



Your Functional Medicine Expert®  
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### [#13: Dr. Jill Talks With Dr. Ann Shippy About Environmental Toxicity and Mold Related Illness](#)

#### **Text:**

Dr. Jill 0:12

Hello, Dr. Shippy. I am so happy to have you here. For everybody listening, first of all, welcome. It's a beautiful Saturday in Boulder. I don't know how it is where you're at, but [we have] beautiful weather here. It was like 90 degrees when I got in my car. I don't think it's quite that hot, but it's very warm, sunny, and beautiful. As always, if you need more information about me: [www.JillCarnahan.com](http://www.JillCarnahan.com). Please feel free to share. We're going to share all of Ann's links, her websites, and all her information, so stay tuned. I'll be sure to put these in the links so you can get to know her. I want to introduce her as well.

Dr. Jill 0:51

Just a little housekeeping: Feel free to share. You can always watch this later. It is recorded, and you can go listen later if you missed the first part. Like I said, please throw in your comments, questions, or anything at all that you'd like to hear more about. I will try to watch that on the side so that if you have questions, we can answer those in real-time. If we do miss your questions, just put them in there, and we'll come back. Both Dr. Shippy and I can throw in links to our websites or [answer] any questions that you might have on that.

Dr. Jill 1:18

So anyway, here we go. Dr. Shippy, I want to introduce you, and then we'll jump right in. First of all, the personal thing is that she's a friend. I remember when we first met and just feeling this connection. She's an intuitive, wise soul. We will both talk today about our mold experiences and mold toxicity. Our experiences with this are what led us both to this journey. I don't think you ever pick mold; mold picks you. So we have a similar story there. But now we're kind of in parallel. She's in Texas, and I'm in Colorado. Maybe someday we'll be nearby each other. We both have a very similar passion and even just a similar way of dealing with a patient and a similar personality, so there are lots of similarities. I remember just thinking what a special, beautiful soul she was when we met. As we've become friends, it's just become even more beautiful. So you will enjoy hearing her.

Dr. Ann Shippy 2:13

I feel so blessed to have you in my life. You are such a bright light.

Dr. Jill 2:17

Thank you. I feel the same. It's totally mutual. It's like this incredible energy. And the longer I live, the more it really is about energy. I don't have a lot of negative people in my life, but I try to keep it to a minimum because the beautiful positive energy is so sustaining, filling, and growing. And those people who are energy vampires, God bless them, but we need to make sure that they're not too close at hand.

Dr. Jill 2:45

So I'm going to formally introduce you, and then we'll jump in. So Dr. Ann Shippy is on a mission to educate and help people across the world live their healthiest, most optimal lives possible using cutting-edge science, research, and genetic information to find and treat the root cause of illness, not just its symptoms. If you've been around here, you guys know that in functional [medicine], we do this very well. Ann is a leader in this. She specializes in environmental toxicity, preconception and reproductive wellness, and mold exposure. And that's a great combo. I have had two close friends recently who had miscarriages because of mold. I think you've heard me talk a little bit about this. Hopefully, we can go into that, Ann, because that's such a unique thing.

Dr. Jill 3:23

She has designed life-altering treatments and protocols for her patients using epigenetic information, which is the study of DNA expression and the body's incredible ability to express or repress helpful or detrimental genes, as well as heal, prevent, and even reverse certain illnesses. Now what's so cool about her? She's an ex-IBM engineer. I'm an ex-bioengineer. So we've got these really cool combinations. And I've never met anyone like Ann; she's a scientist at heart. She is a processes person. She sees complex problems like I do. But then we also have this real spiritual intuitive sense that we kind of meld, and it's so rare to find that in someone like you, Ann. But I think it's the most powerful way to see patients because the science is great. We love the science. We have our foundation in good medicine. But this toolbox and being able to intuit and really sense where the patient is at, it's so important, isn't it?

Dr. Ann Shippy 4:21

It is so important. And a lot of times, when I do get to get a lot of data on the patient, there are a million different directions you can go in and different things to prioritize at different

times. I think that's a lot of times where the experience but [also] the intuition come in. It's like, "Okay, what do we do next with the data that we have?" It's so powerful.

Dr. Jill 4:42

It really, really is. What I've seen is the experience of 20 years of science over and over and over again. And then now at our age—which we won't reveal... But our age and experience—

Dr. Ann Shippy 4:55

Since we both had birthdays.

Dr. Jill 4:56

I know, right? We are both Gemini, by the way. And we are both celebrating June 1st and June 4th. We both just celebrated our 29th birthdays. Can you believe it, Ann?

Dr. Ann Shippy 5:09

We got so much done in 29 years.

Dr. Jill 5:12

I know. I love it. I love it. And you look 29.

Dr. Ann Shippy 5:17

You look amazing.

Dr. Jill 5:21

So we've had the experience. But what I find is that now that we've had the experience, we can take all of that experience—which drives the intuition—and look at problem-solving and data collection in a different way. I feel like when you use your analytical mind, you can process 10, 20, 100, or 1,000 pieces of data and do it pretty well, like a computer. But when you tap into the intuitive spiritual sense of what's deeper, emotional, and you actually feel someone where they're at, it's a whole different level of information gathering. And I feel like it's exponentially [and] literally millions of pieces of data, instantaneous in the subconscious. And how I look at it is that I have this sense of, "Oh gosh, I think we need to move in this direction," and then I use science to prove it. I'm not just out there guessing. But I'd love to hear your take on it because we're so similar in this.

Dr. Ann Shippy 6:10

I know. The first time I see a patient, I get to spend about 2 to 3 hours with them. I think you do the same kind of thing. I give them a plan for the dietary changes I'd like them to make, supplements I'd like him to take, and then tests I'd like them to go [for]. I love it when my initial impression of intuition and impression of what I think they need when the data comes back backs that up. Also, the patient starts to feel a difference with even that initial pass. It doesn't always happen, but when it does, it is so affirming. You and I both believe that when the body has what it needs and is not overwhelmed by things like mold and other things in the environment, and we've accounted for the person's genetics, it really is amazing how much they can heal dramatically.

Dr. Jill 7:08

Yes, I love that, Ann. I feel the same. If you just give them a load of tests to do and not a lot of helpful information... So our job in the very beginning, without any labs necessarily—[although] they might have brought stuff in—is just [evaluating] their story and being really good listeners. I'm sure you've found the same. Listening is our most important skill, right?

Dr. Ann Shippy 7:30

Yes, that's one of my favorite things. I love the new patient visit because that really is my time to listen. I listen in every visit, but that in-depth [conversation] where the person can just [share] everything that comes up—it's like they're emptying their basket and handing it over to me, and it's such precious time.

Dr. Jill 7:52

I love that you use the word 'precious.' I was going to say the same thing. In a sense, it's almost like we have this—I'm getting goosebumps now—incredible gift that people are giving us this [information]. Rarely does someone share the information, the types, the depth, the past childhood experiences, the illness, the trauma—I mean, everything. Sometimes we get to sit there and really hear such an expanse of their entire lives, and I find it so sacred. But if we create that space... And I definitely do ask questions, but a lot of times I'm just listening: "Really? Wow! Tell me more." Those kinds of things open it up. And then the patient really knows the answers in their bodies, right? So don't you find that if you listen closely, they'll tell you where to go, they'll tell you the direction. They'll kind of guide that anyway, and usually, they're right. I mean, often they know.

Dr. Ann Shippy 8:40

It's interesting because that's usually the case where a person's intuition, when they really have a chance to express it, bubbles up and comes out whether they're really aware of it or not. But it's like their bodies will start to share. And then it's so fascinating too because the place that the person has the most resistance to, like sometimes giving up dairy or something like that, they're like: "No! No! That's not a problem for me." The more resistance that we hit on something, sometimes that's a really important place to go. I noticed that in myself too. When I have resistance towards: "Oh yes. I know I should do that, but maybe it's not that bad."

Dr. Jill 9:23

Ann, I could think of story after story in my own life. I remember years ago, after the Crohn's diagnosis, I took gluten out. That was easy. Dairy was so hard, and it was so essential. But ooh, I loved my cheese, even though I didn't drink milk. It took me a few years to give that up, but it made such a difference. For those of you listening, if you're feeling this resistance, it might even be like corn or something random, but a lot of times there's truth there. Even as a clinician, I remember that I would have never chosen to go into mold illness. Like I said, it chose us, right? First of all, I didn't want to know about it. It's complex. It causes trauma. And what I found is that there's nowhere else where you could lose your house, your livelihood, your job, or your car. It really can be massively devastating to the patients.

Dr. Jill 10:07

So for me as a clinician, to come in and say: "Yes, your house is a problem, and it's got to be remediated. You have to move or you get to stay, but it's going to cost a lot of money." The financial implications and even the implications for the patient's safety are so profound that it's a whole other level of getting involved in their lives. And then I found that in the beginning, I wasn't 100% sure. I'd be afraid to tell them how serious I thought it was because you don't want to be the one to tell someone to move when they don't really have to move. Did you ever encounter that? Fear of: "Oh gosh. How much do I push and what do I say?"

Dr. Ann Shippy 10:39

It's so much responsibility sometimes to have people really do what's right for their health [or give] that initial nudge to make that investment or to make those big changes. Especially when you know how hard it's going to be for the person to make those changes, it's really, really tough sometimes.

Dr. Jill 11:03

It is. And yet, as you've had more experience like me, I'm sure you're getting more and more confident because you see the ramifications of the seriousness. For me, I'm finding that if they want to be healthy, I have to be more bold. I've gotten a little bit more confident in [giving] recommendations, but it's still hard.

Dr. Ann Shippy 11:20

Yes. In fact, I used to do everything else first that I could think of and then be like: "Oh, okay. This mold must really be a bigger deal. So we need to do that." I don't wait as long anymore to go [inaudible]. In fact, I'm really shifting towards: "You know what? [inaudible]. Even if you don't have any symptoms yet from it, it's changing your gene expression [and] damaging your mitochondria." It is not a positive trajectory. I'm hoping at some point that we can all build homes, offices, and [other] places to be that are constructed in a way that we don't have any chance of having mold. That's my dream.

Dr. Jill 12:10

Oh, that'd be amazing. And the sad thing is that it's so prevalent. I have a professional colleague who just tore apart their master bath, and the builder literally slapped tile onto drywall with no barrier, no nothing. It's completely moldy all the way through the subfloor. It's horrendous. This is a really well-known builder. "It's a really good situation," you would think, but it's horrendous. It's super common. Can you hear me okay?

Dr. Ann Shippy 12:44

[inaudible]. Sorry, I'm in Santa Fe. I'm not in my office.

Dr. Jill 12:54

No, I think we're good.

Dr. Ann Shippy 12:56

It may be my internet.

Dr. Jill 12:57

No worries. I would love to hear your story: How did you experience mold? Do you want to tell us a little bit more about your experience?

Dr. Ann Shippy 13:07

Yes. A little over 10 years ago, I got to go to one of the environmental health symposiums that Bill Ray put on. His topic for that year was [inaudible]. And I knew nothing about it, but something really nudged me to go. At that point in time, there was so little [information] out there about mold. What we learned in medical school was that if you're immunocompromised, it could cause a major infection, and that's about it. So I [inaudible] after the conference [inaudible]: "Oh, I'm missing this in a few of my patients." And I had a woman who had had major hormonal disruptions. It turned out that they were in a new house less than a year old and that the windows weren't installed properly. They had mold around all their windows. Then we experienced a bunch of heavy rains in Austin, and I had a hidden leak in my house and an obvious one in my office. But it still didn't dawn on me what was going on. I started having severe neurological issues with my right arm. I was so weak in my arm that I could hardly hold a glass if it was full—I would drop it—and my hair was falling out. I had so much pain in my body that it was hard for my kids, [who] were kind of young at the time, to hug me. So I started calling my functional medicine colleagues: "Hey, what do you think is happening to me? I can't figure it out." I went to a hand specialist and a neurologist, and nobody had any ideas.

Dr. Ann Shippy 14:50

So one day, it was one of my worst days. It was a Monday morning, and I had dropped a glass when I went to take my supplements. I got the kids off to school, and I got back in for a few minutes, and I was praying. I just felt like I was not going to make it if I didn't figure this out. And [during] one of my last appointments that day, the patient was feeling amazing. She had had an environmental illness and was doing great. We were almost done with the appointment, and she leaned across the table and said: "Dr. Shippy, I think you have Chaetomium in your house. I want to come to your house after you get off work." Did I ever even tell you this story? She's like: "What's your address? What time are you home?" And she met me there. She was just highly intuitive. Even though I thought I had it all together, she obviously could tell that I didn't.

Dr. Ann Shippy 15:54

She walked into the house. Within a few minutes, she had to get out, and she really didn't feel well for a couple of days after. I had a really bad Chaetomium problem in my house. She was like: "Don't take any of your belongings. Get your kids out and get out now!" She, like, read me the riot act. And she was right. I fought it a little bit. I thought I could clean some things, but I couldn't. It was a little journey in realizing [things] because that's the mold that she had been exposed to, and there was so little [information] out about it at the time. But after increasing my detox pathways and being out of the house for a few months, I totally healed.

Dr. Jill 16:40

Wow! And that Chaetomium—gosh, I think it's worse than Stachybotrys. It's a really nasty mold. I think it's the worst of the worst neurologically and immune system-wise. In my experience—this might just be me and my genetics—I call it the narcoleptic mold because whenever I get exposed to it, I want to lie down no matter where I'm at and fall asleep.

Dr. Ann Shippy 17:01

Both Stachybotrys and Chaetomium?

Dr. Jill 17:03

Chaetomium particularly.

Dr. Ann Shippy 17:05

Oh, that's fascinating. It's not like a fatigue like, "Oh, I need a nap." It's like, "I don't care if I'm on a concrete sidewalk; I'm going to lay down and sleep right now." It's literally almost narcoleptic to me.

Dr. Ann Shippy 17:21

Yes, that makes a lot of sense.

Dr. Jill 17:23

Interesting. Did you feel foggy and tired when you look back at the symptoms?

Dr. Ann Shippy 17:27

I did. I'd think, "Oh, Monday morning, I'm going to feel great," but I could hardly get out of bed.

Dr. Jill 17:32

Wow. Yes, and you probably know that [there was a] Boulder flood [in] 2013. My office flooded. In hindsight, it's so clear: The basement was damp and probably had mold issues before the flood. It was flooded in the flood. And then my office was built right above an unfinished crawl space. Now I'm like, "Oh, duh!" and I'm sure it was loaded. I think it had some water—definitely dampness if not standing water—right under my floor. Now again, I didn't even know this shortly after; I've learned it since then. This is the funny thing: I had this older building, probably [built] in the 70s. My builder redid just my office—and it was beautiful—[with] bamboo floors and stone inside the office. It was beautiful. But he threw bamboo right on top of the old carpet.



Dr. Ann Shippy 18:20

What?

Dr. Jill 18:21

I know, right? Who does that? Looking back, I'm like, "That was crazy!" And it was soft when you walked on it. Duh! Every time I walked, it probably squished up mold spores. Now that I know something about construction and flooring, I'm like, "Who in their right mind would put bamboo right over carpet?" I don't even know. But now it's so clear. And like you, I had brain fog and fatigue. I had rashes around my eyes—rashes all over my body, really—and I had red, irritated eyes, congestion, and respiratory issues. I didn't have a lot of neurological symptoms, but if I look back, [thinking about my] fine motor [skills], I got into a lot of tiny little accidents. For example, I pull into a parking garage every day. I've had the same parking spot for five years. And right around the time when the mold was the worst, I hit the concrete pole right next to my spot with my brand-new Lexus. But the funny thing was that I had no perception. So that whole ability to perceive and sense space and timing—

Dr. Ann Shippy 19:13

That perception issue is one that I think is so easy to overlook as one of the symptoms of mold exposure. I've seen it multiple times now. It really does increase your risk of having either a minor accident like that or a major one. I had a patient who had a major... We were in the process of having her start getting treated, and she had a really bad accident. I mean, she didn't have the depth perception—

Dr. Jill 19:44

Yes. I'm not surprised. You've probably done some NeuroQuants like I have. So there's hypertrophy and atrophy. So NeuroQuant—let's go back to that. Often we'll do an MRI of the brain, which is just a normal picture—magnetic resonance imaging of the brain. That doesn't show a whole lot with mold by itself. I would say I sometimes see abnormal white matter changes that are nonspecific. Do you see that, Ann?

Dr. Ann Shippy 20:09

Oh, yes, and changes in the sizes of the different parts of the brain.

Dr. Jill 20:16

And then a NeuroQuant is just a computer program that takes that picture and takes each sphere, like, say, the hippocampus. They blow it up into a circular size and say what the

volume is, and they know the standards for your age ranges. So your hippocampus might be shrunk to like 2% of normal, and your white matter might be hypertrophied, which is enlarged and inflamed. So what we usually see is patterns of the temporal lobe or frontal lobe or different things that are hypertrophied or swollen and inflamed. And then some things, like the amygdala, which is responsible for fight or flight, or the hippocampus, are actually shrunken. Now some of the worst cases I see are the small hippocampi because that's all about memory. And we see that with dementia and mold-related [illnesses]. Any thoughts on your findings with the brain or patterns that you see?

Dr. Ann Shippy 21:02

Yes. Just a side note: I think if somebody is resistant [to the idea of] mold being the issue, having those findings and showing that it's actually affecting their brain is one of the ways to get their attention. [It can help] if they're resistant to it and don't really want to go there. But I do think it's scary for people to see. "Oh my gosh, my brain is changing!" But I guess the good thing is that with treatment, things can go back toward normal. Are you seeing that too?

Dr. Jill 21:40

Absolutely. In my personal life—[I had an MRI] five years ago and then recently had an MRI to compare—there are a lot of really good changes. My hippocampus was normal—it never atrophied—but it increased by 34%.

Dr. Ann Shippy 21:53

What?

Dr. Jill 21:54

I know. I know we've got to talk about this because there's [something] like a case study here. I'm like, 'Wow!' It went from—whatever that would be—50% to 84%; somewhere in that range. I was like, 'Wow!' Now there are other things that aren't normal.

Dr. Ann Shippy 22:07

No wonder you're so smart.

Dr. Jill 22:09

No. Okay, I'm going to be really personal now. So I've never shared this, but there's another little, tiny section, a sliver of the brain, that actually we don't know a lot about. I think it's the superior temporal lateral sulcus. Or, I might be saying that wrong because they don't

have it in front of me. It's one of those [things that] we don't talk about a lot. Mine was kind of a lower percentage. I'm like, "Well, what is this responsible for?" So it is responsible for recognizing behavior and anticipating good or bad, dangerous, or non-dangerous, on people's faces and in their behavior. Now, there's no science to say that being small on my MRI means that I will actually have any of these symptoms.

Dr. Jill 22:45

We're kind of really going out there on a limb, but I'm going to share something really funny. There's another study on that that links it to a little bit of a lack of cognitive empathy. Now, emotional empathy is when you feel someone deeply; you feel their pain, sorrow, or whatever. This was cognitive empathy, which is like putting yourself in someone else's shoes. In 2015, it was a little bit abnormal in my brain, probably from the mold. In hindsight, I literally called my ex-husband up when I got my brain MRI. I said, "Erin, can you tell me more about my behavior?" I do remember that in the mold, it was so traumatic and so stressful, and I was so sick that I just did my work, slept, and ate, and that's all I could do. I remember feeling really overwhelmed and like—

Dr. Ann Shippy 23:26

Yes. You were in survival mode.

Dr. Jill 23:27

Survival, right? Everybody who experiences that is just literally getting by. I kept up patient care with no problems or anything like that, but that's about all I could do—survive. But during that time, he went through his own [illness]—and he would share this publicly—Lyme disease and a past concussion. So he had brain trauma and unresolved old trauma—again, he would be glad to share that—and so did I; I had the mold. We're good friends now, and we understand that the divorce caused us both to awaken and that it was meant to be. It was okay. We're in great spaces. But when we look back and analyze the things that led up to the divorce, it's so interesting to me because he had brain damage and I had brain damage, and some of it was related to relating to another person. I look back, and I think the mold was partially responsible on my part for not being able to completely connect on the level that I normally would. And don't you see that with your patients—that the relationships can really be torn apart?

Dr. Ann Shippy 24:25

Oh my gosh. Well, it's so difficult anyway to navigate the health part of it, the financial part of it, and the stress part of it in a marriage; especially when one person is really severely affected and the other is not, and [when] the other person looks totally normal. That's why doing the MRI and some of the lab testing and that kind of thing can really help the

partners understand. And then the other thing that I find is that a lot of times the partner who didn't think that they were affected, once they're in a clean environment again, actually realizes: Oh, yes. I was getting more headaches" or "I had a shorter fuse. I was a little moody." Or, things that weren't as...

Dr. Jill 25:15

Clear?

Dr. Ann Shippy 25:16

... As clear, yes.

Dr. Jill 25:19

The question we always get, and I'm sure you [do too] is: "Well, what's the one test for mold?"—if there were such a thing. But how would you approach this for people [who are] listening? What's the one test? What's your approach as far as testing and trying to find out the answer?—besides their history, which is a big clue for us. What else would you tell patients to look for?

Dr. Ann Shippy 25:36

It really depends on someone's budget. I just had somebody this past week who had known water damage in their house that they hadn't fixed properly. People, a lot of times, don't know that if drywall gets wet and you're in almost any climate and it doesn't get dried in 24 to 48 hours, it's more than likely going to have mold. And then, if you've had an ongoing leak, forget it, right? The least expensive thing is to take care of the house [or] building. Just get that inspected and evaluated. And if you have this common set of symptoms and you have a known exposure, then let's treat you, and let's get better. If people have the resources, then I really like to do a combination of testing. It's really hard for me to just do one.

Dr. Ann Shippy 26:33

I like to do mycotoxin testing. I like to see what their baseline is without any assistance detoxifying. And then with the RealTime Lab [testing], when I use that company, I like to do some type of boost—to see if they've just been storing it up but hardly any is coming out—either doing hyperbaric [therapy] or saunas. But my go-to is to do a really nice dose of liposomal glutathione. It's nice if we can do both the RealTime Lab and the Great Plains [testing] together because the Great Plains uses a different technology. So sometimes they pick up things that the RealTime [lab test] won't, and they have more mycotoxins that they test for. I'm also really finding some benefit with Progene DX, Shoemaker's newer lab that

he's using. It's also another really nice piece of the puzzle to see the up-regulation and down-regulation of certain genes and to see how severe people are. So, okay, this is the chemical engineering side of it. [inaudible].

Dr. Jill 27:37

I know. That's why I laughed at the question because I knew you'd laugh too and be like: "Ugh! There's no one test." But I wish...

Dr. Ann Shippy 27:46

Sometimes, if there's anything suspicious, either when people have moved in or when there's been water damage, just going right to that is sometimes helpful if you have the right inspector. That's been the bane of my existence with finding mold: If you have a mold inspector who just comes in and does air samples and it's a negative test, throw it out and start over with somebody who does the testing on the dust.

Dr. Jill 28:20

I love that. I didn't mean to interrupt you, go ahead.

Dr. Ann Shippy 28:22

Oh, no. And the other thing that I look for with a mold inspector is: Do they protect themselves? If they don't put on a mask and suits, they don't understand how dangerous their job is, and they're not going to be looking hard enough for me and for my patients. So I really need my patients to look for the inspector who gets it. They understand that they can't miss it. It might be impossible for the patient to heal if they don't find the mold and get rid of it.

Dr. Jill 28:57

Yes. I love every bit of what you just said, and I just want to point out to our listeners a few really important things. First of all, we can do all the IVs, binders, and glutathione treatments in the world, but if you are a patient and you're still living in a really moldy environment, none of that [will help significantly]. It's like bailing out a boat that has a leak, where you're maybe just continually making progress but not even really keeping it afloat. It will eventually sink. It's so important if you do have exposure: Don't spend your money on the labs if you have a budget and you can't. We love the labs. That will help us. But if you have to deal with finances and decisions, get out of the house, remediate the house, [and] find the source, it's hard, because none of these things are cheap. And like Ann said, I've seen people where one, two, three, four, even five inspectors show no issues with air quality testing. And I'm all about a great inspector, not just the dust sampling, but I find

that often the dust sampling takes more of a historical snapshot. The ERMI test is a really common test that is dust sampling DNA of the molds themselves. The newer testing is called EMMA, and it's [for] mycotoxins—the toxins that are produced by the mold. They both have value, but neither one by itself is perfect. I still like the ERMI [test] because I've seen enough of them to see patterns. But I will say, and this may get kind of complicated, that there's a scoring system, which I won't go into. But there's a score at the bottom of the ERMI. It's not very valid as a number. I don't even use that.

Dr. Ann Shippy 30:23

I definitely don't use the HERTSMI test.

Dr. Jill 30:28

Yes. But I like to look at the specific molds that come back, and I do still find them valid. I'm going to look at *Chaetomium* and *Stachybotrys* for sure. If you have more than five, until proven otherwise, I'm going to assume there's an issue. And on your scoring, that's not going to be a big deal perhaps. Then, [with regards to] inspectors, [find] someone who actually knows what to look at in the floors. [They should be] picking up your carpet corners, looking at your windows, looking at your basement, looking at your laundry room and your washer, looking under your sinks, having meters to test for volatile organic solvents [with a] VOC meter, [and] checking for moisture [with] infrared cameras. They should have a lot of equipment too, and suits, like you said.

Dr. Ann Shippy 31:03

If they don't bring suitcases of equipment, they probably aren't quite prepared either. And they need to spend hours there.

Dr. Jill 31:10

Yes. I don't envy them at all because, as much as our work is detective work, that's a hard thing because it's mostly invisible. The worst molds are sticky, moist, and stuck in the corner. They're not in the air. They're not usually visible. So they have to really understand construction and construction defects. And just because you have a home that's new or [worth] multi-million dollars, that does not exclude you at all. Some of the worst situations I've seen are in very expensive homes that are fairly newly built.

Dr. Ann Shippy 31:41

And a lot of these things really are hidden. For the patient that I mentioned earlier, one window had a teeny sign that there might be a little bit of moisture. But on all the rest of

the windows, there wasn't enough water to soak through and show any staining through the paint. But every window had mold around it.

Dr. Jill 32:02

Wow. And that's what I see nowadays. My friend's house, which has an excellent-rated builder, had massive issues with construction. And nowadays, I think things are put up fairly quickly. Materials are more like cardboard, so they're porous—a lot more porous materials are used. It's not guaranteed that you're going to have a bad builder, but just because you have a new home... Sometimes an old, well-built, solid 1950s home is a way better situation than a 2010 build or something that's pretty recent.

Dr. Ann Shippy 32:31

I was looking for a house last weekend and went into one that was under construction. They had just done the drywall. They weren't even finished with the drywall. And I could tell that the drywall had gotten wet. There were some water marks on it. So if I had seen it later on, when they had already painted over it, there would have already been a mold problem.

Dr. Jill 32:50

Yes. And those are a nidus because they often already have spores that are just dormant, so they get water, and it's all over then. We're getting tons of questions, Ann. We talked a little bit about diagnosis, which is great. I wish we could go deep into that, but the basics are mycotoxins, blood work, and genetics—all of these things play into it. If you have a good doctor treating you, they're probably going to do an assessment, whatever you can afford, within all those realms. You kind of need that data to really get a picture of what's happening and how to treat it. We're getting lots of questions about symptoms. So what are the most common symptoms that you see with mold exposure?

Dr. Ann Shippy 33:22

Okay. What we're actually getting sick from with the mold are the VOCs, the chemicals that mold makes that you can usually smell, and the mycotoxins that you can't smell. There are thousands of them. Different chemicals cause different symptoms. Almost every system in the body can be affected. It can be everything from lung symptoms [to] hormonal symptoms. They can totally disrupt your hormones, so you might start to have some early menopause, hot flashes, [and] high and low hormones that can affect your thyroid. It can cause severe fatigue. One of the common things that I see is body pain, like what I experienced. There was no explanation for it. It was just like my body was on fire. [It can cause] joint pain, muscle pain, muscle fasciculations, [and] things we talked about. It can even affect your vision with depth perception. Gastrointestinal—a lot of people will

have flare-ups of their inflammatory bowel disease—but even disruptions in the microbiome [can cause] things like nausea [and] heartburn. What am I leaving out?

Dr. Jill 34:48

The brain, right?

Dr. Ann Shippy 34:09

Oh gosh, the brain too. Many people will have brain fog or headaches. Mood—a lot with depression and anxiety—it can be huge. Some people will say, "Oh, I've never had anxiety, and I have it now." Other people will say: "I've always been a little anxious, but now it's out of control. I just can't calm down." Pretty much every person that I've seen with OCD has been in mold.

Dr. Jill 35:19

Gosh, that's so true. Insomnia—sleep is a big issue—or hypersomnia. It can go either way, which means you sleep all the time and can't feel refreshed, or you cannot sleep, which is, of course, disruptive. I remember that as I was detoxing, there was a building that I would go to weekly for church, and it had mold. Every day after church, I'd be driving home, and the world was ending. I'm a pretty happy person. I've actually never experienced significant depression or anxiety of any sort. When you're in that mood, that state after mold [exposure], there's not a lot of insight, which means you don't know that you're not normal, which is hilarious. [I remember] going home and talking to my ex-husband and [being] like, "Oh my gosh, everything's terrible." Or I'd be like, "Some small conversation would make me cry." And it wasn't me, and I kind of knew it wasn't me. Like, "What is going on?" It happened every day, like clockwork, as we were driving home. I finally realized that there was *Stachybotrys* in that building.

Dr. Jill 36:13

Especially if you're listening and you haven't typically had anxiety or depression and it's new... I know another colleague; she's an MD. She and her daughter bought a house in Texas, and they had horrible mold toxicity, got very, very sick, [and] ended up moving out of the house. Later, they found out that the back portion of that house, which was full of mold, had had two homicides and a suicide. [They were] different people [and] different families. And I'm like, "I believe that was related to the mold." I don't know for sure. But statistically speaking, that would be an almost impossible situation, and we know mold can cause these things. To me, it was shocking. She was convinced. She's a neurologist. She was convinced as well that there was definitely something wrong with the house.



Dr. Ann Shippy 36:55

It definitely messes with people's neurotransmitters, [from having] that sense of well-being to just [being] so angry. If I hear somebody's gotten a really short fuse, they just don't have the capacity to deal with anything that frustrates them...

Dr. Jill 37:15

Totally. The irritability, for sure. And then, with the brain, we talked about general brain [function] and brain fog. 'Brain fog' isn't really a medical term, but patients know what we mean, so we use it a lot. I use it a lot. My neuropsychologist friend is like: "Please don't use that term. It doesn't mean anything." But the truth is, for us and for patients at least, they get that. They're like, "Oh yes, that's exactly what it is." But what I was going to say—[and] that's very specific, Ann—is the assimilation of new knowledge. So if you're reading a book and all of a sudden your comprehension of new material [is affected] and you have to read over and over again... And also short-term memory. So you're reading it over because you can't remember what the two paragraphs above were [about]. Or you get to the chapter the next night and have to reread it because you can't remember what you read the night before. Or [with] words; word finding. In my worst state, the cognitive [part] didn't affect me as much as the words. I would want to say cat, and I would say dog, or I would say, "What's that word?" "... That thing?" "That" x, y, z? And I'd describe it, but I couldn't get the word quick like that. So those are things that are unique in some ways to mold.

Dr. Ann Shippy 38:12

And the other thing is executive function: The capacity to make decisions, like integrate information and then decide what you're going to do about something. I see that a lot of times, especially when people are dealing with mold and they're having to decide: "Do I hire this inspector? Do I go with this remediator? Do I just sell my house?" [With] all that decision-making, they feel incapacitated sometimes.

Dr. Jill 38:41

Yes, and that's the hard thing. I want to talk about treatments, but before we do, I want to mention one more thing. I'm sure you'll agree with me here. I've seen over the years that, in almost 100% of cases with mold, there's a trauma component because I can't explain the details of it. But we know it affects the amygdala; the amygdala is [part of] the fight or flight and trauma [response system]. I have yet to see someone who gets better and doesn't deal with old [trauma]. When we say trauma, I always like to clarify because it doesn't mean you were abused as a child; it doesn't necessarily mean you had a horrible childhood or difficult parents. Some of the people that I treat had lovely childhoods [with] amazing parents. But when you're two [years old] and your sister gets ice cream and you don't, and it gets stuck in your brain in a certain cycle where you feel unlovable because of

that, that could be trauma, as silly as it is. We all have it. We all have little bits and pieces of these things. What I see is that somehow mold amplifies that response, so there's a lot of PTSD with mold and getting re-exposed and all of those things. So I just want to acknowledge, if you're listening and you've had that, that you're feeling maybe ashamed of how hard it is for you to go outside and go to new buildings or all these things—it's very real. So, Ann, I'd love comments or thoughts about that.

Dr. Ann Shippy 39:49

Yes. I do think that dealing with feeling unsafe where you're living is trauma in itself. We should be able to have our little cocoons where we know we can sleep safely at night. But I think our bodies kind of anticipate it. So then a kind of PTSD—or, [as] I call it, the limbic loop—gets activated. The two big treatment things I think are getting into a clean environment, as clean as you can, and then resetting this limbic system—[one way is by] doing neurofeedback. If you have access to a neurofeedback clinic, that's great. I haven't talked about my mold exposure, where I developed asthma four years ago. But at that time, my limbic state [was so disrupted that] 95% of buildings I'd walk into, I couldn't breathe right. So using the Muse, which is a little headband—you're familiar with it, right?

Dr. Jill 40:50

Yes.

Dr. Ann Shippy 40:52

It dramatically changed my set point for how, even now, years later, my body interprets stressful situations. So when you're in that limbic state, it's truly the survival state. The body starts to become hypervigilant because it's like you're moving the tribe, and you need to notice where the berries are going to be ripe tomorrow. You need to come back and pick them, and there are some tiger tracks over here, and there are signs of cannibals over here. So it's taking every little signal to the nth degree and looking for danger and survival. For the body to be able to shift back more into a restorative state, getting out of that more PTSD/limbic state is a really important part of treatment for a lot of us.

Dr. Jill 41:44

Wow. I love that you're going deeper. It's funny; I got the Muse. You're going to laugh. So I put it on and it was like "sensor not detected," "sensor not detected." After like 30 minutes, I didn't do this, but I wanted to throw it across the room and say, "This is counterproductive." I was literally like: "Ugh! This is so frustrating. I am not getting into the alpha state." So I gave it away to a friend, but I might get another one.

Dr. Ann Shippy 42:11

They have a new one that I think is easier to [inaudible].

Dr. Jill 42:17

I'm kind of embarrassed to admit that, but that's what happened. It went away. But I was going to say [that there are] some other tools. DNRS is a really common program. It is not the only or best program out there, but what it is is neural retraining, and then any sort of neurofeedback [may also help]. The Vielight is a light system that can retrain the brain. And then any sort of somatic-based trauma therapy [can be beneficial as well], so EMDR, Thought Field Therapy, brain spotting, [and] just somatic experiencing. So there's a huge range of things, and there's probably a lot more because I'm not the expert. But all of these things are really critical to healing too.

Dr. Ann Shippy 42:52

And I see that whatever a person gravitates toward seems to help. It's just a matter of doing it. Whatever thing helps [one] get out of that traumatic state is really, really helpful. I've also done "40 Years of Zen," David Asprey's brain retraining, which is amazing. I've realized that I actually had a fairly significant brain trauma when I was two. I got electrocuted. Fortunately, I guess I was young enough and resilient enough that I had a lot of rewiring happening after that, so I could still do what I do. But having done this neurofeedback thing, I feel different in my body now than I can ever remember feeling as far as stress. So I think it's good for all of us.

Dr. Jill 43:47

I'm going to do that. You've got to remind me to actually act on that because it sounds like something I could really use. I feel like my awakening since the divorce and mold and all these things have really been that I've done a lot of therapy—somatic-based therapy, EMDR, and brain spotting. I didn't do Muse, but I have done other [things]. And they're so valuable because it really gets you to a place of [calm]. I feel like if I go to a hotel that's moldy, I have a reaction. Granted, I'm still reactive, but it does not take me down like it used to. So it creates more resilience.

Dr. Ann Shippy 44:17

I would have said that, but back in January, I stayed in a place that really got me. And I think I had gotten so [relaxed about it] that I was a little bit cavalier about it. I was like, "I can handle it now." I should have taken action. But it's all learning, right? And [with what happens to] my body, and I know yours too, all of these things are lessons that we get to take back to our patients [inaudible].

Dr. Jill 44:47

Exactly. And I keep learning and learning. And then I think, "Oh, I kind of know that..." No! There are more lessons. We glossed over treatments. We talk about the brain. We talked about trauma. Let's talk just a little bit about—and then I'll try to look for questions—the basics of treatment. You have to get out of the exposure. We've clearly talked about that. There is a part of some sort of training your brain and dealing with that amygdala overactivity, the limbic loop, or whatever you want to call it. And those are all critical pieces. What about just practical supplements and things? What do you like to use?

Dr. Ann Shippy 45:18

Yes. I find that supplements are very, very helpful because a lot of times we just can't get these extra needs that our body has when it's overloaded. So if I had to just pick a few things on a deserted island kind of thing... Oh my gosh, when COVID was setting, I was like, "What do we need to order a whole bunch of in case we have some lifeline issues?" I was like, "Oh my God, we cannot run out of these things for patients!"

Dr. Jill 45:45

Are you still a little overstocked from that, making sure that your clinic—

Dr. Ann Shippy 45:48

We are in good shape. We are in really good shape on a few things. With immune system support and then detox support, we're still good.

Dr. Jill 46:00

So if you were on a deserted island, what would that be?

Dr. Ann Shippy 46:02

Liposomal glutathione. That is so instrumental for me because I know I have particular genetic predispositions to not make glutathione optimally, and then it gets depleted. So liposomal glutathione [is one]. And then binders. I find that different people respond differently to different binders. And often a combination of them is best, so things like PectaSol, clay, [and] charcoal are my favorite combinations. How about you?

Dr. Jill 46:34

Oh yes. The same thing: Clay, charcoal, PectaSol. There's glucomannan. Zeolite could be great for metals, aluminum, and [other] things. Sometimes I'll add that in with those issues. I like the combinations. There's a lot of talk about cholestyramine as a prescription, which is great for ochratoxin but not as good for Stachybotrys and Chaetomium toxins. And then I feel like charcoal is actually your best bet for some of the T-2 toxins and those [types of things]. I recovered primarily with charcoal. I never took cholestyramine, which surprises people.

Dr. Ann Shippy 47:07

I took it back in the day [because] that was really the only protocol that was out there and made me sicker. So I've had very few patients now that I've treated with—

Dr. Jill 47:18

Now, for some, if they have tons of ochratoxin and that's all they have, I definitely use it. But it's not always the only thing, and it's not the first line for most people. And especially, Ann, I don't know about you, but we tend to see really sensitive people—they're the worst of the worst as far as their symptoms [go]. I find they don't tolerate those really harsh or more powerful binders. They're powerful, but they're also harsher on the system too.

Dr. Ann Shippy 47:40

Yes. And I feel like what we're doing with the whole detoxification pathway is opening a series of dams. So if we open up one dam too much, it can flood. Especially for those of us who are kind of sensitive, we have to start carefully and gradually titrate up. I also find on the supplement side that there's a lot of mitochondrial damage. So I like to use things like MitoQ, CoQ10, NAD, and B vitamins that feed the mitochondria. Most people have had some damage to their mitochondrial membranes and their cell membranes, so they really need things like phosphatidylcholine and good fats. A low-fat diet is not what you want to be doing when you're recovering from a mold illness. So [eat] good fats like avocado and olives and olive oil and the nuts and seeds that aren't moldy.

Dr. Jill 48:34

Yes, [that's] exactly right. Well, you know, that's a little thing we didn't talk about. Diet—I usually do recommend people go on a fairly low-mold diet. That's not the cure, but if you're adding to your load by ingesting things like coffee that's not tested or chocolate—two of my favorite food groups... But those two, coffee and chocolate, are grown in humid climates. They're commonly contaminated with both pesticides and mold, so you want to make sure. I don't know what brands you like, but Bulletproof and Purity are my two go-to coffee brands.

Dr. Ann Shippy 49:03

Definitely. Bulletproof—they were leading the way with this. Dave Asprey put out the Moldy movie documentary early on. I felt so great about that because people started to at least become aware, and a greater number of people watched the movie.

Dr. Jill 49:21

Yes. And nuts and seeds can definitely be contaminated if they're not fresh. You want to store them in your freezer or fridge if possible. Things like berries and stuff that have sat too long or leftovers—anything that sits for a long time is a bigger mold issue. Particular nuts [like] pistachio, cashew, and peanut are moldier than the others. So you just have to be careful. Some people will tolerate more of those than others. And then sugar. Sugar is so toxic if you have mold. So I highly recommend—

Dr. Ann Shippy 49:50

And grains. You really don't want to eat grains if you can.

Dr. Jill 49:55

Yes, especially corn. I grew up on a farm, so I know how this actually works. The grains are harvested, and then they're stored in these silos. The silos actually measure the moisture content. It's usually quite high because silos have dryers in them to dry the grains. But the grains just pile up there in a moist situation. It is always moldy. Actually, they have certain mold contents depending on where they're selling or buying the grain from. Again, I'm not the expert, but I know enough from growing up on the farm that I realize, "Wow, the grains and silos they're stored in [have] massive mold issues"—usually *Aspergillus*, but it's a big deal.

Dr. Ann Shippy 50:30

Yes. What do they call that? "The silo workers' lungs."

Dr. Jill 50:34

Yes, which is aspergillosis, which I can never say. It's the lungs [that are usually affected]. Yes, exactly. Wow, I can't believe we just blew through the hour like that.

Dr. Ann Shippy 50:46

Well, Jill, I love the time with you. I just feel so aligned with how we want to contribute on the planet. It's such a pleasure to get to visit with you.

Dr. Jill 50:59

Thank you, Ann, the same. And you are so brilliant. [You provided] so many beautiful pieces. Even listening to you, I'm like: "Oh, that's a great analogy! I'm going to use that." So thank you.

Dr. Ann Shippy 51:07

I feel the same way!

Dr. Jill 51:11

I'll put this in the links, but tell people where they can find you. And I'd love to know if there's anything you're up to or any interesting books you're reading.

Dr. Ann Shippy 51:19

Oh. Oh my gosh. Yes. So AnnShippyMD.com. We're putting out blogs and that kind of thing on a regular basis. And then on Instagram and Facebook, just [search for] AnnShippyMD.com. You know, it's been an interesting time these last few months. I have mostly been that nerd who sits there at night and in the evenings reading about things that I think can really help with resilience. So that's really taken up most of my time lately. I can't wait to have time to just read a book and—

Dr. Jill 51:57

I know, right? I have a stack of them.

Dr. Ann Shippy 52:01

Let me think about what's on my stack. Oh gosh, I have so many. Nothing is coming to mind. I am totally in a blank there.

Dr. Jill 52:16

Again, you bring great science. That's where I've been too.

Dr. Ann Shippy 52:24

Yes. It's such an amazing time to read through the literature with the lens that I have on right now because I think the real question for all of us to be asking right now is: What can we do to be more resilient? With what's going on right now and what comes next, what can we be doing to have our bodies, our families, friends, and colleagues—[and] everybody [else]—be less affected by what's happening on the planet?

Dr. Jill 52:57

Gosh, that's a great, great way to end because resiliency—you and I both are always seeking that. And I think just leaving you with [this is helpful]: We always have a chance to become more resilient because even if we're here and we don't like where we're at with these symptoms, we can take the next step. Granted, it's great if you have access to doctors like Ann and me, [but] not everybody does. But there are always things you can do, like choosing better foods. I always say clean air, clean water, and clean food. Granted, you might need to buy an air filter or get organic produce. But they're relatively easy and less expensive, and you can start there. So we'll leave you with that. And thank you so much for joining us. Thank you, Ann, for joining me. We will have to do this again soon.

Dr. Ann Shippy 53:38

Yes, I'd love to.

Dr. Jill 53:39

Bye-bye.