



## Mold Remediation Part 4: Personal Protective Equipment

DM

David Myrick

0:00

And so essentially, you take whatever amount of contaminant is in the air and you divide it by the protection factor. So if there's 2 million spores in the air and you're wearing a dust mask, you're breathing in 215,000 spores.

KS

Kendra Seymour

0:20

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Hello everyone, and welcome to Part Four of the Change the Air Foundation Remediation 101 series. We're going to be talking today about personal protective equipment, otherwise known as PPE. And I will tell you, this is one of the easiest ways to spot the difference between the good companies and the not so good companies. Now, if the company you plan to hire is not protecting their worker, there's a good chance that they're not protecting you and your home either. And I have a little anecdote I'll share with you at the end about this. But I'm joined today by David Myrick, who's owner of Valor Mold Removal, a remediation company in DC Metro area since 2006. Now, after doing bad remediation (like everyone else for a couple of years) two mentors convinced him to take the first training classes on mold, and he was shocked at what the S520 mold remediation standard said. He's been remediating mold for 17 years and has appeared on Fox Five News, WTOP radio, and other major news networks in the DC market. Thanks, David, so much for being here.

DM

David Myrick

1:50

Absolutely thanks for having me.

KS

Kendra Seymour

1:52

I've known David, for those of you listening, a long time. He is a self-confessed mold nerd. I hope you don't mind me saying that.

DM

David Myrick

1:59

Absolutely.

KS

Kendra Seymour

2:00

And I know we talked at length that you know, you kind of have this mission, too; to help people understand and implement these research-based, sound practices that come with effective and safe remediation. So. I'm so glad that you're going to be taking us through our next few episodes on this series because it's super important that we get things like this right. But since they're not here to listen to me, I'm going to turn it over to you, because I'm super interested to learn a little bit more about PPE.

DM

David Myrick

2:27

Yeah. And this one's a...this was one that I just thought would be quick, it would be nothing, it would be boring. And then when I started putting the presentation together, I was like, I'm actually passionate about this. Like, this matters. You know, it's like the last line of defense for my guys and myself. But it matters, and also too, you know, the people showing up to your house—what they wear is a big sign as to what kind of work they're going to do, how professional they are, you know, and how much they care about their own health.

KS

Kendra Seymour

2:57

Absolutely.

DM

David Myrick

2:58

So to dive right in...now, I'm not going to cover too much of this (because I assume that the people watching this already have an idea of what mold is), but it's nature's recycling program, obviously. It's meant to decompose dead, organic material, and obviously it's great when it's outside decomposing dead trees and leaves and things. But it's a bad thing when it's in your house, eating your home. So it's really hard for people to comprehend, I think when...let me go back, when you're looking at this, right? Yeah, it's visible growth. This is what everybody concentrates on. You know? "Oh my gosh, there's a mold colony. We have to get it." And as a remediator, and looking at this through the eyes of people's health, yeah, the mold colony is one thing. And as a remediator, yeah, we're going to take care of that, but we're actually more worried about the spores that are that are sitting on the surface of these colonies. And so this next video I managed to find, [a] long time ago in a

training class, an animation for this that gets into what it looks like on a microscopic scale. So this would be hyphae that are sitting on the surface of the colony itself. And at the tip of the hyphae, they're like stalks, but at the tip are mold spores. And so, you know, on the heads of these hyphae are just billions upon billions of spores. But yeah. So here again, you know, these are microscopic spores that they go airborne, they fly around very easily. And these spores are the main drivers of health effects in people. So when we talk about contamination, and we talk about mold spore cleaning later on, and in Part Seven, this is what we're going after. But anyway, this is the point. This is what we don't want. This is what we don't want to be exposed to. So when you talk about mold pathways in the body, there's four major routes. So ingestion is the worst. You know that will definitely cause the major health reactions. I think aflatoxins are one of the most toxic substances known to man, and they're taken from specific species of mold. Now we don't really worry about that, because when you're doing remediation or you're living in a moldy house, you're not eating the wall. So the second route is inhalation, that by far, inhalation is by far the biggest route of spores into the body. And then third on the list would be absorption, where you're actually absorbing it through your mucous membranes, and then dermal, right through your skin. Dermal is one that I have to list it, just because I know some people would crucify me if I don't. That applies more to mycotoxins, not really so much to spores. So like when we wear our suits. Well, I'll get into that later.

DM

David Myrick

5:40

Now, just to cover the basics, PPE, acronym stands for "personal protective equipment". These are my four categories. These are my personal categories. Don't think these are official, but the first one is what I would call Rock Bottom PPE, so this is what you see plastered all about the internet. You know, if you read 100 mold articles, or if you read 100 articles on mold, this is what you're going to see recommended. Second would be the Discount Remediator PPE class. Third would be what I would deem Acceptable, and then fourth would be Top Notch. So for examples of this, you know, I grabbed this off stock photos, right? So they talk about an N95 dust mask, safety goggles, coveralls, gloves, and you'll hear a hard hat, which I think is overkill—unless you're on a construction job site. Hard hats are...yeah, again, they're overkill. But the N95 dust mask—I don't want to be too tongue in cheek—but it's almost like wearing nothing. Does it give you some protection? Yeah, it's better than walking around with nothing, but it's just...You're...I would go so far as to say your body might be able to stand a couple, you know, couple different remediations if you're going to tear out mold yourself. Maybe you can withstand that a couple times, but that's definitely not something that I would hang my hat on. And then a bad sign would be like, in this case, the coveralls that this person's wearing. You can actually see your clothes through the coveralls. So this is way too light, way, way too light. You know, maybe it's meant to keep large particles off you, but it definitely wouldn't work for mold spores, because they're just too small. They're gonna go into these pores and basically just deposit all over your clothes like you're wearing nothing. This one's kind of a blend between the Rock Bottom and the Discount Remediator class. You know the point I want to make with this picture was, you know, again, you can see your hair through the through the coveralls, you know, with the red down here. Hold on, where did my little cursor go? But you can see your hair through the coveralls. And then the second arrow is,

you know, going back, you'll see this all the time on the internet, where they talk about wearing a N95 mask and goggles. Or they talk about wearing a half-face respirator and goggles, and it depends on the kind of nose you have, to be honest. Like, I have a pointy nose, right? So the bridge of your nose is the seal point for both the half-face respirator and the goggles, and you're gonna get a good seal on one or the other. You're not gonna get a good seal on both if you have a pointy nose. So, and again, the major route is the inhalation. So you always want to make sure your respirator is on. And so if you wear goggles (especially if you wear glasses) you're gonna notice that there's a, you know, it's a big leak. You're gonna get your glasses fogged up and stuff. It's just, it sounds good in theory, but it just does not work well in practice. And then, whereas if you have, like, a flat nose, then maybe you get a good seal, I don't know.

DM

David Myrick

8:53

Discount Remediator class, this would be, you know, the most common. If you hire a remediator and they show up at your house, this is what most people are going to be wearing. And it's just, it's bad. And I have, later on, I have slides about why this is bad. But you know, this is the half-face respirator, suit, gloves. Now this picture...Sorry about that. So it has the suit and gloves. Now this picture in particular I grab...I can grab this off the internet. You know, these gloves are laughable, right? I don't know what kind of protection that's going to do. You would tear those in about three seconds. And going back to this for a second, you mentioned in the, in the intro that we did remediation the wrong way for many years. And I used to wear this. I used to wear a half-face respirator during remediations. And what was interesting was (especially if we were doing a particularly, you know, bad one where there were, you know, lots of square footage of mold) I would actually have black boogers at the end of the day. So you can't tell me that this is good. You know? Yeah, the filters, the HEPA filters, they filter out all the mold. But the problem is that seal that you have around your face, your nose, there's a lot of contours, there's a lot of angles. You just can't get a really good seal, especially if you're working hard, especially if you're sweating, right? The mask will slip. It's just, it's not good. You know, again, maybe you can get away with this for a couple months or something, but this is not something where I'd want to go do remediations for a long period of time.

DM

David Myrick

10:31

Acceptable PPE, here's a picture of me, actually, from many moons ago, up on a roof sanding mold out of attic trusses. So here you have a full-face respirator. And a full-face respirator, you have a much better seal, right? Because it's around the circle of your face. So you're going to get a much better seal than out of a half-face respirator. Now the rest of this is similar. The only thing I would change is say we use rubber-coated work gloves, so like nitrile work gloves that are dipped in nitrile so they're grippy. And then boots with a protected toe, so steel toe, safety toe, that kind of thing. One thing I'll point out in this picture is the cuffs, right? So the gloves are taped to the suit, right? So that way you have a good seal there. Now I don't want your listeners to crucify remediators if they've been working in the containment for a few hours, and they come out and that seal is not there

anymore. Because, again, you're working hard, you're sweating, the tape is not going to adhere all day. It's just not. But it's still...it's a good practice. You want to start off that way.

DM

David Myrick

11:40

Top Notch PPE. This is actually one of my guys, Oscar. He's wearing what's called a PAPR, that stands for Powered Air-Purifying Respirator. And so these things are cool because what he's wearing here is a belt, right? And there's a motor on it with a battery, and the HEPA filter is on that belt. And so the motor is working to push air through the filter and then up through the tube, and then it fills your mask with HEPA-filtered air. And it's just, it's...the protection factor is a lot better. And I'll get into what protection factors are. The rest of this is the same. Now, something I will point out, this was a marketing photo that we took for the website, and yeah, he is not wearing his hood up. So yes, you're supposed to wear your hood up, right? And then the mask sits over that you have that protecting your hair and your neck. So that way you're not getting debris and spores into your hair. So everything else in here is great, except for that one piece. Now, I had a case study. Let me talk about this for a second, just so that way your listeners know what this is. So we have an InstaScope. InstaScope is a machine. There's probably 150 in the world, 175 and it does instant airborne mold testing to get...to give us an idea how much mold is in the air. And so when we first got it, years ago, we took it into active remediations to see what the actual mold spore counts are. Because the issue I was having was a lot of my guys, they would take their mask off during the cleaning process, right? Because they removed all the mold. The mold is not visible. And no matter how much I told them, hey, this is still a hazard, they would take their mask off if they thought I wasn't around. And I care about my guys, and they weren't getting it. And so, yeah, we went ahead and tested multiple jobs. And so what we found was, you know, these are the airborne mold spore counts. On average, I think we tested eight projects or 10 projects, and you can see the amount. And matter of fact, I should probably add this into the cleaning slides. But you know, the counts go anywhere from 2 million, right? The 2 million on average during the demolition, down to 336,000 during the cleaning. And so I'm going to take this number here. And so if there's 2 million spores in the air, this chart is the protection factor for these different respirators. So you know, on the left you have the dust mask through the PAPR. In the middle, this is...these are the NIOSH protection factors. NIOSH is a division of OSHA. And so they actually tell you what the protection factor is of all these different pieces of equipment. And so essentially, you take whatever amount of contaminant is in the air and you divide it by the protection factor. So if there's 2 million spores in the air and you're wearing a dust mask, you're breathing in 215,000 spores. So again, this is why I say, "Yeah, some people can take some exposure, but this isn't something you want to do a lot." And especially if you're talking about mold-sensitized clients, who you know, what have you? Lyme, CIRS, PANS, PANDAS...no. No, just no. Right? At bare minimum, I would say a half-face respirator with the P100 cartridges. But really it should be a full face, but they are a lot of work because you have to breathe through the filters. But even with the PAPR, with the protection factor of 1000, you're still breathing in 2000 spores. So sometimes people get this sense of invincibility, where they're wearing this protective gear, and that means that means that they're completely immune to this stuff. And it's like, "No, it really...this is your last line of defense." And so this is why, when I get into the engineering controls in Part Five, that is so



important, not only to protect your house but also to just to protect yourself in a containment. So, and you know, the big red flag, if they don't care about their own health, then do you really think they care about yours? So, so again, you know this is important in terms of just knowing the quality, the tier remediator you're bringing in is based on what their guys are wearing.

KS

Kendra Seymour

16:00

Will...If you were to be home during remediation (which we don't typically recommend) you may not always see your Mold Remediator in PPE, correct? That's because they're going to be taking it on and off inside something called a decontamination chamber, a decon chamber that we're going to talk about later. Am I understanding that correct?

DM

David Myrick

16:21

True. That's a good point. That's a very good point. But they're still going to have to walk in with their gear, and so I can't imagine...I mean, it's possible they might have a big bag where they just carry in all their all their gear, but probably not. The guys are probably going to be carrying their respirators loosely. So that would be what you're looking for. So is...you know, is it a half-face? Is it a full face, what have you?

KS

Kendra Seymour

16:47

And you'll certainly notice too when they don't. I have a quick antidote, but if one of the questions you can ask, we have a free resource for everyone listening. If you go to [ChangeTheAirFoundation.org/free-downloads](https://www.ChangeTheAirFoundation.org/free-downloads). And it's questions to ask your mold remediation company while you're vetting them, and we have questions on there about PPE and see what they say. But as I promised, a quick antidote, my neighbor, many years ago, called me in a panic because her son was living in the basement bedroom, and she was noticing this odor and thought it was just like teenage boy stank. And so she ended up doing some investigation, and pulled back his bed, and it was a wall of mold. And turns out there had been a crack in the foundation, moisture and mold had been growing for quite some time. He never said anything. He's like, "Oh, I just thought it was my gym clothes." But she called me. She's like, "What do I do?" And I said, "Well, first, don't disturb it." And she goes, "Well, I'm going to call the builder. The house is still under warranty." And I said, "I don't recommend you call the builder. I know this is hard to hear, because they're just going to send one of their I'm sure, well-meaning people on staff, handyman-type situation." And I said, "And I don't recommend this." She showed me pictures. It was pretty severe, what we could see on the interior, so I can only imagine what was on the other side of the drywall. Long story short, she didn't listen to me. And the guy shows up, and I watch him through my window in horror as he is remediating, wearing nothing but his street clothes and a KN95 mask, not a single ounce of protective... He's pulling stuff out in garbage bags. The garbage bags are laying open just in the driveway. We'll talk about that, about proper removal of debris. And there were so many red flags. And later she called me, and she said, "Well, he took care of it." And he said to me, "Yeah, I was a little in over my head." And then she asked me, she goes, "Do you think it's a problem that he knocked the drywall

open that separated her son's room from the room that had the HVAC system?" So further contaminating everything else. I think they had minimal stuff up. But it just goes to show, guys, like these are easy things. If you see someone and you happen to be home, or, you know...stop the remediation before it goes further. And that's one thing I hope I can empower you to do. Hopefully, with this series and our resources, you hire the right remediation company the first time. But if you don't, or if you're renting and they're sending someone, that's a red flag, speak up. Stop them. They're not protecting you. They're not protecting themselves, so I'm giving you permission to stop right then and there and wait to call on someone who understands the scope of the work. David, thank you so much for this. I hope everyone listening, you stay with us because in Part Two, we're going to be getting into engineering controls, right David?

DM

David Myrick

19:37

Yep.

KS

Kendra Seymour

19:38

And you won't want to miss it, because David usually has like, a hall of shame and a hall of fame. And it's wonderful, and for everyone listening, if you want to make sure you don't miss this episode when it drops next, head on over to [ChangeTheAirFoundation.org](https://www.ChangeTheAirFoundation.org), and sign up for our newsletter. Because it really is the best way to get great information like this directly to your inbox. Thanks so much for listening. We'll see you next time.