Introduction to the summit and botanical medicine research

Everyone. Dr. Tom Markoff back here with you for this episode of The Healing from Lyme Disease Summit. And today, we're in for a real treat. We're going to be talking with Dr.

Sanjay Zweig, who I've known for many, many years now, I think is probably approaching a decade now. We've done a lot of work together in the Lyme world with labs and other organizations.

And the thing that I really wanted to talk about, what today was a lot of these emerging, but can botanical treatments that a lot of you have been hearing about.

And as you know, one of the things I love is marrying that art of medicine with the science of medicine. And I've been using botanicals in my practice since I started 14, 15 years ago.

But the thing was, we were just basing it on sort of our clinical experience and what other people said probably should have maybe worked. But what is so great about Sanjay's work and all the other folks that I'm sure he'll tell us about as they dug into that, that some of the core pieces of Lyme and Bartonella and even BBC had done Connie and found ways to research these herbs so that we know exactly what herbs are doing, what.

And that really for my practice and so many of the practitioners in our mentorship program has revolutionized the way we're able to treat patients so that we're not guessing as much as we used to.

And I so I love the evidence base and, I mean, he's been doing this work in functional medicine for so long and motivating so many other physicians and even patients to go to this next level.

Combining that art medicine. So, Sanjay Zweig, thanks for joining us. Man, I'm stoked for our conversation. Tom, it's great to be here. Thank you so much for putting this summit together.

I think the opportunity to get this information out to other practitioners, clinicians, health coaches as well as the public is so valuable. People who are hungry for this information, we know that.

So thank you for having me here and thanks for putting all the work into making this happen. Oh, you're welcome. And again, it's such an honor because it's like, you know, it's like I grew up in this field and I'm like all these people around me.

I'm like, oh, my God. It's like, you know, when you dedicate yourself to it, you're almost like a starstruck thing because it's like, I get to hang out with all these super cool, big mind people who are kind of like, you know, we're all in the same place.

You know, we're really looking to help people and change their outcomes. And, you know, I talk so much, so many of us are looking up for sisters and other things, you know, and before we kind of dove into those things.

So I think this is the crux of making a massive shift in the way we treat people. If you're an M. D. sitting around like you start to get into functional medicine, like what would make you just take this time out of like direct patient care and all these other projects and really decide to focus on research on botanical medicines?

Like what? What got you into it? Yeah. I mean, I think, you know, with your intro and I know this about you, I think we share a lot of the same values, which is that we want to provide the highest level care for people.

We want to work on these complex, you know, poorly, poorly visualized, poorly understood illnesses. And we want to help people get better. And when you're doing that in the trenches day in and day out, you quickly realize this

incredible need that's out there to back up some of what we're doing with research.

And I love the science. I love the biochemistry and the background of the, you know, how all these treatments are working, whether it's antibiotics or botanical medicines.

And so when I come across researchers like Dr. Ying Zhong, who is really thinking about, you know, his original work was on TB or his career. And so he spent a lot of time in the trenches with extremely persistent bugs.

And then he started to branch out, as we all saw. Right. Had some early studies on a variety of different compounds, antiretrovirals, antibiotics. And we started a lot of us started pivoting our work to kind of match up with kind of some of the findings that he was showing efficacy of these drugs.

And then, you know, amazingly wonderfully, he starts to pivot into more natural medicines and that's kind of when I met up with him and their opportunity to do his research that he said, yes, it does require a lot of time.

You have to take time out of your practice. You have to take time on nights and weekends and you know, my friend and colleague, your friend and colleague as well, Jacob Leone and I were, you know, deep in the trenches with this with this research and David were writing.

And I remember sitting in that room, and I let this conference when we were all there together, we took a few hours together and just kind of holed up in our room, up on the 13th, 14th floor somewhere and just wrote, you know, he said, like, we got to grab this time, you know, and why do we do it?

We do it because we want to figure out what's going to work, how to get people better, how to get more answers, how to push the scientific agenda forward.

Right.

Why research on persistent Lyme infections matters

I think that's a key piece of of solving this puzzle is we got to get the science out there. We got to we got to speak the language of of you know, some of those people are practitioners, researchers who maybe don't believe in the complexity of these conditions.

And so we can speak that language. We can get their papers published and get that research up. We start to change the course of this whole epidemic, I believe.

You know, I just it's just resonant. I mean, this whole summit is about like giving people hope and new understanding and this healing experience. And when I hear physicians not going off the deep end with all the conspiracy and all this, all this, this is really complicated.

And I just really want to, like, highlight what you just said is one of the most important things. And what I love about you and Jacob and even the Jang is the thing is, you know, when we look at all this, we need to be speaking the language of other physicians and other scientists.

So that we can change the conversation. Yes, a lot of other things may be true. Certain things that we don't have research on may work. But whenever we can get research, especially into things that are misunderstood, then we can start to bring more people into the fold, so to speak, and help.

So, I mean, it just I just think it's such an important piece. And I'm really appreciate the fact that you guys are doing this because it changes the way I help people, but it also changes the way I can have conversations with conventional physicians or maybe open to this.

So kudos. Great job. Thank you. It was an honor and a pleasure to be able to do this work with Dr. Zhong and Johns Hopkins. So thank you. I really appreciate that. Yeah.

So there's this and it's so funny. I just a minute ago, I caught myself, I said Dr. Zhang. And I was like, I know that Dr. Zhang, I say it correct everybody.

And I'm like, Man, you know? But it's so funny when you get on the roll, you get so excited. And I've had conversation, I've had the pleasure of being able to present at conferences with him and have conversations.

And it's like, I just spoke on Methylene Blue last weekend and it's like the we would never even be re diving into these things if it weren't for a few rogue people like you and Jacob and Yang and and it's important.

So to me, one of the things like why would you so if you had the option right you may you meet these great people, you could start researching more. They're doing research on drugs.

They're doing research on methylene blue, which is a medical dye that acts as a drug. Why not go down that path? What would make you choose botanical medicines to really spend this research time on?

Yeah, so I mean, my four values and core beliefs really do, you know, land in, you know, the first to do no harm and pick the treatment that are the most benign and you know, a huge respect for the natural order of things and for the wisdom of, you know, a lot of these natural therapies, botanical medicines, you know, dietary supplements, you know, lifestyle interventions.

That's really the core of my practice. And that's how I started out with, you know, on my functional medicine practice, which I knew I wanted to do this work even before way before I went to med school, you know, and a lot of what I was exposed to in my childhood growing up and it wasn't exactly the line piece that came second for me.

You know, when my wife was diagnosed with Lyme disease in 2008, after over a decade of mysterious symptoms that started after, you know, we lived in upstate New York, in Ithaca.

And so I really had already just started in my functional medicine practice. And then Lyme, you know, landed on my doorstep in a very personal way, in a very intense way, very scary way.

And, you know, so I really about point, you know, have always been very interested like you in your yes. You know, this has to be a combination therapy and we're going to get the best outcomes if we nail down all the lifestyle pieces we get people really, really out in and then we start, you know, leveraging anything that's going to help and that might be an antibiotic, that might be an anti-parasitic drug, it might be a botanical medicine, it might be a dietary supplement in a targeted fashion.

You know, there's a variety of different of avenues there. So the botanical medicines were always a core part of my practice and interests. And so, again, you know, when we had the opportunity to start to try to put more science behind those, it was just it was a natural. Yes.

You know, it's one of those on a full body. Yes. Is that. Yeah, yeah. I got to do that. So. Right. It's so cool. Like I felt it's funny, but for this year, like around the year, I was like, oh, you know what?

I'm going to simplify. I'm just going to go with the flow. And then the next day I go, I'm going to add one more thing, and the word is no, right? So people like you and I say yes because we want to help so much.

And a lot of times we have to say no, except if it's totally mission driven. And that's like I chills up my spine as you're saying that it's like, I know what mission is touches on, you know?

Yeah. I mean, we, we all do this work and it's very intense work and we can be pushing burnout. But the things that pull us back from that are those passion projects that just like light you up, you know?

It's just like, that's so exciting, you know, in the groove, you know, just the feeling. And yeah, there was this amazing opportunity and you know, is going to be because I was able to interface with both sides of, you know, of the world with that, with the research side, with the science side, and also with the master herbalists and kind of

bring them into the fold.

Eric Yarnell Bryant, you Spock. I even spoke with Steven Buettner at one point and asked him to advisors. That was actually a funny story. You know, he he really didn't like the idea is like, no, that's kind of not a not a great thing to even study at all because it's so reductionist and that's not the wisdom of the plants.

And now I'm not going to participate in, you know, an in-vitro study. And I said, you know what? I totally get where you're coming from. I respect that. I appreciate it.

I still think it's important to do this work and to do the science so that we can move things down down the road one more step and start to speak that language.

But I also respect where he was coming from because it is very reductionist and we'll talk about that some of the shortcomings of this research and why, you know, this in vitro study in a test tube has had some limitations relative to the wisdom of these plants.

But, you know, it's interesting, several of the people we've talked to, not about these particular plants, but other plants, like when we pull extracts out, not of the whole herb extract, but like we like with cannabis, like people pull out little parts of it and they think that that is like the whole effect.

And it's really, you know, Mother Nature makes these herbs to be used as a whole herb. But also, I think also we have these brains that the divinity of life, however you define that, has put in this ability to think so.

We've been able to take pieces out that when used properly and understood properly, can actually be beneficial. So it's really interesting. And the thing I would point out for me, there are some of these herbs that that we're going to talk about in just a moment that I was maybe using sometimes maybe I was using for a different reason.

And we know they're traditionally uses. But you've opened the research you guys have been so brave enough to do has opened up a new way of healing or using things to address some of these infections that otherwise we would have not been using.

So I do think the reductionist gives us an opening into the next steps. And one of those next steps is really like this poor sister thing, right? And I talk a lot about the stationary forms or persist or non growing for and one of the things that that whatever for whatever reason in your studies we've got stationary forms for sisters and non growing mentioned in the same paper and a different one.

So we like to confuse people a little, but why don't we get can we can you give us some clarity on what a persistent cell is and how they're really relevant and tick borne illness?

Absolutely.

Persistent cells, biofilms, and relapse in tick-borne illness

And I think it's a really, really key part of this whole story, you know, that we we really believe in many doctors and researchers are starting to see this more and more, that this concept of this persistent cell is really part reason why a lot of patients might fail in treatment or relapse.

And these poor sister cells are basically this subpopulation of tolerance cells that are, you know, basically not going to be killed by an antibiotic or by an antimicrobial.

They can survive this exposure. And and much better than the majority of this cell population. And, you know, we now know that this persistent phenomenon is found in almost all different bacterias, including, you know, human animal, plant pathogens, etc., including Lyme disease.

And that these persistence can form basically these different morphological colonies and can exist within biofilms.

Right. Another very important concept where these poor sisters are hiding out and they can basically go into this metabolically dormant or reduced metabolic state and just kind of hunker down and wait, wait for that pressure of this, you know, attack of this antibiotic or this antimicrobial to get away.

Right. And so, you know, like, how does this play out with a living patient, for example? Well, you know, we may be prescribing therapies, prescribing antibiotics, a combination of antibiotics maybe.

And then hopefully, you know, they get better. We're on the right track. They get better, they feel better. And basically what we've done is we've killed off a lot of those active replicating bugs, viruses or these other co-infections.

And, you know, think of it almost like we went in with like a weed whacker that buzzed the terrain and kind of took care of like, you know, these obvious ones that were sprouting up.

Right. But because these bacteria are able to form these antibiotic tolerant cells, you know, and basically they're like is biphasic basically it is. You know, anytime you have persistence, you have this phenomenon where there's at least two different populations.

There's one which is going to be killed off kind of quickly and you're going to take care of those. And the other one, which, again, is this persistent, tolerant one, which, you know, basically goes into this dormant state but is not killed off.

Right. So then you have this patient and you give them a treatment. They hopefully feel better if we're on the right track. And but because that there are some of these antibiotic tolerant or persist your cells, when you stop the therapy, they kind of regroup.

Right. They kind of come back out of the woodwork. We've all seen this. Right. And it's expected a lot of the frustration. Right. That patients and practitioners going to experience with antibiotics might help, antimicrobials might help, but then they get this relapse.

Right. And so we talk a lot about, you know, dismount with the with Lyme therapy, right? Like when can you safely stop and how long do you wait before you decide, okay, we're good or, you know, looks like things are coming back, right?

But again, this this persistent phenomenon, we do see it as a really key factor. And and I mean, my experience is from the beginning and, you know, from being mentored by other folks to now mentoring other physicians myself after all these years, it's like this is the crux.

I mean, obviously we've talked throughout this summit and so many people know we're looking at, you know, there's all these pieces like the terrain and the gut and the your limbic system.

But when we're looking at the bugs themselves, the one thing I find in this field is the bugs are so persistent and tolerant and like those other things are also important.

But you're really hitting on the key here is like because it's it's this inter connection between the host and the pathogens and all the toxins. Why are like compared to medications?

I mean, aside from you and I obviously have this, you know, personal medical model that we want to be as natural as humanly possible. Why would botanical medicines be so attractive for doing things like addressing these persistent populations of these tick borne illnesses?

Yeah. So when we did those studies, we did, you know, Dr. Zhong and his model, you know, compared these botanical medicines to some of the commonly used antibiotics against these bugs.

Right. And the antibiotics, you know, are, again, can be effective, but are pretty simplistic in their activity. And for

the most part, antibiotics work best when these bugs are actively dividing. Right.

They mess with some part of the machinery or the cell wall or like some kind of cellular activity of these of these bugs. And when they're actively dividing, the antibiotics, go in there and, you know, break stuff up and kill kill the bugs.

But they start to fail when these bugs go into as dormant or persist or phase. The botanical medicines, you know, are very, very interesting. And, you know, again, they have a variety of different each plant has as a has many, many frequently like up to 6100 or more different active components.

Right. So you're using this very complex networked system of of, you know, activity. And some of those activities might be, you know, antimicrobial mean they're going to do something to kill the bug, something like kind of akin to an antibiotic.

But on the other hand, they might have immune, you know, stabilizing effects. They might have anti-inflammatory effects. They might have, you know, you know, help for detoxification or help with reactive oxygen species or antioxidant support.

And so when you and that's just one plant, right? But these are two combine these plants and they work synergistically, right. So Chinese medicine, traditional Western herbal medicine, a lot of it is about how do you combine these plants, how do you use that synergy to to boost the efficacy and to leverage different activities of these plants.

And so all of a sudden now, instead of having this one single activity that this antimicrobial is doing, like an antibiotic, you have this almost like this orchestra of fact, this happening.

And these, these know herbal medicines are really, again, having all of these different potential benefits that are working in synergy with with the organism.

And so the layers of complexity are really almost staggering and really, frankly beautiful, right? So and I think, you know, a lot of these plants have evolved over billions of years with these bugs.

And so they can be synergistic with some of these bugs and in killing these bugs or helping you recover it. So I think it's just so impressive. Like when I read the like the rap sheet, if you will, of like what some of the birds are about to talk about can do.

It's like one of the things that just strikes me so much about what you're saying and about what I know they do is they're so supportive of the entire being during the process of killing something that may not really be in proper balance or not even supposed to be in your body.

And it's like to me, it's like the antibiotics, like it's kind of like we kill stuff and then we have to detoxify both the dead stuff and the metabolite of the medicine.

And it's kind of like every once in a while you find a medicine that does a little bit more, but it's really like maybe one or two or three things at best, right?

And these and a lot of what the the number three thing they do is, is the side effects, right? So it's like the herbs are so good and it's just so great.

And as you're talking, I was thinking about why wouldn't an herbalist want us to reduce this and figure it out? But again, it's like it does take away in some respects the magical power of this plant that we've used for, you know, thousands of years.

But as I said, it opens this up into this new way of of experience, I mean, and new understanding. So I was hoping that you would be willing to take a deep dove into some of these.

There's a there's a key group of herbs here that just have just really just put themselves right at the top. And I can't I'm not I'm not going to say too much more because there's one that I really love.

It's like and sort of the, you know, where you see that it's better than an antibiotic and it has all these fringe positive side effects. This this is what we need to be talking about in the lime field and in the summit.

So maybe you can highlight some of these big ones for us. Absolutely. Yeah. So, you know, drumroll, please. Everyone's read the studies, but you know, the Arab crypto lab best crypto app is Sanguinea.

Lenta really emerged as a really impressive, impressive player.

Why botanicals can outperform single-target drugs

And you know, crypto lapis is an herb which has been used traditionally for malaria in Africa. And so we knew about it and a lot of people were using it prior to this research for a visa, for visa like, you know, organisms for, you know, these red blood cell pathogens and you know, with some anecdotal benefit, right.

And so when we put this herb into these three different, you know, basically it's three different studies that we did. The first one was under Labrador Fry or Lyme Disease.

The second one was on the Duncan, and the third one was on Bartonella Hensleigh using these and other, you know, botanical medicines and natural products.

So crypto lab based in crypto lab is in addition to, you know, we did find it was active against the bees. Yeah. We also found that it was the most active herb against Lyme disease.

Borrelia burgdorferi as well as Bartonella. And so these are really, you know, in our we were like we were really excited about this work. You know, this is this is a really novel finding very groundbreaking and, you know, so to pull that out and to then say to to, you know, practitioners and again, backing up for a site like, how do we pick these herbs in the first place?

You know, basically we went out there and said, okay, what are people already using? You know, let's make sure they're safe. Let's make sure they're well tolerated and let's make sure that they have good systemic absorption. Right.

And so we picked the products from that. So these are already in use. And so be able to then go back out and say, okay, you know, yeah, let's maybe let's keep using this for and again, we have to be a little careful how we extrapolate this too from an individual study to human or animal use.

But given that these were already being used and now it makes sense, I think a lot of us in that field pivoted a bit at that point to I guess that's use this for that that idea.

But yeah but it's also start looking at this for Lyme disease and for Bartonella, you know and we know again it's been, you know, has a very long use it's been used in China, has been used in India, in Africa.

And, you know, basically, you know, again, really, it's been known to be a really strong antibacterial herb. It also has been shown to have anti-inflammatory effects, anti amoebic effects, anti cancer.

And we talked about anti-malaria. So yeah, crypto lapis was kind of one of the star stars of the show. You know, it's really interesting. I was seeing a couple of things.

One is like, I love the fact that when I give somebody crypto leopards for babesia just from a traditional trial of, you know, therapeutic trial, you know, I it makes sense symptomatically the traditional uses let's try it in my patient one of the things that's been so helpful about the research you've done is that I actually now know that if someone has a flare that I'm having a hard time reading, I understand that it's got broader uses than I actually previously may

have thought, and I think that just makes it easier to navigate for our patients, which is really helpful, you know.

And then I also the other thing that you made me think of as you're sharing about that is when people started like tokens and their group has done a lot of work with what's actually in black legged tick or the exotic scapula and you know, which is the, you know, the common deer tick here on the East Coast.

And the thing that's so interesting to me is we found a few things in these that we didn't think we were going to find, including like this nematode. So I'm like, huh, I don't know if the nematode is getting transmitted, but years ago they used to tell me Borrelia Miyamoto was in a deer tick and people didn't get it.

And lo and behold, 30 years later, we found out, yeah, they did. So being able to give something that we know works of the B. C., Dan Carney, Bartonella Hensleigh, Borrelia Burgdorferi and may also be to treat some of the other things that we're not sure what to do with in something that's been safe to use.

It's just, I mean, it's just amazing to me. So yeah. Yeah, that's absolutely true. And the other thing I want to highlight, I want to go back to what you said before about, you know, using antibiotics and or using botanical medicines to kill these bugs.

You know, that's only part of the story right? So a lot of herbs, including we'll talk about pilgrim spectrum or Japanese knotweed, expert lines, herbs, you know, maybe impart.

They are doing some anti microbes or killing work, but they also have these really incredible anti inflammatory effects and immune modulating effects.

And sometimes, you know, you don't necessarily have to kill the bugs per se, but you have to get the body to realign with its inflammatory cascades, with its cytokine cascades.

And if you can make that inflammation quiet down or go away, basically the bugs can't live anymore. Right? So it's sort of the circle of of respecting the inner mechanisms of the body.

But again, when you're when you're mixing and matching, these plants are using, you know, crypt electricity that has these amazing antimicrobial effects, but it also has these inflammatory effects.

Right. And so, again, very impressive, very, really elegant, you know, mechanisms in these plants that are, you know, light years ahead of our are very simplistic antibiotics.

Not to say that they are, you know, that we use them all together for good efficacy, as you do in your practice. But we love we love that combo. Yeah.

Yeah. It's interesting. I'm thinking about it. It's like I learned so much from treating kids. And Charles Ray Jones taught me about infection induced autoimmune encephalitis as a sort of the broader way to look at or, you know, patterns and pandas where kids get the infection and then they get this autoimmune thing and then their behavior changes.

And when I step back, Sanjay and I look at I call it a toxin induced because there's more than just infections that trigger this autoimmune inflammation, because I know it doesn't have to just be your brain, it could be your body.

And I'm like, you just highlighted my treat the way I structure a treatment plan from a obviously we can be more reductionist. I mean, what are the global things I don't want to miss?

Well, I want to work on bringing the toxin load down. I want to modulate the immune system and bring down some inflammation. You know, and the other part of it that's so interesting to me is I like to be a little bit disobedient in my life.

I just just because I want to push the envelope. So, you know, when I treated pneumonia in the hospital, if I were to

treat it and then I were to stop the antibiotic and it came back, they would just say, oh, just restart the same thing.

I'm like, Well, why? And they're like, Well, because it's still there. And I go, Well, didn't our antibiotics just cure it? And they're like, Well, every doctor I've ever talked to is like, you know, the antibiotic doesn't cure it.

It does exactly what, just a little bit down on the load of the bacteria until the body's self-regulatory healing self-healing mechanism can get back on track.

The difference is we just wait for that. In conventional medicine, the antibiotic is doing one of like three and probably 23 prongs of things. So I think the IRBs are so nice, they're doing a little bit of all of that at the same exact time.

And we're risk I mean, just to highlight what you said, we're respecting the body's ability to heal. So rather than looking at the body as like a bucket of illness and disease, we're like, hey, this is a beautiful self-healing mechanism.

That goal is to be healthy. And if it's not, we just need to catalyze a little bit of healing.

Top herbs from the studies: cryptolepis and Japanese knotweed

And I think as you alluded to, we've got things like Japanese knotweed in some others. So what's the scoop with knotweed? Yeah, let me get to I just want to jump off what you said.

Yeah, yeah, absolutely. Everyone out there who is watching this summit, what you just said, Tom, is so critical when it comes. And I think a lot of people know this, but it just just serves to emphasize the importance of all the foundational lifestyle supports that we can do.

You know, whether that's clean diet, anti-inflammatory, nutrition or protocol is better. It's healing your gut and working on your gut health, whether it's working on your brain and neuroplasticity and emotional human rights movement, exercise is getting the right amount of sleep.

And we did it. I did a deep dove with Drew Pruitt on his podcast couple of weeks ago on Sleep. And, you know, all of these factors, hormones and mold and all these factors are really essential to address because of all of the things we just talked about. Right.

You know, like you said, with antibiotics, you can't just kill your way to health, right? You need that immune system to kick in. You need the body's natural detox mechanisms. You need all those factors, the inflammation control mechanisms to kick in.

And when you're out there and you're struggling with this illness and you're trying to get your your shit back on course, you know, please underestimate the power of all these different effects.

And it's not just woo woo. It's basically like these have very direct, immediate effects on inflammation, on immune system, on autoimmune triggering, you know, on, you know, your hormones, on all of these aspects of your health.

So it's, you know, it's real science is real science on how all those lifestyle factors work. Well, it's so interesting because I love you and you're saying I did deep dove on sleep.

I'm like, yes, you know, because I'm like a big Amanda nattering nerd, you know, being an osteopath. I love how all this works. And but it's like if you think about the intersection between tans and pandas, micro toxin illness, you know, and brain inflammation, I mean, it all boils down to this lymphatic detoxification of the brain and all these people that, oh, I want the best supplement for brain detox and I want the best thing for that.

I'm like, well, the number one thing for healing, I mean, like, you know, for brain detox would be go into bed getting really good sleep, right? Yeah.

Go to sleep. Yeah. So we're actually and I'm curious to hear your thoughts on our talk right now. Our talk about we're actually looking at maybe doing home sleep testing like sort of sleep apnea home device as a frontline test just on everybody.

We want to know, what's the quality of sleep? Are you sleeping? Are you getting enough deep sleep by getting the right cycle? That was the pattern, you know, enough hours.

And are you having hypomanic events where you're stopping breathing or, you know, because that's like actually a really critical roadblock. So again, everyone out there do everything you can to dial in all the sleep hygiene.

This is one of my favorite personal hacks that I've really been pulling the lever on these days is getting outside first thing in the morning, getting morning light on your eyeballs.

Right. 15 minutes walk around 20 minutes, you know, get out there. That is incredible. It feels like you just drank a cup of coffee and your brain just like is working now is so.

And then that's also super important because it tells your body what's to start point of the day. And then your body has a much easier time understanding when the end point is and when sleep is supposed to happen.

It's like one of my favorite hacks as well because it's like everybody thinks melatonin is a pill you take at bedtime or when it's dark, it comes out.

I'm like getting out in the light in the mornings that triggers your body to actually make it. And again, going back to respecting your body. So I just think, you know, that's the beauty of this is when we talk about the botanical medicines, all the detours, because we're talking about giving your body its the nourishment for it to to catalyze the natural self healing.

And like it's just like we're all looking for like the device or the pill or the whatever. But it's the package where we treat you as this unique human you are and love and respect ourselves.

And I love it. Sanjay, like we I, I don't really prepare a lot of people. And there's been a few people get mad at me for the interview, like, well, they want to know exactly what we're doing.

I'm like, I want to roll with it because everyone in the whole summit brings up the most. And that's why everyone is here. That's why you're here because you know how to heal human beings and you're not just treating Lyme disease with herbs, even though that we need to talk.

Finished talking about the IRB. But but it's this thing of like being so respectful. And then my goal for everyone here is to have an experience that they are so worthy of healing because we want them to be able to shine their light out in the world.

This world needs each and every one of you to share your unique gifts, whether you think they're unique or not. What's in your heart? I want it to come out.

And one of those things is by loving and respecting yourself and getting your ass in bed on time. Turn it off the crap, turning off your wife and then getting up in the morning and celebrating life by getting some of that fresh air.

And I kind of have a similar morning hacks and I just happened to include one of these with it. So yeah. Yeah, yeah. So that's the other thing. Hydration first thing in the morning, chug 16 ounces of water with some Himalayan salt or.

Yeah, you got it. Or some electrolytes in it. And you're trying to get, you know, 30 plus ounces, you know, by 11 or 12 way out, 12 in the afternoon. I love in the morning and all in the afternoon.

So hydration and morning light. Those are a couple of my favorite. And right before bed I love you. You said I was.

That was amazing. Tom, by the way, that little pithy segment of of respecting yourself, loving yourself, supporting yourself.

I want to pause there and just kind of like, yeah, give some love there, one out there watching this because we get it. We understand that you are going through the meal and that this is so hard and so traumatic and that there so many detours and dead ends that you go down and doctors that you see that can't help you.

I think doctors in general are amazing people, but they maybe just don't have the toolkit and maybe they don't have the time and maybe they're stressed.

And, you know, so it comes off in dismissive and frankly, traumatic ways. And so we just want you to know that you can get better, that there's hope out there, and that it involves all the things we're talking about.

You know, seeing the right practitioner and getting the right, you know, medications, if those are appropriate, getting the right botanical medicines that those are appropriate, you know, nailing down all the lifestyle pieces, getting the help that you need to nail down those lifestyle pieces.

You know, health behavior changes is not easy. It takes work, it takes habit formation. And, you know, so but with with that right mix, you know, the way I kind of think of it is like it's like you have a you want to you're a conductor and you want to have this symphony, this new symphony.

You play this piece of music. And so you have to basically get there. Other musicians, you have to give them all the music, have to get all the instruments tuned up.

You have to have them all practice. You have to get the timing right. You're after a good period of time, this symphony starts to sound really beautiful, right?

And so that's kind of how I look at at this path of getting better. Damn, I'm just going to wait a second. But this is what I'm talking about, and this is why we're all here together, sharing this with other people, because we know how hard it is and you know, but together we can get it done.

And that's why I love all of this. And I would love to, you know, maybe we'll find some time, do a little extra after the summit and bring even more of this to people.

And I know at the end we'll let people know how they can get a little more of a flavor and a taste for what you do. Because, I mean, we're kind of giving them a teaser now, but if people want to dove in with you, just stick around at the end, everybody, and we'll let you know how to get in touch with Dr.

Zweig and work with his group, because this is why he's here. You know, I mean, I was joking with one of the other interviews that you there will or have seen, depending on how we order things like the everyone here is a really good friend, whether they've been a friend for a long time like Sanja or they, they're a newer friend, but we resonate, but it's because we're all vibrating.

As one of my mentors said, vibrating on the higher vibrational frequency of love. And when we treat people from this place of love, respect and compassion, then we know.

And she says, then whatever you do will work. But I'll add to that a little bit, because I know what she's saying in her heads. I spent two decades training with this particular person I'm thinking of is when we're resonating in this place of love and joy in our heart, in that compassion and self respect and self-love, most importantly, then we know what the right tools to grab are because they're vibrating at the frequency that you need in the moment.

Which is why I say in almost every interview, we no longer need to compare ourselves to how other people are healing. This is about you healing in your own unique way.

And the only way to know that is for you and your doctor, your health care practitioner, to be resonating at the place

that Sanja was just describing. So we could talk about this part of it for probably ever.

One of the. Japanese knotweed, right? Yeah, exactly. I love like, you know, everybody's like I feel like what you said a minute ago is like the closing mic drop.

Alright, we had an interview. All right, now let's. Why would we wait till the end? It saved the best. Like why did best for last? Let's just drop it right when it's perfect timing so not we.

So back to our friends. These botanical medicines we talked about crypto love is sanguine Atlanta and so Japanese knotweed or polygonal spider atom really amazing plant botanical medicine and we also saw in all three studies with really a big Dover eye with a BCI uncanny with Bartonella Hensleigh that playing in Bicuspid Item did show good inhibitory effects and.

You know, we know that the Polyphenol resveratrol is one of the main active ingredients, active constituents in the organism and is some research in previous studies showing in vitro testing documenting resveratrol activity in Borrelia burgdorferi as well as green.

Yeah. So it's, you know, has some history there which kind of blew us away. And also it's also one of the core herbs in Steven Tuna's work, you know, his, his work with herbal medicines for, Lyme and co-infections, you know, so basically, you know, it's a very safe herb also, you know, minimal toxicity in human and animal studies.

So in a limited number of human studies. But, you know, the available data that we do have out there did show a significant reduction in inflammation and oxidative stress.

You know, so it was cool to see in the in vitro model that this plant, this botanical medicine, did have antimicrobial effects, which has been shown before.

But in particular, we've always also thought of it as a really nice anti-inflammatory support, you know.

Other promising botanicals: artemisia and skullcap

And so, again, 60 different constituents like we talked about before, a lot of different things happening in this whole plant. Wide variety of different mechanisms of action is, you know, can be helpful for blood pressure, for high triglycerides, for high cholesterol. For.

Weight loss, metabolic syndrome, cognitive performance, you know, probably endothelial cell function, probably. Again, a lot of those mechanisms are leveraging the anti-inflammatory capacity.

Right. There's a lot of is ties that could connect things there, you know, but again, active in all three of these plants, some not as strong as Krypto appears in, you know, in killing the poor sister, you know, there was some regrowth meaning, you know, we took these black microbes, we treated them with the botanical medicines.

We then measured how much of those microbes were killed, and then the plates were washed, set aside and left to regrow for 7 to 21 days. And so crypto lapis was really the one that showed the strongest efficacy of of killing those, you know, the ability of those bugs to come back.

But again, Japanese knotweed was active against all three. And so, you know, one thing to note on Japanese knotweed, you've probably seen this in your practice is that, you know, it can cause some stomach upset.

So when you're when you're dosing and do start low and ramp up and just be aware that it can cause some abdominal pain or diarrhea even. But this will stop when you pause.

And so otherwise we do know that it's well absorbed, rapidly metabolized, and yet it's a really, really powerful medicine. Nice. I love it. I mean, I just think that it's it's got so many actions.

And I mean, I think just to reiterate, the we it wasn't studying in a full human system. And I think that when you look at exactly what and I think maybe I don't want to put words or thoughts in his mouth or mind, but it's like, hey, man, you know, we're looking and maybe it didn't do a 100% what crypto lepus did.

But when you get all this other properties that you highlighted, then you optimize the human system or which then allows the human, you know, the body to do the rest of the anti-microbial work.

So and what are there other big, big herbs here that came out of the study that we should be aware of that have similar properties? Yeah. Another couple that were really, really wonderful and really interesting to expand on was out there already would be artemisia and and skullcaps galarian biker lenses Chinese skullcap. I'm so good I'm so happy to know I pronounce gorilla by cleanses correctly because most people start out by cow because it's so iconic.

Both Right, exactly. Yeah. I mean, so, so Artemisia in the first two studies that we did against Lyme and I did show activity, you know, and this was one of the first studies that we're aware of showing the activity of Artemisia against Borrelia Burgdorferi Right.

It has been used in the past for malaria. That's kind of where it's claim to fame. It was discovered, you know, by Chinese scientists who was actually the active component, artemisinin, was isolated by the scientists.

And he was actually awarded the Nobel Prize in 2015 for this because of how powerful artemisinin has been for reducing malaria illness and morbidity and mortality.

Right. So we knew that there was some some potential benefit against a malaria like pathogen babesia but the Borrelia burgdorferi findings were pretty, pretty impressive.

And so it's good to learn about, for instance, you know, in the first and second studies that we did, I was also active against Lyme and Babesia, which is a very widely used plan.

I think along with Japanese knotweed, I think I was grammarian, Japanese knotweed as very powerful and inflammatory herbs, right? This is one of the core herbs that I'll.

STURMER is around to support for COVID 19 given cytokine storm and the inflammation here has so it has antibacterial, antimicrobial even possibly antiviral effects.

And so yeah, really, really powerful medicine. I love it. What a great overview of these things. And like I said, like these are for are the key herbs in our practice all the time. And I just I think I became an osteopath by accident, which is basically like I followed my heart because I grew up, I didn't know any of this stuff.

I thought like, you know, Coca-Cola and like Dorito type chips and, you know, even a six pack or like food groups, you know, and pizzas. And we just didn't have access to this.

And then it's like as I've gone through this journey, Sanjay, it's like I'm like, oh, yeah. Like I kind of innately knew that the body was is such a beautiful temple that we all heard about in one form or another growing up, you know?

But it's like now we can really start to dove into just how amazing, not just our body is. But I think one of the things I've read, you know, I remember about you is like you're really looking at, you know, kind of this data driven ecosystem around prevention and reversal of chronic illness.

And one of the things that really struck me as writing this conversation and I'm getting chills again, it's like, yeah, you know, it's like it's because you're speaking.

My language is it's not just that I have to respect my own body for its individuality, but I also am respecting the entire ecosystem that I live in. And then when you go back to the top of our conversation, we're like, we're doing this work because when we help heal, other people are helping to heal ourselves.

And one of the messages I always like to share to parents who have kids who might be struggling or partners who are struggling, it's like and even friends.

We have so much influence over those around us. They're always looking to us for guidance because we're in this together, we're in this interrelationship.

Lifestyle foundations, data tracking, and hope for recovery

And right now I'm hearing like all this about these herbs and I'm like, even though I live this and I know this, I think I've just gotten a much deeper understanding of how integrally related we are to these plants.

And what one of the one other thing that because I want to give you an opportunity now that we've gone over all this, to really bring us home with any closing thoughts and let people know where to find you.

But it's like this opportunity to, you know, just resonate with life and kind of drop back into the sacredness of the whole thing. And I had another thought which left me, but it's probably because it's more important to, you know, as you bring this all together and you're looking at the combination of all these things, I mean, and helping people get better.

I mean, are there any kind of thoughts that we haven't touched on or closing things to wrap this up that, you know, give people hope for, you know, their healing process?

Yeah. So thank you for that. That those thoughts are really powerful. And, you know, I think that we are all living in this realm of uncertainty around Lyme disease and co-infections and how do we treat these things and how do we diagnose them and do the tests work to the test, not work where the specialists say, well, do your Lyme doc, what is your Lyme doctor say.

And so it's a lot of like a lot of just uncertainty, a lot of schism and a lot of confusion out there. And, you know, but one thing that we do know is that these bugs are very persistent.

Right. And they they've been around, you know, when I give talks on as I like to show a tree, a mock up of the evolution of life as we know it today. Right.

And we're out with the outer leaves and branches of this tree where that's where you find, you know, primates and humans evolutionarily. And down at the very bottom of that tree, like over 4 billion years ago, are the ancestors of today's sparky bacteria know.

So they basically been around forever, right? They just watched us evolve. They've got us kind of figured out. And so we can't just go in guns blaring and in effect, expect to effectively eradicate these.

And these concepts are still becoming, I think, digested and metabolized by modern medicine and researchers and is not totally well understood, even though there's a huge research base showing this persistent phenomenon and showing that Lyme can do this, you know, people like Monica Embers, Tulane and, you know, so the Heidi Docs and the folks who who aren't believing this are just not, you know, really looking deeply and in a nuanced way about research as it emerges.

And, you know, I think that we have to understand that if we're going to have success with treating these persistent bugs, that we basically have to be more persistent.

Right? We just have to stay engaged. We have to stay on top of it. We have to listen. We have to trust us, the patient. We have to understand your symptoms and what that tells us about what's happening inside your body.

We have to engage all of these lifestyle factors. And yeah, that's where I get really excited about the data, right? We're going to use a wearable or a ring or a variety of other wearables.

You know, we can see a physiological phenotype then of what's happening inside of your body and we can understand, okay, look here, things got a little bit better what was happening, their gear, things got a little bit worse, what was happening there?

And it can help us dial things in and really see visually a little bit better. So that marriage of the wearable data, along with that, there are patient reported data, the symptom data that we call that patient report outcome measures or proms, you know, that marriage of those couple of things along with, you know, hearing the patient's story I think has a huge potential to revolutionize how we are practicing medicine and how we're deploying with chronic illnesses of all types.

And that's one of the passions of mine that we've really built into our clinic. We have a really comprehensive care team. I feel really honored to work with this this set of really amazing people.

And, you know, we basically ask people to work with the whole team so they might see the doctor, the nurse practitioner. They're going to work with the nutritionist, they're going to work with the health coach.

We're going to try to get some data flowing on them so we can have a visualization of what's happening to them over time. We ask the patients to do a lot of work and track symptoms with us over time.

And so there's that combination of everything together. We think of it as has had a touch with this care team and the tech with the data side is really an incredible time right now with medicine and I get super excited and optimistic.

Well, Sanjay, I mean, you know, when I hear the care team, that's what we need. We're caring for a whole person, not just for a disease or an illness.

So I just I've always been so, you know, in awe of how you put it together, because it can be hard to do, but also even more inspired because your team is leading and showing us a light in this sort of proverbial darkness.

But you're showing us a new path and you guys are all walking the walk. So I appreciate that so much. And I appreciate I'm so honored to have you here because this is what we need to have the conversation.

We don't need to, like, run away from science or just run away from that the unknown. But we bring it all together for people. Who are you on all sides is the respect that we can have for all aspects of this work and the individual as the center of the work, the patient, the person recovering and access clinicians to like trying to have, you know, all of our voices be heard.

You know, there's a lot of amazing opportunity. It's so good. So I'm sure at this point everybody watching is wanting to know, like, how can I learn more about what Dr.

Schwag is doing it, where your work and potentially even, you know, finding out more about the programs you offer to the public. And if they need to see a doctor and be part of your care team, where can people reach out to you?

Yeah, so we are I'm the founder and director of the California Center for Functional Medicine. We are located in California. However, we are virtual. And so we do take care of patients all over the U. S.

and you know, basically people can come to our website which is WW w Docs, TCF and MEDCOM and you have a bunch of information in there. You know, there's, there's information on line on functional medicine and on COVID, on a variety of in health conditions as well as, you know, explanations on how to become a patient.

And we just launched we also have a lot of patient programs on there that are you know, available to anybody, whether you're a patient or not, you know, programs there and sleep around breathwork, around your gut, around nutrition, you know, so metabolic hormone health, etc..

We're really trying to provide as much of this information as possible to people and meet them where they are

whenever they can afford and we actually just launched a new service called the Functional Medicine Checkup, which is the $500 to visit series where we see you, we take a deep dove history.

We order a bunch of labs, blood tests, 75 or more different markers. And then we meet with you to talk about whether they are mean. You know, some, you know, steps that you can take to optimize your health and hopefully try to get you pointed on the path to recovery.

So, yeah, if you're curious, come and check us out and we're happy to to work with you in any capacity that's appropriate. Cool. Well, thank you so much.

It's been so inspiring. And as a reminder to everyone watching, well, just head over to our Summit Resource page. We'll have all of Sanjay's contact information.

So we didn't write it down. But again, at CCF MEDCOM and Sanjay Schrag, thanks so much for joining me. It's been so great. I mean, it's it's always fun when we get a chance to hang out and talk.

But I mean, today is one of the most inspiring chats I've had in a really long time. And I just want to say thanks for making the time to share your passion both today, but also all this research work for the betterment of humankind.

It's just it's all inspiring. So thank you so much. Yeah, thank you, Tom. Thank you for your effort. I know that you're coming in today. I kind of knew what we were going to be talking about.

You know, it's going to be a pretty traditional you know, you know, download of information. I just want to say how fun it is to, like, have this bigger conversation and to think about the heart and soul of what we're doing.

And so, yeah, I just think that everyone out there, I know I'm excited to get this information out to you. I'm really excited and grateful that you're putting all the time and effort into making this happen.

And so yeah. Onwards. So yeah. Thank you very much. So much gratitude and everyone, lots of love and gratitude to you for tuning in to this episode of The Healing from Lyme Disease Summit and to all the other ones.

And like we've been saying, our goal is for you to have a little piece of something that inspires you so that we can help you take that next step in healing and then shine that amazing light in your heart out for the world to see.

We can all do this together. We are part of this interrelated ecosystem. So I'm just so honored to have you all here with us with Dr. Sanjay Swagg. And again, thanks for joining us for the summit and Dr.

Tom Moorcroft out. I'll see you in the next episode.