Introduction to Mold and Cognitive Decline

Hi, everybody. Welcome back to the Reverse Alzheimer's Summit. I'm here with Brian Karr, who is the co-founder of We Inspect That that evaluates homes as he'll tell you.

And as he and I were just talking about a minute ago, you know, it's a very interesting time because it's not even recognized yet in many circles that mold and mycotoxins are related to cognitive decline.

And yet we're seeing it again and again and again. And of course, even the idea of Reversing Alzheimer's, you know, a dozen years ago would have been unthinkable.

And yet we're seeing case after case after case, multiple people are publishing clinical trials showing reversal of cognitive decline in patients with Alzheimer's.

So this is a very exciting time. Lots of new information, new blood tests, for example. And I think that they're actually going to these blood tests are going to provide further support for what Brian is doing, showing that, yes, as you do the right things, your fast photo does come back toward normal.

So, Brian, welcome. Thanks so much for joining us. Thanks for having me. Really, really honored and grateful to be a part of this. So thank you. Thank you.

I think this is you know, this is such a such an important area. When we published the very first paper on Reversal of Cognitive Decline back in 2014, we didn't know about mycotoxins and Cognitive Decline, and it wasn't till we started evaluating some of the patients who had not responded to some of the basics.

We started thinking, you know what? What is going on? Why did these people not respond? And ultimately, it turned out that they had very significant toxin exposures that hadn't been identified and corrected.

So let's talk a little bit about, first of all, you know, how did you start and what prompted you to start? We Inspect. Yeah. You know, I feel like everybody or a lot of people in this field have some sort of story that got them into it because nobody nobody goes to school is like, I'm going to be a mold expert in specific being on the medical side.

Like, you know, you go to medical school, then you realize there's this whole other world of actually understanding what's causing problems. And then that's where a lot of the fun that's Dr. Scott problems. So my story is not much different.

I lived in an apartment, I had a big leak. I started getting sick. I just like a lot of people do. Luckily at the time for me though, I was dating, who is now my wife.

So my father in law, father in law, if you will, at the time happened to literally be one of the top mold experts in the entire world.

Brian Karru2019s Origin Story and We Inspect

And my then future wife was like, Hey, you should have my dad come look at this because you said what you're telling me. Sounds like a lot of what his clients say to him all the time, you know?

And so I did. And, you know, the way that this all went down was was I was living in this place. I didn't know anything about who knew, right. I wasn't in this world yet.

Landlord says everything's fine. Local inspector who comes in and does an air sample says everything's fine. Yeah,

I'm getting skin breakouts. My cognitive function is reduced to, like, I'm not as sharp as I normally am.

You know, I like I was noticing the stuff and then, you know, Mark Levy, who is now my father in law, comes in and within not very long figures out that my entire room, because it was such a big flood that came from the ceiling, it hit the ceiling and went sideways.

That's what happens when water hits horizontal surfaces. And then when I got to the end of the walls, gravity takes it down. Right. So I literally was in a toxic box.

Yeah. An air sample in the middle of a room from a local inspector said that everything's fine and I'm crazy. Yeah, I'm sleeping in a room where every single wall has mold and toxic.

All behind it. So I just kind of saw, like, this is one way that doesn't work and this credible and this is what it did for me. And at the time, I think it all kind of lined up.

It was around 2008 when the you know, the financial downturn happened around that time. And I then your job at the time and I was looking for something.

And as soon as this all happened, I was like, I want to do what you're to show me how to do this. This is incredible. I want to do this. And that's how it started.

And I started locally in L. A. and then some years later, you know, I began speaking in medical conferences and different things like that. And all of a sudden we started getting doctors and patients from all over the country like, Hey, I saw Brian here, I saw I want to work with you.

Like, I'm only in L. A. right now, like we can do that. And that's sort of what spawned we in spec. So what we in fact really was was taking kind of a family local business and investing in that and creating an infrastructure that allows us to have a full national life and in some places, international footprint, mostly North American international footprint, where we can help people anywhere now, but we still have the core fundamentals of the family business and how we go through things and how we're able to identify these things.

And that's really how we made a name for ourselves. You know. So let's let's dispel a few of the myths because I think that there are lots of myths, as you know, in this area, especially related to cognitive decline.

So the first myth would be people say, well, you know, I live in a dry area, so this can't happen. So tell me, is there any place in the United States where you can't have a mold problem in your house?

The short answer is no. But to expand on it a little bit, you know, a lot of us think like I live in the southeast where there's humidity or all these, you know, Pacific Northwest, there's humidity and then there's Vegas and Arizona and there's no humidity there.

So we're going to be good. The thing is, is that the exterior climate of your home has such a small overall impact on what's going on in your home in the grand scheme of things, 90, 95 or some of the problems we find in markets has nothing to do with where the home is plotted across the country, and it has to do with internal inside of the house water intrusion issues, leaks.

These are just things that happen from home. You know, homes that get older and don't get maintained or waterproofing fails or different things like that that happen.

And that house can be anyone you're you're find just as many mold problems and and Arizona and Nevada as you're going to find somewhere else because 90 to 95% of the source of those problems are happening inside of a house.

And all of our houses are essentially built the same way. Yeah, great point. And Dr. Mary Ackerley is a leader in this field. One is the head of ICI points out that, you know, Arizona, where she practices, had always been thought,

oh, it's dry, no problems yet.

She sees it all the time. So certainly a concern now. I grew up in southern Florida where there was a lot of air conditioning and air conditioners everywhere.

Do they pose a special problem in this area? Yeah, so that would be one of the big areas where climate might impact something. So air conditioning units, especially in Florida, in the south like that, we more frequently see that they become a source mold problem.

Meaning there's mold growing inside of your air conditioner. Yeah, a lot of the reasoning that I've seen is that a lot of times they're set up where there isn't a fresh air intake, where it's taking outside humid air, but you get into your air conditioning system, right.

And you're dispersed throughout the house. Well, what you're doing, humidity is water. It's a there are a lot of molds that only need humidity to spike over 60% in order to grow.

So you are literally bringing a water source and directly into a moisture source, if you will, directly reach back system and mold starts growing in it.

Right.

Mold Myths: Climate, Dry Homes, and Air Conditioning

So functionally how you create the strategy on building your heating air conditioning system, your ventilation system within your house is a little different in those types of places.

As like I grew up in Vegas, we could pull an outsider all day if we wanted to because it's not humid there. So you're not going to you're not going to introduce that moisture issue in there.

So there are little nuances across the country. So to expand on what you're saying, it's not like every house is exactly the same, but the nuances in the grand scheme of things are a much lower kind of percentage of the problems that are going on, as opposed to the bulk of things originating inside the house.

Great point. Okay. So then in Florida, is there a better way to pull in the air if you don't want to be pulling in that that moist air? What's a better way to do it is do you basically need to have a dehumidifier upstream from the can the air conditioner part or how does that work?

Well, you definitely need to be dehumidifier, right? You know, I would argue do you even need to be pulling in external air? Right. You know, this the whole concept of fresh air in tank was around the idea that like outside air is fresh and not not polluted at all.

Right. But if you live in like a city area, you know, depending on where you live, like the outside air's polluted, right? So it's not like you're bringing in super fresh, clean indoor air, right?

You could create a system that is not pulling in outside air is utilizing your internal air. And as long as you're maintaining your internal air, you could put an air filtration purifier on your air conditioner unit.

That's a closed loop inside. So now as air gets pulled into that unit, it's getting filtered and purified before it circulates through your system and gets re sent out into your home.

And now you're completely controlling humidity and not introducing anything new. That's one option that you can do, right? Other options are you can install a dehumidification system, you know, attached to an external fresh air intake before it gets your age back.

You could do that as well. But the line between wherever the dehumidifier is to the outside. So let's say this little

strip of line right here, well, that is indeed humidified. Yeah.

So even if you bring air through here, if there's mold and here, that's fine dehumidifier here, whatever. But you're going to be bringing mold fragment toxins through that dehumidifier, right?

So I would if I moved to Florida, which I'm considering doing in about a year and a half or so, there will be absolutely no fresh air intake on my system.

Interesting. Okay. So let me tell you about one of the things that comes up for me a lot is we have a new patient who has some concern about has some concern about cognitive decline.

And the and so, you know, one of the things that we say is, okay, you know, what's going on here with respect to Mycotoxins exposure, let's get some idea.

And they say, oh, well, we already had some guy come out and he looked he just kind of looked around our house and that looks okay to me. And I go, Well, wait a minute.

Well, that's not good enough here. So the first question is, I know that you guys have done some interesting work on changing Fermi scores, looking at how do you get a more representative?

Ermey score to give you a better understanding about whether in your home or in your place of work, you actually have some exposure. So could you talk a little bit about how you have modified the Army score to give a better idea to people about what they're exposed to?

Yeah. So just for some context, when you're when you're looking at doing an Ermey, but for now, we're going to call a dust collection sample because we actually use Ermey for it because of the scoring system.

But when you're doing a dust collection sample, the goal is to say, do I have a problem or don't have a problem? It's it's more of a screening test in a way that you can do early on in the process, understand if you need to dove deeper into something, right?

So if somebody is living in a house, they're showing cognitive signs, they're like is more than issue in the house, you can do a dust collection sample.

And that's kind of a starting point if that's where you want to start. So what we you know, what we looked at is the problem with the Army score. For those of you who have seen it, there's essentially two groups, a mold group one over here, group two over right now, the way it's in defined, they define group one over here as water damage molds. Right.

And they define these molds over here. And group two is common molds. Well, I would just like to share with everyone that every mold is a water damage mold.

Every mold that exists in the world needs water to grow. Therefore, every mold that grows is the result of a moisture problem. So the reason that I point that out is because their definition of those two models are the inherent problem in how their scoring system works, right?

So what they're doing is they're saying, okay, we're going to add up all these models that are here and come up with the total number for all the all the water damage models in group one.

Right? All these up and then we're going to come up with a total here. So say you have a total of ten on one side and a total of five on the right. So the way that their math works way the Army's four works, they're actually subtracting, right?

Common molds, the outboard, the common elbow molds from the molds on this side. So if you had ten and five, you're subtracting five from ten and you're getting a five.

Giving you a denominator, basically. Yeah. So the concept is this. I actually did this with my daughter when I was just like, Hey, honey, I set an apple down on the table and I sent an apple down over here on the table.

And I was like, kind of how many how many apple, how many apples over here?

Improving Dust Testing and ERMI Interpretation

It's like there's one Apple II. Cool. How many apples are over here? She's like, there's one apple over there. Like, can you count the apples that you see?

And she goes, One, two apples. Cool. That's how this works. Group one is Apple one. Group two is Apple two. If she came and said, Well, there's one here and one here, can you count them?

And she looked at me and said, There's no apples that way. That isn't real. That's not how it works. They out together and they're there. So really big picture, if you're just trying to like look at this sample, you really should be adding those two numbers together and not subtract because and you know this and you can speak to this better than me, but like our bodies don't necessarily care which type of mold it is.

If it's triggering an inflammatory response in us, that's triggering a problem, right? Sometimes the body cares, sometimes it doesn't. But all molds at their base level are allergens at their base level.

And so the body naturally is going to have some sort of response to anything that comes in. And then certain people respond differently based on type of mold, of toxins present and so on and so forth. Right.

But if we're just trying to do a screening test to understand what am I being exposed to, removing a big chunk of it and then just showing this minus that and saying, well, this is all that you're being exposed to.

It's so misleading. It's so incredibly misleading. So what we did is we actually created our own test called the dust test. And it's not the dust headscarf.

It's the same panel of molds that you would find on an RV panel. It's all the same panels that are there. But instead of using this scoring system, that doesn't make any sense.

What we did is we overlaid all of the homes that we inspect, has inspected over a three year period and created an algorithm that then looked at the army individual mold count in the data and everything tied to the homes that we inspected and when we inspect a home, we know how many sources of molder in that home.

We know if there's toxins in that home. We know all that stuff, right, because we're doing a full inspection in the home. So we actually had a really thorough data set to run this on top of.

And so now when you get a report in the dust test you're not getting, it doesn't show up in a score like that. You're getting all the individual molds, you're seeing which ones are elevated, you know, above specific thresholds.

And then you're also getting a percentile. This is the difference. So what we're doing is we want to show someone's home on a percentile of all the homes that we looked at to get context for where your home fits.

And also there is a situation in a house because when someone runs an army, they're not just running an army to be like, okay, there's a problem. Like there's a decision making process behind why you did it.

If I'm writing a screening test, the reason I'm running it is because I want to know if I have a problem and I want to know sort of how bad it is so that I can make a decision on what my next step is. Right.

And so the decision process is rooted in comparison. And that's how we all decide this, right? We look at something and we weigh options and then you make a decision, right?

And so having more of an index look at this. Where my house is in the 25th percentile of homes. Yeah, there's a problem in that house, but 70% of homes are worse than.

And that changes your whole point of view on how I want to attack the situation. Just getting up and moving. Odds are you're going to find a place that's not as good as yours if you just get up and move, it makes more sense for you.

Maybe to dove into that place a little more and see if we can make it a little healthier for you, as opposed to if you're in the worst 10%, let's say, like way.

On the other hand, you're like, all right, I'm a 90% chance of finding a place better than this. Maybe I got to do that. So so that does that is our take on taking the data that was created by the EPA, the panel testing all this stuff that was done in its use an army as the raw data, but then looking how to interpret it in a way that's more effective for people.

Yeah, great point. So okay, when we think of drivers of cognitive decline, of course, one of the big ones is ongoing inflammation. We tend to think of the simple way to think of it as three up and three down.

So the three things that are too low are energetics, neurotransmitters and neurotrophic activity. The three things that are too high are inflammation, toxins and stress.

So as long as you've got that driver, as long as you've got those mycotoxins driving your innate immune system to activity, you're probably going to have continued decline.

So the question then is for someone who wants we inspect to come out and look at them, how long does it take? Typically in a house, let's say, you know, a kind of a typical house, you know, three bedrooms, two baths, maybe something like that, you know, a typical single family home.

How long does it take about what will it cost and how often will they have to? Do you find that they'll have to do very significant renovation? Yeah, those are other questions.

So just in terms of like the process, yeah, 4 hours. So we're 4 to 8 hours going through a house. Even if you're talking about 2500 square foot house, that might be three bedrooms and a couple of baths like you're talking about.

Or the difference is, you know, local Yelp inspector comes in and they're there for 30, 45 minutes. They're taking in a couple rooms are out the door.

They're not actually inspecting anything. Right? Right. They're really like mold pop guys, like sample guys, like that's what they are, but they're not looking for problems.

Our entire process is rooted in understanding where the source of the problem is, just like functional medicine. If I don't know where the problems are originating and how can I expect to ever fix it and solve that problem?

Right. So that all starts with inspection. So, you know, we're every room under the house in the attic, opening up the gauge rack system, opening all the closets, cabinets, all that stuff. Right? So it takes time.

So we're about 48 hours in a house on average, depending on size. In terms of what it costs, it can vary and it really kind of depends on the goal of the person, too, right?

So so there's there's a call that we model our process a lot off of the functional medicine process. So I kind of carry reference a lot. The first thing you do when you go in to see your doctor is there's a big old questionnaire for them to understand the history of you and why you're even going to them in the first place.

What are your symptoms? What are your concerns? What are you trying to heal? Right? Like that sort of thing, right? For us, it's similar. We want to know the health stuff.

What are your symptoms? What's going on? What what looks like success for you from a health perspective? Right. And then on the flip side of it, tell me the history of your house and we prompt people to be able to do this for us. Right.

So I won't get into all of it here. But the goal is for us to understand. Think of the history of your house, like your family history, what you feel like, your medical questionnaire, right?

So history, my house. Oh, I had a leak in this bathroom or my dishwasher flooded. Like, for us, like, okay, this is like family history. Red flag. I got to look here. I got to look here.

I got to make sure it's not a hidden source over here. Right. So that's kind of like the family history part of what we do. And then the other part is understanding you.

Now, the reason we want to understand you is because the panel of testing that we would look into depends on what your problems are, what your goal is, right?

So somebody coming in and they're incredibly debilitated and it's just very known from all the medical work that they've done with their practitioners that there's, you know, a mole toxins, your bio toxin issue or whatever might be going on with them.

Yeah, us. We got to not only fire the sources of those problems. Ah, this wall of the ceiling. Where's the factory that's creating that problem? Where's that item?

Inspection Process, Cost, and Virtual Consulting

But also we need to understand, are there bio toxins being generated in the house that they're then being exposed to? Right. So the question is like, were they exposed in a different place or were they exposed here?

And then with that information, we can then put together a remediation plan on how to properly clean, remove whatever needs to be done in order to get to the house to portray it needs to be.

So we're talking about what is the cost of something look like, you know, on the low end it's a few thousand dollars. On the high end. It could be, you know, 8 to 10000 or more, depending on how big your house is and what your goals are and how many problems there are right now.

You know, the thing about that, something that we've been working on a lot and and really excited to be doing now we are we internally a couple of years ago rolled out this concept that we call the pack cat.

And I did this at our annual meeting like two years ago. I like, okay. Every thing, every decision we make is based on this concept, price, access and knowledge.

Those are the three things. So every decision that we make needs to address one or multiple of these areas, because these are the reasons that people are unable to get their home to a place that they want it to be.

There's either a price barrier, right? There is either an access barrier, meaning I live somewhere in the middle of nowhere and I can't get someone to come to me to help me.

Right. So, like, I feel limited geographically, right? And then the third piece is knowledge. And the knowledge piece is maybe they just don't know enough.

Yeah, right. We have to educate on why there's a different kind of process that helps differently, right? So everything is in there. So recently we've we've rolled out a version of our consulting process that is a virtual version of our process.

But the difference in this is, instead of most people that do virtual roles, like we find a consultant as virtual, they're

going to like ask you to just like take it based on video around your house, basically, like that's what they do.

So for us, we actually developed an app that takes our inspection process and inserts it into an app on your phone. So let's say, for example, you're like, hey, you know, for us there's a price limitation impact, right?

So like, okay, that doesn't mean that you're we're not allowed to work with you, right? Let's talk about how you can access us to be able to do that and to still achieve the goals that you're looking for.

And so for someone like that, we could say, okay, tell me about your goals. We do the onboarding and we and we get to the point where like we feel like your bathrooms, your kitchen in your kids rooms based on your goals and the symptoms.

And everybody who's impacted are really where we can focus this investigation. And we know that the majority of problems are likely to happen in those places based on what you're telling us. Right.

So we're able to reduce flying someone to your house going process, focus on that. And then what happens is that we upload into their app Bathroom, kitchen, let's say for example.

Right. And in there very similar to a like a car insurance app, I had this happen to me a little fender bender and they're like, I called the insurance company like, hey, in your app, it'll prompt you to take a couple of pictures of your fender, and then we can look at it and say, What's more, it's the exact same thing.

So we're like, It's in your bathroom. I need to see these three pictures of this. These three pictures just take a couple of pictures once. All of it ties back to our consultants at home base.

And you're actually getting our senior level consultants inspecting your house, looking at the photos that we know we need to see in order to diagnose what's going on.

And then off of that, we can create sampling plans and sampling strategies. Everything needs to go. And the benefit of that is it can significantly reduce cost, right?

And we can get really targeted on certain things and we can phase into stuff if we need to. So I'm so happy that we got that component out of them because now it opens up the access component and addresses a lot of the price components.

So people can get the top inspection that you can get and not feel limited in what goes on. And the other thing tied into that is that we've also just were able to lock in a financing component that we have never been able to do before.

We over this last six months, we've done everything we can to take price off the table of a reason that someone can't do something because it's 20, 20 or now.

We all have access to everything on our phones and all these places. But to say, I have something in, I live in the city and I'm only limited to the four guys that work in my city that that do this, right.

That's not 2024, that's 1984. And so we've got everything we can expect to be able to do that. So I'm really excited that now, no matter who you are, where you are, what your budget is, or what your geographic locations or any of that stuff, you can still tap into our knowledge base and our consulting and our inspection process and get the most out of that.

So that's, that's how we work with people. Yeah. I mean, with all the, you know, telemedicine proliferating, it's great to have Tesla inspection basically, which is fantastic.

So another common thing that comes up is people will say when I start asking them about, you know, is it possible that you have exposure to molds and micro toxins?

Because these are you know, these are certainly common ways to continue to give you not only the toxic side, but also the inflammatory side. They'll say, well, look, we had a we had a leak five years ago, but we haven't had anything since.

And we don't smell mold in the house. So we're assuming that things are okay. So what do you tell people where, you know, that's that sort of scenario, that there was something five years ago.

How long are you at risk from a leak in terms of micro toxin exposure? Yeah, that's the knowledge piece, right? This is the education component. So so a lot of us have limiting beliefs, myths, things we've heard to be true.

And then that is how we look at stuff. Right? But if you change the core belief of what that is, the core frame of that all of a sudden, instead of thinking that this way you think of it this way, like now you understand what it looks like and so little things on that. So the first thing, if I had a leak a long time ago and I fixed the water source and it dried, there can't be more because mold needs water to grow, right?

Yes. Mold needs water to grow. Mold does not need water to stay and this is the thing that nobody ever tells you. They tell you this. So everybody comes in your house and say you can't have handle growth astride strider or you can. I'm all right.

If it grew five years ago and you didn't remove it, then it will say, think of it like this. You have a flower in a pot on your coffee table, right? You're watering it. It looks great.

You're watering it. It's healthy. What happens when you stop water? It doesn't, like pick itself up and walk away to go find somebody else who will water it.

It stays there, it dries out, it becomes really brittle and it sort of like breaking and fragmenting and kind of falling pieces on your counter, right.

That same exact thing happens. A mold. Mold is basically a plant. It's something that's a seed. That water that grows. I mean, that's the same concept of what it is when the water goes away.

It goes from being like that sturdy plant that's healthy to that really, really brittle, fragmenting plant that comes off of it. Now, the problem with this and the reason that's such a big deal, and I will tell you this probably 85 to 90% of the problems we find in the home are this scenario not something that's wet right now.

Yes, I had a leak five years ago. I had a legal reality. No. Existed. I had something here, something here, something here. What happens is when that dries up now, if any, if any air pressure, any wind, if you will, and the airflow goes by, that it will shatter even more and it will pick up those pieces and move it into our space.

Right. And there are, you know, research studies that talk about how things get outside of walls and talking about myths. The next thing that kind of ties to that is if I have a mold problem behind the wall, it's trapped behind the wall.

So it won't it won't impact me. And you'll hear an inspector say this all the time, and it's not true. There's research studies that are completely disproved, this as a matter of fact.

So when you tie that dry mold that fragments are to or instead hit it and shatter it into tiny little pieces, into our breathing space, that's how we're exposed to stuff.

So the biggest thing that we do and the reason that our inspections take 48 hours is because we're literally going through every baseboard in the house, every cabinet, looking for teeny tiny signs that there might have been a water leak or a water intrusion that happened here at some point ever in history.

Right. I mean, a tiny little bubble in paint it can mean a little warp in a floorboard. It can mean a little crack over here or something like that that most people would look at and be like, it's not wet right now.

And that's houses. That's what happens. But these are the clues that show us where the sources could be. And so that's a such a big chunk of this is understanding that old mold, it's still a problem.

Old Mold, Hidden Sources, and Ongoing Exposure

Not only that, it still stays there, but also that it still moves into our breathing space every single day. Yeah, it's a great point. So there was a very interesting patient recently who had six years of improvement.

Cognitive decline went from MOCA Score 24 to Perfect 30, doing great symptom improvement. Everything's right six years. Then she said Something's not right.

She's now starting to decline again after six years of improvement and worked with her physician, it was like, okay, what's going on here? And interestingly, three things came out of her analysis.

Number one, she had a new leak in her home and she had new micro toxin exposure. The second thing, she had a new mild sinusitis that turned out to be from Cryptococcus Lorenzi Interestingly.

And then thirdly, she had undiagnosed sleep apnea, which sounds like had gotten worse over the years. Of course, I was disappointed to hear that hadn't been picked up, you know, seven years ago.

The good news is she's now seven years doing absolutely great. So so along these lines, I mean, how when you when you go into places, how often are you finding sticky batters?

So we think of the kind of the five bad ones for your brain. Starkey Batteries Aspergillus, penicillium ketone mia and Wall-E mia. Those are kind of the ones I worry about the most.

How often are you when you look at when you do your inspections, how often do you find those? I would say at least one of those every single time. Wow. Okay.

So that's obviously a concern. Yeah. Like if someone is referred to us, especially from their doctor or if they're having health issues, which is normally when people come to us, people don't come to us like look at a random saying leak out her sink.

It's like, hey, we need to figure this out because there's an underlying health component. You there's a health thing going on and the dots have been connected that the environment is contributing to that literally every single time.

It's not even an exaggeration every single time. And my problems and that every time and Aspergillus and Penicillium are two of the most common ones that come up in testing because they have multiple species that can grow at varying amounts of water that are required, right, that come up so often.

Stacking could tell me I'm not as much, but we still see them pretty frequently. Yeah. There's masses and where when you're going around a house you talk about some of the places if you would.

Where are you finding these. Are you finding them in the roof? Are you finding them, you know, behind the floorboards or is where are you typically finding these things?

Yeah, I would say if you're just talking generally places that have water sources or more likely going to have water leaks and water intrusions, and therefore you're going to find me on a percentage basis more things there.

That's why we probably find 60 to 70% of problems we find in homes are in bathrooms and kitchens collectively and like utility rooms, because those three areas have shower toilets, sinks, dishwashers, fridges, water heaters, like all these things.

So of course, like those are areas over time where stuff happens. So I say, number one, anywhere that there's a water source or not. And then the second kind of the next area, which I actually call these shadow sources

because people just don't think of them and you don't see them in your house like no occupied living space.

I can look at a baseboard and see water damage on a baseboard. Right. Or we could see water standing shadow sources in my mind or places I can can't see when you're in your house, but they still contribute to what's going on.

So I say the two biggest ones of those are crawl spaces. The recent crawl spaces are such a big problem. This one, gravity is going to bring all your exterior water from rain and sprinklers and all the things that gravity is going to do.

It's going to move down. And so crawl space, being underground means that everything's coming toward that space. Yeah. Yep. Moisture is that moisture.

It seeks dry. If it's wet, it's seeking dry. That's where it wants to go. So if it's raining outside or downscaled or something is pouring down the side of the house, all that ground is wet.

This your home is the direction to dry. And so as it comes down, it starts finding your crawl space and start trying to work toward that way. And that's where it goes.

So crawl spaces and basements, a lot a lot of times of pretty significant problems in them and nobody even really thinks of it. But what's interesting about them is when you think about how air moves through your house, just standard air pressure in your house, there's something called the stack effect.

And basically what it says is that all the air pressure in your house, unless you're mechanically manipulating it, it's going to start at the bottom of your house.

It's going to push upward. That's why if you live somewhere that's warmer and you don't have your air conditioning on as hot air upstairs and that is downstairs because you're getting an upward push that your crawl space is the true bottom of your home.

So you have a mold problem in crawl space or a basement that is all pushing up into your house constantly. Right. So that's one of the shattered source areas.

The other one is your air conditioning system, your heating air conditioning system. So again, you don't see all the ductwork. You don't see the unit that lives in your attic.

It lives in your car, lives somewhere you don't ever see it. But those things become either a source or a cross contamination source to be either one.

So either mold grows in them like we talked about with Florida earlier, or in those same areas with humidity or you have more problems in your house and your air conditioner pulls the mold fragments and the mold toxins into the system.

It's not that mold starts growing in the system, but it becomes cross contaminated with the particle that moves in there and then it distributes it everywhere.

So there are times I mean, we were working with the kid years ago or a family, I should say, where the kid was nine years old. They just moved into this new house in the Northeast.

Before they moved into the house. He was very active in sports. And, you know, pee wee football and all these things, you know, and moves into this house.

And over the course of just the first year in the house, all the way down, debilitated, he's in a wheelchair too. Literally like that. Go into the house, you know, it took them time to figure out what's causing the problem, as you can imagine, and finally figure out that there's, you know, a more bio toxin issue.

That's the primary driver. Here's what the doctor figures out. Go into the house. The house itself actually wasn't that bad. But the problem was was in the basement and the air conditioning unit was in the basement right next to where all the problems were.

So if you were a stack effect, but you also had that getting pulled into the air conditioning system and shooting it straight down in space when you're sleeping.

And so there's a couple of other things in the house, but that was the big thing. It wasn't like this terrible, terrible house. They address those two things and within months the kid has bounces back like that fast.

Yeah. So that's why those two areas, we don't think about them because we don't see them. So I call them shadow sources, but like they could be such a big impact on what's going on in space.

Yeah, you know, there is an interesting documentary on Netflix right now called I don't know if you've seen this called Afflicted. And a number of people, you know, the young people are having clear issues and, you know, people are arguing about, well, you know, do mycotoxins even cause illness?

Well, for these people, it's very clear that they were. And in fact, when they addressed those, they got better. So real really striking to see.

Common Problem Areas: Crawl Spaces, HVAC, and Skylights

So what about the people who say, you know, we have skylights in the house, that when it rains a lot, you know, we do get a little leak through those skylights.

Do you see those as as a common problem in with with mycotoxins and mold growth? Yeah. If water if there's a water source, this is how we got the craft.

So our our view on going through a house is anywhere that I think has been impacted by moisture in the past or it looks like it's currently being impacted.

We want to test that spot because we have a source there. So if you know that I have a window or skylight or a door threshold where water comes in the bottom when it rains really hard because it's now obviously all of those areas are now potential for source mold issues that are behind the wall, up in the ceiling, next to the skylight.

If it's a skylight, the wall next to a door. If it's a door threshold, the water's coming in. So the two walls that surround that door, the floor that's right in front of that door. Right.

All of these areas will water can get into those all become potential sources of mold. So as we are going through a space, we'd be looking, let's say, at that skylight and say, all right, I see this skylight.

It looks like there's maybe a little water damage, I'll say, on the right side of the skylight, for example, or something. So I'd be wanting to do a ceiling cavity test in the ceiling right next to where that skylight is.

As to where I'm seeing that water damage as possible to try to get as close to where we think the source of the issue is, I understand if it's a problem.

Okay, great. So one of the changes, this is a thing that concerns me a lot and I'm always interested in, you know, how do we a how do we evaluate this?

So a number of years ago, Dr. Anne Hathaway, who was involved with our trial, is involved with our new trial as well. Absolutely outstanding functional medicine physician.

She had a case of Lewy body disease and this is a variant on Alzheimer's. It's turning out that, you know, these people have synuclein instead of amyloid and tal but it's turning out that many have all of the above.

So it is a it is a generally a toxin associated presentation. And in her case, it turned out that the ducts in the home were just filled with mold and rodent droppings.

When they simply addressed that, cleaned out everything. Guess what? Lewy body went away and the guy did well for several years. Ultimately, unfortunately, got neurodegeneration back.

But it clearly was a huge contributor and the dominant one that really gave him, you know, years of improvement by addressing this. When you do your inspections, are you looking at the ducts in the home and what do you recommend to people to get their ducts evaluated?

Yeah, it's part of the process. So, you know, as we open up your air handler unit, which is where all your ducts can actually you can get eyes on what's going on in dogs.

You can also see it from the bed inside of rooms. You can get some eyes on what's going on in there. We actually test the air conditioning or heating units themselves so we will know what's circulating through your whole system because we're testing the central hub where air comes in and where air goes out, right.

So we can increase has for mold. We test for mycotoxins, we test for and know toxins all within your your heating air conditioning unit so we can understand what's going on because it is such a big thing exactly like what you described.

It's not like weird like that can happen right? Yeah. So that's all part of it. And then, you know, when it comes to how do you address it, it depends on how contaminated.

Right. What I will tell you is that because of how ducts are situated in your house, it's you can't fully clean up. It's just impossible to fully, fully clean up right.

So what I'm thinking about our and how do I approach docs and right now I'll have test results in front of me. Like, how do we approach this? I in my mind try to envision on a scale of 1 to 10, how bad do I think the system works?

And let's say I'm like out of systems like an eight, let's just say, all right, I can deal. I know cleaning can only maybe reduce it 2 to 3 on this if you're just cleaning it.

So I could go from like an eight to a six maybe by cleaning out, let's say. Well, if you're somebody who has all the things going on, right. And that's not suitable because of your health position, that's not an option.

Right? So now we talk about replacement of ductwork or system or both or some sort of combination of the two. Right? But if I look at a system and it starts, let's say, and if I don't like.

All right, I mean, you could clean this, get it down to like a three, like, yeah, there's maybe still something going on in there, but based on your health position and your balls, which is why that whole conversation upfront has to happen, like what are your symptoms?

How about right, this might be suitable for you. And then I always the last thing I say with that is like, you could always do more. You can't ever do less.

So what you can do is you can say, I'm going to start cleaning this five system and see if it gets any better, and then I'm going to see how I feel. After also addressing some of the other things in the House.

And if I'm not improving the way that I want to, then you can always remove them later because we still know that there's something you know as of something that. Right.

So you could always like face into that if you want to. And that's kind of like a little hack for the financial component of things is right. Okay. It's like we're trying to reduce overall exposure through the House and there's, you know, maybe 15 sources of walls and cabinets and then there's an h-back system and then there's something else, right?

So like while you can do individual testing to know which source has like the highest concentration, at the end of the day, it all gets into the main living space and it all mixes together, right?

So like, you know, your exposure is a combination of all of that. So ideally what we try to do is once we see everything we put together, a prioritized list for all our clients are like, All right, these areas just from a pure concentration level of what's going on.

These are your worst spots. Yeah. Our goal isn't to say, like, you have to remove every single thing in your house or you're never going to get better.

Because frankly, I've just seen that not to be true way too many times. What ends up happening is that you need to remove enough. Like if your body is here, what it can handle and your house is here, you need to remove enough to where you're a little bit below what your body can handle.

And now body can start re, you know, kind of get a minute to breathe, you know, and you support with with, with the medical treatments on top of that support the body allow it to start coming back and this might be enough for somebody to start driving again.

Where they can process things and they're not overloading anymore. So that's our general sort of thought process. But you asked earlier, so just to kind of close the lid on it.

Great. I mentioned. Oh, go ahead. Well, yeah, I would say most people don't remediate every single fact that. Yeah. Okay. You mentioned mycotoxins. You mentioned endo toxins.

And what about VOCs, the volatile organic compounds? Do you guys look at those as well? We can. We definitely can. And we do in certain cases. You know, part of the process is is and the same thing happens on the medical side, too.

We could run every single test that exists, right? So when we're trying to put together a sample of plan, it's really about understanding what's the right test for the person.

Duct Contamination, Remediation Strategy, and Building Practices

So we don't overlook things that are maybe not required for you or necessary for you, but we're still getting enough information where we come in here and we can put together a really solid plan what we have to do to get everything right.

So there are certain people where we will do more. C testing. We don't really look at it from the point of view because our approach in finding source is better than any B or C tests is going to do for telling you more problems because B or C for mold specifically which are and box, you're only going to trigger that if there's an active mold growth happen.

Yeah let's see talk about earlier is that most of the time that's not what's high, right. So when we will overlay B or C is when we have somebody who is much more sensitive, possibly chemically sensitive and, we can then start to look at chemical off gassing and formaldehyde off gassing in a space because that's all part of what you're breathing and then you're formaldehyde, like spiking off the charts, right?

Then that's another component as we start thinking priorities of everything is kind of we got like really heavy like chemical load over here too, you know, maybe dial back some of these more mold remediation areas and then we insert this formaldehyde portion of our protocol up into a tier one, possibly.

So it would be something like that. Right. What do you think would happen if people started? Let's imagine there's a new law that says you build with wet wood, that you actually have to really be careful about building homes and that, you know, there's a new we just as you know, years ago we got into the whole issue of green building.

You know, now I think it would be great to see nonwhite dry building. You had certified not only as certified as green, but certified as dry. Do you see that as a contributor to this?

Or is your sense that now this is really coming after the fact? No, it's definitely a contributor, but definitely like you drive by any house and they're doing construction.

Yeah. And the lumber is just sitting outside on the ground, in the mud, in the dirt, where it is. I mean, I've been you know, I'm in Southern California.

It's been raining here for the last literally week every day with, you know, what's going on. We're not a particularly wet part of the country, but we are homes that are being built right now.

They're just open. Yeah. Oh, gosh. And then what happens is that? There's no the builders don't care. Right. So what they're doing is, is when it's time to wrap the house and kind of enclose it, they just wrap the house if it's wet.

Oh, well, it'll dry. And when you do that, you're inherently creating mold issues in the house lawn. Some of the lumber might have mold on it before it came in because of where it was stored.

I was also just in Lake Tahoe and on a quick little family vacation this last weekend and I was driving by, was in the city called Truckee, and they had this big lumber yard or whatever where all the people come to get their wood for building and stuff.

And there's lumber just literally sitting outside like, like there was a canopy where they had stuff under. But then there's a whole bunch of stuff lining like around the canopy on the outside of this place.

It was snowing like it's snow 29 inches. One day we were that. So all of that is going to melt. And every piece of wood that was not covered or recycled is going to be completely molded out by the time somebody picks up the bill with that.

So you have a combination of where the mold was stored before, where the wood was stored before, and it comes in, there's mold on it. And then you have during the bill process, nothing is protected and builders are on a timeline.

Now we just got to wrap this thing up and get it going. I can tell you the number of people that we've spoken with in like a new construction process that ended up in lawsuits because of this exact thing that's happening, the builders are like, So what? Deal with it?

And they're like, No, we're not going to deal with that. Right. And bring a new lawsuit. So what I will say with that is that just made it sound like there's more than every single house that you're ever going to walk into.

And actually, what I will say is I actually believe that that's true. So again, the goal and I really think it's so important to set the scene for people, it is not realistic for anyone to ever be in any building that has involved.

It's not realistic to happen. And I think that that's okay. And I think a lot of times we start getting down to washing or reversing Alzheimer's somewhere.

There's some serious stuff going on, right? And so we then think that we have to like remove all exposure completely. Otherwise there's no hope for us. Right.

And that's it's not true. I've you've seen it, too. I just seen it happen way too many times where people can bounce back on stuff. So is that a concern is frankly, there could be more settled down.

Yeah. Back here behind this wall that I would never know about because it happened during the bill that can very well be happening. Yeah, I do know in my house is that there are no other like immediate water damage sources that occurred inside my space when I.

Right. And so it's like a sum of those two things. And again, it's just removing reducing exposure to an acceptable place for you. And so, you know, I always want to try to portray a little bit of hope after talking about how bad homes are when they're belts, because it almost feels doom and gloom at that point that there is no hope.

But I've seen it and I know that you've seen it, that people are able to bounce back in places that probably have stopped by. I'll like. Yeah, that seems like as with cardiovascular disease or any of these chronic illnesses, you've got to get it below a threshold so that the person can actually deal with it.

And of course some people can deal with less than others. So this is fantastic, really helpful. Thank you for all the information and the updates. Brian Karr, co-founder of We Inspect.

You guys are playing a crucial role in reducing the global burden of dementia with all the work that you're doing and other chronic illnesses as well.

So thanks very much. Great to have you on Reverse Alzheimer's Summit and look forward to further discussions like that. Thank you so much. Appreciate the chance to share with everyone.