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Jill Carnahan, MD ABHM, ABOLM, IFMCP

### [#31 Interview with Dr. Janette Hope About Reducing Risk of Mold Exposure](#)

#### **Dr. Jill** 0:12

Well, hello, everybody! We are live with Dr. Janette Hope. And Dr. Hope doesn't necessarily know this, but I've been a fan of hers for some years. She's just a leader in this field, and I've always just admired [her work]. She's someone on the cutting edge of writing, research, and actually getting things published, which we really need to advance the topic of mold and environmental toxicity. We're going to dive in today to some of those topics, which you know I love to talk about, and I'm so excited to have her on. She's just a gem of a person and really has been involved on so many levels in this field, so you will get to hear her expertise.

#### **Dr. Jill** 0:48

Before we get started, I just want to remind you that if you want other resources, you can always go to my free blog on the website under my name, [jillcarnahan.com](http://jillcarnahan.com). There's free stuff on there weekly for you about mold and environmental toxicity. Be sure to sign up for my newsletter while you're there. And then we have a brand new free YouTube channel with videos like this. On YouTube, you search my name, and you'll find that channel. So go there to find other videos as well.

#### **Dr. Jill** 1:14

So today, I want to introduce my friend, Dr. Janette Hope. I'll give you just a little background, and then I will ask her to tell her story, which is always fun to hear. She's like me; she has a family medicine background. So she's board certified in family practice and has completed training and certification to become a diplomat in the field of environmental medicine. She has a certificate through the American Board of Environmental Medicine, on which you also served as president. Is that correct?

#### **Dr. Janette Hope** 1:40

Yes. That is correct.

#### **Dr. Jill** 1:42

And then the American Board of Integrative Medicine, like myself. It was 2016—I think we did it the same year. I think it was the first year they actually became the official board through the AMA.

**Dr. Janette Hope** 1:53

Yes.

**Dr. Jill** 1:54

She is also a fellow through the American Academy of Environmental Medicine since 2012, and she graduated from the University of Hawaii in 1985 and earned honors. And I love that she has that background in family medicine because I do as well. What's neat is that we got really great basic training. I'm sure you delivered babies like I did in the beginning.

**Dr. Janette Hope** 2:14

Oh, yes. Oh, yes.

**Dr. Jill** 2:15

Yes. So we did all of it. And what's great now is that I usually treat patients above two [years old]. But I know how to treat infants too, and I treat all ages. There are great pediatricians that do holistic medicine, so I tend to give the 0 to 2-year-olds to one of them who does a great job. But I love having families, especially with [issues related to the] environment, because often their whole house is affected—the mother, the son, the daughter, and everybody [else]—and we can treat them. And we know the genetic patterns and stuff. So that's really fun to share. So welcome, Dr. Hope! I'm so glad to have you here!

**Dr. Janette Hope** 2:47

Yes. So you want me to go over how I got into this field?

**Dr. Jill** 2:54

Yes. I always love to start [with one's] story. People don't really care how much you know until they know how much you care, and a lot of times that comes from where we've been in our own journey. So, I'd love for you to start telling us [about] your journey into environmental medicine from family medicine.

**Dr. Janette Hope 3:10**

Yes. Absolutely. So, yes, I did my residency at Santa Monica UCLA and was practicing general family medicine for, let's see, 10 years or so. Probably the one thing that I had the hardest time with was the patients that I knew something was going on [with], but I didn't have the tools to figure it out. I believed them. I listened. I didn't just prescribe the antidepressants unless it was appropriate, but I was listening.

**Dr. Janette Hope 3:54**

Then, in 2005, I started to get sick, as did many family members. And for me, it was sort of dramatic in the sense that I had a fever every day of 101 to 102, which is not typical. I found out that that's actually not typical. But the combination of what was going on in our house and my immune system did that. So that set me on a journey of many, many specialists and countless tests, including way too many CT scans and other imaging studies that involved additional exposures. This went on for about 10 months. There were two hospitalizations, actually. And I had—oh, I forget—eight organs biopsied.

**Dr. Jill 4:50**

Wow!

**Dr. Janette Hope 4:50**

Everything from the lung to the esophagus to the bone marrow. And everything was abnormal, with some inflammation. They would see abnormalities. At that point, it was even severe esophagitis, even [with a] Barrett's diagnosis. But we couldn't figure it out. We knew something was wrong. And along with the fevers, I ended up experiencing symptoms in practically every part of my body, so I saw specialists of all types. At the time, with the knowledge that we had, we were pursuing the things that we knew, including weird infections and cancer. That's what we were looking for.

**Dr. Janette Hope 5:45**

And then it became clear that some other family members were having some problems, including our young daughter at the time, who got pneumonia. She would also get fevers that were kind of unexplained. So I guess, as the universe works, there'd be people here or there that had thrown out mold—physician families, actually, even locally. I was really starting to suspect something

environmental, but I still didn't have mold on the brain. I thought maybe we put in some flooring and, you know...

**Dr. Janette Hope 6:26**

And then there was the day that I came back from a trip and didn't really think about it. It was a conference in San Francisco, and I came into the house and practically immediately got a bad headache. It was later that day that I was in a room and something smelled a little off, and I moved a bookshelf, and we saw a black spot behind that bookshelf that was really hidden. In our case, all of the mold was hidden because it was all trapped in the walls. The balconies hadn't been put on properly. It was pretty close to an envelope of *Stachybotrys*, which could be why I had such a severe reaction. I also spent the most time in moldy environments because my workplace was moldy as well. So I really got very little break. Other family members at least got breaks [when] going to work and school.

**Dr. Janette Hope 7:27**

We happened to have on our bookshelf a book coauthored by Erica Elliott. I don't know if you're familiar with that book, *Prescriptions for a Healthy House*. We'd had a neighbor when we lived in Hawaii who had gotten sick from mold, and she had given us that book. And it was on our shelf. We hadn't thought much about it. And we were able to get into Erica Elliott that week. It was our daughter's spring break. And that's sort of where my education in environmental medicine started, really; it was to try to help my family and myself. So I had no idea how much was out there. This was not anything we were taught. If somebody had a rash, you'd ask about shampoos or something. I mean, that was about all we were trained with in environmental medicine. So, I started attending any conference I could find and sort of went through the process that you described of getting additional training.

**Dr. Jill 8:29**

Wow. That is such a story because it highlights so many things. We're both conventionally trained, and I love that because I feel like I have a great science-based foundation like you. We bring the very best of conventional medicine, but our toolbox is now bigger. And I love that because it's not that we're not... I don't even like the term alternative. I never use it. I don't consider myself alternative. It's not true. We are like the best of conventional plus more tools. But what happened is that both of us were trained in conventional allopathic medicine, which is a great foundation, but there wasn't a lot of training about this innate immune response that you're describing. We were taught about mold allergy, and

that's about the extent of it. Even that was probably mentioned in passing in a class. So what you're describing is so real to all of us.

**Dr. Jill 9:18**

And what I also love is that somehow the divine of the universe—we were chosen in a way because I always say I didn't choose mold. I would have never picked this complicated of a topic to know, understand, and help patients [with], but it chose me, right? And it chose you. In order to survive and save our family and those that we love, we had to learn about it. It's so interesting.

**Dr. Jill 9:41**

Now, what's interesting to me is that I look back, and, of course, my big exposure was in 2015 in an office that was moldy with *Stachybotrys*—very similar. But then I look back. You mentioned Hawaii. I wonder if there was previous priming—events of exposures over the years prior—to get my immune system [compromised]. And what's interesting to me when I hear your story is that when I presented with Crohn's disease in 2002, right after my cancer, the only symptom I presented with was those cyclical fevers exactly like you described, and they were like 101. They weren't like 99.5. And I always wonder, in hindsight, if there had been some mold in relation to that diagnosis of Crohn's because we know that [a person with] mold [exposure] can lower MSH. And MSH is critical for tight junctions. And we actually see in some models and animals an induction of inflammatory bowel disease from mold exposure.

**Dr. Jill 10:32**

So it's very interesting to me. I have no idea. But those fevers are something I've never heard anyone else besides you and I present with as part of it. And what happens in conventional medicine is that they call it a fever of unknown origin. They don't know where it comes from, right? So they biopsy everything; they x-ray everything. And it was in your house, right? So you obviously had to remediate. Tell me a little bit about the beginning of your journey to get well. How did that go for you?

**Dr. Janette Hope 11:02**

It started with a trip to New Mexico with our then 6-year-old daughter to see Dr. Erica Elliott because she was the person I knew and she was able to get us in, and that was awesome. I learned so much from her. When you first get out of a moldy environment, some symptoms lift quickly. But it takes a while to really restore everything that's been thrown off—nutritionally, the inflammation, and everything.

So it was very clear that getting out was the right thing. And it was a huge relief, actually, because I had been down this path that was getting worse and worse.

**Dr. Janette Hope 11:48**

We were at the point where I'd gone to see a sarcoidosis specialist at USC—a very, very kind man—because there were pulmonary nodules and eye symptoms. He concluded that I didn't have sarcoidosis, but I likely had chronic fatigue syndrome, and I should just apply for disability, and well, that was it. He shared how his wife had that too. He was very kind, and that was great except that it didn't ring true to me. It didn't make sense that I was who I was before, which was healthy and very active, and then all at once, a switch flipped, and now I was going to sort of check out from being able to be healthy and work and function.

**Dr. Janette Hope 12:48**

I didn't have the answer yet—although clinically, I would have met the criteria for that—but nobody was really talking about looking for causes. And that's the part that didn't ring true for me. I appreciated that someone could understand how profoundly fatigued and sick you feel. But it just wasn't over yet. That wasn't the answer. I couldn't just accept that something would come out of nowhere and just floor me for the rest of my life. So we kept looking. My husband is a physician as well, so we would research everything and talk to the doctors. I always say I was very fortunate that doctors took me seriously medically because I had a very clear objective symptom, which was a fever that could be measured. So there was no dismissing it or sending [me] to psychiatrists or anything. However, that put me through a lot of medical tests and a lot of radiation.

**Dr. Janette Hope 14:06**

A lot of folks are really, really discouraged because they've been dismissed and insulted. And it always amazes me how nervous they are when they come in to see me. I feel like I'm not a scary person. But I think just the act of having to go to a doctor and tell your story again and have to see what they're going to say—you probably experienced that as well—they've been traumatized by going through the medical system. So that was interesting.

**Dr. Janette Hope 14:42**

In my case, I just wanted to mention that one of the last biopsies I got was when there was a skin lesion that had kind of popped up. Nothing very exciting, but we were fishing for answers. And they biopsied, and they saw leukocytoclastic vasculitis, which could be caused by a number of things—some medications, but

nothing that I had been on. So that was kind of a clue that something was going on. But what was interesting about that is that a few years later, I sent that tissue for mycotoxin analysis. I think the ochratoxin level was 18, and then there was aflatoxin in that lesion as well. So that was an after-the-fact thing, but it was kind of interesting.

**Dr. Jill** 15:30

Oh, that's so fascinating because that's part of the problem—our testing and diagnosis. Now we know—you and I know—how to make a diagnosis, and it starts with the clinical history. Your story of this environment and then getting better [when you were] out of it—that's where it starts; asking the right questions. And then we can do visual contrast, we can do symptom analysis, and then we can go into the testing. And maybe we can talk a little bit about how you approach it.

**Dr. Jill** 15:55

But what's interesting is that a lot of the labs I use for the innate immune system—I was never taught those in medical school either. Yes, we've gotten a lot more information now because if you do a normal chem panel with the liver, the kidney—now, that can be abnormal; it can affect the liver—a lot of times those basic labs, even inflammatory labs like CRP or ESR, are totally normal in these patients, and yet they're very, very sick. So it's like a different pathway that we're looking at that's not common. Now, it's interesting—do you have any hypotheses about the fever? I know tricosal things can affect the immune system and cytokines, so I'm guessing you actually had an overactive cytokine response. But what are your thoughts about that fever and how it relates?

**Dr. Janette Hope** 16:36

I've always wondered about endotoxins being significant in the mix because, when you have water-damaged buildings, we focus a lot on molds and mycotoxins. Through animal and agricultural literature, we know a lot about mycotoxins and how toxic they are. So that's always a focus. But I always go back to some of the writings of Jack Thrasher and Kaye Kilburn. They would talk about all the elements in a water-damaged building, as did the World Health Organization report. So, what we definitely know is that man is not meant to live in wet, moist indoor environments. When you are in those [situations], any number of things can go wrong with the building and with your health. But the fever pattern made me think of endotoxins.

**Dr. Janette Hope** 17:31

We had another interesting thing with that after we'd moved. We were working with a remediator, and the entire home was gutted pretty well, taking the studs [out] and [doing] really extensive remediation. But there was a piece of a beautiful antique dresser that he had assured us had been cleaned inside and out. Well, we brought it into the home, where we had been doing well. That night I woke up, but I sweated all night. I woke up feeling drunk, and our 6-year-old daughter had spiked a 104.5 fever. And we figured it out. It was very easy. She got a little bit of fresh air. I got some fresh air. I think she was in soccer practice that afternoon. I mean, this was not the flu or an illness—just an immune response to something we had become very sensitized to. In that case, it's because the inside of the drawers were not sealed wood.

**Dr. Jill** 18:28

Yes. So it got permeated.

**Dr. Janette Hope** 18:31

I share that lesson because people always ask, "What can I bring?" The honest answer is that we don't really know what you can bring or tolerate. What I tell people is that nobody has ever come back regretting bringing too little into their new environment. A lot of people have regretted bringing too much. And that was very fortunate because we had only introduced one item. We had a very impressive reaction that resolved by removing that item. The immune system is complicated.

**Dr. Jill** 19:08

It is. Like you said, sometimes there are so many variables. I love that you bring that up because I walk such a careful line. I don't want to be the doctor who says, "Oh my gosh, you have to leave your house" a hundred percent of the time, "and you have to be rid of everything," because that's just not true. But things like mattresses that you sleep on, I'm pretty adamant about. Yes, you know what? It's a few thousand dollars, but you're sleeping on that for 8 hours. I don't want you to take that risk. And books, papers, mementos—we don't know for sure, but I always say store them because you can always pull them back into your environment. But you and I both have those experiences where patients don't get well because they hang on to things that could be contaminating their environment. It's so hard because you don't want to be that person who says, number one, "You have to leave your house," because not everybody does. And number two, "You have to get rid of all your things," because not everybody does. But that's a real example.

**Dr. Jill** 19:55



I had the same with my medical textbooks—15 years of a library. I love books, so that was really hard, but I had to store them. And when I opened up the bin immediately, I had horrible symptoms—a headache and rashes and things—so I knew that those were contaminated. Since then, some special remediators have said that there are some ways that you can clean paper—I don't know—I mean, with ozone. They say some of those [types of things can help]. I haven't found a consistently great way to clean porous items like paper. I don't know about you, but—

**Dr. Janette Hope** 20:23

I really don't think there is. My husband was the first to kind of go through that because he really enjoyed books. It was in 2006 that we discovered the problem. But he had looked into options then, and he concluded it wasn't going to work. There's been a study since then that I referred to a lot, the Scandinavian remediation article. It's referenced in my papers, and it's available online. But they tested. They deliberately contaminated materials with *Aspergillus* and *Stachybotrys* and tested all the normal things to see if they would kill the mold and destroy the mycotoxins. And nothing even adequately did both. I was surprised because I always thought mold was pretty easy to kill, but the problem is the chemical mycotoxins that have now been created. But nothing worked. The best were boric acid and ammonia, but that still wasn't great.

**Dr. Janette Hope** 21:24

So whenever I hear these stories of, "You're going to wipe it down with this"—you might be able to wipe it down to a level that you will tolerate, I don't know the answer to that—but it's not going to remove everything. But what you say is very important because you do not want to create people who are afraid of everything. You want to empower them to have a problem-solving approach. Our problem-solving brain is much better than our panicked brain. We really cannot help but be panicked when this first happens. I think there are effects from the toxins. But also, all at once, everything you've ever thought about—life, safety, and security at home or at work—is now shot. So it's a very tense time. And I think if you can coach people through the initial process in a rational, calm, problem-solving way, it's much better for healing because if we're in crisis, all our bodies can do is kind of stay there. It can't really relax and heal. And I totally agree about the bedroom. That's really a healing place, and that's the place to keep really clean. Sometimes people move to places with more than one room, and if they can shut the—

**Dr. Jill** 22:45

Have their sanctuary.

**Dr. Janette Hope** 22:45

Yes, have their sanctuary, and maybe have their iffy room.

**Dr. Jill** 22:50

Yes. Or a garage. You can always put stuff in the garage if you are concerned. So I love that because, again, I totally agree with what you've said. That's my experience too. Part of why I got well was [because] I really got rid of the porous materials. Again, not everybody has to, but I think that there's a spectrum of vulnerability that we see, and we see this with chemicals and other environmental toxins. And you and I are probably a little bit more the canaries, who are slightly more sensitive than average. Most of our patients are as well. But there's a whole range. So, depending on the sensitivity and even the mast cell activation and some of these other things that are playing into this, or the limbic system, they all play into the reactivity.

**Dr. Jill** 23:28

Some people can't even tolerate the slightest twinge of exposure. And the sad thing is that we live in a world where there's mold indoors and outdoors, and certainly because of some of the fungicides that have been used in things, we actually have a lot more toxicity now indoors than we used to because we're having off-gassing. Maybe I'll ask you to talk a little bit... because you are an environmental toxin expert. What are some of the other things that could be in the environment besides mold and the water-damaged slew of toxic soup? There are also VOCs from building materials and other things. What else do you coach your patients on avoiding or being cautious about in their homes?

**Dr. Janette Hope** 24:03

Well, VOCs are a biggie because I don't know if you've had patients like this, but a patient who has been sick from a moldy home is now determined to not have that problem again, so they find the absolute newest, freshest home they can find that is off-gassing. Then they're in a non-moldy home that is off-gassing formaldehyde and other VOCs, and they're not feeling great. They may have a different set of symptoms. A lot of times, respiratory symptoms. So that's really the hard part. The million-dollar question is: How do I know this next place is safe? And the answer is: You will not know for sure.

**Dr. Janette Hope** 24:45

However, this is, I think, also maybe similar to how you coach your patients. But in that first environment that really got you, your immune system had quite a bit of time to really respond to that sort of stew of things in that environment. So it's got a hair trigger for that. We talked [about how it's] similar to a peanut allergy, even though the mechanism is a little different. Like that dresser that we weren't even that close to—I mean, you just open it once in a while—that was enough at that time for our immune system to really overreact. As a general rule: [It's about] making as clean a break as you can the first time, not making any permanent decisions while you're stressed, but just taking these things out of your breathing-living space until you can sort it out. After that, it's very rare that you're going to have to avoid materials, even if you get other exposure.

**Dr. Janette Hope** 25:49

I look back on that too. I've traveled all over the place, and I haven't thrown anything out since that first exposure. So if you keep doing that, then it's very stressful. It's just very stressful if you never feel safe. So you really have to balance the reality that the immune system is very, very sensitized initially and getting away from that [trigger is important]. At first, the sensitivity increases for six months to a year. I remember wanting to live on Santa Cruz Island or anywhere just to get away from everything because you're really, really wired to respond to just about everything. But that improves in time. So you just have to give people the confidence to know that this is real and their immune system is reacting, but that at times it can react just sort of like, "Oh, this could be bad." Then it seems to calm down too. So if you chase every reaction and every feeling, that keeps you from getting into a more relaxed state that's more conducive to healing.

**Dr. Jill** 27:11

Gosh, I really appreciate you mentioning that, because I always describe it. This is my simplistic way of thinking of it, but it's almost like our toxic load is like a bucket that we're born with, and some of us have a smaller capacity to detox because of genetic polymorphisms and things, just some generic variance. And because of that, then our bucket starts to fill up, and you and I both had an experience where we got sick because our bucket started to fill and overflow, manifesting symptoms [like] brain fog, fatigue—for you, the fevers and all of the other stuff—skin rashes, irritation, and all of the other stuff. Then, as we start to find out that's the issue and we get out of the environment, we start to detoxify.

**Dr. Jill** 27:50

And next, we'll talk about what kinds of things you do for patients who are in detox. But you're doing that stuff, and then your bucket level of water is going down. And when you start to give that margin back, that's when you can start to heal.

**Dr. Jill 28:01**

But also, I've heard the term unmasking, where in the beginning, like you said, six months or so, it's super common to be hypersensitive and extrasensitive. And I was like you; I actually had a lot of trouble that first year. And now I travel... Well, I used to before COVID. But I've traveled all over, and lots of times in moldy places. I would just take some charcoal and maybe feel a little down for a few hours, but no big deal. It didn't take me off my course at all. And I knew, like you, what to do to get me back on track really quickly, like [using] binders or glutathione.

**Dr. Jill 28:31**

So, how do you start with patients? Say they have a moldy environment; they've moved or remediated, and they're in a safer place. What would be some of the very basic things that you would do to help them get well?

**Dr. Janette Hope 28:42**

So the initial thing: Yes, they're in a new place. And what would I look for? "It's good enough to heal?"—because you're not going to find perfect. A place where, when there are no fires or outdoor problems, they can spend time outdoors. And depending on how sick they are when they come in, you can adjust what you do initially. But if somebody was sick but able to do treatments, the things I would do would be binders. Usually, charcoal is enough. But you can certainly add in cholestyramine or clay if they need more binders.

**Dr. Janette Hope 29:31**

I really, really encourage and spend a lot of time coaching people through getting a liposomal glutathione on board. Because, yes, there can be detox reactions, but like with all of us, if we expect something, it is much easier to take than if we don't expect it. So I probably overemphasize that. And it doesn't happen to everybody. Some people can get the glutathione going and just get better without ever getting that. But for a lot of people, they're just so backed up that even a little bit all at once, you've got this flood release of toxins mainly into the gut, which is why the binders are such a big deal.

**Dr. Janette Hope 30:20**

For me, twice a day is about enough for binders. Four times—how many people could do anything four times in a day? It's just not going to happen. But the difference between once and twice a day is a biggie. I found that the actual dose of the binder is less important than getting it twice a day. So then the liposomal glutathione.

**Dr. Janette Hope 30:41**

Then, if there are nasal and sinus symptoms or cognitive symptoms, I'll encourage nasal glutathione because, if you lay with your head back, at least all of the evidence is that it gets into the brain. It also helps with nasal and sinus symptoms.

**Dr. Janette Hope 31:02**

And then, for some people, a nasal anti-fungal, like a nasal itraconazole, because, as one of my mentors, Dr. Alan McDaniel, said, "It's like being allergic to cats and having cat hair on your nose." You know, it's not invading; it's not doing anything. But your immune system is just constantly wanting to fight that. So if you can ramp that down, then that can help too.

**Dr. Janette Hope 31:30**

Skin-wise, since you're going to get people sweating more, charcoal soap can be helpful because they're just sweating more [toxins] out. A lot of people initially get skin irritation when they detox, so helping with that can help. Sometimes there are rashes that are kind of unclear, and using ketoconazole, like a two percent shampoo as a body wash in the shower where you just leave it on for about 90 seconds, can help with that. It's very obvious; if it helps, it helps. They can stop. They can go back on it. And then there are the lifestyle things that are important.

**Dr. Janette Hope 32:07**

Initially, depending on where a person is, they're fatigued; their mitochondria are not in peak form. You kind of gauge what they can do without causing post-exertional malaise. But everybody needs to move because our venous and lymphatic systems do not have a pump; they rely on musculoskeletal activity. So I find a way of getting them to move, stretch, bounce on a rebounder—whatever it takes initially to do that. Sauna—since public saunas are probably not going to be a thing for the foreseeable future, there's a good one that's fairly inexpensive. It plugs into a regular outlet and works really well. So a sauna is a biggie at this point.

**Dr. Janette Hope 33:08**

That was even what Dr. Elliott told me at the beginning. She had a sauna in her office, and I asked her what it was. She thought that would probably be one of the most effective and cost-effective treatments that I could do, and that was true. I did a lot—a lot of sauna initially. And I still do it, but not as much because you can also sweat from sports and things like that.

**Dr. Janette Hope 33:31**

Epsom salt baths, if they can do that. Diet—I kind of focus on a few biggies because this is such a bummer and you're so restricted anyway. So if you really, really extremely restrict the diet, then... You know, the people who have to do that already know they have to do that. It's because they've reacted to things, and then you can find things they might react to in testing. But gluten and dairy are kind of biggies that are probably worth trying to stay off of. And then I encourage fermented foods for those who can tolerate them because we know that those foods are alive, and it's the way our ancestors got probiotics. It's just a good way to get probiotics.

**Dr. Janette Hope 34:22**

And then you work on trying to correct some of the nutritional deficiencies that have built up over time, like magnesium and B vitamin support—almost everybody needs that. Even injections of B12, like [inaudible] B12 injection because orally or sublingually doesn't work as well. And you just kind of work through that—vitamin D, zinc, fish oil, some CoQ10—you know, whatever they need. And you understand that some things you're going to feel a result from really quickly, like a methyl B12 shot, if you're going to feel it. Other things like magnesium are just long-term players—probably forever players to some degree—that you're just going to need, and they will take a while to build back. So that's a general approach that works for the majority of people. And then, of course, you have some people who have different problems that they have to address.

**Dr. Jill 35:28**

You can target. That's a fantastic overview. I agree on all points. And a couple of things I just want to mention: You and I both agree that the sinuses can be a reservoir; not all doctors do, but I have found that a lot of the patients who've come to me and had some old treatment have never addressed this biofilm and this reservoir. And not everybody is colonized, but some people are. And like you mentioned, it's just this irritant that's absolutely there and is pretty darn close to the brain. So, it's a really good thing. Like you said, I often use antifungals. Sometimes I'll even use over-the-counter GSE nasal spray, which is a great biofilm.

**Dr. Janette Hope 36:03**

Okay. If they can tolerate that—yes.

**Dr. Jill 36:04**

Yes. Exactly. Exactly. And then [there are] also the antifungals.

**Dr. Janette Hope 36:07**

It's great for the skin, though. GSE ointment is awesome for the skin.

**Dr. Jill 36:10**

Ooh, that's a great, wonderful pearl.

**Dr. Janette Hope 36:12**

Any impetigo-looking thing, or even fungal-looking thing, it does really well with.

**Dr. Jill 36:17**

Yes. And I love your ketoconazole topical. I've done some topical lamisil—the same thing for the antifungal effect on the skin. And then, like you said, the glutathione. One little pearl that's interesting... because I was one of those as well who didn't tolerate glutathione very well in the beginning. So, a couple of things related to that: First of all, your glutathione is depleted by mold exposure. That's one of the things mold does, [which] is just tank the whole detox system. So you are going to be deficient when you have mold exposure; you need that. If, in the beginning, you don't tolerate it, you can do precursors like NAC, vitamin C, glycine, and glutamine. Sometimes those will be enough to get you started. And then, like you said, Dr. Hope, the small doses—sometimes just minuscule pumps, pinches, or whatever—to get you going.

**Dr. Jill 37:01**

If you haven't seen my video with Dr. Bob Miller most recently, I don't know what episode, but we talked about NADPH being depleted in the process of treating Aspergillus and mold toxicity. And that is a key for recycling glutathione from the reduced to the oxidized form. And because of that, sometimes giving a little bit of NAD can help glutathione be better tolerated, especially as people get into the detox. That was a kind of pearl that I've learned in the last few years that I didn't know in the beginning. Super helpful.

**Dr. Jill** 37:34

And, like you said, B vitamins in general, because methylation is part of the detox. A lot of these people have impaired methylation, so giving methyl donors in a good general B complex is good. And then magnesium is so key to every function. I mean, if I had to [recommend one mineral] or one vitamin, it would probably be magnesium or vitamin D. But those two [things]. And part of our problem is that our soils are so depleted that an apple today, even if it's organic, beautiful, and from the farm, probably has a fifth of the magnesium content it had a hundred years ago. So most of us are walking around depleted in magnesium.

**Dr. Janette Hope** 38:06

Absolutely.

**Dr. Jill** 38:07

That is so helpful. And then you mentioned a little bit about rashes and stuff. To me, with all this environmental toxic load, one of the consequences I've seen is more irritation, like mast cell activation, on top of everything else we see. Do you see an increase in that among your patients nowadays?

**Dr. Janette Hope** 38:27

Yes. I'd say, over the years, yes.

**Dr. Jill** 38:29

More and more?

**Dr. Janette Hope** 38:30

Yes.

**Dr. Jill** 38:32

If you think about 10 or 20 years ago, I used to get very simple autoimmune cases that would resolve in a few months. Now I rarely see it. I feel like there are layers, and it's part of our environmental toxic load. Maybe you could just speak a little bit to that because you have been the president of the American Academy of Environmental Medicine and are very, very involved on the front lines of



environmental medicine. And I wonder what your overall thoughts are about our toxic load. Like, how is that affecting our patients?

**Dr. Janette Hope** 39:01

Well, I think you described the rain barrel perfectly. That's sort of how we describe it in terms of how people get ill because most of us don't really feel—as we're building up with toxins, stress, and infection—[that we're] not keeping up, draining our rain barrels with the right nutrition and glutathione. So, most people don't notice anything until they're overflowing. And just like you said, as you're first getting better, it's always up and down because if you're just a little bit above your theoretical rain barrel, you feel okay. You feel good. You just don't have a reserve, so anything can happen. And yes, the world has added, as we all know, tens of thousands of toxins in a relatively short period of time. The encouraging side is that people really seem to be getting it now. Like, they kind of get it. It's just a different [atmosphere]. We're not in the 'better living through chemistry' mode at this moment anymore.

**Dr. Jill** 40:09

Like [inaudible] mode. We're really not there anymore.

**Dr. Janette Hope** 40:12

They may not know or think of everything that they're doing—we can kind of help them go over that—but it all contributes. That's why I recommend the avoidance of other toxins, because anything that your detox system doesn't have to deal with frees it up for the things you can't avoid, so you have some resilience there. As you restore and get everything optimal nutritionally, you'll have more reserve. But I think the question was: More toxins or... I think there are more, but I think there's more awareness too. I think there's a little bit of both. I think we're kind of switching from just more and more and more chemicals to... And I'm sure the market probably supports that. Less toxic products are probably doing a lot better.

**Dr. Jill** 41:10

I grew up on a farm in Illinois—so I know [it] well—before we ever knew about glyphosate and atrazine. I was exposed to all these, and I actually think there's a good chance that some of those contributed to my breast cancer and endocrine type of thing at 25. So that's all connected. But what's really neat and what happened is—and this is conventional farming in Illinois in the 70s and 80s—my family has now completely gone GMO-free on all of their corn and soybeans. And they're partially organic, which is kind of unheard of in the Midwest.

**Dr. Jill 41:40**

It's kind of neat in the sense that my cancer wasn't the cause of all the changes, but it definitely opened their eyes to start to look. And my brother is pretty progressive. He's kind of like the functional soil guy. He understands nutrients and soil quality. So we talk a lot, and it's fun because he does farming and agribusiness and I do medicine. But there are actually correlations [between] the quality of the soil and the chemicals used in all of these things as well. To me, it's fascinating because, really, soil health is a reflection of our microbiome. So when we start getting good soil, healthy soil, and more organic crops...

**Dr. Jill 42:13**

And then, like you said, people are starting to demand with their dollars. So if you're out there listening, one way you can improve and change this is to actually choose to buy organic. I always say it's better to pay the farmer than the hospital. So, people think they can't afford it, but how can you not afford it? So choosing clean air, clean water, and clean food is really, really critical. What about air quality? We talked a little bit. There is so much more than just mold in our air. Do you recommend air filters for your patients or anything like that?

**Dr. Janette Hope 42:42**

Oh, yes. Those help a lot—having a filter usually with a HEPA and a carbon component. And that's all. You don't want ozone in your air. I know some physicians treat certain things with ozone, and that's different. Everybody agrees it's a respiratory irritant, and you don't want it in your air. So, yes, filters are very helpful both measurably—and people who have particulate meters can actually see the particulate counts going down—and just [from] the stories from patients. It's very helpful. I just run filters all the time. But I also get a lot of fresh air. And is that perfectly efficient? No, but it's okay. It doesn't use that much electricity. It really doesn't. Some people get hung up on, "Well, if I'm going to have fresh air and a filter..." You know, you can manage that.

**Dr. Jill 43:45**

Yes. I agree 100 percent with you. I have two air filters at home and five at the office, and it's funny because you and I both, in California and Colorado, have had a lot of smoke that's really affected us and our patients. And I actually have some lung inflammation, permanent damage from the mold. My pulmonary function tests are never completely normal, and they may never be because of that inflammation damage. I function fine, but I should be someone who, with the smoke, would be

highly affected by it. But because I have air filters everywhere, I haven't really noticed a whole lot, except if I hike on a really bad day, which is amazing to me because it's such a big inflammatory trigger. And according to Dr. Klinghardt, there are aluminum, heavy metals, and all kinds of other toxins in the smoke besides just the burning of a tree. So we're getting lots of exposures that way.

**Dr. Janette Hope 44:33**

Yes. And there are actually some people here locally where we had a really big fire, and they ended up with a bunch of ash and particulates in their attics. And they [inaudible]. So I had a patient who knew that he was having a reaction and did eventually find it. But there are many others that, even though the insurance helped clean and stuff, didn't really find it all. So, getting that all cleaned out of the attics and the nooks and crannies even long after the fire is over is important.

**Dr. Jill 45:08**

Oh, I couldn't agree more because that building area is so critical. And, like we said, it doesn't have to be perfect. Perfect can be the enemy of good. Some people are, like, paralyzed because they're, like, "Oh, I can't get it perfect." You'll never get it perfect because there's going to be mold in our environment, but you want a place that's good enough for your body to start to calm down and heal. This is so fun, and we're so in line. One thing you mentioned that I wanted to just ask you about because I've used it before is nasal glutathione. Is that something you prescribe, or do patients get it themselves and use a certain form? And you don't have to give doses or anything, but what's your general principle about nasal? Is it rinses? Or...

**Dr. Janette Hope 45:50**

No. It's a spray, and it is prescribed through a compounding pharmacy or various compounding pharmacies. Dosages—I use about 100 milligrams per ml. And then you do a few sprays, and you breathe in enough to hold it, and then, lay back. And when you really get it in the right spot after those 5 or 10 minutes, you will feel your head clearing. You'll feel different. I usually tell people to experiment a little bit with the right position because everybody's anatomy is a little different. And they can do that three times a day. And with exposures.

**Dr. Janette Hope 46:32**

For some people, it's a biggie to kind of pull them out of exposures, as are tri-salts. Tri-salts will be a biggie to get somebody out of acute exposure. And the thing I've been mentioning to people now, once they're kind of on track, is to write their crisis list, like if their symptoms are coming back, because when they come back, a lot of

times we aren't thinking clearly. So two things happen: You just suddenly start to slump more little by little every day, and then you forgot to do—whatever—the B12 or the glutathione. But also, it's good to have something available to go to if you did have an accidental exposure and your body's doing all the immune things it's doing. That's not the time when you're thinking the most clearly. So it's good to have your little [notebook and say], "Okay, these are the things I do."

**Dr. Jill** 47:27

I used to have an emergency travel pack. It contained charcoal, and I would create my own biocide nasal spray, which is a great biofilm disruptor. You can also buy GSE nasal spray, or I'm sure you could take glutathione. But those were kind of like rescues if I got into a hotel room. I know Haven Mist—and, again, I have no association with any of these products—has a little travel fogger. And then sometimes you can do the Homebiotic or the Surface Guard. There are a bunch of different products out there that you could actually travel with. It's a little spray bottle.

**Dr. Jill** 48:01

It's interesting. I went to Maui last year and had a terrible mold exposure. I was in there for seven days. But of course, with the windows open and knowing what to do, I stayed there. I had a massive exposure, and I was overall okay because, again, you and I kind of know now. And that's the great thing. What we want to do is empower our patients because we are going to get exposures. And what we want to do is decrease reactivity and then empower you guys to have tools there.

**Dr. Jill** 48:28

Dr. Hope, this has been so much fun and such great information. One thing I want to be sure people can find is your website. Also, you've written a lot of papers that are so wonderful. You've made a real difference in the literature by publishing. Are those on your website? Or where can people find your papers?

**Dr. Janette Hope** 48:43

Yes, they are. And I learned a lot through writing those papers. And I just very quickly wanted to mention that early on in this process, I often did travel with one of those desktop air filters. And I just saw on CBS—because of COVID, there's more awareness—that they're selling little desktops. I don't need to travel with those anymore. But for people in the early stages of recovery, if we get back to being able to travel, that can be helpful—taking it to your hotel room or wherever you're going.

**Dr. Jill** 49:17

I love that, and I have to just tell a funny story. Again, now we're not really traveling, but in the days when we did travel, I would always joke because I would have like two suitcases sometimes for a weekend. And I said, "It's okay to be high maintenance if you're high performance." One of those suitcases would sometimes contain a small blender, an air filter, and some food. So literally, one suitcase might be just my supplies so that I wouldn't get ill.

**Dr. Janette Hope** 49:46

Yes. And that's okay. Air filters—if you're stuck in a place for a bit, then get the air [quality to be] the best you can.

**Dr. Jill** 49:55

Exactly. I stopped apologizing for my lineup because it wasn't all shoes. [laughing]

**Dr. Janette Hope** 49:59

I know. I know. TSA—I had a metal style desktop, and that always got looked at.

**Dr. Jill** 50:06

Yes, exactly. Where would people—

**Dr. Janette Hope** 50:12

Oh, yes, sorry. I do have a website. It's JanetteHopeMD.com. And you said that the articles are all on your website, so people can look you up there. And you're in Santa Monica or Santa Barbara?

**Dr. Janette Hope** 50:25

Santa Barbara.

**Dr. Jill** 50:26

One of my favorite places to visit.

**Dr. Janette Hope** 50:28

Yes, it's nice.

**Dr. Jill** 38:27

Wonderful. Well, thank you so much for your time today. It has been a pleasure to talk to you. I really appreciate all the great information you've shared!

**Dr. Janette Hope** 50:36

Yes. Thank you so much for doing this! I appreciate it.

**Dr. Jill** 50:39

You're welcome!