How Mold Impacts Your Overall Health And What You Can Do About It

Dr. Miles Nichols
with Peter Osborne, DC

Dr. Miles Nichols
Hello everyone and welcome to the microbes and Mental Health Summit. I have the pleasure today of interviewing Dr. Peter Osborne, Dr. Osborne is a functional medicine practitioner and has been working with mold illness for quite a long time. So our conversation today is going to be how mold illness impact your overall health. We're going to talk about the mental health aspect as well as other conditions and issues and chronic disease that can be caused by mold and mold toxin in the environment. Welcome Dr. Osborne, tell me a little bit about what it is that that got you into doing functional medicine and working with mold.

Peter Osborne, DC
Well that's a long story. But functional medicine I actually was my initial in the V. A. Hospital in rheumatology and it was super frustrating because everybody got the same drugs no matter what the diagnosis was. You know, whether they had you know, autoimmune rheumatoid or lupus or scleroderma or ankle assing spondylitis etcetera. Everybody either got steroids or methotrexate or what are called demarches disease modifying anti rheumatic drugs and didn't matter the diagnosis.

So really I was curious to me if it didn't matter what the diagnosis was, why spend so much time effort learning about differential diagnosis, especially when when all the literature pointed at triggers for autoimmune disease and those, you know, simply put triggers being microbial, which is part of what we're talking about today nutritional nutritional deficit food being a trigger and then as well. Chemical exposures being a trigger. So no one was ever testing for these things objectively in any of these autoimmune patients, at least not in my experience working through that hospital, so is ultimately very frustrating and I left that environment to start a practice and I've been at autoimmune disease now for 21 years now my practice is in a unique environment and that we're right, you know, on hurricane alley down in South Texas, so right off the gulf and so we get a lot of hurricanes, we get a lot of rain and it's a super high humidity down here. And

so mold has been, you know, a big implicate er environmentally for autoimmune disease, at least in my practice that, that we've been at that for just as long as we've been at gluten, it's just that mold is becoming more and more prevalent maybe because as you turn more of your attention on it, you see more of it in my case, I've been seeing it, but I think a lot of it is, the infrastructure is now failing a lot of the infrastructure failing on the gulf coast. And so we're seeing more mold. We're also seeing a lot of hurricanes in the last several years. So we have a lot more flooding that's led to the potential or the, or the growth of more mold. And so again, people are living in it, don't even realize they're living in it and becoming sick as a result of it and they're, they're seeking us out for that.

But you know, for me, how I got really dove deep into mold, was actually was praying to God one day and I said, please God quit sending me chronic mold cases. And it wasn't very long after that, that prayer for relief that I was actually stricken with mold in my own home and our house was only about 2.5 years old and I lost the dog, my dog died from, you know, her organs were shutting down and we couldn't figure out why she was perfectly healthy. And then everything just started to fail and then she passed away and she was a little Yorkie. So she was the smallest one, the canary in the coal mine, if you will. And my German Shepherd who's much bigger, about £100 he was losing a lot of weight. My wife was getting super tired and she got to the point where she just didn't want to get off the couch ever.

And I mean, we're going from a very physically fit woman who cross fits regularly to, I can't get off the couch to do anything. And then, you know the way it affected my son, he was having mysterious fevers and rashes. I was prone to emotional outbursts. So I mean we had one of the molds we had in our house was called fusarium, which produces a toxic compound called zero lean on, which mimics estrogen and so for me, I'd lost About 15 lbs of muscle and I was putting on a lot of, a lot of fat around my organs, visceral fat. And I was just finding myself driving in the car and then starting crying right, just like emotional swings and I couldn't figure out why.

And I was tired all the time. And it took us a little while. It's always harder to figure it out when it's in your own life than it is when you're, when you're on the outside looking in, you know, talking with a patient. But we finally figured it out and you know, our exposure was about over a little over a year are chronic exposure was a little over a year. And the day we found out we moved, we immediately left the house, never went back in. And so, you know, from that day forward, I have been trying to objectively create a system so that people can understand number one, how mold can impact health. Number two. How to identify whether or not, mold is part of what's impacting your health. Number three objectively how to know how to find the mold in your home if you suspect it. Without missing it. Number four, identify why the mold grew in the first

place because most of the time in the cases we see it's not an obvious water damage. It's not an obvious flood, it's usually construction defects. And then number five, you know how to deal with it once you've rectified it. And so it's such a subjective field. You ask 100 inspectors, you get 100 opinions, you ask 100 doctors, you get 100 opinions. A lot of the laboratory work up around mold is very would just say around the way meaning that well I can give you an analogy if I walk outside in the driveway is wet. My first assumption is that it probably rained and I might be right, but I could also be wrong. It may have been that somebody washed their car or it could be that there was a hose left on or that the sprinklers were on or that the pipe busted and was getting the driveway. So there's other potential possibilities.

And a lot of the lab aimed at trying to identify mold is like that. It's not specific for mold illness. It's specific for chronic inflammation. And there's a lot of things that can cause chronic inflammation. And I think that's where a lot of people get lost in the esoteric, opinions of professionals who say, we think it's mold, it might be mold, maybe it's mold, it should be mold, but there's no definitive. And so that's what I've spent the last many years doing, we're, we're probably 30 hours deep into a massive documentary on mold illness. It's one of my projects that we've got going on right now just to help bring greater clarity to what I feel like is going to be The next. Well we'll just say epidemic of, of human illness because you know, gluten 20 years ago was a whisper. Very few people had ever heard of it today. It's a household word because we know so much more. I think mold is gonna be that 20 years from today and I'm hoping to accelerate that timeline so people can escape the ill effects of it.

Dr. Miles Nichols
Yeah, thanks for sharing. That's a lot there of richness that you've already shared in terms of there being this awareness that you started to have and people coming to your clinic and then a prayer to not have them come to your clinic and then a realization that it was affecting your own life and health and and then a passionate purpose of wanting to spread that word and help others in doing a docuseries and working on trying to clarify some of these open ended questions that we have around mold and your presentation of the aspects that can contribute to mental health issues of and autoimmunity.

Of there being triggers for autoimmunity and triggers including infection, including chemicals and toxins including gut microbes and foods that are input and to have that picture of what autoimmune is, this rising phenomena, so many more autoimmune conditions and and like you, I was in a position where I didn't know I had exposure to mold and I found I found mold in the place I was living and also moved in. It wasn't until after I moved that the person who owned the place decided to, to rip it all apart and put it back and found a bunch of it because it, it's not

always visible, but behind the washer and the dryer, the clothes washer and dryer, they ended up finding it there. And there was an issue with the attachment for how it was attached and it's, it's not, and I'm in Colorado where it's dry and I would expect that if I were to just think like most people doing, a lot of people say this, oh, well it's dry here. So there's not mold. It, unfortunately, even though it is dry, there's quite a lot of mold. And some of the research on looking at humid versus dry environments found a fairly equivalent amount of mold everywhere, in part because like you're saying, construction Defects can be part of that.

And it's as many as one and 2-1 in four homes, American homes are estimated to be water damaged and it's a big deal and it is going to hit epidemic proportions. And then we have the complications that there's a genetic predisposition for some and not others. So why is it that some people in a home might be quite ill and feeling the effects of something like mold illness? You mentioned maybe different effects for you and your dog and your wife and that some, because often the home and the environment doesn't take the blame for the issue if one person and not everyone is sick. So can you help explain that to the audience?

Peter Osborne, DC
Well, yeah, that's a good question and there's a lot of variables to it. I think. Certainly one can be genetic, you know, you, have you ever heard the term a cheap drunk, you know, some people process alcohol toxins better than others. And so, you know, that's why some people can hold their liquor better, think of mold toxins much in the same way some people can hold their mold toxins better. Men are generally more resilient than women just because they're physically of their muscle mass and their and their metabolisms are stronger. So oftentimes they have a higher rate of excretion and so they can dismiss the poison from their body more effectively and quicker. They also oftentimes have an advantage because especially if it's like a traditional household where the husband works and the wife stays at home, husband gets to leave. You know, he gets, you know, he's out of the house 12 hours a day and the wife isn't.

And so you get dose exposure time of exposure matters. You know, when it comes to mull toxins mycotoxins then you have, you know, the differences between what people already are doing to be healthy or not be healthy right? So you have some people that just generally speaking eat poorly, don't exercise, don't prioritize sleep. You know those individuals are going to be more susceptible, They're gonna fail faster in mold. And then we have medicines that suppress the immune system that many people are taking. A perfect example would be something like Singulair Zyrtec where you're suppressing the immune system so that you're not perceptively reacting to the environmental allergen trigger. And so you're suppressing your symptoms of mold exposure. You know through pharmaceutical or through pharmacy and so your perception

of how you feel is different and maybe somebody who's not doing that. So I mean there's go on and on and on and on and on about the different variables amongst different individuals. I think ultimately it's important also to understand that there are two fields of thought. One of them is incorrect and the other is correct. One field of thought is people don't react to mold unless they're allergic to it. That is incorrect. You can be allergic to mold just like you can be allergic to pollen or dust or dander or food. Most people aren't allergic to mold to the level that it's going to completely decimate their health unless their houses so enriched with mold that problem you know wears down wears them down but generally a true allergy which is an I. G. E. Histamine mediated type of response blends toward more obvious symptoms.

And so those individuals generally tend to have obvious allergies, watery teary itchy eyes, runny nose congestion, upper respiratory infection frequency asthma increased risk of skin rashes, things of that nature. And then you have so that's allergy. Right? And so some people are allergic. Some people are not allergic but no one is immune to Micah toxic. Oh sis which is mold produces toxins that are basically volatile organic compounds. They're very very microscopically small about the size of a virus. 10.2 microns. These mycotoxins as we will clump them all together. Because to date there are you know hundreds of different mycotoxins that have been identified that are produced by different species of mold. Many of which have been studied in human diseases being causes or triggers for disease.

Mycotoxins are poisoned to everyone right? They're not you know it's not like I mean now some people are gonna react more aggressively than others because of all the variables of humans. Right? But as a general of thumb nobody is immune to the detrimental effects of high dose mycotoxin exposure over time. I think the biggest issue is nobody dies of mold today. Like you don't go into a multi building and drop dead. It's really it's like slow dose radiation poisoning that kills you slowly over time. And so it can be very hard to pinpoint even that mold is part of the suspicion of the process because so many people look at mold exposure. And they, well they don't look at mold exposure, let me reframe that.

And they think they're just getting older. Like for, for me in my own experience, my vision, I was, I was in my forties and my vision was deteriorating. Well, everybody's vision deteriorates when you get into your forties, at least according to most experts. But I've never had a problem with my vision. Why all of a sudden would it start to deteriorate it? I mean it got so bad and mold. It was like, I was in perpetual water, I was always doing this to try to clear my vision and it never did until I got out of the mold. When I got of the mold, it returned. So small things like that, like eight I had a shoulder pain, you know, I got to do a pull up and I'm like, why I didn't injure this? Why is this always hurting? Why? Why now? Right. What happened? Why am I crying? You know,

randomly, why is my muscle depleting? And I'm working out, why can't I wake up as early as I used to wake up? Like these are not age, You know, and I knew and I had an advantage there because you know, I come from a background where you know, I do, I practice what I preach. So like I, I teach health for a living. And so I try to imbue that you know, in my own choices so that I am the, the, you know the do as I do as I do not as I say kind of leader. And so it was more easy for me to detect those things knowing that I can't just be getting older. My wife can't just be getting older. My dog can't just be getting older. My son is definitely not getting older. He's only, you know, a teenager.

So for us, you know, it was, it was easier to pick it up than it may have been for maybe somebody who, who doesn't have that kind of a job right? Which my wife is also a doctor. So we're both pretty in tune in that way. But mold toxins, mold micro toxic doses kills everyone eventually. And it's a matter of time and dose. And in our case it happened very quickly. It was over the course of about a year where rapid deterioration happened. And one of the things that you know, we later came to find was 250,000 sport count in our wall cavities, not one of our wall cavities, all of them. And my whole house was a mold box because of absolutely catastrophic.

Construction defects And again, new house age of your house is irrelevant when it comes to mold. If your home was built by unskilled laborers, you didn't know what they were doing and didn't have a mind for Mold Prevention. You could have mold in your house inside of 48 hours of its new construction date. And then you know, the longer it's there and the more it's capable of growing, the more toxins that will produce, the more exposure that you'll get, the sicker you'll get and it becomes a rollercoaster downward slide. But mycotoxin cosas can hurt anyone, mold allergy can hurt some. But everybody is going to be affected by mycotoxins if they get enough dose over enough time.

Dr. Miles Nichols
That's an important point because I have had patients come in and they say that I went to my allergist, they screened for mold and they said, oh that's not an issue. But really what they were saying is that you're not allergic to it. They're not saying that the toxin isn't accumulating in the body. And so there is a misconception about this. And so it is important to understand there are two things. There is an allergic reaction to the protein of the sport itself, the mold itself. But there's also the mold produces and the sport can have this mycotoxin that like you said, it's so small that it can make its way as you breathe in the spore, it can go the talks and the mycotoxin through the long membrane and get into the bloodstream and then it can lodge into tissue it can. And some people like you're mentioning will excrete it a little better than others and depend on drugs and diet and genetics and many variables as to how excretion is going to

happen and as that talks and accumulates in the tissue, then there's going to be this chronic inflammatory response. Now you're talking about auto immune health and a link to auto immune health. And I also heard you mention that your outbursts were linked and maybe mental health as well, can you speak to the link between the mold toxin accumulation, the chronic inflammation and then autoimmunity and mental health.

Peter Osborne, DC
Yeah, I think there's this term that that one of the arguably one of the greatest mold researchers in in all of mold. Right, Dr. Ritchie Shoemaker has coined this term chronic inflammatory response syndrome or ceres which is in essence it's autoimmune reactions to mold and mold toxins that are just chronic in nature to that create an an element of hyper immune react activation in the body. So the body is just it's like a soldier who's been at war too long. It's shooting its gun without even analyzing its target because it's been at war so long, it's just over reactive mold can do that. And and and so it's because of that chronic inflammation and so whether you have, even if you have a mold allergy, mold allergy chronically long enough can also lead to autumn. So mold allergies can cause it, but also mycotoxins can cause it.

But what happens, you know, from an autoimmune perspective is that hyper hyper exaggerated immune response over time so that your body is so chronically fighting the environment, it also goes into a chronic state of sympathetic overdrive. So digestion slows down. Quality of rest is impeded. You know, think of all the natural rest, relax, digest parasympathetic functions, nervous system wise. Autumn, autonomic nervous system are are subdued while the fight or flight system is ramped up and this is where it can start to affect a person mentally and emotionally as well. One of the impacts there with a hyper sympathetic response is tremendous brain fog, right? Tremendous brain fog because of overload of the neural circuitry you're in you're in fight or flight mode long enough. Several things can happen because there's a pattern that there's a basic pattern that can evolve over time.

But one of the things that occurs is too much adrenaline and too much histamine because you're creating histamine to fight the reaction and or for your immune system to fight against either the allergen or the mycotoxin itself. And the histamine is a is a neuropeptide, right? It's a stimulant neuropeptides. So it creates disruption of sleep. Any of you have ever taken like an antihistamine for allergies and it knocks you out on the couch and you're like drooling now because you can't wake up. It's because it's blocking histamine and histamine is an alert, it's an alerting neurochemical that wakes your brain up. So this is one of the ways that that it can actually create hyper anxiety in individuals. Right? So when you're in mold it can make you anxious and have panic attacks. It can make it hard for you to sleep because you're being

stimulated. And so now you're not resting well and you wake up exhausted in that in that degree so that there's a chemical response there that's very very clear then there's then there's other chemical response is. One of the things mycotoxins can also do is they suppress DNA RNA and protein synthesis. And so imagine that you know, one of the reasons why mycotoxins do this is my old people don't realize this. But God created mold to return things back to the earth. Like that's molds job, it's the great recycler if you will. And so one of the things it does is it shuts off other life forms so that it can propagate and secretes chemicals to break down and deteriorate things back to the earth. And so you have this very robust microbiome that is responsible for a lot of your emotional and mental thoughts because of you know the production of neurochemicals in that microbiome, the serotonin, the dopamine.

Well, mold toxins can suppress the flourishing of healthy flora and it can promote and propagate the growth of other types of flora. And one type of flora that that mold toxins promote is gram negative bacteria especially in the small intestine. So you get bacterial overgrowth of citrus factor and club C. L. A. And anti arab actor. And these bacteria are not only are they dis biotic and can disrupt neurochemical production but they are fermenters. So when you're eating carbohydrates they turn your carbs into alcohol right? And we all know alcohol can affect us mentally right, vitamin B. One and other B. Vitamin deficiencies that can lead to the inability to produce chemicals like acetylcholine right? Which regulate neurological health and brain cell communication and brain the spinal cord communication and spinal cord to Oregon and spinal cord to muscle communication. So you get deficits through microbiome disruption.

You get deficits through the production of alcohol in your gi tract creating what we call auto brewery syndrome which is very common in people who are in chronic mold. And so you know that's another mechanism and then you have the inflammatory mechanism in and of itself that leads to antibodies. And many of these antibodies start to attach to neural tissue and so you can get you know autoimmune antibody attacks against brain cells against brain tissue. And some of that can lead to desalinization which might manifest as like a multiple sclerosis, sclerosis type of illness. And some of it leads to neurological inflammation and antibody production against nerve tissues and brain cells, which can lead to brain fog and cloud of thinking and early onset cognitive decline dementia.

So, I mean, we could go on and on and on about all the different cascading pathways and that's one of the complications is that, you know, people always look for, well, if I'm in mold, I'm only gonna react this way. Like everybody in more reacts this way. No, it's no different than if you were to give a single drug. Let's use aspirin. If you gave 1000 people aspirin, some of them are gonna die because aspirin kills right. 13,000 people died last year from normal use of aspirin, right? Not

predicted, just they had a bad reaction. Some people, their headaches are gonna go away, Some people are going to get gastric bleeding. Some people are gonna feel any different at all. Like you're gonna, my point is, you're gonna get different responses from the exact same chemical from different people and being in mold is much the same way. Everybody has their own unique weaknesses and unique strengths. And so being in it long enough depends on what your weaknesses and strengths are. But that's how your disease is gonna manifest.

It's usually gonna manifest where your weaknesses are, it's going to take advantage of those things and your, you know, your body uniquely is going to lay out a map of symptoms, right that if you're paying attention to hopefully will lead you to the clue or to the insight that you have a chronic inflammatory response, which is you know why that term is an important term to recognize C. I. R. S. Because chronic inflammation leads to lots of things, not any one thing in particular. So I think those were some of the mechanisms. I hope I answered your question in terms of how mold can actually impact through one inflammation through two antibody production against nerve tissue, three through microbial imbalance through mycotoxin creating disruption in flora. Those are probably three of the biggest mechanisms of neurological deficit that can occur that can lead to mental dysfunction in people in chronic mold.

Dr. Miles Nichols
And I love that you bring up brain fog, you brought up cognitive declines memory issues and dementia, Alzheimer's and having a role potentially and in having some impact from all toxin and chronic inflammatory response syndrome. And then even a little more common things like depression and anxiety and maybe little obsessions or emotionality, mood swings, things along those lines might those have a relationship as well.

Peter Osborne, DC
Yeah. And one of the reasons why, I mean the mold can cause that inflammation thing of it is, you know, I like to call it brain inflammation, right? Because it's the brain becoming inflamed but mold also produces estrogen mimicking compounds. I mentioned this earlier, There's one in particular produced by a type of mold called fusarium. If you Siri, you know, it is a common water damaged building mold. It can also grow on foods, but generally unless you're just looking at your food and it's coated in mold and you're eating it, you're not getting so much fusarium that it's going to do this. It's generally the environmental fusarium, but they mimic estrogen so that like for a man that's gonna lead to, you know, huge emotional swings in their mindset and it's also going to lead to unexplainable gains of fat in areas that are not typical for men to gain fat. Gynecomastia as an example fat around you know, fat around the breast tissue. And then for females, it's going to lead to an estrogen dominant scenario. So it might cause, you know,

excessive PMS like symptoms around the cycle, or it might even mimic menopause. So, some women are not in menopause, they may be of an age where they could be assumed to be in menopause, like in their mid forties or early forties. And I've seen this be the case, I actually call it pseudo menopause where zero lean on, which is again, a multi toxin produced by fusarium is driving up their estrogen reactivity so greatly that they're now behaving as if they're going into menopause or they're behaving very erratically around their cycles. And so that's just another way that mold at least this particular kind of mold can impact emotional health through hormone mimicking.

Dr. Miles Nichols
Yeah, yeah, that's important, understand and the public health implications are significant. You mentioned, people chalk it up to aging oftentimes the effects of this exposure and the effects of this exposure. Over time. I'm just aging and getting a little older and that's why I'm not having as much resiliency towards stressful events and I'm reacting and I'm lashing out at family members or these things are crying or having these responses or my aches and pains, it's just aging brain fog that's just getting older. And two from a public health perspective, it's it's interesting, I live in the, the Denver metro area and the city of Denver in certain area realized, oh there's lead in pipes and we need to actually do something about this and and they, they actually decided to give britta filters which is not doing anything for lead. But the people who live in the Denver area can get a brita filter and it's like that's not taking care of the lead in the water but the public health isn't right there yet about the mold toxin and people that don't know how to identify this, how to look for this. So I'd like you to talk a little bit about how to identify this.

Peter Osborne, DC
So I think, you know, step step one, if you suspect mold, you have to know how to identify it. If we're if we're talking about trying to identify whether or not mold is in your house, you know, one of the most common things done and it's acceptable but it shouldn't be is the air test. So like you hire a mold inspector, they come out, they set up a little tripod with a diskette and then it it draws air into it and it collects, you know, collects air and you know, potentially collecting mold spores that may be in the air and measuring that quantitatively trying to measure that. And so they would generally they will come out to your house and do an air test of whatever rooms or areas of your home that have a suspicion of mold contamination. And then they would do an outdoor sample as well that's called a control sample. If you're relying on that type of test to tell you whether your house has mold, you're probably going to be misled 99% of the time that test is not a mold test, it is a microcosm of the quantity of air in your home compared to outdoor air. And it really gives you nothing more than that data. Mold spores will settle to the floor and you know, you're pulling air out of it, you're pulling it out of the air potentially you're not necessarily

going to get a positive result. Now you can there are some cases where the mold is so bad. You do get a positive result but it's a lot like a biopsy for celiac disease. Just because it comes back negative doesn't mean you're not reacting to gluten just because your air test comes back negative doesn't mean that you don't have a mold problem in your home. It's think of mold mold inspection as you would a doctor's inspection. The doctor doesn't just look at your face and say you're healthy even if you feel terrible right? A doctor. Well hopefully they don't. Some do. Oftentimes the doctor will run like a general cbc a complete blood count. So your test looks normal, you're healthy and you're not right. Like think of it like that doing basic testing is not an investigation. It's a piece of an investigation and it can be an important piece.

But it is, it should never be the sole amount of objective data that you're trying to collect to rule mold in or out of your home. A mold Inspector should have the ability to do an air test and they should they should do one but they should also do other kinds of tests. One type of tests that gets a can get a good assessment on whether or not you have mold is something called a cavity air sample. So they actually drill a hole a small hole in the wall and they extract air from the wall cavity because a lot of times mold is hiding behind the wall and that's how they find it. A mold.

Inspector should have an infrared camera to detect temperature signature differences because you know cold water is gonna light up an infrared differently than warm water. And sometimes you can find slow leaks with infrared cameras. A good mold. Inspector will have a fiber optic camera that they can put behind your walls to look visibly for signs of mold. They should have a knowledge of H VAC systems. They should be able to look inside of your plan of your H. VAC unit because that's one of the most common places we see mold growing and it's you know when when it's not visible on the wall. Sometimes it's just growing in your H. VAC unit and blowing mold all over your house, multi spores all over your house.

They should have humidity readers where they can measure the humidity at different locations of your house. They should leave high graham eaters or humidity measures in different rooms of your house because sometimes humidity is normal in one room but it's much higher in another because of water intrusion on an exterior wall or whatever it might be. They should walk the outside of your house and look for construction defects and they should understand what those types of construction defects are. They should if you've got a crawlspace, they should go through it. If you've got an addict, they should go through it. They should look at all the obvious places where there could be a water leak or there could be some kind of water damage such as under bathroom sinks and washers and dishwashers and you know hot water heaters and things of the like like a mold inspection should be a very very comprehensive evaluation using multiple tools of your house to rule out potential possibility that mold is not gonna slowly kill you and your

family so that that's how you do it in the house and to yeah to find the right guy or gao one of the best questions to ask is you know, I like to call the attorneys, you know in an area and say who do you use, You know when you're taking a trial a case to court to sue a builder for faulty construction, who's the mold company and the inspector you're gonna hire because you usually those people have a higher degree of standard of proof right there doing a lot more. They're testing a lot more. There being a lot more objective because they got to go and battle this thing in court and they've got to be very very accurate about what they're doing and find out who that guy is in your area and hire them.

Do not hire the others. Most people don't realize that in most states it's a two day course can certify you as a mold inspector. Right? You don't have to know anything about mold illness. You don't have to know anything about construction or H back systems. You just really have to know about air testing. They basically, the two day course, they teach you some basic mold information and teach you how to use an air testing machine. And again that's not a mold inspection. So if somebody's coming out and doing that fire them and go find somebody who's qualified. So that's mold in the house, then you have how do you identify whether mold is a problem in the patient? And I think this is also an important piece because before you go spend thousands of dollars possibly on mold investigation find out whether or not mold is even a suspicion in your body. Right. Do you even have a mold problem?

There are different types of tests that can be done if we're talking about mold allergy, that's easy. You run a run I G G I G. And I G. A. Antibodies for numerous environmental species of mold just to see if you're allergic to it because if you're allergic to it and it's growing out of control in your house, your health is going to suffer. So that's to try to detect the you know the acute and the delayed allergic type responses that can occur. And that's you know one way whether or not you know, mold might be a problem for you more specifically. But in my opinion, the gold standard of understanding whether or not mold is environmentally poisoning you through its toxins is to look at urinary metabolites.

So to looking at mycotoxin testing where you're actually detecting the mycotoxins coming out of a person's urine because if you have, you know sky high mycotoxin levels in your body, it's coming from somewhere and you know it's irrefutable evidence to say you have a mold problem. Then next question becomes is it coming from your work, is it coming from your home? Is it possibly coming from your car? I did have a case once where a woman she would spend three hours every morning in her car. I mean she she had this habit of driving to the to the gas station to buy her coffee and then she just sit in her car in the nice I guess in the either the nice A. C. Or the nice heater on and she just scrolled through her phone and kind of have some personal

down time while she was drinking her coffee. And every morning she would feel terrible and it would last but when she didn't do that she'd have a better day. And that's kind of one of the things we found in one of the ways we realized it was the mole was coming out of her car, out of her a c duct. But it can, it's usually one of those three places, it's either work home or it's a vehicle. If you, if you spend a lot of time commuting in that vehicle or if you drive that vehicle for a living, you know, I've seen that make people very, very sick.

Dr. Miles Nichols
So if the multi schools as well,

Peter Osborne, DC
Yeah, big time schools. But you'll never, ever, ever, I shouldn't say never. We tore a school down once. It's an interesting story. So I had a teacher. She had not general, she had rheumatoid arthritis and she was doing fantastic with diet change. And then, and then all of a sudden, you know, her symptoms started roaring back and and she started to have more flares more and more flares and then the summer came and she got out of school and she went into remission and we were just happy and um school started and she went back to school and then she started flaring again. I'm like, this is environmental. So you know, we had to, we had to find mold. So we checked her for mold. We found it, it wasn't at home.

It was actually at school. This, we pulled the schools report their mold investigations. They are the schools are the guiltiest because they are the ones that hire these air testing mold inspectors. And so they periodically, I think depending on your state, some schools have to have their mold testing done, you know, every two years. And so they had, they had provided us with, okay, we have air testing done, but we really didn't have a mold inspection done. But we actually went into the schoolhouse, we lifted up the ceiling tile above this, this teacher's desk and you know, there's that much, you know, carpet, black mold growing above her desk.

And of course our students are all stick to. Anyway. We, found that took pictures of it, send it to the school asked them to comment. They refused to comment. We called Fox News. We did a big story. Fox helped us put pressure on the school. Three months later they ripped the school down. But they refused to respond to us until we got the news involved. It was my point. So it can be in the school and a lot of the school infrastructures are terrible. I mean they were built improperly and, and they're not maintenance properly and, and frankly, the school administration boards could care less about the health of the students. I mean they're serving them catch up as a vegetable. So we already know they don't have our kid's best interest in mind nutritionally or health wise. And so you gotta be real careful. You suspect your Children have

mold. That's why it's so important to get a thorough home inspection done because if we're finding mold toxins in the body of a person. You know, we, we have to rule the different locations out objectively. Otherwise we're gonna be on this, you know, kind of esoteric witch hunt trying to figure out whether or not mold is even playing a role in their illness. And where that mold is coming from and it can be, it can become very ambiguous and very frustrating if you're not very objective about data collection, trying to figure it out.

Dr. Miles Nichols
Yeah. So to recap here, it sounds like when people are struggling and I find this too with things that are getting chalked off aging, maybe some brain fog, maybe some fatigue, maybe some chronic pain could be diagnosed as fibromyalgia, could be diagnosed as arthritis, could be weird aches and pains that come and go, could be neurologic symptoms, could be neuropsychiatric symptoms like depression or anxiety, moodiness could be a symptom along the lines of feeling off and tired and hard to wake up. And so any of these obviously there can be multiple different causes and we don't want to immediately go to mold is the only cause.

But what we can do is take this more objective approach, like you're talking about and say, okay, if we're going to see if we're going to suspect that mold could be a cause, then we can look at urinary metabolites for actual mycotoxins? We can see if those are being expressed in the body and then we can analyze and look at, is there some issue in the home, the workplace, the vehicle or something like a school? Is there some issue in an area that a person is going to be spending a lot of time and it's not adequate to go to the hardware store, get the Petri dish and see if the christmas have patients that come in, they're like, oh yeah, I don't have molded the Petri dish from the hardware store and it's like, you know that and just like air sampling with these heavy molds that tend to sink and so sampling out of the air isn't great to identify it and they can be behind walls.

So cavity samples looking at moisture, looking at dust and dust samples all can be important aspects of how to identify whether molds an issue in the environment. So if there is evidence of in the body a chronic inflammatory response and or an excretion of toxin from mold, then there can be looking at the environment because could that be historic or current? Maybe it's from years ago, past and current environments. Okay. And the body is holding onto those toxins. Maybe it is current and there's a current exposure in the home, the car, the workplace that could get identified. So if the home, the environment that people are spending a lot of time in is an issue or isn't an issue and it might be historic. What are some of the detox strategies and next steps for people to do at that point?

Peter Osborne, DC
I think I think one let's let's tackle the historic part. Because I see a lot of people that have this known history of mold like eight years ago I was in mold, they confirmed it, you know, the house was remediated, I sold it, I moved out but their health never restored. Right? And so you know, there's there's this thought that mycotoxins you know won't come out of a person or or we're gonna stay in a person for years and years and years. And I will say I know different doctors have different experiences with that. I would just share my experience which is, I don't believe that mold toxins stay in a person for multiple, multiple years unless they're detoxed out. If we look at just kind of normal, healthy metabolite of mold toxins, if you're in great health Michael toxins will come out of you. You know the shortest I think the shortest half life for some mycotoxins is like 12 hours. So it's not super long. Right? I mean you get that means the toxin most of that half that toxin is out of you within less than half a day.

That's if you're healthy, right? So if you like, if you're healthy, you go into a multi building. You come out, you should metabolize that stuff out of you shouldn't be lingering around in you for years. And I think the longest half life for a mold toxin that I'm aware of is about 38 days. Which is also still not a super long period of time. So when you're talking about somebody's been in mold five or 10 years ago, would we expect to see high levels of mycotoxins in them today? My opinion is absolutely not. They've got a current source of environmental mycotoxin exposure. Now if somebody's been chronically sick for years, yes, will there with their metabolism of mycotoxins be hindered? Yeah, it will be.

But we shouldn't be reading 10 times the level of black mycotoxins in their urine. You know, if they're technically out of mold, if that makes sense. So I think it's important to understand that. Yeah, okay. Some people's process will slow down and you might have some residual mycotoxin in you, but you shouldn't have such a high amount of residual mycotoxin if you've been at a mold for five years. It you got a problem if that's, if that's what your test is coming back looking like. And that's I would just say that because I get people sometimes that have had that where a doctor before they came to see me, the doctors told them they didn't still have a mold problem. And then when we dug deep, they had a major mold problem like their house was the problem and it was what was keeping them sick. So just be aware of, I would just say the audience to be aware of the potential that if you've been at the mall for a really long time, we wouldn't expect your body to hold onto it for a decade, half a decade, something like that.

Dr. Miles Nichols
Yeah, that's a good point because some people do come in and they do know that they had a mold exposure in the past and then they moved and they said, oh it's a newer construction. It just can't have it or you know, these things of, I don't see any. So, you know, we saw it before and maybe, and so some people do dismiss the current environment a bit too quickly in that aspect. So thank you for bringing that up. I think that's important. And then how about detox strategies?

Peter Osborne, DC
Yeah. So if you're doing a detox and this just to tailback off that last point to let's say you have a situation where that's what's happening, right? So detox that person detox them for 8-10 weeks and recheck them if their levels are still sky high, they got a problem. The other thing that what we can recognize the mold problem being prevalent and persistent and still being the case is if a patient reacts negatively to methylated B vitamins. So like if they feel terrible taking methylated B. 12 method, Halloween or method foley. The likelihood that they're in mold is very strongly high because the vast majority of people tolerate methylated B vitamins without a problem. And so mold mold can more. What happens is they start expressing mold out of their fat cells. If they if they do have a heavy storage and they're still in mold, is that adding detoxifying methylated vitamins can mobilize fat, the fat storage of mycotoxins.

And so if they're still in an environment they're basically they're pulling all that that's in their fat that's been sequestered out of their bloodstream. They're pulling it back into their bloodstream while they're being exposed environmentally. And so it's like a double hit for them and then they crash. But the way we do detoxification for most molds, there's a multi multi part strategy. And it can all be done at the same time, but some mycotoxins are deteriorated by certain types of microorganisms. So for example, fusarium and Takata scene can be broken down metabolically by the way fusarium. Let me rephrase that fusarium is a mold tricot a scene is a mycotoxin fusarium is a mold that produces zero lean on, which probably saying too much, zero lena is a mycotoxin produced by fusarium tricot a sin is a mycotoxin produced by black mold.

What I'm talking about here is there are certain types of microbes that can deteriorate and break down and denature mycotoxins. Mycotoxins are not mold, mold is a living microorganism. Mycotoxins are not alive, you cannot kill them. What you can do is you can metabolize them and break them down and denature them so that they're less caustic or toxic to the body. Mycotoxins are fat soluble. So generally what happens is they do get stored in fat tissue. So one of the things we have to do is mobilize them out of fat and you know, good ways to mobilize them out of fat is to make sure the liver has what it needs to convert fat soluble chemical compounds into water

soluble compounds. It's sometimes referred to as bio transformation. And so you can use things like in a social system and my public acid, which are very very good in this regard. I've had fantastic success with those in higher doses. But also binding agents you want to bind mycotoxins in the gi tract because mycotoxins have a high affinity for bile. So as you're making and producing bile to help your body digest and absorb fat bio will bind mycotoxins and if it does 80% of bile is re absorbed back into your portal circulation and go straight back to the liver. So the use of binding agents like zero light and activated carbon can be very effective at preventing recirculation of mycotoxins as they're traversing out of your body through the G. I tract. And it's definitely something I would encourage anybody trying to detox from mold do.

So binding agents. As well as certain types of probiotics. One of my favorite probiotics is you know is a combination of bifida bacteria, lactobacillus and s Belardi s pilar has actually been shown to denature certain mycotoxins, lactobacillus and bifida backed er can denature certain mycotoxins. So we're basically we're trying to break these mycotoxins down and make them less poisonous to the human host. And then also you want to make sure that hydration is is an is an utmost importance because a lot of the stuff once you take it out of fat cells and pull it into the bloodstream, your liver converts the fatty mycotoxin into a water soluble toxin that now has to be excreted. And there's really a primary way that it's excreted and that's through the urine that can be sweat out too.

And so things like infrared saunas can be very helpful in that regard. But staying very well hydrated, getting adequate fluids to make sure that you're not concentrating mycotoxins onto the kidneys and then doing kidney damage because mycotoxins we already know our kidney toxic and that's one of the one of the problems with them is that they're both liver pato toxic as well as Neff wrote toxic or kidney toxic. So you know you have to protect the kidneys and you have to protect the liver. So glutathione, nac by public acid all protect the liver and help with the bio transformation of mycotoxins in the water soluble compounds. And then lots of hydration and electrolytes to help make sure the kidneys have enough dilution effect so that they're not being poisoned as higher concentrations are pouring out of an individual.

Dr. Miles Nichols
Yeah, these are really good points to help people understand that. It's not that the spores and the living organism of mold itself is the big issue. It's that they produce these mycotoxins. These mycotoxins are so small that when the spores are breathed in the mycotoxin makes its way into the bloodstream and then can store in fat. And then there can be this process of taking that fat soluble, making it more water soluble through phase one, phase two, liver detoxification and bio transformation where things like Tennessee to assist in an awful a poet acid can be helpful. And

then also that some of it might get conjugated into bile and be in the intestines and binding in the intestines with things like the light and activated carbons can help to take some of it because 95% of bile gets recirculated so there can be recirculation unless there's some binding and removal and then more bile conjugation and formation. Can put more of that in and it can go out that way as well as through the water the urine the liquid dynamics through the kidneys through urinary excretion. So drinking lots of water being incredibly important. So this broadens, it's not just all about a binder which binders are important.

It's also about this bio transformational process and about how to allow for excretion optimally through the G. I. And through urinary excretion. So these are really great points and I think this will be helpful for people we're getting towards the end here. Is there anything else that you think is important? We haven't yet talked about? I know you mentioned a case earlier in our pre talk that I think might be kind of interesting for people to hear about. So would you mind mentioning that case and then and then a summary of anything that you think is most important for people to know.

Peter Osborne, DC
Yeah. Let me back up real quick to the number one rule of any mold detox. Don't still be in mold. If you are doing a mold detox and you're on the floor and you're feeling terrible. It's probably because you haven't resolved the mold. But going through detox when you're still in it will only worsen your your symptoms and your outcome. So it's super important that and I see this a lot of doctors have recommended, let's just go ahead and start detoxifying you now while you're waiting to try to move out. I would never, ever, ever have somebody try to detox while they were still in the environment and just one, they'll spend a ton of money on supplements. It will not work. And if they go there if they go the medicinal route of things like police tyra mean which is also bile acids, equestrian. They will they will absolutely be on the floor like they will be miserably on the floor and not functional. So yeah so you, which case did you want me to bring up? So I have got so many in my brain that I could talk about. One in particular that

Dr. Miles Nichols
You had mentioned one about the mental emotional aspect of things and a couple who had been able to to prove in the case the impacts of micro toxin directly in the brain.

Peter Osborne, DC
Oh yeah okay so this was yeah thank you for reminding me. So there's a there's a there was a couple there you know the husband I believe was a marine and and and his wife Shelly and that you can check him out on CNN that this was a major story years ago Shelly Frederico and um her

husband was he was an assistant to a general. Right? So so think of that in terms of what the job of the general's assistant is. He's got that little microphone in his ear. Right? And so like when that generals meeting all the diplomat and all the people coming you know I mean all the high profiles right? He doesn't know who all they do all of them are. So his assistants like that's Mr. Jones. That's Senator Jack right? He's like piping and feeding him information so that he doesn't look like he's lost. Right? So this guy who's supposed to be the general's assistant calls his wife one day from the grocery store crying. He says honey I need your help. I can't remember where I parked the car. He's in a grocery store now where he parks, his car is right up front because he's got authorized space.

Being the assistant to the general, right? Any of you are familiar with the military. All the brass kit front row, right? And he's crying to his wife because he can't remember. She's like look outside the window, window honey. Right? Like just look outside like the car's right there. That's how bad his memory was. He was forgetting things that he shouldn't. He. He was basically developing early dementia. And one of the problems they had is they lived on military base housing is they had like this massive amount of black mold in their wall cavity. And they had called a number of times for the for the base maintenance crews to come out and rectify it. And they just kept painting over it. They just kept slapping paint up over it or using Clorox. They wouldn't actually clean it. You know they didn't do a remediation job.

And so this family kept getting sicker and sicker and sicker and they ended up hiring you know some very good doctors and they did three dimensional M. R. I. Scan of the brain, it's called a neuro quant. And they proved in federal court that mycotoxins not mold allergy. Right? So that when you hear a doctor say there's only mold allergy. If you don't have mold allergy, don't have to worry about mold. You can go look up this case because they proved it in federal court. Mycotoxin poisoning causes brain inflammation. And it's been proven with three dimensional M. R. I. Technologies to show the areas of the brain they're actually damaged as a result.

And in this man's case, I mean he's a young man and it, you know, basically for all intents and purposes, he was a young man with dementia as a result of mold poisoning and his wife wasn't too far behind him. And so that that was a fantastic case for all of us because now we can use that as not only as, as judiciary evidence but his medical evidence to say to any doctor who's a nay Sayer about mold having an impact on health. They say, why don't you go read Frederico versus the United States, Right. Why don't you go read that case study and look at that medical history and then come back and tell me how much mold and mycotoxins won't have an impact on human health. We're absolutely certain that it does. And I will say this as well. I own a farm. I live on a farm. And one of the things that I've observed, you know, in my years on the farm is

animal feeds go through tremendous effort to make sure that mycotoxins aren't there. So so animal feed producers, because mold mold notoriously grows mostly on grain. Like if we're looking at where mold is in the food chain and the food supply grain. And when I was writing my book, no grain, no pain, I talked in depth about, you know, mold on grain being one of the reasons people react to grain. But in the farming industry where you feed animals predominantly grain, there's an entire industry of scientists dedicated to making sure that these foods are not contaminated with mycotoxins because mycotoxins kill and maim the animals, you know, so you know the old saying follow the money and you know, farming is, is about the bottom line, right? These farmers, they do a lot of work, but they have to also earn a living.

And so part of what they're trying to do is make sure they're not poisoning their own animals with the feed. And so you have this entire industry that has been created simply for the problem of mold and mycotoxins contaminating the food and killing the animals. So, you know, generally speaking animals and humans in the physiology and the anatomy and well the anatomy is very different, but the physiology is very similar when it comes to biochemistry and nutrition and animals generally when they're affected by something. We see that same thing pan out in humans. We've definitely seen that on both accounts. Human studies also showing that mycotoxin Oh sis is very real and very deadly.

Dr. Miles Nichols
Yeah. Yeah, that's so important. So thank you for sharing that. And to summarize and wrap this up. What would you, what would you like to have some final words and then how can people find out more about you and your practice and information? The documentary, whatever you'd like to share about how people can keep in touch with you.

Peter Osborne, DC
Yeah. The best way to keep in touch with me is is go to glutenfreesociety.org. That's my foundation. You know, my career started as identifying food as a trigger for autoimmune disease and gluten was one of the things I'm very well known for. And so that's our foundation and you can learn a lot about our mission and diet change their. And if you sign up for our newsletter, you'll be abreast of all the mold stuff that we're working on. I've got, it's probably gonna be 60 some odd hours of the docuseries on mold because we're talking, we're gonna break it down like no one's ever broken it down. Parting words. I would just simply say that. Don't be quick to blame your age on your chronic health deterioration if it's happening to you. You know, that's probably the biggest mistake you can make. I've seen people die from that mistake and no kidding. I mean they die because they make that assumption. I had a gentleman one time. He actually knew he had mold like we identified it, we found it everything right and he died

because he refused to get out of his house. Like he just refused to move. And he died of Aspergillus is, which is 60% mortality rate. The mold grew in his lungs. It was so bad. Don't sit on the fence when your health is failing and don't make it a do it yourself project. I mean that, you know, you're here watching this summit. So I know you value education and you value, like taking ownership of your health. But if you're caught, if you're struggling, if you can't quite figure it out, if things aren't making sense. Please don't wait, go get help, hire professional. Right. Higher functional doc. And get guidance. Get help. Don't struggle. Most of the people that I see. They were a home, do it yourself project for 10 years before they find me and finally decide they're going to get help. Don't wait that long. Don't lose years of your quality of life and years of your health and and you know, don't put your family through that. Don't put yourself through that. Go go get help. It's not it's not always an easy road and it's not always the lesson you learn on these summits is not always gonna be the thing that saves your life. Although it could be if you're struggling go get help.

Dr. Miles Nichols

Thank you. Yeah. And so the message here is there is help and there is hope and if you are struggling and chalking it up to age or you've gone to the doctor and they said nothing's a problem. Or even they've said that mold allergy is all there is. Or even if you've had a little bit of investigation to mold and don't think that's an issue. It may be and there may be other issues. There is hope people can recover and there is help available and you don't need to go it alone. So thank you so much for this time. Dr. Osborne, it's been a pleasure. Thank everyone for watching. And please do go check out Dr. Osborne's gluten free Society. Thank everyone