lyme disease?

Well, Lyme disease is, is an infection. So the primary modalities that one thinks about are anti-infective. Now when we think of Lyme disease, we think of Borrelia burgdorferi.

That's the spider kit that causes Lyme. But there's also the wider topic of the co-infections. So sometimes when I'm talking just for, the rest of this talk, I may be talking about Borrelia.

Acute Lyme Antibiotic Guidelines

I also may be talking about co-infections as well. But the Lyme disease is an infection and anti-infective are the way to treat infections. Okay, so let's start with some basic guidelines regarding antibiotics.

If you have an acute case of Lyme disease, what is the antibiotic of choice. What is the minimum duration that you feel a patient should be treated? And is there a specific window of time in which antibiotics are most effective like that they need to be started within.

So in acute Lyme, when the tick, is feeding on the host us. Borrelia. gets transmitted and disseminates very rapidly through our bloodstream, into our tissues, even into nervous tissue, very rapidly.

So the quicker that one can get on antimicrobials, antibiotics, the the more chance they're gonna, have of completely eradicating this. So it doesn't become a chronic infection.

Now, within a day, two days, three days is optimal. But really within two weeks of the initial infection, one really needs to be treated. and if you're treated in that in that window, it's more than likely at least 70% likely that with proper treatment, high enough doses, long enough treatment, that you're going to prevent these infections from becoming chronic.

Many times, it's interesting that you don't even need to treat the co-infections. If you can treat Lyme disease early enough, because your immune system will be able to prevent those from actually hanging on.

Interesting. So is it 14 days, 21 days, 30 days? Like, is there a minimum that you would recommend or you would treat your own patients with? Again, with an acute tick bite, saying that you've got them on the proper antibiotic

within the first 48 to 72 hours.

So with if there's, confirmed Lyme, whether the The tick comes back positive, ticks been tested or if someone has early manifestations such as a bull’s-eye rash or has PCR positivity because you're not going to get an immune response and IGM immune response for at least three weeks.

So if you know that you're dealing with with an acute case of Lyme, I'm going to treat those patients for six weeks, or until symptoms are gone. Now, I'd say the very minimum that I would treat them, if there were other reasons that people have very sensitive gastrointestinal tracts, if they have meso issues already, if they have other confounding infections or other things going on that prevents them from taking full doses of antibiotics, I'll go as low as two weeks.

But two weeks I start getting nervous. Three weeks, is is better. Six weeks is optimal for acute Lyme. and, yeah. So six weeks is, I believe is optimal.

Okay, great. And what about for chronic Lyme disease? Are there a certain combination and or minimum duration? I mean, obviously I know people, you know, and, you know, people who have been treated for years and decades.

Right. But, I mean, what would be the minimum amount of time that you would imagine somebody with chronic Lyme disease to need to be treated for and with what?

Unfortunately, the database doesn't give us great guidelines here.

Chronic Lyme Combination Therapy

there's no hard and fast rules on how long someone needs to be treated. The, the strategy that's worked the absolute best actually comes from Joe Barra.

Scotto. who showed who, through lots of, of display that two months passed, the resolution of symptoms and the absence of positive tests suggesting active infection is how long one should treat.

And so these treatments can be open ended. Sometimes these treatments can go on for years or for years. The, we don't like them to go on for years. And, and if Dapsone and some of these other treatments that, that are coming down the pike, turn out to, to really fit, then hopefully we won't have to treat patients for so long.

But in chronic borreliosis in chronic persistent borreliosis. the, the it's important to, to cover all of the different manifestations of this organism.

So at least with Borrelia and I'm not talking about the co-infections because I usually treat the co-infections first sometimes. Well, in a perfect world, I treat with Babesiosis first.

When patients have them, I'll treat with Bartonella first. If the Bartonella symptoms are predominant, and I think someone else will probably be speaking about the symptoms of Bartonella versus Babesia, but, but I'll treat those.

Try to treat those first. But when I'm actually treating Borrelia infections, I want to work on the spiral in an anti spiral drug, which would typically be what's considered a cell wall drug.

a cell wall drugs such as high dose amoxicillin or penicillin or a medium dose, higher generation cephalosporin free rock seem or sefton or, suffix same or some of the, the other drugs that are used non orally or potentially parentally.

So I'll use one of those drugs. those work when the spider kid is dividing, and they work outside of our cells, in the bloodstream, in the, in the central nervous system.

In addition, we know that these organisms can live inside of many of our cells, whether it's in fibroblast or in other

tissue cells, such as liver cells or in bladder cells.

And so we also need to use drugs that actually get into those cells. And so I'll use what are called ribosomal inhibitors. And so that would either be the macrolides like is this or myosin commonly called Zipser max or chloride from myosin by axon or another drug like that which are the tetracycline drugs tetracycline doxy, cyclin minocycline omega cycling or one of these these drugs many times I'll use one cell wall drug such as omni surf which is surfed in here.

Third generation surplus spawn and an intracellular like a Zipser. My center clearance from myosin. And I'll use a drug that works on the cell wall deficient forms.

There's been a lot of evidence about this. they're called cyst forms or Lister forms. There's a lot of different names for them, but basically they're these organisms that have that have lost their cell wall temporarily and are one of the reasons we think that there's persistence.

Those drugs would be tonight is are metronidazole or likely nitrous oxide. That is oxide being the easiest one to tolerate. but maybe the least effective in that.

So I'll, I'll usually have people on three drugs when I'm treating Borrelia infections occasionally. I'll use, a double intracellular, approach where I'll use a zero mycin and minocycline or clearance from myosin and oxy cycling because they're working on two different parts of the ribosome.

And so often double intracellular is a really effective way to go retro. It's really popularized that approach. And it's still quite effective. So I'll I'll usually use combinations that cover all of the different phases, the different locations where you're going to find it.

And then we have to also think about, aspects like what other ways can the organism hide, what other strategies do we need to consider? Dr. Phillips talked about Blebs in his wonderful book.

And and it's a real important reason for persistence. We also now know about biofilms. So we have to deal with biofilms. Those are basically like, igloo mucus igloos that these colonies of organisms can live inside and be protected from, from some of these antimicrobial treatments.

Right. And it's important to note too, like we can't just do one and then the next and then the next, like we can't chase it. It's like these have to be kind of taken all together at the same time.

Correct? Well, within the tolerance of the person, of course. and there's ways to, to enhance one's tolerance. But yeah, it's, it's pretty well known that if you treat with just a cell wall drug that those organisms can go on inside the cell.

or they could go into a cyst form. Or if you just treat with a cyst drug, then they can go back into the spirals in the literature basis. Actually not very controversial about this.

It's pretty clear that it's been shown over and over again. Okay. Well thank you. so how important do you think using a multidisciplinary approach is when treating Lyme disease?

I've learned over 25 years that it's really the only way with chronic Lyme, acute Lyme, you can be much more isolated in your approach. With chronic Lyme, every system of the body can be affected.

Every organ, every, metabolic activity can somehow be impacted by this, whether it's hormones or neurotransmitters, or, or liver function or kidney function or cardiac function.

So everything needs to be, needs to be addressed. And so a multiple multidisciplinary approach is remarkably important. And we have to protect someone's gut.

Multidisciplinary and Herbal Support

We have to make sure that we have high enough doses to, to address the infections. We need to deal with the die off, that that happens when we treat effectively and these organisms die and we create this big immune storm.

We have to be able to allow patients bodies to detoxify. And, through kidneys or through, liver and, and stool and and through sweat. So we have to work at so many different levels.

We also have to protect people's tissues, and we have to support people's tissues. We have to support, nerve sheaths and, cell membranes. And so there's so many different aspects to dealing with chronic infection that we have.

There's no way to do this without a multidisciplinary approach. Right. So that being said, what role would you say natural remedies or various herbal medicines?

play. Well, the evidence base is is very, is very clear that many herbal medications, herbal remedies work against rickets and again, some of these co-infections.

yeah. And we're getting more and more evidence all the time. Some of your work you've shown, that that combinations and blends of herbs can be remarkably effective. Now, the, the individual herbs, we have a pretty good sense of what doses we need, what we need to target, what aspects are working on even the mechanisms of action.

when we start using blends and we're dealing with synergies of these different herbs, a lot of it becomes the clinical evidence base. And really what we've all kind of learned who are in this, in this field, we're learning what blends work, really through clinical experience.

But it's, the, the herbs work on their own for many people. but they're also used so effectively in conjunction with those pharmaceuticals that I described earlier that, that they allow us to get higher levels of penetration of these, anti-infective and that they work sometimes synergistically with the pharmaceuticals that, that most patients, at the end of the day, if we're treating people for months and months on end, that it is hard to tolerate pharmaceutical antibiotics for that long.

So we have to take breaks. We have to sometimes do pulses. We have to, to sometimes, go through different, different clinical regimes. And one of the ways to keep people, at their, at their best, at the highest chance of actually accomplishing, you know, this, this killing process is with the use of, herbal antimicrobials.

Now, herbs also are the mainstay of the, the other work that that is absolutely necessary when we're talking about a multidisciplinary approach, when we're doing lymphatic work or we're doing liver or kidney or other kinds of detox work, or we're helping the nerve, the nervous system.

Yes, there are pharmaceutical agents that can work on these as well, but it's really the herbal and some of these other natural products. Yeah. Whether alone or in blends, that have a great evidence base and are highly effective.

There's no way we could do what we do without probiotics. We need diffidence. We need Saccharomyces Bulat. We need, acidophilus. We need Ackerman's. You know, we need these other things in the probiotics that there's no way that people can sustain such high levels of necessary antibiotics without the support.

Right. So you've alluded to some of the systems that are important to be supporting and evaluating during treatment for Lyme. What other symptoms and or systems and can you elaborate on what you've already said, like with the gut, right.

And with the microbiome and with the kidneys and the liver, like, what systems of the body, in your opinion, need to be evaluated and supported during treatment?

Well, I mean, each person is obviously different. And so you're reinventing the wheel with each patient. But but there's obviously patterns that we come across.

Right. so the gastrointestinal track, the immune system, the even, nutritional absorption, which has to do partially with the gastrointestinal tract, but it also has to do with cellular, nutrient nutrition.

we have to work on these organs of elimination. We have to work on, the, and some of these, these endocrine organs. We have to make sure that the pancreas is functioning.

Well, we have to make sure that the adrenal glands, are not overstressed and releasing too much cortisol, which can also impact the immune system. We need to make sure that, the, that the nervous system is, is supported.

We have to make sure that patients are, emotionally supported as well. and, so every system of the body is involved here, and, and every part of the body can go wrong.

All of the, the sensory organs, the eyes, the ears, smell, taste, all of these things, the lymphatic system, by which is both immune and detox, is, is highly impacted.

The skin is highly impacted. So, the our microbiome is, is one of the most important, players when we're dealing with a chronic infection that needs chronic anti-infective.

So the I don't is, the musculoskeletal system. I didn't even allude to that yet. And that's probably one of the largest, most impacted systems for all of the infections and for all some of the side effects of the drugs as well.

and so we have to make sure that the, the tissues, and the joints and the bones are all addressed.

Adjunctive and Alternative Treatments

the, hematopoietic system, we have to make sure that the spleen and the liver and the kidneys again, and and the bloods, the the blood itself, is, you know, is addressed.

every system is involved. It's amazing to me. Yeah, when it has the ability to, in fact, every single cell in the body. Right. It's going to affect every single system.

I often find that whether it's a genetic weakness or previous injury or what have you, it's part of like, why every patient's presentation is different because somehow this organism knows how to go to that vulnerable weak spot in the patient's it has.

This organism is very complicated. This spider kid is very complicated. The it's it it's dumb. Cousin syphilis was complicated enough. And this genome is so much more complicated with the plasma DNA.

With the genomic DNA. It's a survivor. It's one of the older organisms, in on the planet. And it knows how to survive. It knows how to use our body against us.

It knows how to to, confuse, and evade the immune system. There's not a lot of organisms, per in this infection, when you talk about it in terms of bacterial terms, like one organism really packs a punch, but it also kind of evade the immune system.

You can live inside cells. It doesn't like oxygen, so it goes away from the bloodstream where most of the medicines go it it's a survivor in every sense of the word.

So with that being said, and keeping in mind the treatments that we've talked about so far, are there alternative or a junk of treatment that you recommend, to your patients or that you think are really helpful in helping to heal the patient from Lyme disease?

So I just wrote a book about this, actually. and so I talk about that a lot of those and I think it's important also to, to describe the difference between adjunctive and alternative as well.

Right. adjunctive treatments are things that are supportive treatments or things that you're going to do, with the, your, your main focus, your working on, on killing the organism.

You're also working on decreasing the inflammatory response. You're often having to decrease, a mast cell reaction and another other forms of immune over reactivity.

your immune system often ovary reacts because it's underperforming. And so it's almost compensating for what it can't do. Right. It's going to overcompensate in those places.

And so you have to address that. Otherwise patients just can't sustain the treatment and you have to back off. You have a junk of treatments include doing herbal and exercise, herbal supports for kidneys and livers and, and exercise.

So people sweater going into a sauna. to to allow some of this, these other toxicants to get out of the body. and so adjunctive and adjunctive treatments are really crucial in order to, to, to properly treat chronic infection.

Alternative treatments, some of the adjunctive treatments are alternative treatments. But when I think of alternative treatments I think of really important and promising and often very helpful treatments that maybe have an evidence base but aren't really considered standards of care yet.

and that could be things like hyperbaric oxygen. There's studies that show that it works against kids, but it's still considered an alternative treatment plasma exchange for rhesus or plasmapheresis.

It's a treatment, but it is still an alternative treatment in many ways. ozone is a treatment. different kinds of energy, energetic treatments, and heat treatments, all of these can be considered alternative treatments.

Many of them are very useful and have their place. Even things like ABA therapy, like bee venom therapy, can be really helpful and it's place, but there are alternative treatments and often not necessarily the mainstay and definitely not the place that I would go first.

but they can be very supportive and they could be alternate. Some of these alternative treatments could be an adjunct also to the mainstay of what we're trying to accomplish here with using the proper anti-infective that we know should work.

and we're learning more about more all the time. there's, there's new drugs on the horizon all the time, and, and, and those are, are increasing our database.

And I also think that many of these alternative treatments are, are contributing to the database, too, as more of us are using them. Yeah. And I would imagine a lot of these alternative treatments that you're talking about too, can oftentimes help to alleviate symptoms.

Like they might not be getting to the actual root cause, but can be effective in helping to decrease pain, for example, right. Or increase energy. on that note, can you talk a little bit about how you balance symptom management versus treating the underlying cause?

Yes. thank you. I, I can however, again, each person is different, right? What what I wrote in, in the the book is, is really about an order of treatment.

In fact, the book's called the Order of Treatment. And and just to refer to it, you have to in order to accomplish the goal of eradicating the infection, you have to decrease the patient's initial inflammatory response in order for the treatments to work.

You can't if someone who's already very inflamed, you can increase their inflammation without giving them some relief. So you have to stop that inflammatory cascade first.

You have I feel that you have to decrease the, that hyper reactive load you, and response, whether that means decreasing mast cells by using various, antihistamines, whether they're herbal or or pharmaceutical, but overall just decreasing that hyper reactivity that prevents you from getting anywhere.

So that's the first step. And then I think that there's several different, agents, both pharmaceutical and natural, that you need to allow the body to start receiving treatments, whether you're using hormonal treatments to help that happen, like oxytocin or you're using things like low dose now Trek zone, or you're using, other things too, just to give the body a chance to to start assimilating and tolerating, you know, many of the treatments that you're going to use, then you need to really make sure that the body is nutritionally supported.

The body has to be strong enough to be able to be, to go into battle.

Personalizing Chronic Lyme Testing

and, and so whether that's using, phospholipids like fats or, B vitamins or, or amino acids, or other electrolytes, the body needs to be nutritionally replete.

And then I think it also needs to be detoxed, a bit, because you can't have a huge toxic load, when you're starting off with, with these patients. So, so and whether detox means making sure that the fungus is out of the way, making sure that you've addressed mold issues, which because he serves patients are really, they're both many of them have chronic Lyme and mold, exposure and mold sickness.

And you can't for many of them. You can't go straight into heavy anti-microbial regiments without addressing the, the sirs, the systemic inflammatory response that things like mold can cause for them.

And then then there is the the killing process. And during that killing process, you need to make sure patients are safe. You need to make sure that that you're using things to keep their liver, kidneys, and other organs, safe.

You need to make sure that drug interactions are measured. You need to make sure that that things like, when you're using the drug, for example, rifampin, which we use often for Bartonella and or looking in a plasma that, that we're monitoring their, their sex hormones and that they're getting replaced with the hormones that they need when drugged.

Some drugs and other treatments can decrease those. And then, I think we have to continue to, to allow the body to heal. I there's many ways to address the, the die off reactions or reactions.

We need to help the body get stronger after we've done the killing process and even towards the end stages of the killing process, we have to teach the body or help the body heal.

Again. and so a lot of regenerative medicine is really coming into play here for the chronic Lyme patients. Patients have been sick for, you know, some of them for 40 or 50 years.

and not knowing that they had Lyme. And so there's going to be nerve damage. There's going to be lots of, fibrous tissue damage. There's going to be all sorts of cognitive issues.

and, and we need to help the body learn to repair itself. So things like exosomes and even some stem cells can be really useful there. The, phospholipids again, can be used almost at all stages.

A lot of different peptides have been really useful for helping mitochondrial function, for working on immune support, for even for some anti-microbial ones, some, for for pineal and hypothalamic support.

There's many peptides that, that a lot of us are using in this field to work on this adjunct work. And the evidence

base is increasing for those too. So it really depends on the person, for, for how to address these really complicated cases.

But I think that there's an order for when you're dealing with chronic infection for how to, to approach them. You have your anti-microbial piece, whether it's pharmaceutical or herbal or homeopathic or, or there's other ways as well, or through modalities, through pressure, through hyper oxygen, through heat, through through other various remedies.

but then you also have the whole body that you have to address, some of it which has been devastated by the infection, some of it which has been has been a response to the infection, like a hyper inflammatory and dysregulated or, you know, a dysregulated immune state.

Right? Yeah. And if you don't recover the immune system as, as best as you can, it's like how how is the body supposed to hold it into remission or eradicate it, whatever the case may be.

So, Doctor Harris, can you please let patients know how and where they can find you? And again, tell us the name of your book when it's going to be released, how we can get it.

And then we're going to dive deeper into I have several more questions for you. So I, am working with, Gordon Medical Associates in San Rafael and can be reached, through Gordon Medical Associates, as well as Pacific Frontier medical.com.

That's Pacific Frontier medical.com. And, the name of the book is The Order of Treatment. And the website where it can be, obtained, or at least with a link to how to get it is, Lyme treatment 2020 4.com.

So limey treatment 2020 4.com. and that's the order of treatment is the name of the book. And what is to come out. It should be out by now. Oh great. Wonderful. All right. Thank you.

Okay. So let's dive back in. And can you start by talking about how patients can personalize their treatment plan not only to need their specific needs, but also if there are co-infections involved.

And I mean, this could be a totally separate talk in and of itself. So. Right. So we're talking again, we're talking about chronic Lyme here. Acute has been dealt with range.

You know with that sick somewhere between 2 and 6 weeks of treatment that that that did the trick. so these are the chronic patients who either weren't treated initially properly or didn't know that they had diagnosis.

And so really, what you have to do, I think first is you need to look at the infections, what infections are you dealing with. And so I'll look at both do use direct tests as well as indirect tests.

I'm sure other speakers have, discussed this direct test. You're looking for the organisms themselves, indirect tests. You're looking for antibodies or T-cells or other, secondary evidence that the infection is there.

so you're looking I think it's important to look for the, for Lyme, for Borrelia, infections and maybe even doing, strain and species analysis. So knowing if it's a European strain, knowing which European strain or species and or knowing even which, which strain you're dealing with.

if it was from North America, the, the and then there's other strains and species throughout the rest of the world, too. So there might not always be overlap in the testing.

So depending on where someone's been been bitten, that needs to be considered pretty significantly so. But at least doing testing through reputable lab for with with antibodies, I would at least do a Western blot or an immuno blot, something that has all of the bands, not just the ones that you see in New Line.

And then I would do a PCR or or test like PCR. I would look for Bartonella infections, I would look for BBC

infections. You can do RNA testing on those as well as DNA testing as well as antibody testing, as well as T-cell testing and I would look for Berbizier, Bartonella or Licky, as well as Ana plasma.

Those are, white blood cell infections. they're usually easier to treat if you know that you have Lyme, you're usually treating them, along the way. Not necessarily.

And if it's a really classic case of earlier that can be quite severe. and then you need to treat with, with the appropriate treatment. But I'm going to usually, test for those as well.

I'm also going to look at viral, exposure. I'm going to look at see if there's active infections for viruses. Many of the usual suspects, such as human herpes, six, such as, herpes simplex one and two, Epstein-Barr, coxsackie viruses, parvo viruses, and others.

I'm going to look at probably a cytokine panel looking at someone's immune system. I am often going to do that. The Bruce Patterson Radiance lab test, that I genex actually does as well, looking at, at some of the cytokines that you see in chronic Lyme that you see in long Covid, to see how inflamed their immune system is going to do a nutritional analysis with one of several labs, whether it's to Nova or Specter Cell, or doctor's data, to take a look at nutrients, sometimes with amino acids, fasting plasma, amino acids.

I'm going to do an organic acid test in the urine and a stool test, to look at, at the, microbiome, whether I'm using GI map or Zenobia doctor's data for those, I'm going to, perhaps do a Kennedy Krieger, test on phospholipids, which, which body bio can interpret and and look at at people's ratio of fatty acids to see if, if they can become more replete with plus for total colon.

I'm, going to perhaps look at adrenal gland, adrenal function with a saliva test and definitely a dose, first morning, blood test for cortisol for hormones as well.

But I'm also going to do saliva and, and urine tests for, for those. And and there are several labs that I like us biotech and I may do food allergy testing.

I may do, mast cell testing, to, to evaluate. I'm, going to, maybe look at heavy metals, as well here. And I'm definitely going to do, some mold testing whether I'm using something like real time labs or another lab, with, a glutathione challenge, to, to see, toxin release.

It's not a perfect test, you know, and you have to use that and in time and in context. But I'll do that with like, a shoemaker panel, which would be a TGF beta one, and then p nine AD looking at VIP and and MSG and a lot of these markers, TGF beta one, C4, a, a lot of these markers that you see, in when, when there's a lot of, inflammation from either actin or my CS or from mold.

I may do a gene panel, which is a specialized transcriptomics test, for, for mold. That's that's usually a secondary test. And I'm going to do and and then there's a whole host of other specific tests.

I mean, there's a bunch of mitochondrial tests or some seahorse testing, which is actually just a research, test. Now, I'd love to do more metabolomics.

metabolomics is the hot topic. And how to to do precision medicine. It's looking at, metabolites that you make, and so and, and depending on, the company, you can do hundreds to thousands of different metabolites.

and, and it's really where we need to go for precision medicine, with, with the, metabolomics. we can also look at genomics and, of course, and we can look at transcriptomics and, and and even, a methyl omics, which is, methylation of of the genes, that's, that's still not quite as accurate as some of the genomics and some of the other, proteomics and things like that, that we're testing.

Patient Guidance and Emerging Therapies

But, it's really promising because methylation we're finding is everything like we all have are some of our genes are going to show that we have propensity for disease.

but it's only if those genes are actually on or off. Is that going to actually show if they, those, those genes actually matter to us. and so that's where methylation comes into play often.

so and then I'm probably going to do other methylation panels, I may do things that look at reduced and oxidized glutathione on and all of the, the precursors to that.

and so it's, there's almost no end to, to the things that we can do looking at how well someone is functioning, whether it's from a infectious immune, mitochondrial and other energy based, and, and biome, approach.

So, yeah, that and I didn't even say that, you know, doing your typical, rheumatology panels in your typical IBS, you know, IBD panels in your CBCs, and your, panels that, are, you're plotting, you know, coagulation panels can be remarkably useful and helpful, and actionable.

so, and then there's the imaging process, too. There's even though Pet scans don't have the evidence base yet, to give us the information we need, we can infer a lot from from Pet scans.

Spect scans are still the gold standard, but Pet scans are very exciting. Especially what? tracer, we we're using in the Pet scans. So there's a lot of imaging.

That's that's very exciting. All of this diagnostic, information is is what I think that you use for precision medicine. Yeah. There's a lot of options out there.

There's so many tests out there. And I think, you know, for patients listening, there's so much to do, and it can be overwhelming. And I think this is why you really need to make sure that you have a practitioner that knows what they're doing and knows how to do a really, really good history and practices functional medicine so that they can listen and determine like which of these tests are necessary in your particular case, and helping to bring back balance and proper functioning into the body so that you have the best chance.

For when sick. Because yeah, that I think was one of the most important things. And I don't know if it's going to come up, in the rest of the summit, but the history that, is so important to history and the physical exam actually both.

And so for, for the patients who are out there, you just need a doctor who listens to you and you need a doctor who listens to you for long enough for you to be able to tell your whole story.

it this takes time. This is not easy. And and even on first pass, even on a 2 or 3 hour first visit, you may not get all the information. but the history, I think is so important because oftentimes you you're not going to know it, but you're going to tell that doctor what is wrong with you without knowing.

And then the physical exam, I think it's important not every time, especially in the age of telehealth, but I think that first visit or the second visit, a proper for physical exam, it still is very important.

there's very subtle but very important signs that we can find that will show us, which infection, if any. We're likely you're likely dealing with. Right. Yeah.

And in addition to that, too, like, just the different physical findings that can point to certain nutrient deficiencies, right, that you might not pick up otherwise too.

yeah. So history and physical exam both very, very important. okay. So what would be your what would be your one piece of advice that you would say to a patient who is sitting here listening to you, who just doesn't know where to start as far as treatments go?

Besides, like we just said, finding someone who is a proficient practitioner. Trust your own experience to trust that, that what you are experiencing and feeling is real.

because I think one of the biggest problems with chronic Lyme patients and why they come to, to us so late is that their initial labs look great, their early Lyme tests or ELISA tests or very superficial peripheral Lyme test, if they've even had them, they're negative.

And so don't give up. And don't be told that this is all in your head. and, because the answers are out there, there's so many amazing practitioners and there's so many a treatment approaches and modalities that can work, for you.

And don't don't settle, don't settle for, for just getting a little bit better because there's no reason why, almost everybody can't get well and fully recovered.

Yeah, I believe that, too. And I think if you feel like you're not getting and I'm not into, you know, running from doctor to doctor to doctor, but like, if you truly feel like you're not being heard and like your concerns are not being taken seriously, find somebody that you have a good rapport with and someone who is listening to you, you know, and you really, in my opinion, you have to believe that you're going to get better, to get better.

I agree, I totally agree, absolutely. And and the other thing at the end of the day is even if you don't believe that you're going to get better, hope that you'll get better.

So the hope is actually probably as important as everything else, because when there's hope, there's still light, you know, and there's still possibility.

But when there's no hope, it's really hard, even if the right treatment is, you know, is hitting you in the face. that's probably not a very good treatment.

But if the the right treatment is, you're not going to even necessarily get better from it. So the hope is, is all important in my opinion. Yeah. It's huge.

Any new promising treatments out there that you know about that you can share? Well, there's several I think the, there's the Dapsone protocol, which is going to be talked about if it hasn't already.

disulfiram is an exciting protocol. These are both antimicrobials. there's phage therapy. Martha Clokey, in the University of Leicester in England is doing some incredible work, on phage therapy and phage diagnostics.

There's, there's always new antimicrobials that are coming out. There's always new peptide research that's showing how well these things work. There's a lot of very smart, very dedicated people working on this, this infection and the whole chronic Lyme disease.

It's changing. It's shifting the paradigm for how medical medicine and in this day and age is thought about. It is truly a paradigm changer. And so when you have money and dedication and, and patients who are, who are still not better, we have there's so much room for, for new knowledge and discoveries.

So it's a very exciting time. The biggest problem is, is that the naysayers and, the doctors and, the, some of the academicians and some of the, the folks who don't believe that chronic infection or even that chronic disease is, is really an issue.

and don't look at the, the interconnect goodness of the body, and the interrelatedness of all of our systems and how one aspect of, of a imbalance can affect so many other parts of our body.

Yeah. It's amazing. And I think once you actually understand, like, the path of physiology of the infection and what it does to every system of the body, you can apply that to a lot of the chronic diseases, that we deal with.

So it's it's just really, really eye opening and hopefully more and more practitioners and researchers and dare I say,

politicians start paying attention and, you know, really start taking this seriously and doing, you know, doing as much as we possibly can about it.

but, you know, for now, my mission as I know one of yours is to, is just to try to get anyone and everyone to listen, out there. So thank you so much for joining us.

And, it was a pleasure to interview you. Thank you. Thank you very much. And we'll see all of you on our next edition.