Botanical Medicine vs. Lyme: Can Herbs Do What Antibiotics Can’t? Transcript

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Introduction to Botanical Medicine for Lyme

Welcome to another episode of the Healing Lyme Summit. I'm your host, Doctor Myriah Hinchey. And tonight we're going to be talking about one of my absolute favorite topics, the ability of botanical medicine to help to heal Lyme and co-infections.

We're going to talk about everything from limitations of current treatments and where botanical medicines can actually shine in this arena, as well as go through some pretty solid scientific research regarding the ability of these botanicals to heal from Lyme disease.

So joining me tonight is Doctor Sunjya Schweig, and he is a board certified family practice and integrative and holistic medicine physician. He has nearly 30 years of experience in the integrative and functional medicine space, and he's committed to advancing data driven approach to prevention and reversal of chronic illnesses.

He is the founder and president of the California Center for Functional Medicine, or CF which provides personalized precision medicine care. CCF is known for its comprehensive and data driven approach in treating complex, chronic conditions, and has supported first responders with health and wellness programs since 2016.

Doctor Zweig founded the Functional Medicine Research and Technology Center in 2021, focusing on chronic illness research, education, and innovation. As an active medical educator and researcher.

Doctor Zweig holds an adjunct faculty position at Toro University College of Osteopathic Medicine and has published articles on botanical medicines for treating tickborne infections.

Welcome. Tell our audience a little bit more about you and how you got into treating chronic, complex infections with botanical medicine. Yeah. Thank you so much, Doctor Hinchey, and thanks so much, everybody, for being out there watching this important summit and content and, know I appreciate the time that you're taking to make this possible.

I know it's a lot of work outside of your regular clinical practice to, you know, do all the harm to use and put together the speaker lists. And so, yeah, it's a pleasure to be here. And, you know, my path towards this, world, was not linear as a lot of us, I think experience, I knew a lot about integrative and alternative medicine early on, you know, even in college and before I went to medical school.

And I knew that that was the path for me once I decided to be a doctor. And I went through my medical training and residency and family practice and would carve out time anywhere I could to work with integrative and functional medicine providers and, you know, sort of the the energy and a lifeblood that kept me going.

I really love science, I love medicine. But I knew that there was also this whole other world out there. And so after my residency, I jumped into private practice in functional medicine and built that practice over time.

Personal Path Into Lyme and Co-Infections

Slowly took a little bit of time. But really, about a year after, I started in in that space, my wife got sick and she had sort of, you know, kind of a mystery illness.

You know, we took her to several doctors and, you know, they thought it was something autoimmune. You know, she she had a stiff neck and, and, you know, so she wound body pillow and, you know, she's kind of thinking, you know, what's wrong with, you know, we didn't have a lot of answers, and I had just enough knowledge to say, hey, this is a little weird.

And, you know, I had a colleague of mine who was working in one of the practices where I was, and she knew a lot about Lyme and co-infections, and he came over to our house at one point.

I still remember him in an evening coming over, and he's like, you know what? Like, I think you have languages and I think you probably have some co-infections as well, probably rabies.

Yeah. And here's a test you should do. And and so we did those testing. And in fact it did show that. And it showed acute you know, kind of all right.

Infections on the antibodies. But it also showed that these had been around a long time. And then which kind of tracked back, you know, in our brains we're like, well, actually, yeah.

Symptoms probably started about ten years ago when we were living in upstate New York. And she was at graduate school at Cornell, you know, doing field work in ethno botany and natural resources department and out in the forest.

And we were loving hiking in the woods. And I we knew nothing about lime and co-infections. Nobody ever warned us or told us. And so and that really took me down the rabbit hole.

And I remember going to islands that year and having to entire our exoskeleton super convenient for me. And that's, you know, Doctor Bruce Cano and Doctor Horowitz and all these folks and Doctor Harris, who so sweetly sat down with us in the lobby of the conference of the hotel and kind of went through the case and our case with us, and they said, yeah, yeah, this is real. And, you know, here's what you have to do.

And I honestly, it was terrifying, right. And so I really empathize with a lot of folks out there who are trying to learn about this space and understand, you know, what's happening to themselves, what's happening to their loved ones.

Is this thing real? What are the nuances of the science? And, and I really empathize with not only how overwhelming it could feel, but also how complex and how controversial and puts patients that are really hard spot, you know, to be trying navigate their own health and be in the middle of this ongoing medical controversy, which I really think is pretty much unconscionable.

It's not right. You know, because the science really does support the questions around persisting infection with Lyme and some of these co-infections and around immune evasion and all the ways these bugs can hide and biofilm, etc..

And it does support ongoing treatment. Right. And so a lot of the options that are available to people are antibiotics. I think that's the first thing that a lot of people reach for.

And there's a lot of doctors in the, you know, sort of world of those who believe in this potentially being a persistent infection or chronic infection.

And I would say more of those doctors, you know, who who get trained, which I like, which is a great organization or who follow, you know, some of the research of Richard Horowitz or Monica Ambers or John Archer, you know, and a lot of defy, I think, is antibiotics.

And I think that antibiotics can be very helpful for people. And I stand by that. I think there's a role for antibiotics, but, but they're not very smart, right.

They're they're very really like, you know, you think about what is the antibiotic do it really attacks the bacteria really usually on one single mechanism of the replication cycle or the metabolic activity of the bug, whether it's Lyme or a BCR, Bartonella or like etc.

really only works most of the time when the bug is metabolically active, right? When the bug is actively dividing or

going through its, its replication cycles and and you know, really is, you know, antibiotics are really like a mechanism for trying to stop or kill the bug.

It's a very Western approach, you know, control the physiology, control the bug, shut it down. And that works sometimes, right? It doesn't work all the time.

And there's a lot of mechanisms by which these bacteria will slow down. We'll go into persistent phenotypes. We call them. We could talk a little bit more about that. And and evade and evade those of the eyes.

You know, think about about a lot of these treatments, including the kind of goals is that they work in the blood, right? You take a pill or you take an IV, or you take your, your medicine, your herbs, your habits, and they go into your body.

They absorb as the bloodstream and, circulating around in the blood. And they're attacking the bugs that are in the blood. But these bugs can get out of the bloodstream and can go into privileged sites, into immune sites or joints or tissues and, you know, etc..

And so, you know, we really know that the big sort of 30,000ft view is that we desperately need better treatments. Right. And so that was really kind of the impetus for us to jump into some of the botanical medicine research, you know, and we think about the botanical medicines and the herbs that we chose to study.

We didn't just choose. And blindly we chosen because actually people are already using them. Right? These are sort of out in the field. People are already discussing them.

And folks who are on, you know, different social media platforms, Facebook or Reddit or, you know, different groups, and they're talking about this amongst each others or creating stories, you know, hey, try this it x what?

And know you know. And so we chose things that people are already using. So we have a track record in, in humans, we chose things that have some evidence for Lyme and co-infections in the research literature, and we chose things that are relatively safe.

Right. Again, going back to the fact that are already being used, not without side effects, but there, you know, you have to be careful on some counts.

You know, and also things which, we think or understand can be absorbed orally. Right. You know, that's important, you know, so for a delivery mechanism.

Why Antibiotics Alone Often Fall Short

So you alluded to one of the reasons why a lot of pharmaceutical antibiotic treatments fail. Why don't you kind of walk the listeners through what some of the other issues with relying just on killing these infections, and specifically with pharmaceutical antibiotics?

Yeah. So, you know, I think it's like a it's like there's a lot of answers to that question. But the 30,000ft view is that and what I say to patients, a lot of times you can't kill your way to health, right?

You can't just go in and kill all the bugs. And then the person is back to normal again. And we know that. And this gets into the murkiness of these bugs.

But just taking Lyme disease, for example, from Borrelia burgdorferi, the bacteria. And it was yeah, that was both named after Lyme, Connecticut, which is probably close to where you are since you're in Connecticut. But, you know, trying to lower the load of the bacteria is one very important thing.

And that's where a lot of the herbs and, and the antibiotics in particular can help with. But there's also a lot of inflammation that's causes a lot of autoimmune signaling that gets cross wired in the body when you have these

bugs.

And there's a lot of cytokine production. And the bugs really love to kind of live in this soup of what I call like immune confusion or immune activation.

They can trigger mast cell activation. And so again, that part of the onion infusion, and then there's a lot of underlying issues, you know, what was the terrain like before.

Why do why do some people, you know, get exposed to ticks and these bacteria and get super sick and not recover, whereas some people can get exposed and don't have symptoms.

Right. So what was the underlying terrain beforehand? Was there microbiome disruption, dysbiosis, Sibo? Was there any other parasites present? Other viruses?

Was there trauma that happened in that person's life and we know that early childhood trauma and what we call the Ace score, that adverse childhood events that that can primed somebody's system for a higher risk of chronic illness, whether autoimmunity or infection.

And so we have to think about all those pieces. And we have to really, you know, I think from what you're doing and what we're doing, and I think, you know, a number of practitioners in this space are really trying to be very, very conscious of all of that and all the different levers that we can all to help somebody's system come into better balance, better immune stability, lower the inflammation load.

Right. All cases, brain sleep, you know, movement as best possible as tolerated. You don't want to over push people for risk of crash, etc. all those pieces have to be dialed in.

And then when you think about the treatments, whether it's and they're abiotic, again, they're, they're somewhat simple in terms of how they work. And we know that, you know, you can get persist your cells.

Right. So you think a little bit about, you know, persist or cells and what are persist your cells. Well you know in some of the research we can see that there's these, you know, there's these you get the bacteria and and it comes into your body and it starts to replicate and divide and multiply.

And then what happens is that it builds up its colonies and then you get increasingly set right. And so those are usually, what we call the growth phase of the, of the actively dividing bacteria.

Right. And so there's those phenotype or type of cells. And then there's these other types which can, you know, this call, you know, is a almost like a biphasic.

There's two different or at least two different subtypes. And then you get these persist your cells, which are basically more tolerant and can survive exposure to treatments including antibiotics.

And we know that like almost all bacteria, whether it's in humans or animals or plants, you know, we have seen this persistent phenomenon across the research.

And it's it's very, very common, actually. It's a very common way that these bacteria have gotten very smart. Right. And and so a lot of times you can give somebody a biotic and treat them.

You can maybe actively lower the load and kill some of the actively dividing bacteria. But then you have this antibiotic tolerant cell, this persistent phenotype, which maybe is just hunker down and has wait it out, was kind of like waiting out the storm. Right.

And whether that's hiding in a biofilm or biofilms or basically like this slime layer that the bacteria can produce and basically like coat themselves over with, you know, whether it's mucus or these aggregates, these cellular aggregates, they can pull in like heavy metals and even yeast and fungi, organisms that just kind of create this

shell over them.

Where now the antibiotics or even the birds can't get in there to get down. And again, we mentioned they might be hiding in other tissues, right. And at the out of the bloodstream entirely. Right.

And so we really need to be aware of that and to understand, this biphasic treatment and, and you can't necessarily I think this is part of the problem actually in the research, they're sure about why it's hard to find these organisms after you've treated somebody.

Right. Yeah. Mike, Amber has shown that in some of her monkey animal, rhesus macaque model of the other Lyme infection that, a lot of the standard tests, including a culture, might not even be positive after you have treated somebody for or treated an animal for these infections.

But if you do the, you know, diagnosis, so you do stains on different tissue and then look for activity or genetic material at these bones, you can actually find it.

Right. And so it's a very complicated and nuanced approach. I think the science is really over the last 3 to 5 years, is really provide us with some details on on some mechanism of why this is happening.

Yeah. So can you give us an overview of the research that you actually conducted. And you know, specifically what botanicals did you study? What were the outcomes that you found?

Yeah, sure. So it was really fun actually kind of how we got into this, process. And, you know, it was really an honor to work with Doctor Ying Jang at Johns Hopkins.

And our research was funded by the Area Lyme Foundation. And so really an honor for me to pull together this team. And Jacob Gionet, my friend and colleague and doctor was part of our key research team.

And we also had advice and counsel from a number of other wonderful service and doctors, including music Reader and Brian Kia Spark and Eric Yarnell. And so we kind of again started with like, okay, what are the key botanicals which are commonly being used?

And let's test those and let's test some other natural products, etc.. We have come on to Lauren and and citrus extracts like, citrus steps. Right. And so the, the and we did the first study that we did, was in 2020, I was looking at line at the upper glove, right.

And a test tube model. And yes, first is a very important thing to understand. This was a test tube model was not in animals. It wasn't in humans. Right.

And so, and we can come back to why that's really important for the botanical medicines in particular. But we looked at, you know, a number of different products, and we found in particular that seven, of these botanical medicines were quite effective against Lyme, and that included some that we kind of knew about.

Right. Likes. Good. Leiria. Carry out tomato services. Cats claw. That's good. Various skullcap systems had some activity pulling in them could become, which is Japanese knotweed has some activity and and then Artemisia also which is interesting.

And also crypto lapis. So crypto lapis kind of end up being the star of the show really. Of these three research studies, one online, one on Parnell and one on the BCA, and it was shown that the lapis, which has some, you know, historical research supporting its use for BCA, given that it also has been used in Africa to treat malaria and, and malaria is, you know, you know, seven busy similar to malaria in a lot of ways.

And so but crypto lapis actually had very strong activity against Lyme and we tested them. So how well do they treat the actively dividing bacteria? But then also how do they prevent that bacteria from coming back.

Right. So that's sort of more the per sister model. And this was done in a really elegant model that Dian Zhong has had built at Johns Hopkins and cellular intracellular model and had done some previous studies on.

So it was really fun to collaborate with him, and you had to put all these compounds into the into the test tubes that we were really curious about. So, so that study showed again that there's about, you know, seven of these that are really good activity against lime and crypto.

Lapis in particular was able to prevent a regrowth in the persisted forms.

Botanical Medicine Research Findings

And the second study, was on BCA and, you know, showed that of those of that group, botanical medicines that seem to have the strongest activity against the BCA were crypto lapis, Artemisia, Scuderia also again, cornea and also collect them because Guggenheim are Japanese knotweed.

And so and similarly to the first, I showed that a crypto lapis of all those was really able to prevent regrowth in this, into, you know, test tube model.

So that was really, really fascinating. And, and then the third study was looking at Bartonella and persist your cells in Bartonella. And, you know, the, the key botanical medicines that seemed effective were crypto lapis, also Google Lens Niagara, which is black walnut.

Pulling them Chris. It's good Maria by Classis and also Scuderia Barbosa. Right. And so you know some of these are really kind of coming back again and again.

Like you could pull up relapse the the plug in of course, but that the school area and you know it's really fascinating because those are some of the, the most popular botanical medicines to treat these things right.

And some of the things that we're already using, those is really, powerful to provide some, some of that evidence. Yeah. That's great. So did you look at these individually and then look at them together, like in a synergistic way.

Or each one of these, like in the three different studies, they were tested alone. They're all tested alone. Yeah. So yeah, synergism would be very interesting.

So they're tested. So normally antibiotics were tested separately. And then the botanical medicines were tested individually and then different concentrations are also at 30%, 60% and 90%.

And we also tested, you know, independently these were the botanical medicines were tested in alcohol extracts, kind of like we take them, you know, when we take tinctures, and we also tested the alcohol itself, right.

Just to see if that alcohol was what was doing, the killing, and the alcohol across the board really didn't have much activity. So that was very heartening to see that it was something in those botanical medicines themselves that work or that we're doing the work.

Right. And I think the really awesome point, and I'm sure this is what you were going to get to earlier when you were talking about the importance of realizing that these are in a test tube, is that when you're doing these studies on these botanicals in a test tube, you're not able to see the immune modulating effects that make them even more effective, and you're not able to see the anti-inflammatory effects that are going to make them even more effective.

When you're actually putting them into the human body. And so really, like all we're seeing is the anti-microbial activity. So if you take into consideration that these are inflammatory infections that cause pretty extreme immune dysfunction, and then know that almost every one of the botanicals you mentioned also have anti-inflammatory and immune modulating properties, that when you actually put this into the human body, you're typically going to see an even better outcome.

Yeah, it's a super important point and one they always should try to make. You know, because people think. You know, so back now, but why do we do this research?

We do the research in part because we use these compounds. We're very curious about them. We want to understand them better. And we did it because we need better science in the field of Lyme disease and co-infections and tick borne infections.

And we need to understand better, you know, what's happening from these treatments and that, you know, we found a niche and we found an important way to contribute.

But it is really important. So I think out there in the public and for you listening out here to the summit, you know, you know, personally I'm, I'm very excited about this research and I and I'm proud of it.

Like we we really contributed I think to the field. But you can't make a direct leap from, you know, what happened in this test tube model to what's going to happen in the human body or an animal's body.

And also, you know, even if something showed up in here is not being a very effective to kill illness by a year to kill, because it might still be helpful in the human body.

You know, because like you said, botanical medicines are very, very smart and they're very elegant and they're frankly amazing. Right? And particularly like, I love the point you brought up about like, synergism when you mix these things together, you know, these plants have hundreds if not thousands of different phytochemicals and, you know, pathways.

You know, that these are working on only a small number of what you're killing and but that, you know, unlike the antibiotics, which can only do killing the herbs are also helping, you know, the immune system helping inflammation, helping to lower cytokines, helping as an antioxidant, helping as a cellular energy provider.

Like, I mean, the list goes on and on and on. You could go we could talk about that for hours. So, you know, translating the research directly to the human or the animal is, you know, it's a little bit of a gap there.

Right. And I think that's a need for future research. Both on the synergies among mixing, you know, different botanicals together, what happens there, and then also some of the other activities, right.

And I'll tell you a funny story. Steven Buettner, who we know and love and who passed away, not recently and was a master, master herbalist and many of us know his work.

I actually have all his books right here. Took him out to, to show the audience. But, you know, herbal antibiotics and tackling Lyme disease and, you know, herbal antivirals.

You know, I approached him at one point, I said, hey, we want to do this research. Will you, will you be part of our council and help us, you know, with it?

And he declined. Yeah. He said, no, I'm not going to do that because it's it's very Western in its approach. It's very reductionist. And you're taking the herbs out of their place where they shine and that, you know, to him, I think he felt like I was in a disservice, you know, to the botanical medicines.

And I totally understood what he was, where he's coming from. But, you know, science moves very slowly, and you have to provide baby steps and provide, you know, so steps that other people can stay, you know, march along the path with, and so I appreciate his input.

You know, there's so much synergy that botanical medicines offer. And, and it's almost like there's a mismatch a little bit of from Western science of how we study this. Right.

And how it has it map to that in a, in the wisdom of these, these plants. Yeah. You know, it's funny too. Like I get

very oh I don't know what the right word is.

I get very worked up about disturbing like the constituents in the whole plant. And I am very much, you know, like if you're going to use, for example, Japanese knotweed roots, you know, we want to use the whole root.

We don't want to just extract the resveratrol out because then you're missing, you know, like the 7 or 8 other very important medicinal compounds in there that actually work synergistically with the resveratrol to bring about all of the important, effects that we see.

You know, same thing with taking artemisinin out of artemisia. And you are right. So what how do you feel about that, about using standardized extracts versus using, you know, the whole part of an herb?

Yeah, I, I definitely agree with you. I, I believe that the whole part of the herb or whichever part of the plant has its strongest evidence for from an indigenous use case across these brilliant cultures, whether it's traditional Chinese medicine or African medicine or you know, South America or Native Americans.

And these are the people who have been using these plants for thousands and thousands of years and many cases, and they've learned about them over time and have documented the effects, and they've really come up with sort of what part of the plant.

Whole-Plant Synergy and Standardized Extracts

And I mean, it goes so deep, what part of the plants. But but you can have one plant, but different parts of the plant have different, you know, medicinal uses when it was harvested, where was harvested, what the conditions were like, how how you treat it after it was harvested, how you how you either let it sit and dry or you process it right away.

Or do you do it in alcohol, or do you use it as a pill, or do you use as a tier? You know, so like many, how you extract those components? So there's a ton of wisdom there.

And I think we do really need to lean on that. Right. And it was interesting. Yeah. Because, when, when Doctor Zhang, you know, put these, botanical medicines into this model which he had created, he also tested some of the extracts.

Right. So, you know, by calling from school area, by cleanses and, and you know, by calling and, you know, and he actually did show activity for some of these, right?

Again, in a test tube. And so I think there I think there is a developing story still. Right? I think that, you know, modern science is going to add to some of the traditional wisdom around these botanical medicines.

And part of why that's important also is because, you know, like you, I believe we have talked about that live. I speak for both of us when I say, you know, I don't really support trying to find a single metabolite, which then we can patent and put into a pill and make tons and tons of money on.

Yeah, that's what the pharmaceutical industry has their their motivation. That's why they study these things. You know, but if by any other hand, there's some value to finding a standardized compound or set of compounds, our mix of compounds at a standardized dose that we can replicate and get out to people.

Right. And so, you know, to try to decrease variability, and, and I think that is important for some of these treatments. So I think it's a yes. And I think it's like it's really good to have the credibility and the science behind it.

And I think it gives patients and maybe some of their physicians a comfort level. You know what I mean? That at least there's some research. There's some study.

And yes, like when it comes to dosing, I am I'm super passionate about using therapeutic doses of things and using

them in a rhythm or pattern that, you know, achieves cellular concentration in the body so that you're actually having some sort of consistency.

You know, as far as like giving these medicines the ability to do what they need to do, how they need to do it, like we wouldn't be using randomized, you know, fractions of doses of things with various pharmaceuticals and taking them kind of haphazardly whenever we feel like it, or remember and expect to see any sort of response, you know, from the body.

Yeah. That's brilliant, I love that. I guess the question, the side question that comes up for me, Dan so on the flip side, the other thing that's really attractive about the botanical medicines is that like we, you and I and all of us, you were treating these, these complex patients like we deal with a lot of individual variability.

Right. And like what people can tolerate. And so some of the power of the medicines is that you can actually start lower and ramp up slowly over time and find someone's tolerance and push their body a little bit or a medium amount, but not like just kind of blow them out of the water with a hard time of reaction, which is really, really scary and hard.

And whereas the antibiotics you don't have that ability, right, you really have to hit a certain dose threshold or you risk resistance. Right. And so yeah, finding and that's the beautiful thing about the botanical medicine is that you can because of the synergism, there's a much lower risk of resistance.

A lot of time, not all the time, but a lot of time. Right. So you can kind of play with the dosing and individualize. Yeah. I mean, you know, I would say from the perspective of like not creating a Harkes if possible, which isn't always unavoidable depending on the patient.

But yeah, definitely being able to get the patient ready for treatment, you know, doing all of that foundational work, preparing their gut, decreasing the various inflammatory cytokines, you know, so we can choose which herbs we're going to introduce first so that, you know, because a big part of a hrc's response is not only the, you know, for the listeners, it's that LPs with the lipopolysaccharide, which is part of the outer membrane that gets broken down when you are killing the organism.

So it actually releases this from it, but that causes massive amounts of inflammation, and it increases interleukin six and some of the other inflammatory cytokines.

And like if you're already using Chinese skullcap or Japanese knotweed to modulate, you know, the interleukin six and the various other cytokines, you're going to actually decrease, from my experience, I see you're going to actually decrease the severity and the frequency, you know, of Horkheimer reactions.

And again, this is especially if you've already started to kind of like drain that patient's bucket as far as like taking away things from their environment and their lifestyle, a lot of it is, is food driven, knowing what their food sensitivities are and things like that, and helping to decrease gut inflammation, and, and get them detoxing and not just detoxing but properly eliminating toxins from the body.

It really gets them into this position where they can then tolerate the treatment. And, you know, for me personally, a lot of times I do go in full dose, but if somebody has a reaction, you know, then yes, using the various botanical medicines, especially tinctures, which is predominantly what I use, you know, you can back it off to like the highest amount of drops that's tolerable.

And then you can ramp it up by like a drop or two per dose until you find that patient sweet spot. And then, you know, they might sit there for a couple of weeks or months and then you're able to go up again.

So like there's a really, you know, brilliant ability to to wean that person up if they need to. Yeah. Totally. Absolutely. Sandridge. Awesome. So I kind of dipped the toe in regarding lifestyle and all of these other, you know, important things.

Why don't you elaborate? Because I know treating a patient from a lifestyle perspective and doing all of these, you know, therapeutic lifestyle changes is a big part of how you practice as well.

So do you want to walk us through it? Yeah, absolutely. Yeah. So again, going back to like the terrain piece of like why some people get really sick and some people don't and why some people are sick.

Lifestyle Foundations and Terrain Repair

You treat them, they get better versus some people are sick and you're just searching, searching, searching for the door. Like how do you find the thing that's going to help them?

You know, I think it really does back the all the lifestyle interventions are really, really key. And just to value those off you said it already, but gut health is its primary importance.

We'll go into a little bit more gut health and nutrition and food. Food as medicine neuroplasticity and brain retraining and emotional healing I think is super important.

Exercise and movement again as tolerated sleep is really, really critical. Hormone balancing, whether adrenal, thyroid, sex, hormones, etc. is very, very important. These bugs can all relate to range.

Those treating mold, environmental exposures I think are really, really key. And then, you know, in my opinion, antimicrobials, whether it's antibiotic or botanicals.

Right. And you said it, you know, but I want to expand on a little bit of like drain the bucket a little bit, you know. But a lot of times, you know, these bugs really will cause so much inflammation and immune confusion that your system is kind of overflowing.

You know, you can use the analogy of a bucket or a sink. You know, a sink has the drain on it and it has the faucet. Right. And in order to and when someone comes into your office or my office and they're super sick, usually it means that the drains backed up and the faucet is on too fast, and then the sink is overflowing and they're having all these symptoms as wild and scary and, you know, unpredictable things are changing.

Okay. So the body is really in balance. And it's incredible to me just kind of going back for second how much our bodies are generally able to deal with on a day to day basis.

And so it's like so beautiful again. But when things start to get wobbly, it's really, really scary for people because like different body systems will start kind of cross talking and it will be hard to figure out what what the what the what the trigger is and what do you do to get better.

Right. And so our clinical is a very systematic approach. And we really lean on the gut and nutrition and stress and sleep and all these pieces first.

Right. And we know also that, you know, having the ability to change these things or to modify them is hard, right? It's hard because people don't always know what the thing to do is.

And how the intervention is to do is hard because you might be super motivated, but you're also tired and your brain fog and you get confused and you get overwhelmed and and frankly, it just takes a lot of work.

It takes a lot of time and frequently takes money, right? To kind of financial aid. It takes a lot of resources, whether financial or time or energy, to, to to go through these things.

And so we have built in this support into our care plan, our care team. And, you know, we have a team of clinicians. We have our on our, patient support specialists who are, you know, really just so, heart and so oriented and just try to help people at every step of the way.

And then we're also building a support of a nutritionist and health coach and just trying to really figure out where the pain points, where people are getting stuck, what is the support they need at the right time to make the change, to stick to the change habit.

Change is hard, right? And so being successful, that is generally hard for anybody. If you're completely healthy. But if you're sick and you're tired and you have brain fog and you don't have a lot of resources, it's even more hard, right?

And so step by step, figure out those pieces and putting them into place one at a time. You know, if people only can do one, you know, I do think it's going to be a guy and it's going to be diet and nutrition and, you know, that's something we could spend a lot of time talking about, too, because I feel like a lot of people are really restricted in their eating and we don't want that, but we do want to figure out, you know, because of the fact that 70 plus percent of the immune system is in the gut, we want to figure out what's what's trending in that area.

And, you know, also line and bar now in particular and in fact, the gut both in fact the gut and affects the guy. Right. And then if you have inflammation that got us from food or from mold or from these infections or from parasites, you get intestinal permeability.

You get exposure of the systemic immune system to basically the outside world, right. Other bacteria, food particles, chemicals, toxins, etc.. And then that propagates this whole systemic inflammatory piece, leading also to break out the blood brain barrier.

More confusion, more anxiety, more depressing, more sleep disruption, brain fog. So all these things are like really going hand in hand. And the bugs, I think we said it before, but I reiterate it the bugs love inflammation.

And they love immune confusion because if there's inflammation and immune confusion, they can just do their thing and hide out. And the immune system just gonna be like, wow, what's going on?

I can't even figure this out at all. And they get a free pass. Plus, they invite their other friends to the party, whether there's some, you know, opportunistic infections like those are yeast or a fungal love that can kind of blossom.

Or there was viruses that had been latent. Your body was doing a good job just keeping me in the box. But now they're coming out of their box and joining a party.

So controlling inflammation, healing the guy, you know, all these pieces of lifestyle pieces, our our treatments, their treatments for, like, the treatments we're by now, their treatments for a visit.

People sometimes think, well, yeah, I'll do that, but I want to get to the antibiotics. I want to get to the herbs. And, you know, like, I have to tell them all this is going to pave the way if we do this first.

And yeah, we can start some botanical medicines judiciously, probably. But I don't love going in guns blazing with antibiotics. If you haven't cleaned up that post terrain situation, because there's gonna be more side effects, there's going to be more time reactions like you talked about.

This can be more immune confusion. And so the treatments aren't going to work as well. And if they do work, when they do work, the risk of relapse is higher, right?

If you when you stop because there still is sort of there's kind of lurking there. So anyway, there's a lot of we could go into that. But yeah, the lifestyle pieces are really critical and I think people know that.

And then it's just a matter of like getting the expertise to help you figure out what's first or second or third and getting a plan and getting the support and all this clarity piece.

And so and that's what we really try to lean into and build into our practice. Flash forward, I think there's actually going to be a big role here for technology and for data and for wearables, you know, like or a ring on.

And we do a lot of work with this with our first responder population and also our patients like ways that we can track physiology and get a even deeper signal into is something working or not.

Right. And what is the physiology of the body saying? I think the power of that data really comes if you also overlay symptom tracking symptom data. Right.

And so once you have those two pieces in place, you start to get a really interesting signal. And then I think, you know, this whole AI revolution AI world is going to be very, very interesting of helping us to start to make sense of underlying patterns and to kind of see insights that our human brains maybe hadn't been able to surface.

And so I think it's actually a really exciting time, as a practitioner and a patient, but it's still hard. There's a lot of work to do still. Yeah, there's definitely a lot of work to still do.

But yeah, all of that, all of that AI and and that piece of it is very, very interesting. And I think, yes, like if we could have some sort of data driven device that help to track symptoms every day without having a patient have to really like harp and dwell on it because they already on it, we both know.

But yeah, I think it would it would help to see patterns. It would help to see responses which I think would be really valuable, you know, to the practitioner for sure.

Yeah, absolutely. And helping the patient to like everything, it's going to kind of democratize, some of the treatment was it's still really hard to get to your office or to get to my office just from, you know, you know, how many patients were able to see and, and the cost, etc..

And so, you know, people are out there searching everything they can. I was just playing out this morning like, what is ChatGPT say around, you know, persistent of Lyme disease.

And does it give a balanced approach? You know, and it actually is pretty impressive. And it goes through, you know, just a cold query of like, now what do I do about Lyme disease?

How do I treat it? Or, you know, is can Lyme infection be persistent. And you know, it's still, you know, pulls from some of the mainstream concepts and ideas but also really like outlined, you know, a lot of what we're talking about is really kind of cool.

That's great. Yeah. I've not tried that. Yeah. So any last pieces of advice you would give our listeners? Or if there's one thing that you could tell everyone listening, what would it be?

Yeah. So I think it's applies to everybody at whatever stage, but particularly if you're out there and this is new to you and you're trying to figure out what does it all mean?

And, you know, here's what I'm experiencing. Real. I go to the specialist and I say, there's no such thing as chronic Lyme disease. They say your tests are CDC two tier positive, so you don't have Lyme disease.

But I would say trust your instincts and trust your body. And don't give up. Get out there. You know, get the resources around you and also go for your doctors and your providers, but also your friends and family.

I see a lot of people being singled out as the weird. Who are the crazy one? The doctors already said, you're fine and you know you're still complaining of X, Y, and Z, so you must be the problem.

Like, and that's such a damaging place for people and so traumatic. So yeah, just don't give up. You know, keep looking, keep researching, keep asking questions.

You know, try to find a provider who knows how this works, and get the answers that you need. And even when you're working with, like, for people who are working with me or they're working with you, like, you know, keep that relationship going for as long as it makes sense for you.

But, you know, it's a you're you're a consumer and you are hiring us. You're you're paying your money, you're hiring me. You're you're asking me to do a job for you.

And as long as that is working and we're making a progress and you feel like this is the right fit, awesome. Let's keep going. But don't be shy. How about if you're feeling stuck or uncertain?

Get another opinion. Ask more questions. Find another person to to weigh in. Because you have someone to go see. You and I got to see me though. Get, you know, I don't know, 60, 70% the same information, but they'll get 20 or 30 or 40% new information.

And then and so you can really round out the picture that way.

Patient Advocacy, Access, and Closing Advice

And I work really collaboratively with people I enjoy that I enjoy learning from my patients. And they can bring me, you know, research they found, or they can bring me other opinions from doctors and providers and, you know, internet, etc..

You know, we'll talk through it. We say, hey, you know, does that make sense? And I feel like it's a back and forth. Your job, my job is like the pattern recognition person because we've seen a lot of, I've seen, probably 10,000 cases, you know, so like a lot of cases.

So, but, but we don't know everything. So just keep keep adding. Yeah, that's great advice. And I think it's so important. It's like there's a practitioner for every patient out there, right.

Like my style might not be right for somebody you know, but yours might be right. And it's just it's really like make sure that you resonate with the person that's treating you.

And you feel comfortable that you can be completely honest with them. And, and, you know, I don't know why I'm going to say this, but also, like, you shouldn't be afraid of offending or hurting someone's feelings.

That's not what this is about. You know, what you need is more important and having the right fit. Yeah. If you do, you have to be afraid of hurting someone's feelings or offending them.

Then it's maybe not the right practitioner, right. Because I think that, you know, even in the mainstream system, like, you know, the the, you know, people are out there researching and saying that line doesn't exist.

And, you know, I don't think that they're bad people. I think that they they're doing the best they can. They're doing what they believe. I think there's a lot of ego involved.

So sometimes I wish people would just check there you go. And kind of look at the science, data science and just like adapt. But but you know, if, if there, if someone, if a provider or another person, family friend, if they're telling you that you're wrong or that this is, you know, or they're offended or they're upset, that's their problem, it's not your problem, right?

You know, usually from a provider point of view, I think it's because they feel threatened or they feel like they're at the limit of their knowledge. And they can get defensive, you know, they're like, yeah, I can get like, you know, bristly and like dismissive and like, I don't know nothing else to do.

Just normal. Like, okay, that's their problem. It's not your problem. Right? Yeah. Yeah. That's great advice. Well, do you have any upcoming events that you would like to share with our listeners?

Anything going on exciting. We. Yeah. So we're, just really enjoying, you know, seeing patients. We do see patients across the U. S, you know, in a number of different states.

And I'm always thinking about like how, you know, I'm sensitive to the fact that what we do is expensive for folks. And, you know, and to be transparent, it's not because we're making a ton of money.

It's just because it costs a lot to run a clinic. I think that's. Yeah. All right. I like the fact that those clients are consolidating and big hospitals, you know, the primary care world.

So I'm always curious about like how do we break this down and also get people, you know, more or less segments of the care in a smaller way. And so we also have what we call the functional medicine checkup, which is an opportunity for someone to meet with us and have a couple of visits and get a set of labs done and then get our advice on it.

And, and then we also have the opportunity to do a health consult, you know, sort of a one time ask me anything session. And so for people, I think that we're trying to, you know, again, find ways to make it more accessible, allow them to sort of have a tasting menu.

And yeah, so, you know, opportunities like that, I'm really curious about. And then just again, kind of, siloing the care and getting out to more people.

Yeah. That's great. So tell our listeners, how they can get in touch with you and your practice, your son to sir. Yeah. Thanks. So we're the California setup for functional medicine, and our website is KF med CCF Mediacom.

We're also on social and, yeah. Happy to to help in any way possible. Well, thank you so much for being here with us. We really appreciate it. I think that was a lot of really good information.

And to all of our listeners at home, thanks for joining us, and I hope that this was helpful on your journey healing line. We'll see you next time. Yeah. Thanks for having me.

Thanks for taking the work to make this happen. Thank you.