Introduction and Dr. Jill Carnahanu2019s Background

Okay. Well, welcome, Dr. Jill Carnahan. I am so thrilled that you're agreed to be interviewed. We share some common roots. What I'm going to have you do, though, is introduce yourself and explain why you have expertize in this area.

And then we'll go ahead and march into the interview. Sir, thank you for having me. I am delighted to be here. And yes, I loved finding out all the little things that we have in common about our how we grew up and everything.

My name is Dr. Jill Carnahan. I have a functional medicine consulting practice near Boulder, Colorado. I am passionate about helping people like you, Dr.

Wahls, find the root cause of illness and what has happened over the last decade, and even more so in the last, even several years, is the incidence of autoimmune disease and chronic complex illness has just skyrocketed.

So there's many more people, probably many of you listening who have complex chronic medical issues, especially neurologically and autoimmune, that are being undiagnosed or just being given a label where there's actually Dr.

Wahls and I know root causes and things that can actually be done to give you hope and healing. So I'm just here as a functional medicine expert who is passionate about giving people answers to their complex chronic medical symptoms.

You know, so many of the listeners have M. S. and other neuro immune issues here in Iowa. Last summer, there was a direct JO with a torrential rains and hurricanes of winds that led to a huge number of homes and businesses that had water damage and led to an uptick in neurological symptoms.

And people were going to see their primary care doc and were referred to neurologists who told them that they have either M. S. or a neuro immune condition.

And they were started on their disease modifying drugs.

Mold, Water Damage, and Neurologic Symptoms

Now, some of those folks had the good fortune to come see me or one of the other functional medicine docs who said, well, you explore. Did you have some water damage?

And so let's talk a little bit about that bio toxin illness and why I was asking all those people, did you have some water damage? So love this because it's so commonly an issue and many people are very unaware.

So I think it's good for your listeners and the people here to see, could this be a piece of your puzzle? Let me briefly tell you my story. And just in a couple minutes or less, I in Boulder, Colorado, I moved had a clinic in South Boulder.

It was an older clinic built in the seventies, and there had been a little water damage in the basement. Not a big deal, but the flood of 2013 hit Boulder.

It was of epidemic proportions, and the following year I started having cognitive issues, word finding issues, fatigue, rashes, mass issues, neurological issues.

So a cognitive gut issues, skin issues, kind of many, many symptoms. And we often call these multi-system multi-symptom kinds of disorders. I did not know initially what was going on, but the route ended up being we had a

massive crop of sticky batteries, one of the really nasty black mold growing in the basement of my office.

And what happens is the spores and all that. Yeah, we can inhale those can bother us. But the toxins, the mycotoxins we call them, which is a substances that mold produces, are incredibly immunologically toxic.

So toxic to our immune systems. There are neurological toxins and they can do much damage all over the body to many symptoms. They can induce mass. So there's lots of different things that they can do and they're insidious and they're invisible and they're smaller than 2.5 microns, which means they have easy access to our alveoli directly into the bloodstream.

If we inhale them like no transport needed, they go right into the blood and they can cause very widespread and incredibly toxic effects. And that's what I was experiencing the year following the flood in 2014.

But I didn't know it until I found that the root was mold. And as you mentioned, we often ask patients, have you had any water damage? If you just straight out say, have you had any mold issues?

Most people be like, no, I'm fine because it's usually invisible, it's usually insidious, it's slow and kind of builds. And often we don't notice it. We don't see it.

So many of the times when mold is an issue, just like in my basement, I didn't see black mold on my walls. It was hidden in the basement and my office was over an unfinished crawl space.

So there was kind of two levels below me that were producing toxins and affecting my brain and affecting my chemistry and all that. To say, because many people who are having neurological manifestations or mycotoxins, they don't know it.

So we can dove into some of the ways people might know. But so let's talk about some of the symptoms we've covered, the neurologic symptoms. And I alluded to the fact that people may be diagnosed with the M. S.

So you're having funny sensory disturbance by motor disturbance. You might have visual changes. What are some of the other symptoms that people might have do?

Yeah. So this really can affect almost any symptom or any system. And one of the main ones, probably 95% of people have cognitive impairment of some type and another probably 70 to 80% have some neurological manifestations, either weakness, unusual or pain, unusual sensations like tingling, numbness, vibratory sense, or even what we call icepick pain, which is a very sharp stabbing pain.

It could be in the head, it could be in the back, it could be somewhere else. These are all real common and they're confusing. An even bigger framework for this is that often in functional medicine I find there's toxic exposures like mold and then there's underlying infections.

And many of us, when we were kids or when we were growing up, we had chickenpox, we had Epstein-Barr mono and teenage years. We had and now we know there's lots of studies linking M. S to Epstein-Barr as part of the picture, and we might have been bit by Tigger, a spider or gotten some sort of arachnoid based infection like Borrelia or Lyme or the BCM or arachnoid.

What is arachnoid for. B spider because spiders often care bartonella. So I want to include that besides just ticks, because often ticks we think of ticks and tickborne infections, but it's far broader.

I've diagnosed at least a dozen patients with Bartonella from a spider bite, not a tick bite. So just be aware that spiders can just as well. We even know there's a case study I wrote up with Dr.

Horowitz on a case of a beaker that came from bedbugs. So these things are not just ticks, they can be other types of things. And fleas can carry tick borne relapsing fever.

So can some of the mites.

How Mold Exposure Is Identified

So there's lots of different carriers besides just ticks, because once again, many people were like, Well, I've never gotten a tick bite or I've never gotten a tick rash, but you can still have these kinds of infections.

And I talk about that with the toxin, because what happens is you have these old infections. If you have a robust immune system, those infections are kept at bay.

We don't get we don't all get shingles from chickenpox. However, when you get a toxic mold exposure, which is our topic today, that weakens the immune system in certain senses so that these old infections can pop up and also create problems at the same time as the mold exposure.

Okay, so I may have been bit by a variety of critters and of course I probably wouldn't have recognized that I was bitten by those critters because the bite could be asymptomatic at that time.

So I could have some of these infections and now I'm exposed to water damage and I don't see any mold. So I'm not aware that there's a mold exposure. How how would I get this sorted out?

Is mold part of my problem? Great question, because it is, like we said, hidden so often. So when you and I do the history, we often ask, when did you last the well?

When did you last? Maybe eight years, ten years? Two years. How long ago was that where you felt? Well, you didn't have symptoms and then when did something change?

And when you ask a good history and you do a timeline of, Oh, I moved to this new home in 2018, or I did this in 2020. You can often find where there was a change in your environment, and then within a year or so you started to manifest symptoms or someone might say, Oh, our fridge leaked or our washer dryer had a massive leak or our basement flooded, or we were, you know, Hurricane Katrina or the flood of mold.

Or you have these incidences that were preceding the symptoms and they are related to environmental damage. And I love that you're saying not just mold, but water damaged buildings, because when any sort of porous surface.

So with the drywall that most of our houses are built with or underneath the flooring, sometimes that can be porous or hardwood floors or any sort of surface that has a porous material to hold.

Water gets waterlogged from water damage, then that is a night is for the next years of more growth. And so often people will do a timeline and find an event such as a moved to a new house preceded their symptoms.

That's how I start to talk about mold. And then if there's someone else not everybody's affected the same way. So there are genetics at play and you can have one or two people in a household.

They get very, very sick and the other people in the household are fine. So there is often more than one person in the environment that's sick, but not everybody will be sick.

And that can be confusing as well. And so if people have this event in their timeline, how far ahead of the onset of symptoms should that event be? A week, a month, a year, several years?

What's the relationship? Great question. My example is pretty standard and that would have been a flood the year prior. And then within six months to a year that so say you have water damage to my basement or to my crawlspace or to my home.

It takes a few months for the mold to start to grow. Now you could, if it was severe damage you could have within weeks, you could start to have. The first thing usually is aspergillus penicillin to grow.

And although that can be a toxic mold as well, that is much more likely to create more of an allergic response. So the initial symptoms might be congestion, stuffy nose, trouble breathing at night, maybe a cough that has no explanation, maybe a little bit of chest pressure or feeling like your lungs are full and maybe some unusual rashes.

So the first part of that is usually going to be more in the allergic category, and that's our adaptive immune system. But then as it goes on and on and on and produces those more toxic, especially if it goes on to grow sticky batteries or cattle.

Liam These are more toxic mold than we typically see kind of a timeline where aspergillus grows first and then later on sticky batteries and ketamine.

So maybe after 6 to 8 weeks the stacking it'll me him start to grow and grow. And a couple of things. If someone is in the summer and they have their windows open, they may not notice.

But all of a sudden the winter comes because of their windows and there's not as much air exchange. They might go worse then sometimes in the heat of the summer the heat will break the walls and actually make them worse.

So some of those mycotoxins are worse. If there's a lot of heat in the midst of a summer. And usually I would say anywhere from a few weeks, up to six months would be the onset of symptoms from water damage to start of symptoms.

Know if I had water damage three years ago and now my symptoms are three years, is that long enough to say mold is probably not the driving factor that not necessarily.

I mean, it could be a decade. But what happens is you start to have this flow and some people gain. There's genetics at play here. So if you the genetics revolve around your ability to excrete these toxins out of your body like healthy detox.

And if you have some impairment in tagging these antigens, these bad guys that are more toxins in your body and excreting them, those are issues with your innate immune system.

And if that occurs, then over time, it's almost like I talk about the toxic load, like a bucket that's filling with water. So say six weeks after your bucket is still pretty low and you're not full, but six months and six years after, you're going to get much more full over time.

Treating Mold Illness and Detox Support

So even over two or three years, this can just escalate like a snowball and become a much bigger burden on your body. And often that threshold for people is different.

Some people at six weeks, if they've been previously sensitized to mold, will notice. And some people take six months or a year or longer. So it would not be uncommon to answer your question to have pretty severe symptoms.

Two or three years after a water day. And I assume that this might reflect that. The more stress I have, perhaps from other toxins, other stressful circumstances in my life may make bio toxins, mold, illness worse.

So maybe I was coping pretty well. But no, I had another hit to my system. And so I have I'm less resilient. Would that be true? That's exactly right.

And that's why I love the analogy, that bucket, because it's not just mold, but it's what else would you do? You have heavy metal in your, you know, mercury fillings in your mouth or did you have some other load?

And then all of a sudden you came to the threshold? I often hear stories of people who maybe they grew up in have a little more than their basement but did okay.

And then in their college years, they were in a dorm that was totally damaged with water. But then they got a house first, got married, and that thing tipped over the edge.

So you can have multiple exposures and actually be pretty resilient and dumping out your bucket. But then all of a sudden one exposure will either be too much for your load and you start to have a lot of symptoms or just be the straw that broke the camel's back.

You know, I could also envision that. So I have mold, but I'm coping with it that I get a bad influenza or the corona virus. And people with M. S and neuro immune.

When we have any infection, whether it's a bladder infection or the influenza or the corona virus, I get a flurry of symptoms that's called the pseudo relapse.

And I'm sort of thinking that if I have a mold problem, I'm going to have a harder time with that sort of relapse. And I may do very poorly, but would that be accurate?

Yes. And the way I would describe this is with M. S. or any autoimmune disease, you can actually have some other side of your immune system, be dysfunctional.

But with these autoimmune disease, you have an overactive side of the immune system that's actually attacking self with mold. It actually triggers the innate immune system to produce cytokines, just like in autoimmunity where there's an overactivity.

So I always remember when I fought cancer and Crohn's back in my twenties, it was like, I'm going to fight and overcome these diseases that I did and then I had more in my thirties and I realize, Oh, this same analogy of my mental fight is actually killing me because my body's fighting too much.

So it's just like always coping and why that's such a good example, because COVID, the virus itself, usually didn't kill the person that COVID caused an innate immune response, a massive cytokine storm in the body.

And it was literally that storm of your own immune system trying to fight the virus that usually killed the person. If you could prevent that cytokine storm, most people lived.

Same with mice and these autoimmune diseases and same with mold. Is this overactivity, this massive cytokine production is what actually does the damage.

So the overactivity, which can be made worse by a virus, made worse by a stressor or made worse by anything else that's on top of it. So. So everyone just listening now.

Hopefully we've got you thinking about mold exposure, water damage exposure and your timeline. And now how, how do they help tease out and make that diagnosis?

Yeah. So again, the timeline, the first thing we already talked about that you kind of know you could do that yourself. You don't need a doctor. You can literally write down when do they last?

Oh, well, when do things start to change? Those two questions will start to guide you. So that's first number two, free online, you can do a visual contrast test VCs for short.

You can look in Google. There's a couple of places, one is free ones with ten or 15 bucks. And this is visual contrast testing. I actually do this in my office.

So some physicians will provide that. But you don't have to do on a physician visit. You can do that for free online. What that does is there was technology in the 1940s for the armed services for to see if this was a screening test to look for bio toxin exposure.

So a soldier at war, if he got exposed to some sort of chemical, what it does, is it that low level? It actually alters our smallest blood vessels in the body, which is in our retina to see contrast gray, black and white lines.

And we can actually test that contrast ability, which tells us how is the functioning of our very tiny blood vessels in the eyes. Now, it's not diagnostic for mold alone, but if you are, you know, you fail this test, it's likely that you could have a biotech exposure and it's free.

Second thing is just symptoms. And I have on my website, there's all online if you search about mild symptoms, some of the stuff we talked about, you can go through checklists and see if you have if you fit the criteria.

Those things are free. After that, you start to do testing. And of course, this can cost some money, but there's a few basic things you can do. Number one is urinary micro toxin testing.

This is a great way to screen as well to see if you've been exposed. And it tests a variety of precursor things okra, toxin, aflatoxin, your toxin and these other toxins that can cause neurological issues.

So if you are testing positive for toxins in your urine, it's likely that you've had an exposure at some time. And that's one way as well. And then we also do innate immune markers in the blood.

Again, a doctor could order this at any lab. Things like BGF TGF Beta ADHD knows more about Osmolarity. MSH None of them are diagnostic for mold, but if you have a pattern of all of them abnormal, it's more likely to be a biotechs and related illness.

Okay, so they've screened. This might be a problem. How? How do we get it treated? Yeah. The hardest part is you have to find the source and have some deal of remediation or removal, because if you are really literally living with a place where there's a bad mold issue, you can do all the wonderful IVs and supplements and things in the world and you probably won't overcome that exposure.

Your bucket just is continuing to fill. Now there I think, are some exceptions, but in general, I'd say most patients do better when they either remove themselves from exposure or clean the house or do the remediation.

And this is usually best left to professionals. But the main idea here is you need to take the source if it's water damaged materials that are porous and remove them with margins from your house, you might need to cut off drywall or cut out the bottom of your sink and replace those materials that have been water damaged with new materials.

After that. The other important thing is that mold has been spewing out major toxins to all of your sheets and your couches and your house. So if you just remediate and you don't clean your house afterwards, you're still going to maybe have symptoms because as dead dried up particles from mold or the mycotoxins that were excreted by mold could still be in your home.

So after your media, you need to do a small particulate clean or a very deep clean of the house, usually involving a fogging and then a clean. It can be done by professional.

I've done it myself, so it's not that hard, but that clean after remediation is also key. So that very first step is getting rid of the exposure. And then we can go on to kind of how do you treat your body?

Okay, so what kind of things do we do for us? Yeah. So this is all about getting rid of the toxic load. And the great thing about mold detoxes that works for other toxins too.

So if you have a toxic load from phthalates or parabens or other chemicals in your environment doing this kind of a detox protocol, it's going to help all of those things.

It will lower that load in your bucket. We're thinking about the liver, gallbladder, axis here and how this works is a toxin goes in through phase one of the liver. It's changed into an intermediate, which is sometimes more toxic than

the original.

And then your phase two of your liver, which is fueled by things like broccoli and methylation and glucagon addition, all these processes that involve key nutrients like, again, all the vegetables that you talk about with the walls protocol that's fueling your detox so, so crucial.

And that phase two then puts it in a water soluble form to be excreted into the bile, the piles you're holding source for cholesterol, but also for toxins.

Book, Resources, and Closing Remarks

So part of the protocol for detox is actually using things that have a charge like clay or charcoal or prescriptions like, well, call or colostomy, and they'll actually grab onto the bile and the toxins in the bile and escort them out through the gut, through the stool.

So that method you can enhance detoxification, number one, by eating a colorful, polyphenol, rich fruit and vegetable diet. That's huge because this process requires those nutrients.

Number two, by enhancing glutathione, you can do that by using precursors like necrosis gene or lipoic acid, glutamine, glycine, vitamin C, selenium. But you can also give liposomal or I. V.

glutathione itself. So those are two ways to kind of enhance that pathway and push the toxic, you know, detox. And then, like I said, the binders, you can use clay, you can use charcoal, you can use chloride.

Like like a man in costar. I mean, well, call and there's many others. That's the basics. And then you want to support basic methylation with a good B vitamin and multi minerals are key.

All of those things, hydration is key and those are like supplemental types of things. And the other part of this is how do you keep your detox, your tissues, things like infrared sauna are very powerful.

Sometimes coffee enemas can be helpful because that enhances glutathione production through the liver dry brushing, which enhances your lymphatic drainage, things like just sweating, you're exercising your movement.

Those are kind of all the things that you could do to aid the detox pathways. It's all about our diet and our self-care routines. Yeah. So now I know many of you with MMS, we don't tolerate heat, and so there are plenty of things we can do without the sauna.

You can still do a cool Epsom salts bath or a room temperature Epsom salts, but that be very helpful. You could do clay masks. I think that's lots of fun.

So you've written you've got a really wonderful book books we were talking about briefly in a group that your you have a gift related to a chapter from this book.

So what you tell us a little bit about this wonderful book that's coming up. Thank you, Doctor. Well, I'm super excited because I took my journey with mold and the autoimmune disease.

I had Crohn's not much, but in some ways it's very similar because it has a record. So I took a lot of my and it's written in story form, so it's kind of a memoir.

But through that book there are pages and pages and pages of practical things like how to find mold, how to treat mold, what to do if you think you're exposed to mold.

So there's very practical tips. And what I hope is the readers engaged enough in the story to be interested and to see their reflection in the different parts of my own story, but also have these really practical take away pretty much anything you can imagine from cancer to Crohn's to autoimmune to diet to gut, health to microbiome and especially

mold toxicity.

And then we go one step further and talk about relationships and connection and all of these things, purpose and meaning in life and doing that, that last level.

So this is a wonderful book. I love the book. I love teaching through story. I teach medical students and trainees my walls protocol, health professionals through story. And again, everyone here in the Amazon neuro immune community.

I want you to know that Crohn's is a new immune condition. There are plenty of folks with Crohn that have neurologic and psychiatric symptoms, so Joel's story is highly relevant to you, and so you'll be getting an excerpt from that brilliant, wonderful, wonderful book.

And Joe does toast your website so people want to go so look you up. Sir. It's just my name. Jill Carnahan icon. Yeah. And you can find all kinds of free resources there if you want to know more about mold or anything.

There's lots of free stuff there. Okay, Jill, this has been really wonderful. I always value our conversations together and I look forward to when we will see each other in person again soon.

Me too. Thank you so much.