Introduction and Jill's background

Hello everyone. My name is Doctor Richard Horowitz and I'm the co-host at the Doctors Talk Healing Lyme Summit 2.0. It is my great pleasure to be with you today with Doctor Jill Carnahan.

Doctor Jill is a friend of mine for many, many years. We met years ago when she attended, one of the Lyme trainings I did in Hyde Park, New York. She flew out.

We kind of bonded immediately. I recognized her as, like, a spiritual sister on the path of medicine. And Jill just recently wrote a great book called Unexpected about finding resiliency, through, functional medicine science.

And also faith. And I want to discuss, Jill, exactly your story, how you got into medicine, how you see what's going on in your practice these days with functional medicine, and why people are or aren't getting better.

I think we're going to have a great talk for people today, discuss like the keys of healing, right? Like, what do people really know these days in your practice, my practice to get better.

So thank you for taking the time today and and tell people a little bit about yourself of how you got into this. You got a Doctor Horowitz, and I am delighted to be here.

I really restrict all the yeses I've been saying lately, but for you, it's always a absolutely yes, because we do align on so many levels. And I have such great respect for the work that you're doing.

So my story began on a farm in central Illinois. And it's relevant because unbeknownst to me, this idyllic place, it was like Norman Rockwell esque. I was one of five children.

My mother was a retired nurse. You know, we go out and plant our own garden and, lots and lots of wonderful family connection, beautiful space to play and grow up, and a really wonderful, healthy family.

But unbeknownst to me, like I said, the environmental toxic load on that farm was slowly killing me. And I didn't really realize the impact until I was in medical school and my training.

In my third year, I had just turned 25 years old. I found a lump in my breast. And, even at that moment I thought, I don't have time for this. The grueling schedule of medical training is crazy.

And it was before work, our regulations. So we were doing 36 hour shifts for, you know, seven days a week. I'm crazy hours. And I remember just thinking, I don't have time for this, but of course, you need to make time for your health.

And in short order, I had a biopsy and a mammogram and an ultrasound. And I'll never forget the day I got the call from the surgeon and she said, Jill, I don't know how to tell you this, but not only have you won the award for being the youngest person at Loyola University, where I did my training, ever diagnosed with breast cancer?

But you have cancer, and it's aggressive in the cells that I've seen here in your pathology are some of the most aggressive I've ever seen. Now, no surprise because a woman at 25 who gets breast cancer, it's going to be a different beast than it, 85 or 65.

And it was it was aggressive. But then that led to I've always been curious, and I think curiosity were the hallmarks of what keeps us going in medicine to say what else is possible or why could this be happening?

And I was no different. So I took my own health and said, why would this happen to me at 25 years old? What led

up to this? And I started finding that some of the chemicals used on the farm, the classical, 70s, 80s, 90s farming, were highly toxic and highly endocrine disrupting, which means they act like hormones on the body.

So something like atrazine. When I looked it up about five years after my diagnosis, I saw the map. It was still widely used in the white widest used in the most prominent use was right where I grew up in central Illinois and the corn fields.

It's an herbicide that has been known by the work of Tyrone Hayes and some of the Silent Spring that many of you may have heard about, massively endocrine disrupting.

I called my dad and I said, dad is addressing still used in the US because what happened is the year I was diagnosed, 2001, it was banned in the European Union.

So now over 20 years they've had it banned in the Europe is way ahead of us as far as toxic load. And I started to find out, number one, yes, it's still being used even today.

But they were recording this. It's still being used. And so we don't have we think that our government is protecting us from these toxic chemicals. But the truth is, no one's studying them.

And synergistic effects like multiple chemicals at the same time. And our EPA is not really, really looking at these things on the level that we're seeing. The toxic load.

Breast cancer diagnosis and toxic farm exposures

So that was my first to the fact that maybe the, well water, maybe even in utero in my mother's womb, because she had been drinking the water, living on the farm, I'd been exposed and I realized, oh, what if this cancer is not just about luck of the draw?

I just accidental about about a combination of my genetics and my exposures and maybe even an old infectious burden. Because later I found out I had Borrelia, Bartonella, bobcat early.

But like everybody else who's coming in, especially. Tickborne, Wisconsin, you know, woods that I grew up in no surprise. And you and I had some conversations which we can talk about later about maybe the correlation with types of breast cancer, too.

So all this to say, my with breast cancer, it was just like, we know suffering can be the biggest gift in your life. And at the moment I was diagnosed, I would have never wished that upon myself.

It was shocking. It was disruptive. I had to take a nine month leave of absence. But looking back now, it might have been the best thing that ever happened because I became the patient and I had to really experience not only figuring out what's happening and why, but also living through that and having a great deal of empathy and compassion for what my patients go through.

Yes. No. And you know that empathy and compassion. I think you know my story, in part. When I was leaving medical school in Belgium, I went to my Tibetan teacher lab again, and I and I asked him, what was the most important thing you wanted me to know before I went out in the world and saw patients.

And he said, compassion. And he said, put yourself in people's shoes and do for them what you would want done for yourself. And it was like, well, you know, the Tibetan Buddhist always talk about love, wanting other people to be happy, compassion, wanting other people to be free from suffering.

But when you you actually hear it from an enlightened master and you go, oh, well, this is like the key thing I remember that when all these really sick, blind patients were coming in and the infectious disease doctor couldn't figure it out and the neurologist couldn't figure it out and the rheumatologist couldn't, and it didn't matter.

As an internist who I referred to, they didn't know what to do. I had to do the same thing you did, which was start on a healing journey to say, I remember Lama getting into reparations words.

If it was me who was sick, I would want my doctor to look for answers. And so you're right. I mean, it's it's a it's a horrible experience for you to go through.

But obviously you came out the other side and obviously learned functional medicine, because the only way you learn about these things really is functional medicine, about what these hormone disruptors do.

And by the way, you probably saw this. It might have been maybe a month ago. They discussed that all of the things that are wrapped when you go and get your food now from the supermarkets, you saw this, I'm sure hundreds and hundreds.

I think it was even thousands of these endocrine disruptors that are related to breast cancer and all these cancers in the foods we're getting from the supermarket every day, that no one's protecting us at this point.

Yeah, we kind of think I think we think that whether it's insurance companies having our health at the best interest and they're not really there about decreasing costs or whether it's our EPA protecting us from chemicals, there's that.

Yes, there's a level. I mean, if they throw something so, so toxic in there, like DDT eventually was banned, right? It took a while. But some of these things eventually have some regulation.

But we can't rely on our government to protect us. We can't rely on our insurance companies to make us healthy. Neither one of those things are true. So we have to actually be a advocates.

And what I've learned, one of the things we started off with is what is the thing that's worse and worse and worse? And I think for me, in my practice, the elephant in the room is environmental toxic load.

Whether it's the air that we breathe, the food that we eat, and it's in making assumptions. And unless we're actually proactively thinking about clean air, clean water, clean food, how do we actually get these inputs?

That's far more important than a bunch of supplements or a regimen, because if you don't have the inputs correctly, you know, decrease in your toxic load, there's probably no amount of other things that are going to overcome that incoming, deluge of toxic chemicals, right?

I mean, we we have an alkaline water purifier in our home, in our medical center. We only eat organic. I've got air purifiers right to lower down in my bedroom, in the living room, in the attic.

I mean, it's true. You've got to be conscious of this. Especially with the wildfire smoke, right? Less than 2.5 parts per million, containing right. Hundreds to thousands of these toxic chemicals that people are breathing in from the wildfire smoke. Right.

Oh, yes. And of course, I'm in the state of Colorado, which they are all over the place. A couple of years ago, when we had a massive fire in my city of lost a thousand homes in Superior and Lewisville, Colorado.

I really started seeing I saw labs that were way worse than any mold exposure. They'd see MMP nine, TGF theta, C3, C4, A infections popping up, and I was like, what is going on?

And of course, now we know there was so much, really fine particulate, this microbiome, which is less than one, a micron in the 2.5 and below. And these guys, they have go directly into our of the alveoli and go directly into the bloodstream because they're so small, there's no barrier that that can protect us from those.

We always saw the 5.0 and the ten microns were toxic. That's like your soot in your particulate. But these tiny particulate, they just literally go right into the bloodstream.

So within seconds of inhalation they're in your blood. And then they're going to be in your tissues. And as I saw the lab changes in my patients I was like, this is really toxic.

And then as I did it, he died. Phthalates, parabens heavy metals, PFOA, which is the poly fluorinated compounds that are like Teflon and Gore-Tex. These are forever chemicals.

And then plastics, which all the data that's come out about microplastics in our blood and heart attack and stroke and cancer. And so we are getting these things in.

And 80% of our toxic load comes from the air that we breathe, and we don't even think about that most of the time. So it is such a, you must be, deliberate about what you're doing.

Like me, I have five air filters here, three at home, all over the place, and making sure that you're actually breathing clean air at the very basics.

Right. You know, where from. And you learned this from Neil. I mean, from Neil years ago when we had the mall talks. You know, I used to think it was rare, and now it's probably at least 80 to 90% of all the patients I'm testing are positive for mycotoxins.

You know, I don't bother to test them all for pesticides. I check for heavy metals in the blood. And we still see them even though they're short lived.

So you're right. I mean, it's basically a toxic soup, and environmental chemicals are definitely on the top. So question. So what do you do for your patients to start unloading the toxins?

What's what's some of the most basic things you're doing for these patients to unload them. You got it. And you know, I loved what you said there. Because if you're listening and you're out there and you're like, well, I can't afford that, or I can, we can assume, I assume that everybody who walks into my office has a toxic load.

That's significant. So yes, testing can be helpful, but honestly, some of the basic things I'm going to tell you will work regardless of your toxic load.

And I love to focus on that bigger picture, because sometimes we get into the details of which talks and how much, what's the exact protocol and the truth is, a lot of the general principles will help.

So the first thing is external inputs. We've already talked about that.

Environmental toxins, wildfire smoke, and detox basics

You want to make sure air filtration, get a high Merv rating on your furnace filter, get a standalone Hepa and VOC filter in your office, in your home, especially in your bedroom.

Clean water, making sure you're drinking filtered water. Avoid plastics of all, all types that you all possibly can, I travel, and what's more, I'll get a water bottle.

Otherwise I don't use plastic. And then, clean food. And that's local, organic, non-GMO non pesticides. And I would actually prefer sometimes a local non certified organic farmer.

Then across the, the road, the commercial super high organic beans travel for two weeks in a trailer. So there is a differentiation in some of the local farmers don't have certified organic that they don't use chemicals.

So if you can go to farmer's market, that's your best bet and you're supporting the local farmers too. So those are core and then detox. What we're doing in the detox is we're taking, we're taking tissue load, which typically most of these are fat soluble toxins, not all, but many.

And we're trying to mobilize them out of our tissues where they've accumulated into the blood, where the liver, the kidneys and limp can start to filter and get rid of them.

So when you understand that, then everything makes more sense. And I like to think about it as mobilizing the toxins and excreting the toxins, I think is a lot easier to mobilize because, and this is where we sometimes get reactions and, people who feel worse initially we you can go infrared sauna, you can do high dose glutathione IV, oral intranasal injectable, whatever.

And you can really push toxins to mobilize. But if you're excretion routes, if your bowels aren't regular, if you're having constipation, if you're not hydrated and your kidneys are impaired, or you're not having enough minerals or electrolytes to move those out of the body or your lymphatic like, Bartonella really affects fabrics, as you know, you have issues with lymphatic drainage.

Those are all things that will stop your mobilization. And you can't excrete and you get worse. It's a better because it's into the bloodstream. So I'm always trying to find that line with the patient and making sure that I'm working on routes of excretion as I'm mobilizing glutathione and super helpful.

But there's all kinds of precursors. You can also use an acetylcysteine alpha lipoic acid, things like, selenium, which is a rate limiting step. Glycine and glutamate, glutamine, I'm sorry, will be precursors of glutathione.

So even if someone can take glutathione, you can give precursors and support. I'm always supporting the liver. Typically everybody I see is on milk thistle or and some of those liver support mechanisms.

And you really want to support bile flow because bile is where a lot of these are stored. And if that bile is not moving you're going to get overgrowth of bacteria in the bowel, which is an internal toxic load.

And that bile will also carry out those toxins. So we use bile acid binders. We use bile secreted gags like bitters. And some of the things that will, artemisinin help the bile to actually flow, and then kidneys to supporting the kidney health.

I'm sure. You see, with metals there tends to be more impairment for kidneys. So you really want to support the kidneys if you're moving the metals. And then basic hydration and movement movements, how you're going to get the lymphatics working.

So you need to exercise with, with whatever you're able to do. For some people that's very limited. But usually most people can walk or move in some way like that.

And I'm a big advocate for movement. And that's kind of your core. I mean, granted, we have all kinds of fancy protocols, but often it's the basics that get the most traction.

Yeah, no, I agree. And, if you come to my home and you look at my kitchen cabinet, I alpha lipoic acid and glutathione on some of the top ones, you know, I'm using at this point.

I also like the NRF, two stimulators. I like, you know, tumeric. And I love broccoli seed extract, especially for hitting the p53 cancer gene and being a really strong face to liver detoxify.

Or so I make sure in my supplements, because we know inflammation is the number one cause of all acute and chronic disease. So, you know, I use resveratrol, I don't drink any wine.

I feel horrible with any alcohol. So I mean, I take resveratrol, get some green tea, organic green tea. And so I, I find the NRF two activators, but the advantages of glutathione on NK alpha lipoic acid is it also blocks NF kappa B in the nucleus, which is one of the major factors that drives inflammation.

So you're you're pulling toxins out. So do you think most people, if they've not tested for mold at this point? You. Because I'm really seeing it in so many now I'm just doing it.

Are you testing pretty much everyone at this point that's coming in, or it's just by like based on. What I do? Yeah, yeah, it was good history because I always want to know did did your environment change and then your health changed because of it.

Is there might be some environmental causes that you move to a new location or you or you go away for two weeks and you feel better. Well then my car, could it be altitude, could it be location?

Could it be environment? So there's clues in the history that you and I take that give us like, a direction. But, I would say more and more and more and I don't know exactly why.

I think the homes are being built more quickly. There's way more natural disasters. There's way more, intrusion and things like, again, I think are just the quality of craftsmanship has gone down the speed at which things are put up without proper oversight in construction, because I see a ton of new houses that have issues and then the natural disasters.

And then I don't know if Wi-Fi truly has an effect, but I think Wi-Fi is actually creating some of the aggressiveness of the micro duction production, from the molds themselves.

So for some reason, we are seeing an exponential increase in not only reactivity to mold, but buildings that contain mold. Yeah, it's, you know, and it's a real problem.

And of course, when we're dealing with these tickborne infections, like the three bees with Borrelia bbca, Bartonella, I mean, we find, you know, a years ago, I used to laugh with you going, come on, the mold is not that important to my patients.

But now I'm realizing if I don't start detoxing again, getting the environmental load low, it doesn't matter how many stone I do, how much pulses I do, the people really don't get better.

So, you know. So you're also saying you were saying earlier, you are starting to see really a lot of tick borne now in your practice. Also with with this.

So are you finding generally infections and toxins are kind of at the top of the list of what's making people sick. And then maybe microbiome issues, too much.

I don't know if I see a leaky gut with food sensitivities. Is that kind of next on the list? Then with sleep, vitamin mineral deficiencies, driving inflammation?

Like where where would you put those factors in your patient population? Yeah. My map is kind of limbic, which we can talk about that by itself. But limbic is kind of up here meaning we have to some way, even if I'm not the professional who dresses Olympic looping, Olympic activation, anyone who's like chronic complex illness, infection, mold, tick borne illness has some medical trauma or has some, some trauma of some sort, even if they grew up in a healthy family or whatever.

So I always want to address that to some extent, because what I see is if that's not addressed, that will continue looping and sabotage all the wonderful plans you have.

And that could be like programs like Primal Trust or Gupta Program or DNS or any number of the trauma work, somatic services things that people are doing now.

And thank goodness, whether it's social media or whatever that's brought to the forefront, people are much more aware of this as a piece. But I feel like that still has to be at least in line with your first step.

Marcel activation a whole nother lecture, but I feel like I can't get much traction with infection and toxin until I deal with calming those mast cells, and we see way more, since Covid and everything else.

And mold is a huge trigger, I would say that's another thing. I see a lot more mast cell activation in the parts, the dis autonomia, the Ehlers-Danlos that kind of goes in that circle with those things.

So I feel like that's a priority even above infections and toxins. And then I would say function medicine is quite simple. It's almost always toxic. Load chemicals, metals, molds, etc.

with infectious burden, the three B's and Epstein-Barr and old and viruses and West Nile and etc. and those two combined to create immune dysfunction and inflammation, which is what we see, or metabolic dysfunction even.

And so even at the core there, and if you think about toxic load, you can consider exo toxins and metals of parabens, the phthalates to molds, the mycotoxins, the heterocyclic amines, the PFOA and then internal toxins is also part of that.

And they'd be from our metabolic system like endotoxin. Yeah, from the gut. Acetyl aldehyde, from the yeast parasites and their byproducts and even emotions like anger, unforgiveness, jealousy, loneliness is a huge mortality risk.

So I love thinking about that because I feel like that covers almost everything with toxic load, infectious burden, and almost all the immune dysfunction and inflammation that we see is driven by toxic load infectious burden.

So that's my map of the world. You know, we're seeing the same things. What I think is interesting, though, about the way you're putting it, because I have probably most of my patients doing any hopper DNA risk up to air primal trust, I mean, most of my patients.

And it's because they all have trauma. I mean, we all do, truthfully. I mean, you've had yours. I've had mine. When I was a child, I used to think that it kind of what you said earlier about resilience, like it was a gift having an illness like that, I had a, you know, kind of an abusive childhood with a stepfather who meant well, but we just didn't get along well.

I had abandonment issues. There was all kinds of problems. And I realized later on in life, because I realized as strong as I was, I had to go in and heal my own mind.

Right?

Mold, tick-borne illness, and immune dysfunction

Because, you know, I just the issues from childhood, and the more that I did the healing, the more I was able to empathize with other patients and realize, like, so I would go in and I think you have empathic qualities also, you sometimes go in with a patient, you feel kind of what's going on with them, and you'll mention to them certain things about whatever you're sensing emotionally, and they're surprised that you pick up on it.

But for those of us who've been through trauma, who've been through this and have gone through the other side as kind of empaths, we can usually sense with other people that it makes us, I believe, better physicians and has more compassion for it.

So in your case, what the resilience you got through, obviously, the breast cancer, you didn't discuss your issue with Crohn's disease and inflammatory bowel and how that whole thing came about.

But you went through a lot of medical issues. How do you how do you feel you developed the resilience from it? What did you do specifically? Because a lot of patients, they are traumatized from being at all these doctors who don't believe them, they gaslight them, they tell them it's in their head.

And then I say, well, you know, they were right. You have Borelli in your head, you have Bartonella in your head, you have toxins in your head. So it's not what they meant. But, but.

But. It's, you know, how do you feel you develop resilience. Is it these limbic retraining or because you didn't know that at the time when you were going through med school.

So there is something and it's inside everyone. I think people do have different degrees. My hero, Viktor Frankl, when he wrote about man's search for meaning, is one of the ones that I'm he's been through so much more than I could ever imagine.

And he talks about different ways. My term that I think fits with the science literature is grit. Grit is this into term. It's something inside of you that believes you can overcome or believes that something else is possible no matter what you face.

And everybody has some degree of that. Some of us have a lot more, and some of us have just a little bit, you know, grab on to that and go. Because I always think when we want to shift our subconscious, we have to ask the questions, what else is possible? Could this be possible?

Can I heal if you if you believe that you can't heal, you won't. So you have to first start with a belief. And one of my chapters is called believe act. Wait.

And it actually really summarizes my life because I always believed that something else was possible. I could heal from breast cancer. I could heal from Crohn's disease even though they said I couldn't.

I was like, no, I think this is possible. So there was a belief there that's a foundation. So a person coming in who's suffering, if they believe that either they can trust a doctor to help them and partner with them, or they believe that they innately have the healing potential within them.

Nothing is impossible because it starts with belief. And then they act. They act as doing what is in your capacity to do. Maybe it's changing your diet.

Maybe it's changing your sleep habits. Maybe it's eliminating, toxic relationships. And so that act part is within my realm of possibility. What do I have control over that I can change and do in order to go to the direction, the trajectory I want to heal.

And then the way part takes my last part of what I think helped heal me. And that's the faith in whether you are agnostic, atheist, Buddhist, Christian or Jewish.

Anything in between and anything I didn't mention. It doesn't matter, because faith is just the inevitable uncertainty that we deal with life. And how do we stay in line and comfortable with that inevitable uncertainty?

It's kind of like just, being able to sit with things that don't make sense or are dichotomous or opposing views or uncertain. And most of us don't like uncertainty, right?

So we try to do everything we can to numb ourselves out from that uncertainty and lack of control. But when we start to actually get really comfortable with the fact that life is uncertain, it's it's liable to throw us curveballs every few years, if not sooner.

Then all of a sudden we are able to sit with that and be with that. And it takes that faith to believe that we're going to get through that. So it's a believe act. Wait for me.

The wait is a higher power. This good goodness in my life always comes through for me and it comes through with resources, people, connections, money, whatever I need in the time.

It might not be what I think I need, but it's always what I need and it's always on time. And if I can release that need to know, I need to know how and why and how much, and then sit with that uncertainty and have the faith to believe that it is coming.

The answers are coming. I always 100% of time. It's never my timeline. It's never how I think it would be. For example, cancer came as a gift. Would I have ever asked for that in a million years?

No, it was horrendous. I was I was lost, all my hair was so, so sick. It was so painful. But guess what? It was such a gift and blessing and I know more than I would ever know without it.

So I love that believe activate some sort of higher purpose and power is highly associated. Even if you don't believe in a God, it's associated with longevity and, resilience.

So having that, like whether it's your purpose and meaning in life or what you do or a belief in a higher power, something that you can latch on to that gives you a sense of safety beyond your own self.

I think those are kind of the principles of resilience. No, it's a it's a great point. And and regarding safety, I mean, it also brings up an interesting point with this, because the people that don't get better are ultimately the ones who are not in safe spaces, are also the ones who have had trauma.

You mentioned this earlier and don't feel that they deserve to get better, right? It's almost like their immune system is is impaired from it because of a deep belief that I deserve to suffer.

My wife from a Italian family used to say Mia culpa, mia culpa. You know, like like I deserve, you know, with guilt and shame and guilt and shame and it's like, no, not really.

But but you're right. I'm the mind body medicine, you know, aspect. Everybody knows it. The difference is you. You're actually doing it day to day. So. So am I, by the way.

And, you know, when I came, for example, that that seven years ago. And you're talking about synchronicities when I tell people if you want to see the way the universe works, and again, whether you call it God, Christ, Buddha, Allah, whatever name you're putting to it, the game I like to play with people, I was always say to them, watch for the law of synchronicity.

Like ask for something and then watch for the synchronous events that happen that are kind of Guideposts along the way. And it could be a book that comes in the mail, it could be a bumper sticker.

I've always found that this works quite well, and in my case, you know what happened when Hopkins researchers had said about ten years ago, alarm is a persistent bacteria.

You know, with biofilms. And it's like, oh, you don't mean it persists? We knew that. You mean it's a persistent like mycobacterium. And then I went to the literature because I had been working with HIV patients with mycobacteria.

Maybe I'm in central and TB back, you know, almost 50 years ago.

Trauma, resilience, and belief in healing

And I realized, like, I've always wanted to use these drugs and I didn't know why. And when my, when I looked at leprosy and they said, well, they use rifampin and on for leprosy, I wonder how this works.

The minute I looked at the qualities, there was this tingling in my body, like the light bulb went off. Like automatically this was going to be it before I even tried it in clinical practice, because I looked at the qualities of the drug, it gets up into the central nervous system a chance I inflammatory.

It's a persistent drug. It hits autoimmunity. It has anti-malarial effects. It's like wow, this is checking off all the boxes. Yeah. So you're right. I mean, I think not enough people, I think, discuss the spiritual aspect of where to pull from.

But you're right, it's extremely important because Lyme in these tick borne disorders, I mean, some of these people are so ill that if you don't believe in a higher power or have another way to know that you can get better.

And I think the difference this a lot of docs like us, but I think something that we share together is I always believe that people can get better. And I don't care what your problem is.

I believe that if I try hard enough, I just don't know. Like and that includes people that come to me with ALS. I've had Crohn's patients who have completely gotten off their drugs, giving them low dose naltrexone and healing their leaky gut and getting them off their food sensitivities.

I've had my patients get off their A. B. C. drugs with at the speed of searing Copaxone by treating lemon bard and their vitamin D and getting the metals.

You don't know what's possible, but you have to believe that the healing is possible. And when someone comes to you or comes to me and they have that belief, I think there's, you know, there's a relationship with the patient that they get it.

They they feel almost empowered by a doctor who has that level of belief and also who intuitively fills in. So I, I think you're bringing up some really, really important points for people.

Yeah. It's something we certainly didn't get taught in med school, but I think it's so crucial. I've often talked about like sometimes I remember when I did a climb my first time climbing third Flatiron, which is like 1000ft, and I had never had any experience.

But my climbing coach believed I could do it. And it was literally his belief in something that I had no clue what I was doing. That carried me to the top of that successfully.

And looking back on like he thought that he saw something in me that thought I could do this. And it wasn't that I had confidence in myself. And we talked about it later and I said, I think I do that for patients, and I think you do too.

Doctor four, which is we have this deep belief, and it's almost like they can borrow our faith in the process and our faith in the ability of the body to be resilient and heal.

And even if they come in and they're not certain, our strong confidence in knowing that they're anything's possible. I believe you can heal. I think that is such a powerful medicine, a panacea that we're maybe not even aware of how powerful it is because we're cloning them.

The fact that I believe in you, and who doesn't want to hear that and believe that that's true. Of course. Yeah. So so again, in your map, the toxic load, these infections, the limbic system, which again, the belief with the mind body, you still got to get to endotoxin.

Me so let's stop. We didn't go into that too much. Talk a little bit about the endotoxins. We have the external toxins. Just talk a little bit about that.

Because you know we do find I've been probably on immunoglobulins with IgG now for years to heal my leaky gut. Talk a little bit about endotoxin because I don't think it's something most doctors talk about.

You got it. So LPs is lipopolysaccharide. It's a coating of gram negative bacteria which are all over our in our gut. They're supposed to be there. There's nothing wrong with that.

But what happens is when we have that in line with a permeable gut, which once again, is just like toxic load. I assume nearly all of us walk in with intestinal permeability to some degree, and we actually know that healthy humans postprandial, have a degree of intestinal permeability, no matter who you are, how healthy you are.

So that's true. The literature talks about, endotoxin the truly being four times the serum level of LPs. After a meal within five hours of measurement.

So that's like a technical definition. But we don't need that technical definition to assume there's some degree of

permeability. So what does this do.

So we know LPs when it leaks across from the gut lumen into the bloodstream, is one of the most potent immune triggers for inflammatory cytokines. And we now know thousands of studies correlate this with development of diabetes, obesity, heart disease, mood disorders like anxiety, depression, low testosterone in men, autoimmunity.

And I could the list goes on and on. And when you really look at it, it's almost all of the complex chronic diseases that we see in, especially in the US metabolically.

So truly at the core of diabetes, which is why now some of these, potent probiotics with necromancy are being used to reverse the metabolic issues. And what you mentioned, bovine immunoglobulins, they have the power to bind LPs.

And even in the room that I live in, which is mold toxicity and in docs that are experts in mold toxicity, we're all now having the question is, what if mycotoxins are a part of the puzzle?

But what if the bigger part is actually LPs, endotoxin, Mia and all these binders and things that we're using clay, charcoal, glycol, mandan's, polystyrene, well, call it, etc.?

What if they're actually binding LPs as much or more as the toxins? Because I feel like, as you mentioned, this is such a huge issue. We are all dealing with it to some degree.

And so what do we do? So, first of all, how you might know is if you have more fatigue, brain fog, more symptoms after a meal that could be LPs induced endotoxin.

And many of us do have that a little foggy feeling. Second thing, as many of us have dysbiosis meaning overgrowth of abnormal bacteria either in our colon or in our small bowel, it's more and more prevalent.

So even more so we're getting malabsorption from that, and we're getting dumping of these toxic products into the blood from the inside out. And probably one of the most important things we could do is clean that up.

So in that sense, what I would start with is a clean diet. Here is where temporarily, a low Fodmap diet might help you with Sibo, but a low Fodmap diet is designed to starve the microbes.

So I'm not a fan of long term super restrictive, especially restricting FODMAPs because FODMAPs are the healthy fibers inulin and artichoke and asparagus and broccoli and cauliflower and all these wonderful foods that contain garlic, onion, not only sulfur compounds for detox and all this stuff.

So I don't love doing those kind of highly restrictive diets for a long time, but maybe temporarily for the gut to shift. And then typically we'll use things like berberine or copper, like acid or oregano or other herbs, to actually decrease the toxic load from that bacteria.

We can also use things like the vaccine or, other medications that will, clear out the bacteria as well. Right. So yeah. And we by the way, we find a lot of Sibo.

I mean, years ago, I'm not even sure how much I was finding, but there's quite a few patients who come in with Sibo right from the beginning or have Candida overgrowth in the gut because they've been on antibiotics for years before they see us.

They don't realize that you put a little carbs in there. The symptoms of Candida are exactly the same symptoms you're seeing with Lyme, with fatigue and brain fog and aches.

In fact, we probably find like maybe 10% of the patients when they're done with nine weeks of that zone and we clear them out for Candida, there's a whole group of them and say, oh my God, it was the Candida that was like the last piece of this.

And I had it since I was young. I mean, I don't have really any asthma symptoms anymore since healing my leaky gut and staying above high dairy, but I mean, I couldn't tolerate a slice of pizza years ago.

I'd be stuffing up and and, you know, having to use asthma sprays. And they don't teach you in med school. Like, you know, what happens with this is all something in the functional medicine space we need to learn.

But, it's on the top part of the list again for you and I, I think with the three BS with the toxins and again, leaky gut endotoxin. Yeah. So when you get back, for example, the GI map and you're seeing the differences in some of these bacteria, you know, when I have my yogurt in the morning because now I can eat some, you know, I'm putting in organic flax and organic, hemp seed and organic black seed.

I'm making sure I'm getting in all those good fibers for prebiotics for my gut. And I take loads of probiotics every day that I rotate. Do you have a regimen, for example, you like?

Because I'm finding I find it works for me not only to keep things moving. You said earlier we got to keep things moving, but that fiber is also great for as long as you don't have obviously too many issues. Right.

But tolerating it. What do you tell your patients with these? Yeah. No, it's absolutely essential. And I've taught for years on the gut. And one of the things that even docs get confused about is probiotics are so powerful and so helpful.

But if we can get them from fermented food in, the caveat is if you have a real histamine intolerance, fermented foods are going to be high histamine.

So you may not tolerate those things that are like bone broth, kimchi, kombucha. Not a good idea if you have histamine intolerance, other people can do it, and that's the best source of probiotics.

But we can take probiotics. There's nothing wrong with that. But if we ever think that probiotics are going to increase diversity, that's just not true.

We have to go to what you said, which is increasing the fiber and the precursors in the diet that the bacteria. So the bacteria in the colon ferments fibrous foods.

So all of your leafy greens, your fruits and vegetables, your polyphenols, especially your fibrous garlic, onion, artichoke, those kinds of foods, inulin based foods, and ferments us into short chain fatty acids.

And the data that's coming out on butyric acid in some of these short chain fatty acids, not only does it increase GLP one naturally, so for all of you who want decreased appetite and weight loss, your goal there is to increase microbial diversity, increase short chain fatty acids, and you will naturally produce GLP one.

You don't need to take a drug for that. But so again fiber is increasing butyrate because butyrate is like one of the major healing things that we need right now.

Right? To get to. Get those into your site. It's a fuel between the cells that are the tiles on the wall of your guts. If you have leaky gut, you must have short chain fatty acids being produced, being fermented by the food that you eat.

And that's going to create a mucosal barrier, which is going to help, strains that are keystone strains, these ones that we know are associated with diversity.

Like if you go back to your in prison at Ski Roseberry, acromion sia and you won't have those if you don't have diversity. So we can actually look at a map or any of the stool tests.

And if there's no Ackerman Sia, no fecal bacterium, you know, that person by nature is going to have low diversity. And yes, probiotics are great. And I use spores.

I actually use the new community strains and everything in between. But you're never going to get the diversity back unless you really increase the quality of your diet and the food that your bacteria needs to survive.

Endotoxin, gut health, and microbiome support

Right? No, that's a that's a great point. And I'm glad. I'm glad you said that because I think it's a it's a key point. Let me move on for a second to the long-covid piece that we're starting to see now interfering with people.

I thought, you know, I published the first article on glutathione in the world literature in April 2020. I'd seen people with the BCA come in with shortness of breath, gave them a shot at glute, got better.

I thought, okay, I looked at the inflammatory cytokines early on with Covid and I said, oh my God, those are the same ones we see with time of reactions.

Let's block it with exactly what we talked about earlier NAC alpha lipoic acid glute. And it did help. Later I discovered, and I did notice that most of these viruses need to lower glutathione on to be able to replicate.

But so I thought, gee, I'm protecting my patients from long Covid. We didn't have Paxlovid for years, right? We were kind of struggling. But now I'm doing the radiance diagnostic test from Patterson, and I'm seeing a lot of these people meet the criteria for long Covid.

Now, the problem is the BGF is high in people with Bartonella as well as Covid causing endothelial dysfunction. Right. We're seeing, you know, increases.

And I have for so I'm just kind of curious. There's a debate going on right now because I've been trying Miraval Rock and Travis Scott. And from Bruce, a little bit of colchicine.

I'm just starting to try to lower inflammation. Some people looking at the fibrin clots, opening them up to see the viruses are hiding. There are pieces.

Have you found anything at this point in the functional medicine space? Jacob and I were discussing this also a while back that, you know, the healing helpful also because of limbic hypothalamus.

Is there anything you're finding in your space that's helping these long Covid patients because they are also overlapping the three bees and the environmental toxins and all the other things we're seeing?

So agree. So first thing, I love the Radiance Lab and, the AI data that they took out of that they can actually start to differentiate between is this long-covid or reactivation of Lyme.

And I think the two that they see the most with the reactivation of Lyme versus long Covid, which can happen because Covid is in immuno compromising state.

Right. So you can see these old infections pop up. But I L13 and Alpha in particular are more associated with a Lyme reactivation versus like the G of the, when we thinking of teen of Alpha and the other one I'm forgetting at the moment are more associated with the long Covid.

So I really like that. So I have been looking at McCullough and Bruce's, protocol. And actually, interestingly, in the next month or so, I have a product I just put together that, is going to be kind of targeted at that.

And it's going to be have ingredients of lumbar kinase, curcumin, Boswell pick nodule and, luteal. And so we have a little bit of mast cell stabilization.

We've got the and I think what we need in these patients is something that is, going to be fiber analytic because we have such a risk of clot, whether it's just because it ended, the ilium has been damaged and they're just accumulating clot risk there.

So I really putting most of them on nano kinase or bulwark, which of course is great for biofilms as well. I love the data on curcumin, possibly for inflammation, and then luteal and quercetin and maybe Pas are some of the top ones for mast cell activation, which is also part of this.

And then another one that's we've used for a long time. But I really like unions. Patients is a program solving mediators. I'm a huge fan of the pro resolving mediators.

Especially, you know, any of the Spns PRM. You know, I, I tried them you're talking the SPM. I mean, I tried them years ago, but these were really sick patients and I'm not sure I saw a big difference.

You think maybe there's a reason to kind of revive this in my toolbox at this point? You ended the original one that was out there. I won't name brands, but it was 70 per cap.

It's now 400 per cap, so I'm using much higher doses too. Oh well, I don't want to mention the name because. So it's a lot higher dose of what you're using at this point.

Yeah. So so you're saying you're thinking also like I am at some combination of the theory dysfunction, mast cell activation, the pieces of the virus to the full virus, defining it in the gut with inflammatory bowel but also hiding in fibrin clots.

You're thinking as I am, these are probably the triggers as to why the inflammatory cytokines are are still going. Yeah, I think it's an immunocompromised state, at least temporary for the first six months for many people.

So then we have these all that activation of viruses and bacteria and B three B's and stuff that can come up. I think it's an endothelial disease that actually damages our endothelium, which happens all over the body.

So anything we do to restore endothelium and repair and prevent fibrin clots. And then I think it's a potent trigger of muscle activation. And if you kind of think about those things like we talked about, you can usually get them feeling better.

No that's that's very helpful. Yeah. So if you're doing any trials on this or you've already been trying these combos to see and you're saying that. They're home to think of my clinic trying the combos and having pretty good success with it.

But it ends up being like five things I have to take. So I'm going to combine it all into one. Really. I think people love taking the supplements. I put them really. I thought people love it.

They make fun of it all the time. When they come in to see me, it's like, hey, come into my kitchen and see what I swallow every day. But I know them better.

I know I get it, other things on the map, I'm just kind of curious. Plots, dysautonomia related to long Covid or Lyme bite and you're seeing quite a bit in your practice.

I've seen massive amounts and, I don't know who I first heard. Maybe the groups that are really discussing masks. I'll talk about the triad, but as I frame this and learned about it, I really feel like this is the core.

The mast cells will activate collagen, these kind of things that chew up collagen. So you'll also see some collagen vascular or EDS kinds of symptoms with this maybe cervical cranial instability.

And then on this other side is the part Disaronno mia which is again damaged endothelium because endothelium is a lot of collagen tissues. And when that, endothelium gets damaged you have dysregulation of volume of dysregulation of preload coming back to the heart.

So then you get tachycardia because either their volume depleted or they're not having enough. Their periphery is so dilated they're not getting returned to the heart.

So there's the parts to Sonoma. And then you can just have neurogenic mediated hypertension that doesn't qualify for Pots, but they're actually still very, very symptomatic.

I personally, a year ago, year and a half ago with Covid got probably six months of pretty bad plots. Disaronno, Mia, the things that helped me. Methylene blue is actually a pressor, and I would use low dose as a methylene blue to cause peripheral constriction.

And, obviously mitochondria benefits at very low doses. I'm talking like eight milligrams. A really low dose. Yeah, really low dose. So you have none of the side effects of the kind of Bartonella treatment protocols we've been using.

So really low dose, really effective for that. And there's all kinds of, off label pressors and things that you can use. Volume depletion.

Long COVID, POTS, mast cells, and mitochondria

Ted hos, but it can be kind of complex because that whole route, if you think about the whole blood, you know, and feeling is dysfunctional and your blood flow is not returning to the heart.

But, when you think about it as the triad treating those patients will typically get better. Are you? So, I mean, for people listening, the reason the pots this on anemia so important is that it causes the same symptoms we're seeing with with Lyman Bard with fatigue and brain fog and palpitations and anxiety.

The difference is the dizziness is usually it's postural. They're stand up. They feel like they're going to pass out or do pass out. The limbic retraining we were talking about earlier, I mean, it's been in the literature that it should help.

Are you finding that people stick with the limbic retraining long enough, they can reverse some of this, and not have to be on pressors like mid-range for their whole life?

That's a really good question, because I feel like it's in conjunction, and people really do have to either really integrate the principles. So they've become kind of a neat to them, or they have to keep doing the program.

And there's various successes with the different ones. I've really liked Primal Trust lately because it's so, bent on how to create safety in your body.

And what I do find is, as you know, with Farnell and OCD, I have a lot of patients that are very obsessive. So if I give them something where they must do 1 or 2 hours a day, it actually maybe makes them like it.

Actually, I don't think it's helpful because they're already feeling they're overwhelmed and they have to do too much and you give them one more to do that, they have to do so.

I like a little bit more, leeway in how they do the program and to find something that works for them versus a prescribed must do two hours a day kind of thing.

Yeah. No I know primal trust and she's great. The woman who runs it speaking about SEL danger because you kind of said a little bit about so curious about you know, we always do the mitochondrial regeneration anti factors CoQ10, acetal l-carnitine, the ribose mighty near nicotinamide.

Right. We do it when people finish because there's always free radical oxidative stress. But the question I sometimes wonder about in some of these people is whether there's an issue with cell danger response.

You know that's talked about by by Navajo that maybe some of these people are stuck where we're like, I've gotten a load of the bugs down, we've detox the mold.

Their gut is moving, we've got their vessel under control, their pops. It's not that bad, but they're not moving. And

I'm kind of wondering, is this an issue like that?

They're stuck somewhere in the cell. Danger response. Because Bob talks about needing extracellular ATP, and the only thing that's ever been published was cinnamon.

You know, a drug for sleeping sickness. Apart from Hopkins talking about high dose sulforaphane, glucosinolates, which in the autism population looks like they may be with some benefit any.

These are off. I knew you when I was going to have a great conversation on this, he any ideas you have? Do you think you're seeing cell danger interfere sometimes like of course wildfire.

Wildfire. We're not in a that's of course going to play a role. Do you think it's interfering with some of the successes you're seeing with all of these protocols that we're using?

I do, and I think still danger on some level is that limbic. So it's not I would never say Olympics going to completely take care of so danger. But that's definitely one of the pieces I've been using.

I really do like methylene blue as a mitochondria redox agent at low doses. And I used to just like you use these at the 5100 and higher doses. And what I'm seeing now is it's almost a whole different ballgame at these really low doses for multiple reasons.

I really like in Europe with in a more and more, I feel like the data is pretty strong on that. From out of control. Just from. Yeah, for my country. But you're right, it's hard to there's not, like, one drug in a drug that could have work do.

We can't get so correct. Yeah, because I was one. And of course, when we're talking about the gut, when you have the right prebiotics, probiotics, right, you make your life in an A anyway right in your gut.

And you can take it as a supplement. Right. But you do make it in your GI tract when you have a healthy microbiome and and you're taking the right things.

But yeah. Hormones. So we I knew this was going to go quick. Let's finish up just with a little bit of hormone disorders. To finish up, do you see a lot of low adrenals.

Do you see low testosterone sex hormone disorders in your patients also intervene because we're seeing it also quite a bit. It's an overlap. Oh yes. Yes an interesting one. We talked about Long-Covid.

One of the patterns early on that I saw was low cortisol and excessive B-cell function. So more autoimmunity and diminished T-cell function, which was all the things that fight viruses, cancer and infections.

Right. So that pattern was really prevalent in especially I mean, I would get to the point where I would need to add hydrocortisone. They were so depleted, and I don't use that super readily.

I often use adrenal support. But these people were so flatlined. And that contributes, of course, to hypertension and volume depletion and all the like.

It's such a loop with the parts to set anemia, everything else, and even mast cells, because our cortisol is supposed to buffer us from the world and protect us.

If we think about some asthma attack or severe allergy attack, what do we give? We get prednisone. So if the adrenals aren't working, we have no buffer to the world and the mast cells are going to be more angry in the parts disorder.

No, you're going to be worse. But hormonally, even women, I would say it's interesting because menopausal women, I think I've been hit extra hard. And if they're not really aware of their hormone, cycles where they're at with hormone levels, I'm been a huge, I mean, there's been a resurgence even on social media and out there, wherever

people are listening of really looking at hormone replacement as an important part of the picture.

Because if women don't have hormones, they can't produce nitric oxide, their risk of heart attack goes up, their endothelium gets damaged. So speaking of endothelium, one of the best things, especially my group, which is post menopausal women can do is optimal appropriate bioidentical hormone replacement.

Right. And the study studies now for everyone listening who's not followed all the studies that they came out years ago. Right. With postmenopausal women stay away from hormones.

It's actually been debunked, right? It's not. Fortunately, it was a couple of years ago. They started to debunk it. I went to a a conference in Asheville, by the way, a few months before the, you know, and they actually talked about it there so that.

No, it's a it's an important point, to, to bring it up. So we've only got a couple of minutes. So let's, let's kind of wrap this up a little bit because I think this is a great talk for people to realize, you know what I've always used the analogy of somebody comes in with 16 nails in their foot complaining a foot pain, and you got to pull out all the nails or you come back, you know, next month to the doctor saying, I still have foot pain.

The three BS beryllium bbca are still in the top of your list with environmental toxicities, right? Getting that gut moving, making sure that we are, Sherry Rogers thing of solution is the dilution to pollution you were talking about, right?

Getting the fluids in through the kidneys, getting the gut moving, walking for the lymphatics. Right. Doing all of that, looking at endotoxin, me and LPs with what's happening in the gut, looking at your food sensitivities and maybe rotation protocols, looking at vitamins, minerals, limbic like especially for the trauma peer working with primal trust and Hopper DNA is the up to air techniques looking at hormones, mitochondrial dysfunction.

So these are all the things that we're finding, and you're seeing exactly the same thing in your practice. Right.

Hormones, self-compassion, and closing thoughts

And, I think this is going to become, I think, the standard in functional medicine and even eventually in chronic Lyme, when I can get an NIH trial, that it's never been one thing to call it chronic Lyme disease is ridiculous because there are always all these other factors making people ill and I don't like infection associated chronic illness because I like Lyme since because it tells me, oh, there's up to 16 factors and I know what those 16 factors are or it's not Lyme message.

You've got bark with pots or leaky gut, right? If for me it's easier because I have a, you know, six signs of six, rivers of inflammation, ten downstream effects of the inflammation.

Jill, this was great. Anything you think the readers need to add? I think what you discussed about resilience and faith and having hope. Excellent. Anything you think we didn't cover that we should cover, that will just give other people hope and know because, I really value the work you're doing out there.

You're you're really a wonderful practitioner. By the way, if I ever got sick, I'd be running to you as one of the first docs I would ever see. Because you have love, you have compassion. You're bright.

You've been through. And it's like you're everything a doctor should be. And you know, and I know writing a book, like writing your book on unexpected.

It's a lot of work to put that and get that out there for patients. And, you know, you don't do it for for ego. When you don't do it, you do it because it's a gift for the world, right?

You want to share with this with people. So last thoughts. What would you like to share with people that you think is important for the healing process?

Thank you. I have the idea and I think you'll so resonate with this. The thing that has done more from my life and my health than anything in the world was having self-compassion.

And you and I have been born into this world to be healers, and we have a great deal of natural compassion to the world, and I love that. But what I wasn't showing was compassion to myself, and I couldn't even really have that compassionate till I started to trust my intuition and to trust that my body knew what it needed to heal.

Once I had that intuition in that trust that I knew innately what I needed to heal, I might take advice from all kinds of people so if you're out there listening, like finding that trust in yourself to know that you can heal and that your body already has everything it needs, will set the foundation for you to have love and compassion instead of saying, oh, you idiot, why did you do that?

You like sweetheart? Let's try that again. You shift the conversation and I can tell you there's no more profound healing than when you start to love all parts of yourself and show up with that self-compassion.

And that's the foundation for the compassion that we want to show the world. And that's where the healing, the truest healing, is that that level. Oh, it's, you know, it's a it's a beautiful last thought and you're really hitting upon something.

If I was to, you know, be in an audience and ask people how many people actually have self-compassion and love themselves. We're tough on ourselves here in America.

I don't know if it's across the world, but we are definitely in medicine. Of course, it's even worse, I think. But but you're right, people are tough in themselves.

And I think for the healing process, this is very, very important. What we brought up today about these elements of faith and self-compassion. So thank you. This was this was really wonderful.

I knew you and I were going to have a great, amazing talk together, right? Without figuring this out in advance. This was wonderful. I really want to thank you for taking the time and doing this.

And thank you for the work that you do in the world. You are a hero to me, and I want to say that publicly because that you you've set the tone, the pace, the protocols for so many of us.

And I'm so grateful for, you. Know, it's it's my pleasure. So, everyone, my name is Doctor Richard Horowitz. I've been speaking to Doctor Jill Carnahan, wonderful functional medicine doctor.

She's written a great book, Unexpected Finding Resilience through Functional Medicine, science and healing. And faith and, Jill, keep doing the great work that you're doing.

I look forward to speaking to you in the future. Again, doctor Richard Horowitz for the Healing Lyme Summit 2.0. We'll be meeting with you again soon. Thank you for tuning in.

Bye bye.