Mycotoxin, Mold Related Illness Diagnosis, Treatment Transcript

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Introduction to Dr. Jill Carnahan

Today, I'd like to welcome Doctor Jill Carnahan to our mycotoxins summit. I'm so honored to have you today, Doctor Jill. I'm going to start by introducing with your bio.

Doctor Jill Carnahan is your functional medicine expert. She uses functional medicine to help patients find the root cause of their illness and identify nutritional and biochemical imbalances that may be contributing to your symptoms.

Doctor Jill will search for underlying triggers that contribute to your illness through cutting edge lab testing, and tailor the intervention to your specific individual needs.

She uses nutrition supplements, lifestyle changes, or medication to treat your illness and always seeks the gentlest and less invasive way to help you find hope, restore health, and optimize healing.

She completed her residency at the University of Illinois and Family Medicine at Methodist University at Methodist Medical Center, and received her medical degree from Loyola University in Chicago.

She received her Bachelor of Science in Bioengineering at the University of Illinois. Doctor Jill is a survivor of both breast cancer and Crohn's disease.

And passionate about teaching patients how to live well and thrive in the midst of complex and chronic illness. She's also widely sought after inspirational speaker and travels the world to teach physicians the principles of personalized and functional medicine.

She's a prolific writer, speaker and loves to infuse others with her passion for hope, health, and healing. She's been featured in shape magazine, parade, Forbes, Mind Body Green First for women, Town Send Newsletter, and The Huffington Post, as well as seen on NBC News and Health segments with Joan Lunden.

She recently authorized the Personalized Precision Integrative Cardiovascular Medicine textbook, and her prescriptive memoir will be released by Harper Collins Sandra Vann in the fall of 2021.

I am so honored to have you here, doctor. Jill. Thank you so much for having me. I'm so excited to be here with you and to talk about my favorite topic.

Great. So let's start by talking about how you would first assess if a patient who enters your clinic has mycotoxins or mold illness. I know that it can be a confusing thing for patients.

So how do you begin? You got it. So, you know, if there were, if there were one, I always get the question. If there's one test for mold, what is it that people ask on the blog and ask on all places, and there's not one test and I'll explain how we assess.

But before I do, I want to tell you just a tiny bit of background.

How Mold Illness Is Assessed

We are both traditionally trained, and in, in medical school, we're just not taught that mold is a systemic, multiple symptom, multisystem disease. We're taught it's an allergen.

And we really a lot of the stuff we've learned in the last decade or two, was not part of traditional, medical education. And it's sad because there's so many people really suffering from it.

Now, a lot of the stuff we're talking about, it's very science based, but we're kind of on the cutting edge of what's possible with healing and diagnosis and treatment.

So things are constantly changing. So today you'll hear this and we'll give you the very best science that we have. And it might change in a month or two.

But the basic principles are the same. So diagnosis and treatment basically diagnosis. You're going to look for inflammatory signals in the body. What happens with mold is mold.

Not only as an allergen as we were taught in medical school, but it also causes a systemic cytokine response in the body. And there is a difference with genetics.

There's a portion of the population that has more trouble tagging and identifying these toxins and getting them out of the body. So for that reason, this those subset of patients, around 25% of the population, they're going to have more collateral damage in their body.

And it's not just from the mold, the mycotoxins, the spores, the fragments, which are all part of this picture. We can, think about it as like, toxic soup in a water damage building.

And the more data that we're finding, it's not just mold. It's not just the toxins they produced, which are called mycotoxins, but it's also bacterial and endotoxins and other fragments and things that are in this soup that cause an inflammatory reaction in the body of someone who's susceptible.

And I just frame that because as we do lab testing, there's no one test I wish there were. So what I start with in clinical practice is a great history.

I ask very specific questions about symptoms. We can talk about that in a few minutes. To classify if they have a lot of symptoms that relate. And in order to be diagnosed with a chronic inflammatory response to mold, you have to have multisystem, which means like the brain and maybe the heart, maybe the lungs, maybe the kidneys or bladder.

So mold or skin you have multi system and multi symptom more than one symptom in each category. So it actually crosses over into a lot of disciplines because you might have rheumatologist arthritis.

You might have brain dysfunction early onset dementia memory issues, executive cognitive function difficulties. And you might also have a wheezing trouble breathing, cough, shortness of breath, frequent infections, skin rashes.

And I could go on and on. But these things as you can tell they're multi system multi symptom. And that's where we get into how diverse this is and how difficult to diagnose.

So the very first thing like I said is a good clinical history. Those of us who do mold related illness are well trained to ask good questions. And I would say by the time I've talked to a patient, given them, you know, plenty of time to tell me their story.

I am with about 99% certainty accurate on the diagnosis of mold versus not. And then I prove it with the test. But I'll tell you about then when we do what we do, visual contrast testing which tests the visual acuity of the retina.

These are some of the smallest blood vessels in the body. And the reason this is important is because cytokines that are created by the mold response damage and cause inflammation and leakage to blood vessels.

And so we can actually measure that damage with the visual acuity testing. This is a scientifically based. It's been used since the 1940s in the armed forces to determine if they were, susceptible or if they were exposed to biological warfare agents.

So it's not just for mold. It's for any biological toxin. But if they have a positive history and then they have an abnormal visual contrast test, those two things are free.

So right now I've come to a pretty good conclusion with spending no money of the patients are of my own. And then the next things are testing. So if those are both positive, I usually do proceed with testing.

Blood work is important to me. Not all doctors do it. I do like to do the chronic inflammatory immune, markers. And some of those include the HLA typing for genetics.

Veg F, which is an inflammatory marker. MMP nine, which can relate to blood brain barrier permeability and lung damage. TGF beta, which is a trigger for immune arm called THC 17, which can cause more autoimmunity in the patients.

Antidiuretic hormone and osmolality, which determines if they're able to regulate the salt water balance and volume in their their hydration status. That's often affected by mold.

And then, sometimes we'll test VIP. I don't use it as much anymore. And there's other markers like anti gliadin antibodies and autoantibodies that may indicate there's a permeability, a barrier breach in the gut which is also really common.

One final one that's very common is MSH which is melanocytes stimulating hormone. And this is related to all of the hypothalamic pituitary axis. It's one of the grand regulators.

So if this is off the hormones can be off. The adrenal dysfunction can be off. The thyroid can be off. Your hydration can be off with eight. Your oxytocin can be low.

So you're isolated and anti-social. So a lot of things are affected by that. Those are blood labs. Now none of those are specific to ML. So really important to know that just because you have a positive T or an elevated TGF beta or an elevated MMP nine, that's not diagnostic for mold.

But if you're a good clinician, you can look at the patterns and see many of those things abnormal in the case of someone with a positive history of exposure.

And then the next test that I'll do is urinary mycotoxins. Now, this in our world of physicians that have been trained is somewhat controversial. I find it incredibly helpful.

As long as, you know, the lab, the technology and what you're doing. There's three labs that do this testing right now. One is Great Plains, one is real time labs, and one is vibrant.

And there may be more coming right now, but this is the three that I know of. I use them all. I do have my favorites, which I won't necessarily mention here, but, they all have their advantages and disadvantages.

All this is, is an excretion test of mycotoxins. And that's important to know because, say you test in the beginning, you're trying to figure out a cause and you have some excretion of okra toxin or of tacos of things.

You know, this person has probably been colonized or exposed on some level. And again, I'm talking you could be have colonization where they actually have internal growth or biofilms in the sinuses.

And the gut, or you could just have exposure where there's no colonization. But when that happens, then the next step is to determine, you know, what's going on with their detox.

Because you're measuring excretion. And if you repeat the test in three months or six months and you've just put them on an intensive detox, those levels are probably going to go up as they should.

So it's really critical when you're working with your doctor to make sure that you know the timing. Because just

because you go on a detox protocol and the levels get elevated doesn't mean you're getting worse.

You have to remember it's excretion. Those are some of the main things. Environmental testing is a whole nother aspect. I'm sure you have experts on the some that talk about that, but I can't not mention it because you've got to, remove yourself from the source if you do have a mold exposure.

So working with an environmental expert to measure the environment and either do dust sampling, air sampling or both is also really critical. That's great.

Thank you Doctor Jill. We do work in such similar ways. Those are those are the same tests I run as well. One thing I want to ask you about is a crossover that you see.

So now you've you've done that with being like the shoemaker.

Genetics and Detox Pathways

Initial the doctor, shoemaker initial panel. You've done that. And then, you talked a little bit about genes. I'd love to hear you talk more about that.

Do you find that that patients with mycotoxins illness tend to have other snips, like in their snips of, snips in their genes of detoxification or even in cognition?

I'd love to hear what you have to say, but what? You love it. Now there I can listen to hours on this, right? But I'll talk about some of the comments that maybe your listeners have heard about so far as the popular kid on the block, most all of us practitioners and patients have heard about this.

This is the methylation gene. There's many, many more. There's eMDR, there's eMDR, there's EFT genes, and these are all related to, B-12 and bullet metabolism.

And actually the end product here is the glutathione. So the reason it matters is these methylated b's. And the methylated donors will actually contribute in the metabolic pathway of methylation to number one repair DNA from damage number two which is also prevents cancer.

Number two, create neurotransmitters. So all of our neurotransmitters that we need to think and be happy and sleepy, and all those good things are created by methylation processes.

And then detoxification and, immune function are also critical here. So as you can imagine, that's one reason why this is so popular, because it really encompasses a lot of things we need to do.

So one of the popular ones, MT Bach, you have variations in C six, seven, 70 or 8 1298 c these can impair. So instead of being 100% activity of this, genetic process, you might be down by 30% or down by 80% or 90%.

So usually two copies you're down in the 10 or 20% of activity. So what that means is that process for you takes a little bit more effort and definitely requires higher levels of donors.

So I don't treat people based on MT bar, but what I do is take it into account when I'm giving them, methylated BS and they may support, more methylated BS with an MT of our person.

Now the caveat is if they come in, they've just been in a moldy building and their toxic load is over the top of the bucket. They're spilling out with symptoms.

If I put them on 5 or 10 or 15mg and never fully oh gosh beware, they will probably crash and burn like crazy. Yeah, how about that? Yeah, yeah, I have no, yeah.

Because what happens is they've been under methylated and it's actually protective because when they start to rev

up that methylation, they're going to massively go into detoxification, which is what we want.

But if we push it too quickly, I just saw a patient the other day who by another doctor who didn't really understand giving them 50mg of methyl folate, elemental folate, and they crashed.

And again, it's a great thing eventually, but you have to do it in relation to their ability to keep up with that. It's like I always think of it as taking an old, 1950s model T or pickup truck and racing at 100 miles an hour around a NASCAR racetrack.

It's going to shake and rattle and roll and pieces are going to fall off. And that's such a good analogy because you're pushing something that is not capable of going that speed.

So that's important to me. Another one more common is UMT. This one is related to breakdown of estrogens and norepinephrine and epinephrine and some of the adrenaline hormones.

The reason this is important is if you have two copies, we call them comp t positives. I'm one of those. You might be too. And we tend to be driven and, you know, and do lots of things and have lots of energy.

But the downside here is if this is impaired, you're going to produce a lot of taurine and cysteine and you're going to produce, a lot of sulfur metabolites that can cause pain and inflammation.

One of the little tricks tears in the leptin and can really help that detox pathway. And the other trick is if you give something like quercetin, which we love, it's a poly, it's a flavonoid that's anti-inflammatory antihistamine.

It could actually inhibit this pathway in the positive. So you have to be careful who you're giving it to. The big thing about this is it, breaks down estrogens.

So for men or women who are in mold, they already have aromatase upregulated which makes excess estrogens. So women will have endometriosis fiber cystic breast, painful heavy periods.

All these symptoms of estrogen dominance. And men may have, you know, a man boobs, weight gain around the middle, lack of sex drive, decreased muscle mass.

And this is common in more where that upregulation takes all the testosterone from men and women and makes it into estrogen. And that's doubly magnified in a problem when we have a Comt issue.

So these are things to be aware of. Yeah. They're real big ones. Are ones and twos. And those those are all in relation to glutathione production. I think it's just one that's on the mucosal surface of the lungs.

I have this one. So it's particularly problematic for people who breathe in and inhale mold because, for example, when I was in the worst of my mold, I looked like this smoker with a COPD kind of picture because those interstitial, places in my lungs were inflamed and there wasn't enough gluten found naturally because of the gene mutation to actually fix and repair.

Now I think they're back to almost normal, but it took 4 or 5 years, and I probably still have a low level of lung inflammation that would look like I've never smoked in my life, not even one cigaret, but my lungs would look to a doctor like someone who had been a smoker because of that lack of gluten found in the lung surface, and then the exposure to mold.

So those are just a few of the genes, but some of my favorites. Is there any other ones you want to talk about? Well thank you Doctor Jill, I, I find that piece to so important is how we can we look at the at the patient truly holistically and and where their their triggers might be.

So on on a similar piece to that, tell me about other infections that you find. Yes. We we spoke about crossover of genes. How about crossover of of other infections?

I love and I knew you and I would think so much alike this so, just so easily I always talk about functional medicine as I've been I've been doing it almost 20 years.

So I like the videos a long time, like you. And, one thing I always think about is if I simplify functional medicine down to the patients I see, what is the thing all across the board for nearly everyone that comes in my office.

And it's always, toxic load and infectious burden at the core. And I say always there's probably a few caveats of maybe a weird genetic issue that's not related, but most of the time, 99% of the time this is the case.

And the reason that's important to understand is we're always framing things in, that toxic load. So mold is part of that. Heavy metals are part of that.

Phthalates, parabens, organophosphates. I could go on arsenic, cadmium. I could go on and on about the toxic load. And that's continuing to increase in our world, unfortunately, just like exponentially.

And it used to be when I started practice with functional medicine, someone would come in with a thyroid disorder. We'd fix them three months later, they were fine.

They didn't come back because they were great. Now the complexity and the chronicity of our patients is much greater, and I believe that's related to our increasing environmental, toxic load and stress levels.

So toxic loads that one thing. And then your question was what about infectious burden.

Infections, Immune Calm, and Mast Cell Support

And these go hand in hand because what happens is you wouldn't have gotten like me, I grew up in, Illinois farmland, and we went hiking in timbers and got tons of tick bites.

So you might have gotten bit by a tick as a child. And those infections really had the BCA, Bartonella, etc. are lying dormant because a good immune system is your best defense.

Not everyone who has Lyme needs treatment and there's tens of thousands of people walking around that. If we test them all, they would come back positive for Western black, for Lyme, but they're fine.

So then what does make what makes a difference of those who need treatment? And what happens is, especially in a moldy environment, most of these molds have a very powerful immunosuppressive effect.

There's some of the worst, toxins in the universe trichomes of things which are from sticky batteries and ketamine. These are used as chemical warfare agents are being studied for their effects, but never toxic to the kidneys, toxic to the brain, very, very toxic to the immune system.

Another metabolite called MCL, phenolic acid, is used to create immunosuppressive drugs. Same with clear toxin. So we know these toxins. This is in the literature.

This is nothing new. And when we get exposed to them, I think of it as a limbo bar. The limbo bar drops and all of a sudden old viruses, which we can talk briefly about old tickborne infections, they will start to pop up and manifest symptomatically.

So your question here is like, which came first? What do we do? I like to frame it, in the the inflammation, the mast cell activation, the stuff that creates this really, really difficult to treat scenario needs to be calmed down a little bit first and addressed.

And then next you have to get them out of the mold or the toxic exposure, because those infections are important. But if you start firing guns at the infections because of the dead and dying debris that create it's created, it's like shrapnel.

You're actually creating a greater toxic load in. They're already overloaded. Their bucket is spilling over the top. It's full. So I think you have to kind of go in that order.

But most of these patients have underlying infections as well. Yeah. Doctor Jill, we treat the exact same way. I just love talking with you. Same language.

Exactly. So tell me about what you what you use to calm down the immune system. First you talk about that oftentimes I'll use peptides. I use for frag BTC 157 I'll also detox and put them on a big mast cell activation protocol before I'll even start to treat the infection, before I'll even start to detox.

So calm the immune system down first, then I'm going to start to pre talks and give them some support to detox. Then bring the toxin load down before I even start to kill the infection.

And as I'm killing the infection I'm using the peptides to modulate the immune system. And I have a feeling you're doing the exact same thing. I'd love to hear about how you do this.

I love that, and you're so right. I remember, an interview we did a while back, and I just loved your how you were talking and really on the cutting edge, because most people know about mics, but they're not using peptides.

And as we were talking, you're just like me using all the tools in our toolbox because we write them, right, like we sell them. So I completely agree.

And usually what I'm doing is assessing, you know, where they're at. And it's funny because I love supplements and nutrition and that. But I'll often give them things like drink, mineral water.

It's so simple. But it alkaline the body or even alkaline water if they have a filter, can buy it. And that tends to be better between meals. Doing Epsom salt baths routinely, doing something like dry brushing so that they're getting lymphatic stimulated or lymphatic drainage remedies.

I'm a huge fan of infrared sauna, of course. So some of these things are just like lifestyle principles that they're setting up the foundation so that they can excrete.

And I always talk about with, toxins, you need to mobilize the toxins and then excrete them. And I find it easy to mobilize. We can get glutathione. We can do binders, we can do mobilize easy excretion.

There's a limiting factor of our patients and whatever that many factors, like their kidneys or their lungs or their skin, or their bowels, you cannot push it faster than their excretion.

So it's very common to see practitioners maybe don't know any better and are pushing the mobilization of toxins really heavy, just like I mentioned with the MT of our if you push too fast, you can mobilize these things and they have nowhere to go and that patient gets very sick.

They can really crash. So I always am thinking about those two things. So as we're talking we're saying how can we get excretion ramped up. And I love your word.

This is from up. And now using this. And to give you credit it's the pretax I love pretax because that's exactly what we do. Is that pretax and how do we get that mobilization.

Now even sauna for a lot of people can be too much. So I might start at 100 degrees for five minutes. Like really tiny little bits, I mean sweating, that's an autonomic dysfunction.

It's, autonomic issues that have to be addressed as well. So like you said, supporting peptides are so powerful. I love that we have that tool right now.

Hopefully we'll continue to have that accessible. And then the mass cell stabilization, some of my favorite things.

And I'd love to hear if you have any others of course attend standard except for maybe the CMT people.

A tiny skull cap I really, really like, perilla seed is a good one. Bromelain nettles. And sometimes I use things as simple as teas. Even hydration water is the number one antihistamine, and it's so simple.

So people are dehydrated because they have that antidiuretic dysfunction. Just hydrating them is a big piece of the puzzle. And that can be tricky if they're drinking and peeing, which is common with mold related illness.

And yeah, it's on that or mast cell because I think that's actually really important. I think that's a huge piece. So most of the time our patients, their muscles are on a hair trigger.

So anything is just going to trigger that off. They're going to release histamine and 500 other chemicals actually that the mast cells release. So I find that catarrh often has been really, really helpful.

Most of our patients, they have insomnia as well. So the could thing it's going to help put them to sleep. And that's the one I noticed gives the biggest, calming down.

Of course, I'll also give them, Allegra and Singulair Crumlin. But but from the compounding pharmacy because oftentimes our patients are going to react to the fillers and the colors from just the over-the-counter medications.

And so when, when the, when the, those medications are pure and really, really work wonders to change people's lives. Yeah. And it's not uncommon if you're listening to this to me, 2345 layered the layered approach is really important.

You think, okay, well, maybe one thing and these patients, they often need a multi-layered. And those drugs are absolutely H1, H2 blockers muscle stabilizers.

I find I need often all of them plus herbs and yes, exactly, exactly. I try to get Ahold of repetitive but. Well, in America you let me know if you ever. I.

But yeah. And, I'm also finding times in beta for or TV for Frank is helping to calm down that immune response as well, especially when given with the BBC.

157 of the great thing I've noticed, and then I've also read in the literature of the combination of, TV4 frag and BBC 157 also helps with brain inflammation.

So I'd love for you to talk a little bit about that because as we know, the the inflammatory cytokines that come about due to mycotoxins also can cross the blood brain barrier.

And our patients have a lot of brain fog and brain inflammation. So, we pull up, I just, represent to I have a monograph on TV for and media for, and because it's right here, if you give me one second, it was so relevant because I know all these things, but I read them and I was like, wow, that's such a great summary.

I'm going to read real quick for your listeners, because I think it's so relevant and will remind us both what all it does. So the differentiation of endothelial cells, which is your blood vessels.

So healing their growth of new blood vessels, improves collagen deposition of skin and hair and nails and everything decreases scar tissue formation. Quick little story here.

I had a what they thought was a melanoma on the on way back last year. Turned out not to be. It was benign but I had a very deep most procedure right to remove that, which is like a just a surgical procedure that takes out a lot of tissue.

And they said, you know, keep the stitches on for 14 days and come back and you might still need them longer, because those deep and on my back five days with Tb4 and that scar was beautiful.

I'll bring pictures out myself because it was 14 days was my follow up, so I saw benefits after surgery for that, faster healing of wounds, which is what I just said. Repair of.

And ligaments, improved flexibility of joints prevents formation of adhesions and fibrous bands and muscles, tendons, ligaments decreases inflammation, increases muscle growth, increases endurance and strength, relax muscle spasm and improve muscle tone.

Healing of ulcers and lesions. Here's the fun ones. Promotes hair growth. Protects and restores neurons after brain injury. And the last one, protects the neurons from autoimmune inflammation.

So this is this is a pretty powerful thing. Is it? Sure is. And so speaking of brain injury, a lot of our patients have had concussions or traumatic brain injuries.

And a lot of them also have cranial cervical instability.

Brain Injury, CCI, and Treatment Strategy

So then you put those two together on top of muscle activation syndrome and things go haywire. The cells they start to tenderize the brain stem. And so doctor Gel I'd love to hear about your experiences.

With that with cranial cervical instability, mast cell activation syndrome I go, oh, I'm so excited. He has parts. Yes. Oh, yeah. They're just into a colleague of mine.

Do a lecture. He's a neurosurgeon, but he does functional medicine in this. And he was talking about there's a paper if you guys want to look it up. It's free online environmental Subconcussive injury axonal injury and chronic traumatic encephalopathy.

So what that means in layman's term is that the bottom line in this revolutionary article, if you have toxin like metals or something that's affecting your brain or mold and you get a concussion, the effects are worse.

And what the neurosurgeon, he's he works for the Denver Broncos. He treats a lot of athletes professionally. And what he was saying is he really believes the majority of these people who have the long term concussive symptoms have previously, prior to the concussion, had a mold or toxin exposure that predispose them in.

But concussion by itself, with no toxin or inflammation or autoimmunity may not actually create the post concussive syndrome. That, to me is like you and I understand this, but to me it's revolutionary in this world.

A conventional, neurosurgeon. And talking about the fact that what he sees is the worst post-concussion outcomes are those with underlying autoimmunity or toxicity.

And again, it makes perfect sense. Right? This is revolutionary to hear a surgeon talk about this, because it is what we see every day in our practice every day.

And it has been my hypothesis has been the hypothesis of our clinic. And in a view I'm sure. And so thank you, Doctor Jenny, the article I want to read that that's, that's just even more proof to our patients, right.

From what we tell them we have going on here. Yeah. And point we don't have too much time left. But if you could tell me a little bit about how you go about treatment, I'd love to hear about your your steps in treatment, because I know it's a it's multifactorial and timing is critical with respect to treatment.

So tell me about how you treat mycotoxins first and other environmental toxins as you as you might do that at the same time is mycotoxins. And then and then when, when do you bring tick borne illness treatment?

Yes, I love this. It's so fun to talk to you. So I'm it is it really is. So, the I'm going to do kind of the very basics is honestly this the very basics do work.

I mean, we often we know a lot of the things whether if there's little tricks or triggers or mixers to do, but sometimes the basics and, people who maybe don't have access to a doctor, some of these things, ideally you want a functional medicine doctor helping you, but not everybody has access.

Number one thing that I cannot say enough is you have to get out of exposure. This is the hardest thing. And I remember when I first started and I realized someone was in a moldy home and I didn't always have the courage to say, you need to leave or you need to remediate.

And I will say, I like if they can remediate, but most of the time it doesn't work because what happens is it causes unless you have the perfect sterile situation.

Even in that case, there tends to be fragmentation of these dead mold species that actually just coat all over the house. And the micron size of these things can go right into the lungs, into the alveoli, and be directly absorbed into the bloodstream.

So what I see most of the time, unfortunately, is after mutation patients get worse and they get stuck. I wish that weren't the case. It just as a fact that I see Dr.

Jill, thank you for saying this because I say the same things to my patients, and it's a difficult thing to tell a patient. I think the best thing for you to do is to move, you know, clean up the house as best as you can, move, get rid of your furniture, buy new clothing.

I mean, what a difficult thing to tell patients. But to hear you say that, you have to say the same thing to your patients. I'm hoping. I'm hoping that the patients listening here today, you know, that they they they understand that this is a real thing.

And we don't like to have to tell you this. It's horrible. I remember, like, I would just. And I'd be afraid and now I'm more bold because I know that their health is than anyhow house.

Right. Okay. I took a lot more and then just experience. Now I know that I'm right on. I know that I'm I'm not telling them something that's, like, questionable. I'm.

I'm always certain if I tell them that. But me and I wish it weren't the case, it's because. And that's why I'm spending five minutes here is because getting out of the exposure, there's no amount of binders, no amount of marks, a tumor, there's no peptides.

None of those will touch your illness. If you're still in exposure, you'll just continue to go rounding. And it's a waste of time and money and treatment.

And with us trying to treat you if you keep getting exposed. Yes, yes. So and then on the other hand, part of the mold induces, brain dysfunction, depression, anxiety, mood disorders, OCD.

So this can be it's a very traumatic thing. And I'm going to stop right here and say part of the treatment is treating the trauma. You must treat the limbic system and treat the trauma.

There's programs, there's viral beats. There's traumatic somatic therapies. There's all kinds of things, that you can do. But that's part of getting well too, because whether you are super emotionally healthy, you've done all the work.

You will not get well if you don't deal, tag that limbic system trauma. Because what happens is when you get the all physiologically exposure again, maybe you go to a hotel or something, your body feels threatened again.

And even if again you're psychologically healthy, you've done the work, you're not depressed, you're not anxious, you're still going to feel this limbic activation, and you've got to detach that or desensitize your body to that trigger.

So that's part of the healing. So that was the yeah, limbic system training and retraining and fixing that part. And I

just say that because what I don't ever want to do is make you more paranoid, make my patients more OCD about it.

But there's like a real fine line because you have to be somewhat careful as you're getting. Well. Now, I'm five, six years out from my really bad mold exposure.

I can go to moldy hotels. I can treat, you know, and I just feel poorly. Take charcoal. I'm fine. In an hour, like it's no big deal long term. But that took me a lot of work to get to that point.

And I'm no longer like it doesn't trigger me psychologically or limbic system wise. But again, I've done a lot of work around all of us. It makes so much internal work.

Our patients are warriors for their own art, tell you that they're so inspirational. They really are. So that's the foundation and that's big stuff I didn't want to ignore.

But the basics are detoxification, detoxification, detoxification and the things that you want is you want to raise glutathione. Not everybody will tolerate glutathione.

And there's more snips that cause oxidation. So if you can't tolerate glutathione, which is you're probably best that you can still make glutathione with any C, with vitamin C with glycine with glutamine, with selenium with lipoic acid, these are all nutrients that I include most of the time.

And again, you have to tweak it a little because not every patient will tolerate all of them. My first two years of mold, I could not take glutathione.

So I got well without glutathione and I just got precursors. Yeah, exactly. So it means they're going to crash a little time. But if I give them those precursors, cofactors of methylation, they can just start to tap on their own methylation system.

And then we can bring them into actual proper full on detoxification treatment. And Doctor Jill, tell me about, order of treatment with respect to infections.

You say I'm going to treat mold first and then tick borne illness and then viruses before that, even parasites often. So there's a template you know, but sometimes the template isn't the right thing.

Each patient is different and love to hear about your your order of treatment after detoxification. Yes. And yeah. And the one thing I didn't mention binders are really critical.

There's so many out there and everything from zeolite, which is great for metals to clay to charcoal, those tend to be really good to try because of things to the prescription called diamine or, well, call, and everything in between.

And there's a lot of options nowadays. And then there's some new humic Kovic acid types of things that are very gentle. So I often combine because each of these has different charges.

And so they will the more you can combine and patient tolerates, the more you can get different, affinities for different toxins and really clean up the system.

So the glutathione, the binders are core and then order of operations. You have to calm the system enough to treat. So you have to support that excretion stuff, lymphatic drainage, sweating.

And then I always try to calm the mix down and then I try to treat the mold first before I treat infections. Yeah. Always that direction. And yeah, I would agree probably parasites fungal layer before Lyme and then Lyme is usually a towards the end.

What I found is there's a percentage of people that don't need aggressive Lyme treatment. Once you get all this

layer off exactly. Yeah. And same with viruses.

Lot of times they'll have a high viral load to begin with. But we don't need to treat that then because it corrects for itself. After we've done that for you.

Well, Doctor Jill, thank you so much. It's always so much fun to talk with you. I agree we treat so similarly. It's it's really exciting. Thank you for joining us. Always a pleasure.

So fun to be here. And if you, I'll make sure and give you all those resources in case you want to share. Thank you so much. Welcome. Bye for now.