Introduction to Mold, Mycotoxins, and Lyme

Hi and welcome to another episode of the Healing Line Summit. I'm your host, Doctor Maria Hinchey, and today we have with us naturopathic physician Doctor Jill Crista.

Doctor Jill is here to help us learn about mold and mycotoxins, illness and its impacts on patients with Lyme and other chronic inflammatory conditions, as well as what to do about it.

Doctor Jill is a pioneering naturopathic doctor, a bestselling author, a devoted educator and creative innovator. Her superpower is literally to make medical concepts more simple and digestible for the average person to understand, and she focuses on conditions that cause injury to the brain and nervous system, including mold pans, pandas, Lyme disease, and concussion.

Welcome, doctor Krista. Tell our audience a little bit more about yourself and how you came to specialize in complex, chronic illnesses. Well, when I finished medical school, I moved to southern Wisconsin, which, lo and behold, is one of the top states for Lyme disease.

That's how I had no choice. You know, and so when I did figure out it was Lyme in a lot of these complex chronic illness patients, I went and did the training with eye labs and now with our huge toolbox as naturopathic doctors, you and we find and treat the cause.

People tend to get better. It's just a miracle and accepts there's a subset of patients that weren't getting better. And in one of those patients, they found toxic black mold in a basement remodel that they were doing.

So it was one of those, oops, guess there's a mold problem. So of course, that was not done with any kind of containment. It wasn't done with any kind of protection.

And the sick family got sicker. And that was a lot of the same symptoms that my chronic Lyme patients had. And I thought, I wonder if mold is what's going on with these other people.

And in almost all of them, I can think of only one exception. There was either a current exposure to past exposure of mold, and I thought, I do not understand mold.

I know it is an allergy problem or an infection. And then in some certain people it could cause like a EMS looking condition. And that was pretty much it.

That's and that that's more than what most conventional doctors get. You know, they would say it's just the allergy or the infection, but there's this whole group of symptoms that can happen from the toxins.

And that was making up about 80% of the symptoms in these patients. And it was so fascinating when I hit the research, there's a ton of animal research and no human research.

And I started to think about why is that? Because this is a big deal. Like these people are really sick. And I realize that we know that these toxins are carcinogenic, that cause birth defects, meaning they can cause cancer and it can cause birth defects.

We know there are harmful toxins, and in toxin based illnesses the treatment is get away from toxin like don't don't expose yourself to the toxin. And so because we know they're toxic and because we know they're poisonous, we can't recruit for a study with humans that says, hey, by the way, we're going to poison you, and then we're going to give you some supplements and stuff or drugs and just figure out, like, what gets you better because the number one treatment is remove the toxin.

So there's a bunch of animal research because they know darn well they're putting them in moldy barns. They're giving them moldy feed. And in those situations, they know the things that will help to protect the animal, protect their organs, protect their brain, their immune systems, all of these things.

So as I'm sitting here reading this, I was like, oh, I know those tools. I use them every day. So I kind of could do that translational research that we would love to have, as you know, peer reviewed studies on and started treating people.

And that's how I became kind of the mold lady, you know, because as you know, with chronic Lyme patients, like, they're so well networked and they're such hardworking patients that then it was like, hey, she's getting results.

And so then you get the people coming from all over the country. And that's how I got in the mold. It's amazing. So you've literally just stumbled on to it.

Yep, yep. And then, we had mold happen in our house. And I did have some preconceived notions about mold that were incorrect. And that got me when one of those is that that you would smell it.

If it's there and that it's primarily older homes. And we moved into a new house, relatively new. I was like three years old and it was full of mold and didn't smell because everything was trapped behind building materials.

So the what makes the smell is the aldehydes and alcohols. That's that musty smell. Everyone kind of knows the mold smell. Just leave a gym bag without, you know, a couple of days and then open it up.

Okay. So that has to be exposed to the indoor air in order to interact with oxygen and make that smell. But the toxins, the mycotoxins or mold toxins, those are nanoparticle size.

And they can move through the building material and have no odor or scent at all. But our our nose knows it's problem and it's sending messages up to the brain continuously saying, we got a problem, we got a problem, we're being poisoned.

But all of our protective things like, where's the tiger? I don't see it, I don't hear it, I don't smell it. There's no warning sign that makes any sense to the cognitive brain.

And so you can get this kind of limbic looping of anxiousness because the body no symptoms up. But there's no there's no evidence. Wow. That's amazing.

And I think I read something that you had written right where it actually one of the points of entry into the body is traveling up the olfactory nerve right into the brain.

Yeah. It's one of the four places in our brain we don't have a blood brain barrier. So some of the mycotoxins can cross the blood brain barrier. There are two of them that are pretty common in an indoor environment where there's water damage.

But they, they can all get through writing. The olfactory bulb is we have these little like the olfactory bulb is a very circuitous nerve for people listening.

How Mold Exposure Affects the Brain and Body

It's got all this circular places where it interacts with the limbic system, and then it reaches all the way forward and then comes down into our nasal cavity.

And there's little nerve fibers. I, I joke in my Panas book that smelling is a form of physical contact. You have to think about that. We're smelling because we're having a chemical reaction with a substance on that little nerve fiber, and that's sending a chemical message to our brain that says wildfire smoke or roses or dirty baby diaper or video.

We think about the fact that, like when you're smelling something, you're actually physically contacting it, which is makes kind of, you know, smell like baby diaper smoke and gross.

So but normally we have an immune system there, right, that we, we have local immunity and this whole microbiome of our sinuses that can degrade that.

And snot is really good at doing that. It's like enzymes and salts, but mycotoxins, because of the way that they are made, their chemical structure, they're lipid soluble or fat soluble.

And that means they don't need they can bypass a lot of that protection, and they're also immune depleting. So they take our barrier down and they reduce our ability to degrade them.

And then they're fat soluble. They can ride right up that nerve. And the more we're exposed to it, the more it can bump down by a gradient. Because things like it's just like the salt water, you know, it will want to disperse into the water.

When you mix salt into water, these chemicals do the same thing. Don't want to disperse into that tissue to reduce the pressure. So I think of them like the minions from Despicable Me that they're like, you know, like bouncing down, down the nerve.

And problem with that is where they end up is the brainstem running all of our neurological systems, all our autonomic processes. So you can run into dysautonomia just from breathing a moldy building.

Oh yeah. And how quickly does that happen? It can happen very rapidly. Yeah. So it's not we're not talking like long term exposure. You need to be living in a or, you know, object or subjecting yourself to it over and over and over again.

This could be like a one time exposure or even it can with a one time, you're not going to see as much immune depletion. So the immunity can manage the local mucosa, which is the lining of our sinuses.

So if it's just like a Airbnb, if you don't have already some microbiome disruption of your sinuses, that's the person who's going to have the immediate reaction.

And then the person that has a normal sinus mucosa and microbiome of their sinuses, their body can degrade that and kind of carry it out with the next booger, you know.

So that's where we get it's more the norm than the exception that everybody reacts to mold differently. Right. And then what if that person staying at that Airbnb has Lyme, right.

And other co-infections, then they're going to be primed. Totally. Yeah. Because they have the double whammy of the infection reducing the immunity, which is what mold spores and mycotoxins do as well.

And then they have the bio toxin part of Lyme. So the inflammatory part and that's also what mold toxins do. And and mold spores, you know, they're very very good inducers of mast cells.

You've got kind of the same. That's why the Venn diagram of mold and Lyme, you know, they crossover so much. Because they have a lot of similar aspects.

And impacts on the body. Right. So before I get us ahead of ourselves, why don't we, for our listeners, can you break it down? So what is the difference between like a mold allergy and mycotoxins illness?

Because they are two very, very different things. Yeah. So understanding how mold makes us sick. So in a damp building we have mold and we have bacteria.

Typically you're going to have the double. You know that's just what damp buildings do is they host them all. But

the mycotoxins get my attention I'll explain why.

So for mold we have the spores and then we have spore fragments. So that's once a spore has dried and breaks apart. And you can get 300 to 500 fragments from one spore.

So just as an example, a one inch square of mold. So if you see mold on something and it's an inch, that's a million spores. That's like a mold. So some people are say, well, we didn't see any mold on.

And I'm like, how would you see? You know, because some mold is white. So, you know, it's not all the time, especially if it's behind the wall or something. Yeah, exactly. You wouldn't know that.

So we have the spores spore fragments. So a one inch could be a million spores. That means it could be 300,000, fragments in that area. And then we have chemicals that mold will make when it's, when it's metabolizing.

So it's I joke that these are like mold farts because they're just metabolizing. It's like B. O. and mold. So, you know, just off gassing, you know, but unfortunately, those off gases are alcohols, aldehydes and some aldehydes that are phenols.

So mica, phenolic acid is one of the things that comes off of mold when it's growing. And we actually have it's such a potent immune suppressor that we have made that into a drug.

It's called cell SAP, and we use it in medicine to make sure someone doesn't reject their organ anymore. So as for transplant patients, we know a lot about that drug and that chemical because we're using it in medicine and we know it's immune suppressive.

It nukes the gut. And, you know, so if you're breathing mica, phenolic acid and you have Lyme disease, your protocol is not going to work as well because you don't have that that robust immune response.

So that's mold spores spore fragments and freaking everybody out. Small chemicals. And then the one that gets my attention is mycotoxins. So mycotoxins are made by mold competitively.

And they're made on purpose to harm another living thing. So the other mold that wants to move into this lakefront property has all this moisture. It will start to make these mycotoxins to defend itself.

And we are not the target, but we are the collateral damage of that, because the way it's harming those other living things is interrupting mitochondrial function, interrupting metabolic processes, and interrupting the immune system of that being us, too.

And then we have bacteria in a water damage building that has kind of and off gases, antibiotics. So like an acting on my seeds that's going to off gas antibiotics into the space.

So when you're in that space we have to be thinking clinically all the time as a practitioner, what aspect of mold is this person probably exposed to based on their symptoms?

The spores and fragments are going to cause more allergy symptoms. And that's going to be the classic stuff that you would see on the CDC website. So allergic rhinitis, just runny nose, you know, allergy runny nose, sinusitis, maybe post nasal drip, sore throat, some breathing problems.

And if it's really bad asthma. And that's kind of what we see when we look up on the CDC website. There ferring to mold illness as spore illness basically.

But if you are exposed to the toxins, that is a toxin based illness, that's mycotoxins, ptosis, that's going to be the things that are more immune depletion.

All those things that I was talking about, down regulating your metabolism, down regulating your mitochondrial

function, which is the way we make our energy.

And it puts those cells into a cell. Danger response, saying we're not safe. And that can look completely different than an allergy. And people can have both.

They can have one or the other. It just depends on what aspect of the mold they're exposed to in their environment. And that's what makes it so hard to pick it up.

And then also to like how different people, like different family members, right, are going to react differently to the same exact exposure. Do you want to say, I don't know about that?

Yeah, I have identical twins. So when mold hit us and that was the thing that I was like, I got to write a book because I knew the inspector. I want to call the mediators.

Mold Allergy vs Mycotoxin Illness

I know I knew a lot about how to do this because I would go to my patients homes, and I knew what protocol of the DSM, even though all of us were exposed to the same home, one twin had a little deeper exposure to it than the other.

They had different nutritional status that was going into it. And my kids have chronic Lyme. So, you know, I mean, it was a very, very good experiment.

They kind of joke, you know, they're like, mommy did the weird thing for you, did a very different treatment on twins just to see a perfect research scenario.

They're a little lab rats. Yeah. But, you know, they have a little bit. You can have identical twins, and they're still going to have different things that they eat, you know, different exercise, all those kinds of things.

And so these identical twins with pretty much the same exposure had different pictures that they both have pans as well. And they had different presentations of even their pants.

It was just like, wow, I did not understand mold completely. And that's what really, you know, I was like, I gotta start teaching doctors about this and write a book about this, because home, that's when that was my big is that this is more the norm than the exception that everybody presents differently.

And there's lots of factors of why that would be. It could be based on their previous exposure. That's a very common thing to make a difference. A lot of people say genetics and we'll talk about the genetics, but the previous exposure makes a huge difference because if the person has had enough mycotoxins exposure in their sinuses, now, the immune system in their sinuses reduces.

And what was once a happy commensal microbiome gets shifted into a biofilm. And that acts very differently. This is a big for me. Doctor Joseph Brewer's study in 20 1314.

They were trying to talk about why we would want to use antifungals in someone's nose when it's mold related illness. And if you're thinking about, well, what if they don't have any allergies?

Why would we treat the sinuses? That doesn't make any sense. So what they did is they took samples of noses, guts, brain, lung. And they found, lo and behold, everybody, the sick people made sick from water damage building and the healthy controls.

We all have fungus in our sinuses, so big deal already. But I'm not getting there. Yeah, the difference is the sick people, they had mycotoxins in those washings and the healthy people did not.

And to me I was like, that's colonization. That's biofilm, right? You know, just like opened my mind to. And that's

when I started adding intranasal to my protocol.

And people got better like, boom, they got better so much faster. And I was like, okay, I've been missing this aspect, that, of course, this is our first interaction with a moldy building, but this is going to take on like a first pass effect we talk about in medicine.

This is going to take on most of the load, and its impact is to change the immune system and our own flora is going to compete and defend. And then that can become colonization, it can become biofilm and it can become even later infection.

Right. And so if someone has had that previous exposure and they're still colonized, they have become the moldy building. So it doesn't matter where they go, they're still having those toxins like their their microbiome is producing them now.

And now you get into that moldy building, and if you're the colonized person, you're going to have immediate reactions. If you're not, then your body, it takes a little longer.

It can take three, four, six months before you start having those symptoms. And that's that's just this part. That's not the genetics, the nutritional status.

Which mold were you exposed to? Was it making mycotoxins or wasn't it. There's lots of factors. And so to kind of like paint the picture like obviously patients and even, you know, kids whatnot that have been on multiple rounds of antibiotics.

Right. That's going to shift the microbiome and can lead to fungal overgrowth. And so just for our listeners who might be wondering, you know, like, why would that happen for somebody that's probably the most common cause of it.

That would kind of set the stage. And then I would imagine, you know, with your identical twins, like if one maybe had strep and the other didn't. Right, because they're exposed to different people throughout their life.

Something as simple as that could be. What changed? Yeah, yeah. And I think, you know, I know we wanted to talk about the genetic part of it too, because there's there's a mythology out there that if you have the dreaded gene HLA patterning, then you're you're going to, you know, never get better from mold.

And actually, in my experience, it has been the people who have more toxicity problems that they can't detox. That's been the patients that have needed more support than the people that had the dreaded gene HLA pattern, in my experience.

How about you is up in yeah, same I would say the the worse their gut statuses the worse like the worse the microbiome, the worse their, permeability of their gut is, the worse their detox is going to be, and therefore the harder it's going to be to help recover them from any of these complex chronic illnesses.

Anything where we're trying to bind endotoxins and, and toxins and mycotoxins and get them out of the body, like if they're got snot working and they can't detox, it's it's very hard to do so before you start telling us about the genetic piece, I want to know in your opinion, because I know this is a little bit of a debate.

How many like what percent roughly of your patients? I think that might be easier than a big general question. But like of the people that you work with, what percent are colonized?

I would say over 90%. Okay. So it's way more common. Yes. And it is a very I'm so glad you mentioned that because it is a controversial idea of colonization.

And I go round and round with the E and doctors about this. They say, well, we don't treat colonization. And then I bring all these papers about biofilm, and I'm like, you know, we could think of colonization as biofilm.

There are degrees. And, you know, people can be finally colonized and then they can move to biofilm, and then they can move to infection. So there's this kind of continuum, but there are lots of papers about people who have biofilm in their sinuses undergoing a surgery.

So they have chronic sinusitis. Those with biofilm have worse outcomes after surgery. They have more inflammation during and after surgery. They have more infections after surgery than the ones where they treated biofilm before they did the surgery.

And and I think why wouldn't we treat that? We have tools to do this. So, you know, it seems to me pretty reasonable to treat it. And then we have Doctor Dennis's data in Atlanta.

He's an EMT who's doing these these sinus surgeries, and he's taking fungal balls out from people's sinuses, setting them on, you know, the blue paper, whatever the surgery paper is, and if you leave it long enough, it will start to develop a ring of mycotoxins around it.

Wow. So they're still manufacturing even though they've been removed. That's how tenacious fungi are. And again, we just freak everybody out. I want everyone to know this can be treated.

That is why I'm out here. Educate. And, you know, I think that the colonization question, it would be lovely to have some, non-biased studies done on this that are not, you know, there's I understand the concern is if you put everybody on an antifungal, we're going to have resistance issues.

And we already do have issues with resistance against antifungal drugs. Lo and behold, if you add something as simple as garlic or oregano, there are great studies on how that reduces drug resistance.

This is why I use herbs and drugs together. And also drugs are not the only tool we can put herbal things up into the nose. We can use essential oils and we can.

Colonization, Biofilm, and Why Patients React Differently

There are other ways to do it that don't lead to drug resistance. So I think this is a debate that is still out there, and I think it is very individual for each person.

But I'm using intranasal treatments with over and over 90% of my patient base. And like I said, I wasn't. And then I did. And they, you know, people got better so much faster.

Yeah. That's awesome. That's a lot higher than I actually thought it would be. And if you have any exciting events coming up that you want to share, please take the opportunity to do so right now.

Thank you. Yeah. They can find me at doctor krista.com. That's Dr. Krista. Com I have a book for patients called Break the Mold and a couple of courses there for the unique situations.

Like what do you do if you're stuck in mold and you know, are there things you can do? And absolutely, there are things you can do. We know this from animal research.

There are ways to take care of yourself so that when you get out of that moldy building, you're in better shape and how do you not done anything? So that's called nine Things to Know While you're still in mold.

And then I have a course for parents moms especially, because usually we're the ones administering all this stuff. And as mom adds, because my book is really for grownups.

So it takes the concepts from my book. And how do you apply it to the four groups of children that where things are really different. So an infant to a toddler, to a school age kid to an adolescent, things are different for their their needs are different because they're not just little dots.

You know, they have different immune systems at different phases, right? So I have that course for parents. And this can all be found on your website.

Yep. Wonderful. I just had sort of like an epiphany while you were talking earlier. So I've always in my head thought, you know, the correlation between mycotoxins, illness and Lyme and co-infections was like the immune dysfunction and the inflammation.

I thought those were the two biggest things. But talking about the colonization now, it's like, well, if we have all of these biofilms in the body from Lyme disease, it's actually this perfect environment for the mycotoxins and for the mold to come in and to colonize and set up shop.

Right. So is that is that one of the links there? Yeah. So much so I just have chills, as you're saying that, that when I because I had that same epiphany I was like oh, oh biofilm okay.

You know, I was reading Doctor Brewer's study and it was just like my like my brain one shorted out a little bit because it's just this big thing I was missing.

And I realized that the fungi are a more supreme intelligence than bacteria. Although Lyme is a I'm a bit of an outlier. But the other guys, the co-infections, you know, the bar, the bobcat, all that kind of stuff.

Fungi are a supreme intelligence from them, so they are more able to take over the biofilm environment and dictate it and dictate quorum sensing and dictate gene sequencing and all of the things.

When you have a fungi and you have Lyme, which also has these ability to switch out, it has these gene cassettes that it can switch out and present on the surface.

So if the once the immune system identifies it, it can actually take down that, that protein and put in one that our immune system is naive to. And that's why we need the robust immune system.

But you've got fungi that can do that and Lyme that can do that. At the same time in this biofilm environment, it really is it. That's why people have chronic problems because we're up against some really smart folks.

Yeah. It's crazy crazy how intelligent they are. Yeah. A lot of times when I'm talking about them with patients, I'm like, oh my God, they're going to think I'm crazy.

Like talking about these organisms like what they are. I know I'm morphism a lot, you know, like, okay, so a fungus walks in and you know that is so funny.

All right. So let's dive quickly into the genetics piece because it isn't the end all be all. As you were saying it isn't. But I think patients should understand.

Yeah. So the HLA you know the quote dreaded gene. I'm just so upset about that classification using those words because words have power. So the gift of being a canary in the coal mine, who can help protect everybody else in molding environment that no one knows it's moldy.

You're picking up on it because that is your superpower. That does not make you a sitting duck. That makes you a champion of keeping other people safe.

Okay. So we're we're rewiring that one. If you have that sequence, it does make you a little more delayed on tagging mycotoxins. But that's not the only way that we get rid of mycotoxins.

So we don't necessarily need to dread this gene pattern because we have so many other ways to get mycotoxins out of the body. One of which, which you brought up earlier, is the gut.

The whole conversation of getting mycotoxins out of the body is really focused on the liver. And I'm I'm on a

bandwagon to say, don't forget kidneys, because there's two of them and there's only one liver, but also a third way that we get rid of a lot of our mycotoxins and is the primary way for most of them once they get into the gut, is our microbiome.

Our microbiome can degrade these. The things that we that come out of our pancreas lipids can degrade these. So we don't have to be afraid that HLA patterning has to do with only one way of getting them out.

So you have all these other backup systems. So when we can enhance and nourish the gut, that's why as NDEs, we're banging that drum because there's a huge long tube there that can basically function as ten kidneys when we want to degrade these mycotoxins.

So the other aspects of the genetics that are complicating that have to do with the liver, which remember, there's only one of those two kidneys and you've gone.

So it's things that are methylation, things that have to do with glucose annotation and things that have to do with salvation. So if you're compromised in those ways, there are things that we can do, like the salvation pathway, we can add molybdenum.

And that really helps support somebody detoxifying a mycotoxins that uses that pathway. Every mycotoxins comes through the liver in a different pathway.

And again there are backup pathways for that. So if it can't get through the salvation pathway or that sluggish, the body can find a different salvation pathway to use circuits.

CBS isn't working. It'll use the Sue ox panel. So there are genetic snips that if we know ahead of time, we can optimize those like methylation people.

We can optimize their phosphate locally and that helps them get things through a different way to get that done. That's just the little tweaking that your doctor can do with you if they know your genetics, but it doesn't make you a sitting duck for being sick forever.

I have plenty of patients who have, you know, the super power gene HLA. I'm reframing this. We're not calling that anymore the super power gene sequence of HLA and or detoxification snips, meaning polymorphisms in the liver that compromised their their clearance of these kinds of things.

So we optimize it. So it's almost more important to know about the SNPs and your body's ability to detox. And I would say as well as having like a white blood cell micronutrient panel so that you actually see, you know, if you have a lot of these co-factors to run, you know, in these nutrients to run those detoxification pathways than it is to get hung up on, you know, having like your HLA test.

Totally, totally. And then we look at like when we understand the full picture of how mold makes you sick. So spores or fragments, chemicals. Chemicals. Okay.

What chemicals. Alcohols. What do we know about alcohol. It depletes vitamin B, so it is is phenomenal. When I can put someone on B2 or riboflavin we get started there because it's the most tolerated B vitamin.

Then we had a little B one because we know the alcohols are taking down their B1 status. Then we add a little B6, like just optimizing those basic nutrients that have that run these systems and recharge our detoxification.

That's amazing how depleted these guys are in these nutrients. And just optimizing those can get a system running again. Vitamin E, vitamin C. Yeah. As one of the things you're seeing on those micronutrient panels, are you seeing those same patterns of B1.

You know what's funny I was seeing so I'm like down this rabbit hole with mycoplasma right now. Yeah. So I'm trying to write a talk on how to tackle mycoplasma naturally.

But it's funny because I see a lot of times. So most of like the fat soluble vitamins being deficient. So the a E usually k2 over K1, but a lot of times both of the KS and then that post the title calling.

Genetics, Detox Pathways, and Nutrient Support

But choline, serine, EPA, DHA, like a lot of the fats in the phospholipids and fat soluble vitamins and then and a lot of the essential amino acids and then so in my reading about mycoplasma recently, I was like, oh my God, like that.

That's what I'm seeing. So now I have to go back and I have to like start re looking at everyone's mycoplasma levels and whatnot. But everyone should be on taurine. Everyone needs it.

Yeah yeah yeah. Oh it's so much it's I mean fun for us as practitioners because when you can get to the solution so much faster, it can be so elegant and it reduces suffering.

That's what gets us excited. Like, I'm I couldn't imagine sitting there sick, listening to us and how excited we are talking to each other. I mean, I get so excited when I talk to me and then thinking, what is wrong?

These doctors. And it's like, what excites us is that we are finding these more elegant ways where you are using three tools, you know, like for mycoplasma pneumonia, Chinese skullcap, you use all the Chinese formulas, you know, and I know you know this, but it also contains when you're using whole plant, it has those nutrients and, you know, and so it's just then you don't have to add another thing and you can get farther with the patient.

Right. Yeah. Yeah. So and for those of you listening we get excited because it's like it's ways to help to like repeat you and build you up. Right. Instead of focusing on using an arsenal of antifungals.

Antibacterials, you know, whether their antibiotics are herbs, it's, you know, actually like old binding patterns and patterns that make sense. And then ways to tackle this from like, you know, nutrition and functional medicine and again, building you up instead of tearing you down. So the big thing to remember is we have an innate healing ability.

And that's what we're trying to capitalize on. Like we are talking about intranasal I'm not always using an anti. Sometimes I'm using humic acid to build the terrain.

Or I might be using or the intracellular voltage to try to get the systems working again. Or maybe Lactobacillus archaea. We're using probiotics you know, so building up the terrain so that you're not you know it's not always at hand.

Yeah I'm a big advocate for trying to make the patient inhospitable right to all of these things. Right? Right. Yeah. Okay. So tell us a little bit, you know, so like if you have someone that has Lyme and tick borne disease and now they have mycotoxins illness on, on top of it, can you help to kind of like decipher through like what would be some of the hallmark or telltale signs that, like, you know, this is definitely mycotoxins, illness and more from a symptom standpoint than from like a testing standpoint.

How would you differentiate between the two? Well, our amazing mentor, Doctor Horowitz, I mean, he's been so great at elucidating that Lyme moves around so that migratory pattern thing is very unique to Lyme.

We don't see that with mold. So if it's a if it's a classic mold case, I never hear the migratory stuff. And when it's mold Lyme, I start hearing the migratory stuff because it's like an co-infections.

So that is definitely a unclean delineation. And when I know I need to make sure to be adding Lyme treatment, a lot of people ask, well, which one do we treat first?

And, you know, that's kind of not the right question. The right question is what does your patient need at this time? But because we know that mold and mycotoxins are so immunosuppressive.

So the mold chemicals, the spores, you know, spores are inducing mast cells and wearing out that system. And they are they're like shooting in anything.

You know, mast cells are non discriminating. So they're going to shoot at your own friendly fire kind of thing. So we don't want that to be happening.

And then the chemicals like mycophenolate acid are immune suppressive. And then mycotoxins are immune suppressive. And they're they change the body's memory cells.

So the body has to re fight that whatever it is usually Epstein-Barr Lyme co-infections because mold will take away the memory cells. I put mold on a primary treatment plan.

You know like if I think that there's even if I just kind of think there be mold, then I get going on supporting those nutrients that we know that mold is wearing out, and we get going on building up the immune system.

So that it can it has a little more fortitude. But then if there is migratory stuff and then like, yeah, we probably bring it to the Lyme stuff right away as well, not just the antifungals for resetting the biome, but we probably need to be doing something antibacterial as well, so that I think the migratory thing is really easy way to just not that's, that's Lyme.

Yeah. I have a question. So I have a lot of patients who come in and they've read or heard somewhere that if they have concurrent, you know, Lyme and co-infections and they have mold, that you have to start with the mold first.

You have to have to you have to you cannot get to the infections without dealing with the mold. And I think as like a naturopathic doctor who isn't just using antibiotics to treat infections, I think I think if you're seeing someone, I mean, and I'm not saying like doing it the way I do, but it's the right way at all.

So I don't want anyone listening to take it that way. But say that you're working with a Lyme literate doctor who is just focusing on using prescription antibiotics.

You know, I guess to me it's like, well, yes, in that case, if you're on antibiotics, you're going to be encouraging fungal overgrowth, right? You're going to be encouraging biofilm formation, which definitely could make the mold worse, especially if you're colonized.

But I think when you're working with somebody who's doing this integrative functional medicine naturopathic medicine approach, and you're really focusing on fixing the terrain and the biochemistry of the body and detoxing and binding and like doing all of the things, you know, I always tell people like, what I'm doing is simultaneously treating everything together.

Right. Right. Because our I just wanted to get your opinion with on. Yeah, yeah. And you know, some people their, their infection load is so severe that they do need to get right on those antibiotics, you know, because that is the dominant thing.

And that's why when people are like, well, what do we do first? And I'm like, that's not the right question. What do I do for first for the person sitting in front of me with the situation we have, what if they're low income and we have to use pharmaceuticals because they have no money to do all the supplements?

Well, in that case, I'm, you know, using the antibiotics and the antifungals and the well call and the Ursa d colic acid, which is act gall to make sure the bile is moving and the DHEA, you know, the omega threes.

I'm using all those pharmaceutical things that I can use VSL three so that we're, we're using what the what our tools are in naturopathic medicine that have multiple mechanisms of action.

We're having to do that through the pharmacy. And it's not ideal. But that might be that situation that they absolutely can't get better without the help of those kinds of tools.

They just don't have the money, especially when it's more than it just, you know, took all their finances to get their house fixed. Some people, their infection load is so severe, like Bartonella, if that is really like the primary thing, if we're not addressing that and the mold, we're not going to get anywhere because the infection load is so high.

So I think that there are tiers of like understanding. Conversely, the fungal infection load could be so high in someone that they have asthma. And we can't use any kind of glutathione on because it's going to flare their asthma because it's high in sulfur.

So we have to really take the patient where they're at. But I agree with you. I think that our tools some people are like, well what are you treating? And I'm like, all of it.

You know. Yeah, that's kind of hard to understand. But it's like the like the Chinese skullcap for mycoplasma. That's like yes, it's an it's specific to that intracellular bacteria and it's anti-inflammatory and it's a bitter.

So it's going to get the bile moving and it you know, so it's got all of these other things that it's doing. So we're that can make research really hard to do.

But it makes treatment a lot easier definitely when it's individualized. So I want to switch into talking a little bit more about treatment. And obviously, you know, I think you're very similar to me and that like I don't have a protocol, I have an approach.

So can you kind of know if you had to put it into pillars or bases or what is the approach, what do we need to focus on covering with a patient to be able to help them to start recovering from mycotoxins, illness?

Great question. And the way I came to this was doing it wrong. I had a patient with Lyme and Mold, and it was one of those first ones where it was like, you know, I was getting comfortable with like, oh, when it's mold, there's usually fungal overgrowth or fungal burden in the body.

So I had a brand new patient to me. We did not do all of the stuff that of course, my chronic chronic Lyme patients had already taken care of the diet.

They are already doing the sleep. They already have their supplements on board that we were already addressing Lyme.

Treatment Approach: Avoidance, Terrain, and Repair

So adding the antifungal was just sort of like the next missing piece, and it made all the difference in the world. Well, with my new to me patient, I hadn't done all the homework and I'm like, that's fine.

You know, I know it's Lyme, it's mold. We'll start you on antifungal. And she had a seizure and I was like, oh, okay. Wow. This is why. And I'm pretty sure I, you know, contributed to that.

Maybe maybe not. But it was one of those moments where I was like, right, the antibodies need to be the last step. The building, the body has to be the first steps.

Because when mold knows you're coming for it, it gets mean. Lyme does the same thing. That's what hurts. It's, you know, it's like there's these toxins.

Yes, it's the spilling of the dead bacteria, but it's also some defensive stuff that can happen. Lyme doesn't technically make a toxin, but it does have bio toxic effects on the body.

So I kind of came up with when I sat down to write my book, I was like, what is my approach? I kind of have a system. What is it? You know, is there a picture? And I came up with an orange and I kind of jokingly call it's peeling the orange.

And there's five basic steps. It's avoidance fundamentals protect the body repair from the damage like immune damage, and then do the fight. So those five steps I put into an orange, meaning the first two are like the orange layer.

You know, when you peel an orange and the white fluffy layer is avoidance and the fundamentals, because if you do that fully, a lot of people get better.

50% of people who have mold, just the avoidance and getting the fundamentals in place, which is all the basic treatment guidelines that we work with. You know, it's like the diet and the sleep and circadian rhythm and breathing and movement and, you know, sweating and all of those things.

So when we peel that, then we pick and choose the sections of like, what are the protective things that match this person's exposure? Are we dealing with a lot of mast cell damage, or are we dealing with a lot of toxin damage?

Are we dealing with a lot of nervous system problems? Are we dealing with this autonomia, immune depletion. And then repair is really about bolstering the immune system because when we administer amphotericin B to Aspergillus, it will increase its production of glial toxin many, many, many times over.

So we know when we administer those antifungals, we're going to get a surge of mycotoxins to basically defend itself. And so we have to have all those systems working.

And the idea of the orange then in that middle section is you just pick and choose the things. There are really simple tools that can do a lot of things, like like resveratrol that can help the brain fog, mitochondria function, reducing asthma symptoms.

It helps with the detoxification pathways for many of the mycotoxins. So there's this one thing we can use. And it's helpful for a lot that can do lots and lots of different things.

And we can reduce suffering and also get the body ready for the anti. So the orange is kind of my you know that's the five steps or five tools. But it's sort of like we we insert the thing that is fitting for that patient depending on right.

I love that and I and again like you said working with the herbs. It's like you know, there are so many herbs that have multiple effects. Right. So if you can get an herb that's anti bacterial anti-parasitic, anti-inflammatory, antioxidant and it has immune modulating effects, it's like you've just hit like four out of the you know the five sections there I know I love your herb blends for line because I'm like yeah well three of those things are also taking care of the mold stuff, you know?

Right. It's so great. And that's that. Also, you know, I think that that helps people just relax like, well, what are we treating? It's like, well, all of it will tweak based on how your body responds to this, will listen to your body language and we'll tweak and it will tell us what the next thing is to focus on.

And it might be the same thing. We just add a little bit of oregano because you're, you know, going a little more into the Sibo picture or whatever. So ooh, that could be a whole nother rabbit hole to go down.

Let's see. You can talk to you all day okay. So what would you say. Let's just pick three. What are the top three things that you think our listeners should know.

And if you want to expand to 4 or 5, that's totally fine. But what are the most important things to consider for someone that is facing mycotoxins, illness and or liming co-infections?

What do you think they need to hear? I think there's a place where I see the biggest hang ups as people convince themselves they're not in mold anymore, because they don't want it to be a problem.

Just just make sure that you're not in mold, and mold will do this Jedi mind trick, where it will get you convinced that it's not mold anymore. Yes, that remediation worked.

Or that fogging system, by the way, fogging any no no no UK maybe because they don't have ductwork, but there's mold has this Jedi mind trick that will convince you and you will fight with your doctor to say, no, no, no, no, we're out of mold.

We're out of all the campy mold anymore. Most of the consultations that I'm doing with doctors, really, really smart doctors that are doing all the right things and it comes down to the person is still exposed.

So that would be the big thing is the number one treatment for any toxin based illness is avoidance. So just double check. You know, it's worth the money to hire a really good inspector and to do all the tests, including mycotoxins, dust testing to make sure you're really out of mold.

Most of the consultations I'm doing that is the barrier is they're taking all the right stuff and they're doing all the right things. Second thing, I think, is that a lot of people are missing fat izing fat, fat, fat, fat, fat all the time because they're not getting enough of the good fats to, dilute the fat soluble toxin.

So Doctor Cronin drilled into my head the solution to pollution is dilution. We're putting people on binders that's taking things out, but you've got to put clean oil in.

So if you're not drizzling olive oil all over your food, if you're mold and lime sick, think about that. You know, there are some really good fats that are needed.

Phosphor total choline. As a supplement has really helped get membranes. So that's the that makes up our cell membrane. You know that the people that are listening, if you are only pulling with binders and you're not putting in good healthy fats, so essential fatty acids, fish oil, olive oil, good quality olive oil, not fake olive oil and phosphor total choline, which is our bile that you're binding with a binder is ten parts phosphor ten according to one part cholesterol.

You're losing a lot of hospital choline when you're on a binder. If you're not replacing that, you're putting yourself into a phosphate recalling deficiency, which makes your cell membrane hard.

Things can't get in the need to get in, and waste products can't get out. So I think those that and then the third is bile flavonoids. I actually have a little little phrase bile flavonoids before binders because the bile flavonoids we talked about the detoxification routes one liver, two kidneys and a long long tube have got the biopharma Knights are helping the kidney kidneys do the detoxification because mycotoxins bind to the blood protein called albumin.

And we need that bile five and I to pull it off the albumin so the kidney can clear it. If you're low on bile, five adenoids and you're only doing binders, you are putting your kidneys at risk because they are having to take that toxin into the tissue to donate about 5 or 9 from themselves to cause that denaturing so that the toxin can come out.

So I think, you know, those would be the keys that I'm saying.

Key Takeaways and Where to Find Doctor Jill Crista

Make sure you unmold, you know, make sure you're getting enough fat to do the oil change. And bile for adenoids just work. Great advice. And I love how so much of what you talk about.

And I follow you on Instagram. And like, you know, I've read your book, I think breaking the mold or break the mold, break the mold, break the mold. And I love how you talk about food, like even with binders, you know, talking about a lot of the, like, flax seeds and chia seeds and like, a lot of these things that you can get so many other benefits from and, like, you eat them as food, you know, just like the bio flavonoids, just like the healthy fats, as opposed to just downing supplements to no end.

Right? So you definitely you definitely have a superpower. And I love how that's you, you know, breaking everything down to just like simple steps that are doable and actually work.

They actually work, you know, I mean, I, I will get questions on Instagram, you know, well, can I get better without pharmaceutical antifungals or, you know, I can't take binders.

What do I do? And and I wish that I could take all the emails that we get that say, oh my God, I use your principles. I treated our whole family and we're better.

Thank you so much. You know, all of these kinds of emails that I get. And I was saying to my assistant, I was like, we need to just send back to them like, can we put your email on social media?

Because they need to know. They need to hear success stories. No one, you know, once you're done with this, you want to just like, not think about it ever again.

And so the fact that they would even send me an email says, thank you so much. I'm just like, wow, I would be so ready to just like, not think about mold anymore.

Yeah. And so the people who are better are getting on things and saying, we're so much better. Here's our story. You're going to hear the story of the person.

Person's not better because the people who are better already, they're leaving it behind. They're done. You know? So yeah, it absolutely can work. Naturopathic medicine can treat mold Lyme co-infections, Covid, you know, the whole deal.

Yeah, yeah, yeah. Well, I think that you should have it on your website and just do it anonymously. Yeah, that's a good answer. You know, just have all of these.

Yeah. Yeah. I think that would be great and, and very inspiring because, you know, I always tell my patients I'm like, you know, the these chat rooms and these online resources, a lot of times, you know, it's there are a double edged sword.

I've had a lot of patients who have self-diagnosed because they recognized what someone was saying, like, you know, on social media or in a chat room or whatnot.

But I think after a certain point, they become toxic a lot of times because like you said, it's the people that, like, aren't getting better for whatever reason, are the big, big voices on there.

And so, you know, we need a place to be able to go to for hope, you know, that has all of these success stories so that people can have hope because it's huge.

Yes. Yeah. It is so huge. It's so, so inspiring to see the good stories, you know, that, especially when you're in the darkest days. I remember sitting in my kitchen and realizing that there was mold underneath my tile floor, and we tested it.

And even though they said, no, no, no, it can't grow on tile. Well guess what? When you actually test, instead of doing religious belief systems from based on what you learned in your IEP courses, there were two kinds of mold and they were desert mold.

So like toxicity on my courses and whatever in my kitchen floor tile grout. Yeah. I mean, grout is porous, right? I know, and I was just sitting there going, how is this not able to grow a mold? It's porous so can take on dust.

So it can take on organic material for it. Right. And I just remember sitting there and just in tears and like what do I do. You know, like, is this even worth it?

Do we just burn house down, you know, like, how am I going to pay for all this, you know, all of those things and, you know, at the same time coughing because I was so sick from mold.

And I'm like, I can't even cry, right? You know this, it's like crying and coughing. And I just remember thinking that, yeah, you know this, like you've treated patients, you've seen people get better from this.

Like, snap out of it. Snap out of it. Let's go. You know, and I had the benefit of having those success stories in my bank, you know, in my memory vault.

I don't know what people do when they're in those situations. If you don't have those, it's so important. So that's good I yeah, it definitely is. Oh I absolutely think you should we should start a whole site that everyone, all the doctors can just put all of their positive feedback on to inspire people.

We should put into AI too, so that we're we're nourishing. I would pause, right. I love that that would be great to to hear it. Thank you so, so much for being here.

I can't believe our time is up, but it's been a pleasure to interview you. And once again, please tell the listeners where they can find you. They can find me at Doctor Chris Dotcom.

That's Dr. Christina. Com awesome. Thank you so much. Thank you. And thank you everyone for listening. We'll see you next time on another episode. And I hope that you found this information insightful, and I hope that it helps you on your journey to heal from Lyme.

Bye bye.