Introduction to Mold Testing and the Podcast

Again, whether you use the company, the mold pros or a company like us, um, sometimes the fear of not knowing and the worry of, not know is, is burdensome.

Um, and ostrich approach doesn't really work that well. And so again, interview, you know, find an inspector, interviewing them, go out and, uh, speak with them and have them do, do comprehensive assessments.

That way you. You know what you're breathing in, your family's breathing, you know, what the exposures are, and then you can make a plan to fix it if there is an issue.

Welcome to The Functional Edge. I'm Dr. Julia Ward, And this is where science meets real world strategies for living healthier, sharper and stronger. From uncovering hidden environmental toxins to unlocking peak performance and mental clarity, we cover it all.

Ready to take control of your health and thrive? Let's dive in. Welcome to the Functional Edge podcast. My guest today is John Bode, an expert in indoor environmental health and the director of operations at Mold Pros, a company specializing in comprehensive mold inspections and testing.

With years of hands-on experience in assessing and identifying hidden environmental hazards, John and his team have used advanced technologies to detect mold, mycotoxins, and other air quality issues that can impact our health, often without us even realizing it.

John Bodeu2019s Background and Mold Pros Origins

Based here in Texas, MoldPros has become a trusted name for homeowners, physicians, patients looking to identify and resolve hidden mold problems. Today we're diving into how mold is tested, what technologies are used, how common it really is in homes, especially in human climates like Houston, and what you can do if it's found in your space.

John, welcome to the Functional Edge. I'm so glad to have you here. Thank you. Appreciate the invite, Dr. Ward. Really looking forward to our conversation today.

Yeah. So can you start by telling us a little bit about your background and how you got into the field of environmental testing and mold remediation? You bet.

Yeah. We started, shoot, over 15 years ago, 2011. Actually my basement in Kansas City is where we started out. That was our first mold pros location. Started out really with the housing bust.

And so a lot of these foreclosed homes wound up having mold issues. My background is actually in mortgage banking. So we starting buying out these homes and found out they had mold problems.

and that's what introduced me. After a couple of years, well, we found a company, I'll digress a little bit. We found the company that used enzymes to treat mold.

Did our research, found out that was a much better approach. And we partnered with that company. It took us about 12 months to kind of outgrow what they did.

Uh, We met with a doctor by the name of Joseph Brewer and we worked on one of his patient's homes. Were the only company after I think the third or fourth company to actually treated that home.

So that's what put us down the health side. was our introduction to Dr. Brewer and then he's published a lot of papers and kind of expanded us into that field and now we have eight locations nationwide.

That's great. So what makes MoldPro's different from other companies doing indoor air quality measurements? Yeah, that's a good question. There's couple of things that make us unique.

One is that in the last decade and a half, we've become really focused on the environmental illness side. And so there are a lot of companies that will come in and do some pretty basic mold testing.

a good portion of the population. But what we found is that they don't do adequate testing for those that have environmental illness. And so we've, over the years, have developed not only comprehensive inspections, but we do some pretty comprehensive sampling as well,

What Makes Mold Pros Different

whether it's mold, bacteria, mycotoxins, endotoxin, vault organic compounds, such as formaldehyde or benzene. So really we try to be everything around the environmental side of environmental Wow, that's great.

Yeah. So when a homeowner suspects mold, what's the first step in confirming whether it's present? Yeah, great question. We always encourage everybody to make really data-driven decisions, and what we would do is have them reach out to somebody, whether some old pros or a company very similar that understands environmental illness go out and get somebody who can do really good testing and base everything on data.

Right, right. And so what are the most accurate or effective types of mold testing that you use? Yeah, that is a great question. The short answer is there isn't any one that's going to be the accurate and most effective.

So I'll rephrase the answer maybe a little bit. the more sensitive test is going be any kind of polymeric chain reaction or PCR test, also as a DNA test.

So that could be like an ERMI test. The EMA test is a great test, hurts me too, also PCR is pretty limited, but that is going to be as sensitive a test as we can get.

But it's also very narrow. And I'll give you an example of that. Say a lot of our clients will run an Ermi test say, on their own first, and that'll tell them, hey, do I have, there's a panel of 36 fungal species.

Do I these species? Well, that Erme test has about Well, they has exactly 10 aspergillus species. Well there's almost 300 and so you're only getting 3% or so of all the aspargillas species so what we would recommend is we're big fans of surface sampling

First Steps When Mold Is Suspected

and we'll big fan of air sampling in combination with PCR sampling. And for a lot of our clients that are environmentally have environmental illness, we are going to recommend environmental micro toxin sampling as well.

Yeah, can you go into a little bit about air sampling? Because ages ago, this is long before I got into mold and started learning about mold, I was curious if my office or our home had any mold contamination in it.

So I called a company and I couldn't tell you which one it was, but they come and do the little air-sampling where they put the trap on a tripod in various rooms, and lo and behold, everything came up negative.

And then I found out later, well, maybe those are rarely coming up positive. Is that what you find? No, not at all. So there's some things that can be done to make sure that we get the best results from a spore trap test, a bioaerosol test.

Mold Testing Methods and Air Sampling

I'll give you some examples. So, it's just a different type of test. You, as a practitioner, would never run one test on a patient. And you wouldn't take my blood pressure and say, well, I think your heart risk is probably okay.

So we would ever do that as an inspector as well. Air sampling, what it does, is it gives us a really good indication of inhalation risk. And it also is comparative.

And I'll give an example. So an air sample should always have an exterior baseline sample and then an interior sample. Okay. When we sample on the inside, we want to catch the home in its natural resting state.

We want make sure that all the IAQ machines that everyone has have been turned off for 25 hours in advance. That way the results aren't biased. we're going to turn the fans on to the HVAC system to capture what could be in the duck one.

and so there's some things that can be done to make the best representation on that interior sample. Okay. Can you walk us through the process of a typical home inspection?

Like, what areas do you prioritize first? The first thing we do is we'll sit down with our client and we just want to understand, you know, the history of the home.

Are there areas in the house maybe that you don't feel as well as others? Are they any odors that may pick up in certain areas of home as opposed to others.

And then we get a nickel tour. Uh, we'll scan the entire home. We'll get in nickel tours. Should we understand the rooms? We want to have access to attics, uh, crawl spaces if they're there.

You're in here, you're here in Houston. So we don't get. Yeah. A lot of basements in case we got some crawlspaces, but we will do that. And we start on the outside and we started with an exterior inspection because we're looking for moisture issues, which would create mold problems.

Um, and so we want start there and then work our way to the inside. Okay. What types of technology or tools does mold pros use during inspections? Do you use moisture meters, infrared cameras, particle counters, or other advanced tools?

Yeah, we use those advanced tool in addition to what you've listed. We have use of borescopes. that can help us see in spaces that we can't really get to very well.

So the IR cameras will help. It doesn't, of course, it's all thermal. And so it helps us to detect thermal anomalies. We'll scan a home, all exterior walls, looking underneath the windows, look underneath sinks, and all those sorts of things.

Then we're looking for these thermal anomalies, then we use a moisture meter to measure the actual moisture in that building material to see if it is elevated or not.

Because you can get some false positives with that IR camera. Okay. Yeah. So we'll use that. And then, um, but we also use some tools that are pretty basic.

For example, there's nothing beats, uh, your eyes and your nose. First thing we, when I walk into a home or any of our inspectors walk in their home, we're going to smell.

We're trying to smile for that musty microbial VOC odor. Uh, then our eyes, were going be. Not that we're trying to be nosy, but a good inspection, we'll pull everything out from underneath your sinks.

We're going to look in areas that have, that are high risk. And so we want to do that. Yeah. Also to use the high-

limit flashlights to find growth. Okay.

Many properties where you look at say a nightstand or behind a dresser, you can't see anything, but if you use a high limit flashlight at an angle, then you could see the elevation of say like aspergillus or penicillium growth that you wouldn't otherwise.

And so where a lot of inspectors, in my opinion, miss it is that they don't take the time to do that work with the higher-limited flashlight, the eyes, and then validate a lot of that with your technology, if that makes sense.

Okay.

Home Inspection Process and Detection Tools

So you're able to detect hidden, like, mold behind walls or under flooring with these technologies? Well, it can, yeah. We can turn around and we can see if there's a thermal anomaly in a wall, or there is increased moisture in the wall.

Or just, again, with the eyes, we're going to see some water staining that may be dry today, but maybe there has been past issues inside them. So that's where that visual inspection really comes into play.

Or there could be nail heads that pop or seams on drywall that have popped or there's warping. So at that point, then you're going to do that invasive sampling.

It's actually an air sample. We make a hole about a little bit bigger than a pencil into the dry wall. And then we can sample inside the wall, we get a sample, inside of the ceiling without having to unnecessarily remove that building material.

Okay, okay. Floors can be a little tricky because there's no way of, sometimes you just have to remove the flooring to get to it. And that's just the ways that that goes.

But there are some tools that a good inspector will use to be able to test in the enter cavity space without damaging it too much. Okay. Do you test for mycotoxins specifically or just mold spores?

And if so, how is mycotoxin testing done in the home environment? Oh, great. Great question. So yes, we're going to do both. You can have, and we've seen it over the years, you can mold without having the my cotoxines.

Right. So we talked about aspergillus. We could have other types of aspargillas that are not, uh, mycotoxin producing, or we could ever situation where you have, say, aspartillitis fumigatus or asparagus flavus that can produce mycotoxins, but they're just not producing it.

So we're going to always test for molds and mycotoxins for environmentally illness clients. And then how we test, you know, there's three pathways for exposure really, dermal contact, inhalation, and ingestion.

So for our mycotoxin testing, what we'll do is we will test the HVAC filter. One, there's a couple of reasons for that. It eliminates some of the sampling bias.

If you go around and sample dust collection throughout the house, you may hit a hot spot or you might hit spot that doesn't have, not as hot, so to speak.

That can bias your results. With an air sample, take them from the HVAC filter. What happens is, one, that filter should be in there for usually 90 days or less.

one inch filter. And secondly, it really gives us line of sight to what your inhalation risk is, and it eliminates a lot of that sampling bias. So those are really the three reasons why we sample from HVAC filter, we do work up in like, uh, We have branches in Colorado and the Pacific Northwest where they don't have central heat in there like we

have in the South.

Okay. Uh-huh. Um, so then you, you have to do a composite sample, like ceiling fan blades and, um, up high. How common is mold in homes, especially here in a hot, humid place like Houston?

One, I guess, very common. Molds are ubiquitous. They're everywhere. In Houston, and I actually live in Florida, so very similar hot humid climates. It should be expected there's mold in every structure.

It comes in from the exterior, you know, every time we open up the doors and windows, et cetera. But in the South, we are more prone. And so we see a lot of, We can classify molds into two categories.

We have zero-filling molds or dry-loving molds, which can bloom with just elevated humidity like we have in Houston or Florida or anywhere in The South or in a Midwest in springtime, etc.

Then we have hydrophilic molds like stacobotrys or cotomium that require a water leak. So it's not uncommon to find aspergillus and penicillium, those xerophilics molds in many homes, especially in the South.

Okay. Are there any particular red flags or building materials that make a home more likely to have mold? Yeah. So, um, molds need a complex carbon compound to grow on and they need moisture and the amount of moisture depends if it's zero philic or hydrophilics mold that it is, but it needs oxygen, right?

So. Um, anything we make our houses out of, out a drywall. And so obviously that's a food source. All the case goods, all the woods that we use are complex, carbon compounds, our leather furniture, furniture inside of a home is going to be a common carbon.

So everywhere is going to be a food source.

Mycotoxin Testing and Humid Climate Risks

There are some things that we recommend to a lot of our clients to help minimize some of the risks. For example, cardboard boxes. We ask them not to store personal items in cardboard box because it's paper.

It's a cellulose material and it absorbs moisture. So we always say, hey, if we have elevations of zero-filling molds, let's switch to those polytotes you get at Costco or…

Yeah, so the plastic bins are better than cardboard boxes. No doubt, because plastic's not a good food source. Okay. What about drywall? Is that a food-source, potentially?

It can be. Yeah. It certainly can't be, and there's no doubt about it. But that's the way homes are built these days, though. So it's really tough to get away from it, You just have to really manage the moisture side of it because you can't take all the drywall out of your home typically.

So you just really have manage that humidity. Yeah. What are the most common causes of indoor mold growth that you see in the field? Yes. Again, it's going to be humidity driven.

There is a misconception. Everybody thinks mold is going be in these old dam older homes. And most of our business is in newer construction. In fact, we've done many, many remediations on homes that have never been lived in.

Oh, wow. That's kind of a scary thought. Yeah, it's just the way that how we construct homes these days. So yeah, there's a lot of things that we see that, we can help abate and we go down that path with a client or a patient, how they can avoid some of those issues.

Yeah. Yeah, many patients are extremely sensitive to mold and have chronic inflammatory responses. Are you familiar with the needs of patients with this chronic Inflammatory Response Syndrome or Chris?

Yeah we certainly are. It's yours I should say. Yeah, we do. We have a special protocol whenever we have patients that either have SERS or also if more of a functional medicine doctor may just call it environmental illness.

Yeah. That's, you know, either way. But yeah, and I think you have to be. Yes. If you're looking for an inspector or remediator, that's one of the qualifying questions that I would ask an Inspector or Remediators.

What's their familiarity with that type of condition? Yeah. So you can kind of like make your diagnosis, your protocol just a little more aware of if somebody is dealing with a that situation.

Yeah. Well, none of these things are inexpensive. And so, we always do a client intake call. A couple of things that we would ask somebody is, you know, are you, one, do you have a clinical or urine micro toxin test that's positive?

If that is the case, that helps us understand. Probably they'd want to know where that exposure came from. So environmental micro-toxin testing, pretty important.

Then also, chemically sensitive. Do you see a lot of chemally sensitive patients in your practice? I do. Yes. And so then it can be a situation where we need to go back through and help them understand what the chemical exposure is going to be, whether it's petrochemicals or formaldehydes or benzene, because it is not always mold that it uses.

It could be other things. Yeah. Okay. Well, once you identify a mold problem, what steps come next? Do you work with specific remediators or does your company handle that as well?

Yeah, we have three things that we do within our company, three kind of pillars of our business. One is the consultation side, where we help folks understand environmental issues in their particular home.

And then we an inspection side of the business and we a remediation side. So one of the things that make us unique on the remediation side is I actually have a patent for not only removing fungal issues from a home, but also micro toxins from the home and treating the personal costs as well.

So we actually those three things we can provide or services we provide for our clients. That's great. And then how do you verify that a remediation has been successful?

Is post-remediation testing part of your protocol?

Common Mold Sources and Building Risk Factors

Absolutely. Again, we try to encourage everybody to make really data-driven decisions. So whether that's on the front side of it, understanding what kind of contamination they have, or the backside post treatment.

You need to understand, listen, were pretty good at what we do. We do not get it every time, the first time. Sometimes there are stubborn colonies that you have to get.

So you would not know that unless you had post-testing. We encourage folks to have post testing done. What we recommend is having a third party, whether we'll coordinate that or one of our clients will coordinate to that, have someone kind of come in and check our homework for us, so to speak.

But yeah, we'd highly recommend posttests. Awesome. Okay. Well, what steps can homeowners take to prevent mold growth, especially in humid climates like ours?

Yeah. So that, again, that great, great question would start with HVAC systems. They can either be our best friends in helping filter some of that stuff out and maintaining community levels, or if we have contaminations, they could be her enemies, our worst enemies spreading that out throughout the house.

You know, we always say the HVAX system is, it's the lungs of the House. So it all starts there. We recommend our

clients get smart thermostats. Again, I live in South Florida and it's very humid.

A smart Thermostat will have a humidity setting on there typically where you can adjust where your system will either overheat or over cool based upon the humidity levels in your home.

So you can use that to help drop humidity levels. DPA recommends maintaining humidity between 30 and 50% ideally to prohibit mold growth. And so a smart thermostat is a relatively inexpensive way to make sure you don't ever see us on the remediation side.

And there's some other things too. We know that we're going to get these airborne contaminants every time we open the door, we just don't want them to thrive.

And so their EPA also recommends using a MERV 13 or 16 air filter to help capture some of those finer particulates when they do get into your home. So if we use that as a line of defense, if maintain humidity fairly well, then we like our odds of, again, not seeing us show up at your house.

That's great. That just leads me into my next question about, are there specific air purification systems, dehumidifiers, or building materials that you recommend to patients or clients trying to create a low mold home?

Yeah. I'm not really brand specific per se. Okay. So I am after the filtration level. Uh, I have an indoor air quality machine, uh, that's a HEPA rated, you know, so that has Merv 17 rated.

so we'll turn and recommend that in addition to getting a good Merve 13 or good Merve 6 air filter. As far as dehumidifiers, if your system is just not pulling out the moisture like it needs to be, it could be a short cycling perhaps, or just not functioning properly, then you may want to look at an alternate, either a whole house dehumidifier, or even portable dehumanifier.

CIRS, Chemical Sensitivities, and Remediation

Okay. I do that during rating season. Forward, I'll have a portable to humidifier just to kind of give a little extra oomph to my HVAC system. So there's some things that could be done.

Okay. So what should someone look for when hiring a mold inspector? Are there credentials or certifications that truly matter? Yes, there are. I'd actually say yes and no.

Let me give you an example. Texas and Florida are licensure states, as is New York. So, and I'm a licensed mold inspector. That doesn't mean that just because they're licensed, they understand environmental illness or SERS, as you mentioned earlier.

And so that's a starting point in those states to make sure that they are licensed. There are certifications as well for assessors, but again, that doesn' guarantee that the have understanding or knowledge around mold toxins or environmental exposures other than the just basic mold testing.

In fact, I talked to a lot of inspectors, they didn't even know what a microtoxin is, and that's just kind of scary to me. So what I usually recommend, Dr.

Ward, is that they talk to their practitioner to see if they have someone that the know that is knowledgeable around the environmental illness space and has an comprehensive inspection program.

Yeah. Yeah, that's, what we typically recommend. Great. And what advice would you give to someone who has symptoms they suspect are mold related, but they haven't had their home tested yet?

Yeah again, whether you use the company, the mold pros or a company like us, sometimes The fear of not knowing and the worry of knowing is burdensome.

The ostrich approach doesn't really work that well. And so again, find an inspector, interview them, go out and speak with them and have them do comprehensive assessments.

You know what you're breathing in, your family's breathing, you know, what the exposures are, and then you can make a plan to fix it if there is an issue.

Yeah, yeah. And, and just, what do you think about the home kits that you can get off of like Amazon, you know, with like mold plates? Do you thing it's like better than nothing?

Is it just something to get started with? And then if you see mold, okay, now you really need a mold inspection. Yeah. So probably we don't use a lot of auger plates.

I'll explain why. So it could be a starting point, but an auger plate, typically it's a potato dextrose that's in there. You set it out and you're going to set out for so many days and then it is going get nice and fuzzy and look disgusting.

And then send it into the lab. The challenge with that is not quantitative.

Post-Remediation Verification and Prevention Tips

So whenever an air sample gets taken, it so may liters of air get pumped through for many minutes. and, you know, exactly this amount of input produce this output, this growth.

With the auger plates, you don't have that. So how much air went across them? And plus they're biased towards xerophilic moles, moles that are airborne, but like scabatris, chartrum, what people call black mole, doesn't aerosolize very well.

And so you may have a wall of stacky and have an augur plate, But it's not going to culture that well And so it's bias in that way. So, you know, the, I would say the Ermi test and even the one doing Emma, those are great starting points per se.

Okay. But every test has its strengths and weaknesses, but if you want to do something that's a DIY test, maybe start there as opposed to an auger plate.

For those reasons. Okay. And the ERMI and the HERTSME test, you're saying that you can do that as a DIY test? You can. I believe the the hertsme2 test is only five fungal species.

It's cheaper, but there's only two species of Aspergillus, and as we talked about earlier, there are over 300. I'm not sure that from a comprehensive data standpoint, that really gives you the insight.

So the army test is going to provide 36 species, but again, it's still very narrow because there are hundreds of thousands of species. that's out there.

So, but if you're looking for a starting point on a DIY, I personally would do an EMA or an ERMI first and go from there, and I would give a test, which tests for pathogenic fungal species and an actual mycotoxins.

I will do that test before I did an Ermi. Okay. Does that help? And where would people find the EMA test to do? Yeah. You can online or you can call our office and there's a DIY kit we can get.

Okay, sure. And that leads me to my last and final question. Like where can listeners learn more about Mold Pros and how to get in touch with your team?

Very good. So we have eight locations nationwide. Probably the easiest way would be to go to the website, www.vemoldpros.com. We have a lot of educational resources there, case studies.

We even have an e-magazine that has some kind of mold 101. It talks about HVAC systems and their importance

in crawl spaces. Some prevention tips are there so that you don't see us on your door.

Hiring Inspectors and DIY Test Options

Contact form on our website some some basic chat functionality that can answer some questions But they can always call our offices our toll free numbers eight five five Five nine five six six five three and then or they an email for a free consult We'll we'll provide every client a three thirty minute consult So all your patients, if they reference you, we'll provide them a free 30 minute console.

Happy to look at their DIY testing that they've done at no charge. But our email is info, info at demopros.com and just let them know that. Thank you so much for joining me on the Functional Edge.

I hope today's episode gave you fresh insights and practical tools to level up your life. If you found value in what you heard, don't forget to hit subscribe and share the podcast with someone who needs it.

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Where to Learn More About Mold Pros

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Until next time, stay strong, Stay healthy, And keep living on the functional edge.