



Mold remediation and water damage restoration

Guest: Adam Jankowski

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Sara Jackson - [00:00:16]

Welcome to this interview. I'm Sara Jackson, the director of nutrition here at the Optimum Health Clinic, and I'm really delighted to be talking with cleaning and restoration industry expert Adam Jankowski.

Such a huge welcome to you this morning, Adam.

Adam Jankowski

Good morning to you. Thank you for inviting me to this interview.

Sara Jackson

In today's interview, we're going to explore mold remediation and water damage restoration, which can be a significant concern for many of our chronic illness sufferers. But before we dive in, I'd like to give you some background on our expert.

Adam is a consultant and consultant trainer with the Restoration Academy U.K. Limited, with over 28 years of experience in the field, he's one of the most prolific independent trainers in the cleaning and insurance repair industry in the U.K.

Adam was the director of the National Carpet Cleaners Association and served on the U.K. Advisory Council of the IICRC and International Standards and Certification Body for the cleaning restoration industry for over 10 years. Adam's directly involved there as a standard consensus body member and participates in a number of exam review groups and technical advisory committees.

In recent years Adam has specialized in biohazard remediation, as associated with water damage. Adam has retired from delivering technical services and instead now he concentrates his efforts on education and consultancy, specializing in the clean up and remediation of biohazards from water damage properties. So we couldn't have found someone more experienced in this area.

If you've seen lots of our conference interviews, you'll know that we've covered many areas to do with mycotoxins and mold on chronic illnesses. How it affects our energy levels, our systemic health, how to identify them in functional testing. So now it's time to turn to the leading industry expert to talk us through the practical side of what mold remediation and restoration after water damage actually looks like.

So, Adam, can you talk to us a little bit about why mold is so problematic and why the World Health Organization acknowledges this kingdom of fungi as such a human health hazard?

Adam Jankowski - [00:02:14]

Oh, I'm not so sure I can answer the question, why. We know that the human body is under constant attack from various microorganisms and that's about as much as I dare say, because I have no medical experience whatsoever. I'm just aware of the plethora of information relating to people's health and fungal growth. If you have mold growing in your home, then you have an unhealthy home. I think that's probably as far as I dare talk, commenting on the World Health Organization is probably not my forte.

Do forgive me for that. I really am very much in the cleanup game and I will find it and clean it or I'll help someone to find it and clean it. I also help people find the cause of why they have water damage, but I just take it as given that mold is a potential hazard. OK, so mold is a subset of the fungi kingdom, mold is not a scientific name. But it is a known health hazard. It is identified by the World Health Organization, as you say, as an issue, as a health issue.

British health and safety regulations actually even refer to fungi as a health hazard. COSHH, control of substances hazardous to health regulations and the health and safety law states that fungi is potentially an asthmagen and there is a document that supports that. The approved list of biological agents published by the Health and Safety Executive, which supports the control of substances hazardous to health regulations 2002, which lists a whole bunch of fungi that are human pathogens.

So beyond that, I can't comment on how mold impacts on any one individual person related to health. I'm just aware that it happens. And my job, or used to be my job, was to clean up the evidence, if you like, of any biological contamination, so if people lived in a home where indoor air quality was what it should be as opposed to what it might have been, which makes them sick. But I can't say what made someone sick.

Sara Jackson

Yeah, of course. And that's OK because we've got lots of references from doctors and experts in that field accompanying this interview. So anyone that's watching this, who wants to find out more, can go back to some of the other expert interviews.

Adam Jankowski

Yes please.

Sara Jackson

Can you talk us through the first steps that someone who suspects mold exposure in their home, what should they consider first with a view to cleaning?

Adam Jankowski

If they suspect that their home is the culprit, if they've been told by a doctor or by a nutritionist that their bloodwork indicates, or their swab or a sample indicates that they have high or elevated levels of mycotoxins or some other evidence and they think it's their home, well, I guess the first rule has got to be find where it's damp.

See if you've got any issues in your home. I mean, even if it means walking around the house and seeing you've got a loose roof tile or if you've got a dripping pipe under the kitchen sink or are you drying your clothes on radiators so your humidity is high? Maybe something as simple as buying a thermo hygrometer for your home. There's little device which measures the temperature and the relative humidity to see what your humidity conditions are in your home because mold will not grow in an environment which is dry.

Sara Jackson

What should the ideal humidity conditions be if someone was to purchase one of those?

Adam Jankowski - [00:06:23]

That does vary. And to some extent you need to understand what relative humidity actually means because it's relative to something. When we talk about relative humidity, it's relative to temperature. So the amount of water in the air, that's actually in the air, is related to relative humidity but you have to understand temperature.

In any case, if you're looking for just a broad concept, then your relative humidity in your home should be somewhere under 50 percent. It could be allowed to creep up to about 55 or 56. But the early colonizers, the molds that are likely to be triggered into growth in your home will be triggered at 66 or 67 percent relative humidity.

Now you might think that that's, oh well, our house is at 55 percent, that's a long way away. But if you're taking a measurement in the middle of the room, you need to understand that the relative humidity on the wall, the air next to the wall could be a lot higher because the temperature of the wall could be lower if it's an outside wall.

So relative humidity is related to temperature. So you have to have a little bit of an understanding what's going on. But at least a thermo hygrometer will tell you what the temperature is in your home, and what the relative humidity is. And you should target for it to be under 50 percent, 55 at the outside, if it's temporary.

Sara Jackson

That's really useful to know. And I guess it depends what time of year you might look at this as well. So the readings may be different in winter compared to summer?

Adam Jankowski

Well, it kind of depends on how well ventilated your your home is, because one of the things we try and do, and the government encourages us to do this, is to insulate our homes so that the carbon footprint that we leave behind, as we try and keep our homes warm in the winter, is actually as low as possible. So, as you spend your money on heating your home, you don't want that heat to leave the house.

So we track it all. So in reality, your home, as long you don't venture outside too often, you'll never know how cold it is outside. So, our homes, you set your thermostat at 21, then it's 21 in your home all winter. But if you've got cold walls you may end up with condensation. So that's, very often mold does manifest itself more, mold growth manifests itself more in the winter months, early spring, simply because it is colder. If you have outside temperatures that are cold, internal temperatures on the surfaces may fall and that means the rate of humidity on the surfaces goes up. But you may not notice. It can be an all year round problem, but it does peak in the winter for some people.

Sara Jackson

And you mentioned, you know, going as far as possibly looking at roof tiles, are there any other typical hot spots that someone might go and look where they're suspecting mold or water damage?

Adam Jankowski

Well, yes. As I said, as someone who goes round to people's homes looking for mold, the places I look, I mean, the roof tile might have been a simple answer because it's very visual. But I do look at the property top down. I look at chimney stacks, I look at the roof, I look at the guttering, I look at the window casement's, I look at the door frames. I also look for damp proof courses to see if the building has a damp proof course.

Because the moisture can penetrate a building through open wounds, through a missing roof tiles. It can also penetrate through brickwork, through water work, through poor assemblies of window to wall, through rising damp, penetrating damp. So I'm walking around a building with a thermal imaging

camera, looking looking for spots like that, and I mean, you can look yourself in your own home, but you may not have the eyes, the trained eye.

I will hesitate, or don't hesitate to add that I'm actually not a surveyor by trade. I'm not a Royal Institute of Chartered Surveyors surveyor. It's just that since I've been in this industry, one of the things I've learned is how to look for where the water might be. I've got a reasonable understanding of buildings and where the water may be coming in or coming from. So apart from the obvious leaking pipe and it's a bit of a mission, it's a puzzle that needs solving.

Sara Jackson - [00:10:56]

So as I understand it, mold is a symptom of damp and potential property defects, as you said, an open wound. So is it possible that mold could be present without us knowing it? It can be invisible, I guess, as well as, you know, seeing damp patches on a wall or windowsill?

Adam Jankowski

Oh, yes, mold will grow anywhere it's damp it might be damp in places you don't look. It could be growing behind your wallpaper. It could be growing under your floorboards, if you lift floorboards in your home you might be surprised to find that you've got a bit of a fungal activity under there because your ventilation under your floor, the air bricks have been blocked under your floor.

Obviously, we're talking about houses of a particular type. Housing construction has varied quite a lot in the last 100 years, from suspended ground floor floors to solid concrete slabs. But yeah, it could be growing in your loft, if you never venture into your loft it might be growing in your loft. Bathrooms, to be fair with bathrooms it tends to show itself a great deal because people would be surprised to see black moldy stains on the silicone sealings around their bath or their shower. But under a shower tray, and you'll never know.

Yeah, and it's all as a result of there being escape's of water or damp somewhere, where the damp has been there long enough for mold to germinate.

The mold is omnipresent, it's everywhere. It's tangled in your hair, tangled in your eyebrows, tangled in your clothing. Mold spores exist absolutely everywhere. It's, I think the word is ubiquitous, that's the word I was searching for. It's ubiquitous and all it needs is for enough water and to be on a surface which provides sufficient nutrition to germinate and grow into a colony. And one mold spore, in as little as 3 to 6 days can actually multiply mass by 20 million.

Sara Jackson

Wow. In how many days?

Adam Jankowski

3 to 6 days it multiplied in mass by 20 million. Imagine you planted an acorn and 3 to 6 days later you had an oak tree that was the mass of 20 million times the mass of what you just planted.

Sara Jackson

That's incredible, isn't it? And I guess that explains why mold was existent before there was any other life form and it will, you know, molds and the fungi kingdom are going to live far longer than anything else that has ever existed on the planet.

Adam Jankowski

It's been around longer than we have, but I'm not quite sure where in the evolutionary chain it actually occurred, that's another area I'm not going to comment on. But I think, I do believe, I think you're right, it came before us.

Sara Jackson - [00:13:50]

Yeah. Yeah.

Adam Jankowski

In fact many people will tell you, what's another issue with mold, we've evolved with it, we're surrounded by it since humans arrived on the planet. It's always been around. And so, we should be fine. I think that's a rather unfortunate analogy, because the bottom line is we've been around pollen as well, and there are people who suffer from pollen, hay fever suffers. So, no, I don't buy that. The fact that we've been around less time than mold has, doesn't mean to say that people cannot be exposed to it. People with certain conditions, medical conditions can't be made really sick by it.

Sara Jackson

And is part of the problem the way that we're living now has changed so much in the last 50 years? You know, we're living in incubated spaces with air conditioning, heating. The way that we're living is really different and the way that we're interacting with nature is very different. So do you think that's the reason why this is such a bigger problem now than it ever was previously?

Adam Jankowski

I think so. We used to live in drafty houses. I remember I mean, I'm a child of the 60s so I remember every time my parents moved house and bought a new house, my father was buying a house or they were buying a house without central heating. So my dad had to put the central heating in. I remember sitting in the evenings at home watching an old black and white TV, but if you were cold you put an extra jumper on and you could feel the wind whistling under the window frames and under the doors.

And the first reaction of a new dad in a house like that would be to block up the vent in the wall to make sure the baby doesn't get cold at night. So, yeah, there's been a huge culture change, there's been a huge change in the construction of buildings. We've got wall to wall carpets, we have central heating. I think we've changed what we consider to be the normal thermostatic setting for a house, I think it's 21 now. Most people set their thermostat at 20 or 21. To my disbelief, OK, I have to say, this is anecdotal like, I remember reading this but I can't put my hands on the document anymore. I think it used to be 18. Most people would set the heating in their house, 20/30 years ago to 18, now it's 20 or 21. We just like it warm.

Sara Jackson

I think you're right and that's a breeding ground for the mold isn't it?

Adam Jankowski

Well most molds would prefer temperatures of 20 to 30 degrees centigrade which happens to be just what we like. You go to Spain on holiday or, or Greece wherever and you're loving that 25 and 27, you go wow, it's 30 today look at that, great, straight out on the beach. But molds will grow at 4 degrees centigrade. Just open your fridge. You leave those sliced tomatoes from Sunday lunch in the fridge and forget them for a few days and you have this white fluffy stuff only in a few days. Molds will grow at almost any temperature. Some will like lower temperatures. Some will tolerate higher temperatures, but the general range is 20 to 30 centigrade.

Sara Jackson

So generally speaking, if we were to keep our homes a little bit cooler it might be a step towards the right direction of preventative measures?

Adam Jankowski - [00:17:04]

I'm not sure it's as simple as that because you can keep your, it's like I said, you'll have mold growing in the fridge. This is about humidity. You might have different species of mold growing, a different balance of species in your home growing, but it's remembered, as the temperature falls, the relative humidity goes up because it's relative to temperature. So this is about the amount of water in the air. The more water there is in the air, the more likely you are to trigger growth. You want drier air.

Sara Jackson

Yeah exactly.

Adam Jankowski

And relative humidity is not a measure of how dry the air is, it's a measurement of the percentage of water in the air at that temperature as a percentage of the maximum possible. So 50 percent relative humidity at 20 degrees centigrade means that you can double the amount of water in the air before the air becomes saturated at that temperature.

It's more complex, it's not just about temperature. Because mold will grow on outside wall of your house, if that wall is cold, because it's the outside wall, then that wall potentially is at risk of developing mold growth, if it's wallpapered, if there's wallpaper on the wall, for example. It's at more of a risk simply because if the water levels are high in your home, then the relative humidity at the wall will be high.

Sara Jackson

Sure. So do you think there's a place for certain products like a dehumidifier in the home? Will they help at all?

Adam Jankowski

Well, yes. The thing is, if your home is already contaminated with mold you probably really need to be thinking about cleaning up the mold first. The dehumidifier is essentially a catapult for mold spores because the way a dehumidifier works is by drawing air in, removing the moisture from the air and passing air out the other end. And of course, if you're carrying mold into the device whilst you extract the water from the air, the mold is then sent on its journey out the other end like a slingshot.

So essentially you've got, any movement, if you wave your hand, it's the butterfly thing, you wave your hand in front of mold and you are suspending millions, if not billions of spores to go on the air stream to settle wherever they want and with the convection currents you have in your home, I mean, just one patch of mold in one room in the corner of your house, may actually be contaminating the entire house.

Sara Jackson

And we're breathing that in and then not knowing that that's having systemic health affects.

Adam Jankowski

Well, that's your area. That's exactly what you need to...
I control the mold for someone, or try and help them control it, and you try and make them better.

Sara Jackson

Exactly. So when we're thinking about cleaning, how do we avoid careless cleaning habits in the first instance?

Adam Jankowski - [00:20:17]

Yeah, I'm afraid there's a lot of attempts at mold remediation, whether it's professional DIY, I'm more concerned about professional bad habits because you can clean your home any way you like, it's just that you may innocently be spreading it. The very fact that you approach a wall or a surface which is moldy with your hand in a cloth sends a pressure wave of air which will disturb the mold. Mold is designed to sporate and have its seed spread out on currents of air. It relies on the air. It doesn't like to grow in windy conditions. It needs to grow in still air, but it relies on the movement of air to transport its seed, the spores.

So when you're wiping a cloth all over a moldy surface, you are just throwing all this fungal debris all over the place. And one of the things I teach in my classes on mold remediation, is that the poor remediation is worse than no remediation at all.

So you may be unwittingly just knocking it around and sending, imagine dropping a cannonball into a bag of flour, except you can't see what you've done. And then you just clean up the area around the bag of flour. If you look around the kitchen, everything's going to be white. You run your finger and it's going to be white.

So if you want to learn how to remediate mold properly I mean, I do classes for professionals, but the job starts with a vacuum cleaner and ends with a vacuum cleaner. And the vacuum should really, to protect your lungs, to protect you from the air you're breathing, which may be increasingly contaminated as you clean the mold. And you should really be using a, as a minimum a HEPA standard vacuum system. So HEPA, High-Efficiency Particulate Air filters, so HEPA is a standard. The American standard for HEPA's it's 99.97 percent efficient, down to point three of a micron. So it has, and point three of a micron is the, a colleague of mine referred to as the peskiest size particle. It will actually capture more particles that are even smaller, it's just that point three happens to be the hardest particle size to try and capture.

But it's a filtration standard and that standard helps you clean the air sufficiently for us to breathe something that's reasonable as you clean. But you need to vacuum HEPA first. And not everyone will have a HEPA rated vacuum cleaner at home. So what they suck up with one end of a vacuum cleaner probably gets blasted out the other and projected even further than would have traveled on the normal currents to begin with. It's a bit of a challenge.

Sara Jackson

Yeah, well, when is the point where you might need to bring in outside help if you suspect that there's a mold situation in your home?

Adam Jankowski

Oh there are some rules of thumb concerning how much mold you see. If you see, if it's less than a square meter you do it yourself, and if it's more than the square meter, you'd probably be advised to get someone in.

Now mold doesn't conveniently grow in square meters, and so there's a judgment call here. However, I could argue very easily that if you had one square centimeter of *Stachybotrys chartarum*, which is what the press got hold of years ago as the black toxic mold, there are many black molds, there are many toxic molds, but this one just got labeled as the black toxic mold.

Sara Jackson

Can you just say that name again?

Adam Jankowski

Stachybotrys chartarum, I think there's about seven species of *Stachybotrys*, *chartarum* is the one that gets the headlines. And if you have a square centimeter of that you're in trouble. That's the highly

toxigenic mold. It's the one that people claim they've been, that people have died from in the United States. I can't comment. I can't get into that argument. I can't prove it. I'm not even sure I want to disprove it, prove or disprove it. I just do the clean up, but a square centimeter of that might be much more harmful than a square centimeter of Penicillium that you might have growing on your peach that's going off in your fruit bowl.

So, I think that species does come into it. There are some molds that are considered to be far more hazardous than others. You can't really call mold dangerous. I teach my students, I said don't call it dangerous. People just won't believe you. But it is a hazard.

Even HSE doctors control the substances hazardous to health, not control of dangerous substances. We're all exposed to dangerous things day in, day out but they represent different levels of hazards simply because we're already supposed to them in tiny amounts. You know, a square centimeter Penicillium could have 100 million spores there. Yeah, and the spores only represent about 5 percent of the vegetative growth and the entire organism, seed, root and branches has all got the potential for harm. You can be inhaling or ingesting, inhaling's probably the word, or absorbing through the skin the toxins from, not just the spores, but the actual hyphae fragments, the roots, hyphae, the roots, if you like, of a mold growth.

Sara Jackson - [00:26:03]

And that's where our first step would be to do some functional testing to identify the species that could be present in the body?

Adam Jankowski

Yeah, the problem with identifying species, it's very expensive. You're looking at a three figure sum but per species, potentially. And so there are some quick ways of testing. I must admit that I used to put people off doing the early test simply because it is experimental, it's a research tool. And the American Environmental Protection Agency has patented the method and licensed it only to a select number of laboratories in the United States to remind people like me that it's a research tool that shouldn't be used to assess a house.

But I've started doing it this year, simply because, I mean, as long as the customer, the client understands it's a research tool, they do get an analysis of 36 species, pretty much straight off the one test. So there's a bit of a benefit there because each species there after, if you look, you tell me what you're looking for, I'll send a sample to a lab and they'll look for it. They may or may not find it, but there's a price tag associated with that species.

Sara Jackson

And if someone wanted to go ahead and do that ERMI's test, how do they go about doing that? Do they need to speak to a professional first?

Adam Jankowski

In theory they could do themselves but the problem is that, and I'm not sure how much harm would be done simply because it's a research tool anyway, so you kind of have to learn to interpret the data. And I try not to do that, I try to leave it to you for the data, but the DIY I could easily do it incorrectly and cross contaminate the sample. And you can call someone like me, and there are a few of us who do this, you called me "The Expert", there's always someone more expert, I'm always wary of the term expert. There's always someone more expert than you. And there are several of us who would do this.

I mean, it all depends on how much time the, what the charges for the time for someone who offers the services that I do, in addition to the cost of the cartridge and sending off to the States and having it analyzed. But it's a test I started doing this year because I can't resist anymore, it's like a King Cnut sitting on the beach trying to say, no, don't do this, it's not worth it, the tides coming in anyway. I just do it now.

Sara Jackson - [00:28:36]

Yeah. So what does that process actually look like? Say someone's brought in the professional outside help. Can you just give, I know that it's a difficult question because it depends on the particular circumstances in each different environmental property, but can you just give us a broad picture of how that process might look to someone who is going to engage this service?

Adam Jankowski

If someone employed me and said, Adam, help me, I've got high levels of mycotoxins in my bloodwork whatever, and I'm worried it's my house. Well, I have to start off by saying, well, how much do you want to spend? I can spend a few hours on your house and a few hours writing it up or I can spend the whole day on your house and spend two days writing it up and sending stuff off to the lab. I'm afraid the cost can be quite significant.

Many people, it's not easy to write a cheque for 2000 or 3000 or 4000 GBP, especially if it's, I think there might be mold in my house, and I don't know. I have to find it. Give me two hours to find it. I might not find it. Give me 6 hours to find it, I'll find it. It's difficult, but I approach this as if I was a building surveyor and I'm looking at the building. If they can point to a patch on the wall and say, is that mold? That's an easy job. But if they say, where is it? I have no idea.

I do the whole thing, like I said, from the chimney stack, the roof, the guttering, the drains. I look at the external walls, the brickwork, the mortar work, I check under the windowsills to check if there's a drip that prevents water from rolling under the window ledge towards the wall where it can penetrate the wall.

So it starts with the building. Of course, they'll tell me the whole history of the house. Well, this is where our daughter slept and she didn't feel well in this room, she feels better in that room, oh we did have a water damage about a couple of years ago, to which I would ask, did you make an insurance claim? Did you have a professional company turn up to dry? Oh, no, we let it dry on its own. Right, next move. Next question.

It's detective work. And how much time is spent is dependent on the limitations of the budget and how much you spend, you might not find it.

Sara Jackson

Yeah, I'm sure. And what does that treatment and drying out process look like? How do you actually treat it once you found it?

Adam Jankowski

Well, if I find a house which has got either damp issues, that means I can actually measure the materials that are in the building are actually wet and have the capability to support mold, then we have to talk. I talk to the customer about how they might progress. That forms part of the poll. This is what you could do. You could, you need to clean this all up, you need to hire a company that'll maybe remove that section of wall if it's plaster board, to do it under conditions which prevents them or enables them to do so they don't spread the mold into other parts of the house. Even though the house may already be contaminated elsewhere, the contractor should not be making it worse. They're bound by the control of substances hazardous to health regulations, they're not allowed to spread the biological agent in their work.

So in my report I will write for the client what I think could be done to address the problem in that particular area. They might have a building with multiple water damage issues. So, and it might be beyond their budget to fix it all at once. So they might say, well, what's the one that we should do first Adam? I say, well, subject to the species, I think you might want to address the issues in the loft first or let's deal with the bathroom here first.

And so, then they ask me well what contractor? Because I don't do the work myself anymore. I'm deliberately retired from this in the sense that when I give people advice, I'm not lining my own pocket. I separate my services as a consultant from the delivery of that service, so that I'm not saying to the customer I found mold. I know you can't see it, but I assure you it's there. And by the way, I'm the guy to clean it up. It sounds to me like a conflict of interest.

In fact, there are standards written in America which clearly states that that would be a conflict of interest. So the consultants have investigators, indoor environmental professionals are considered third party independence, and they should not be involved in the remediation process unless they're monitoring the contractor and actually measuring the standard of the performance of the work of the contractor as an independent.

Sara Jackson - [00:33:36]

I'm glad you brought that up, because I'm sure that's a concern for many especially given that mold can be invisible. How would we actually know that the mold cleanup job that's been done has been successful? Can we measure and inspect the work if we never see the mold in the first place?

Adam Jankowski

Yeah, this is where I kind of put my hand down as a so-called expert, because although I can measure, I can take measurements of air, I can take measurements of surfaces, sample surfaces. I only do that for mold. I can do that for, not that is part of this conversation, I can do it for black water conditions with sewage or water that comes from external flooding. It is within my capabilities to do that.

But then if you really need to go to a higher level then I'd call in the biological services. I'm not a scientist. I don't have a PhD in microbiology. And when I decide I'm out of my depth, that's when I call microbiological services to make those determinations.

But other than that, if someone's got basic water damaged property and they're worried about mold, I sample services, I sample air, I come to a conclusion to help them figure out how someone can fix it for them.

Sara Jackson

Can you offer a bit of advice to someone who can't afford to get professionals in? And how might someone address the problem themselves without jeopardizing their house?

Adam Jankowski

Well, that might actually start with a really good vacuuming regime. And if they can stretch their budget to buying a decent vacuum cleaner, which has HEPA filtration, I could show them or talk to them about how. I mean, I do free advice on the phone all the time. I spend an hour or two hours on the phone with some people before I may even get the commission to go and have a look before I can actually put a bill in for having turned up to do a survey. And that's exactly what I'm doing, most of the time I'm actually talking on the phone to someone who can't actually afford to hire me.

So vacuum, just vacuum everything, keep having a vacuum, but also see if you can find where the damp's getting in and see if you can address that yourself. I mean, OK, if your walls are cold in the winter, that's because you're probably not heating your house properly. If your, I know it's a struggle to keep an outside wall warm all the time, but if it's warm, the relative humidity at the wall is lower. If you keep the relative humidity below 65 percent of the air, the slice of air nearest the wall has got to be under 65 percent relative humidity, because at 66, 67 that's the threshold at which molds will detect there is sufficient moisture for germination.

So, look at how you heat your home, look at where you're drying your clothes and how you dry them. If you haven't got a condenser based tumble dryer, get one. But again, that's an expense. If you've got

pot plants maybe consider putting them outside. Lawn dry your linen, change your mattresses, change your pillows, when was the last time you changed your pillows? Get rid of them.

Sara Jackson - [00:36:56]

How effective would you say shop bought mold products are? And can we trust the claims that we might see on bottles?

Adam Jankowski

Oh right, that's a cracker. Oh, my goodness, how long we got? Right, I'm a terrible skeptic, having been in the cleaning and restoration industry for 28 years, as you rightly said, I'm a real skeptic when it comes to chemicals as advertised by the manufacturer, really skeptical.

First of all, manufacturers will exaggerate claims. Consumers will misinterpret claims by taking the best possible interpretation. And let's start off with the fact that you can't actually kill mold, how about that. And you can have products that say mold killer.

Now, why do I say you can't kill mold? Because if I presented you with a walnut and said, spray that with a chemical and kill it, tell me when it's dead. How are you going to respond? I mean, you can spray with a chemical that chemically destroys its ability to reproduce. I mean, you can implant it in the soil and it will just turn to soil. It will never germinate. You've chemically damaged it. That's different.

The problem is that you can chemically damage the spores so they do not reproduce. But what if you miss one? How many do you need to grow a new colony? You just need to miss one. You can wipe out an entire population and leave one, and that one settles somewhere nice and damp or moist, on a food surface and bingo, we have mold growth, from that one. And that one square centimeter Penicillium will produce 80 to 100 million more.

So you can kill the growth of the organism, so as it spreads out on the surface, you can destroy its ability to grow. So it dies off. But the spores, unless you have chemically muted every single spore, they're ready to fly, settle somewhere else.

Now, here's the next bit. So you haven't killed it because you've missed a bit. OK. If you open the doors and windows, you let more in. So, the next spore comes in from outside and lands on that surface. And the next one is that if you inhale the stuff it doesn't matter whether it can live, whether it's alive or dead, you can still inhale it. If it's part of the dust load in the air you're now inhaling mold spores, if we keep it to spores as opposed to the rest of the fungal debris, you inhale that mold spore, which may be toxicogenic even if it's dead, you've also coated it with this wonderful product called Mold Killer and you've inhaled that too.

Really I'm a terrible skeptic when it comes to claims made by chemical manufacturers on the killing properties of the chemical properties of mold.

Sara Jackson

And so then, as you said, that comes back to the issue of, excuse me, drying out your property and making sure that you don't have the right conditions for the mold spores to grow.

Adam Jankowski

Yeah, I mean, I'm going to see if this works. I'm going to wave a document in front of you. This is an American standard, it's an American National Standards Institute document it has the same weight in America as a British Standards Institute document in the U.K. The IICRC S520 is the standard for protentional mold remediation, you know it's American because they can't spell mold. But the upshot of it is, and this is the reference guide, this is actually the standard in the reference guide, I would try and hold a professional remediator to this standard of work, because it's the highest standard of care

that's possible in the mold remediation business. These standards say that the best way to deal with mold contamination is to physically remove it.

Sara Jackson - [00:41:07]

That's very good advice. So we know what to look out for. We know what standards to hold any cleaning service that you might engage to, to make sure that you're getting the job done as well as possible.

Adam Jankowski

Yeah, up to this moment I referred to HSE documents in terms of health and safety law and the regulations are put under the law. We are compelled in this country under the law not to spread biological hazards. I mean, imagine if your home had asbestos in it and you called a contractor and as they ripped it all out of your house, they just spread it everywhere. That would be in breach of control of asbestos regulations, they would be guilty in a court of law of a criminal act.

So why would this apply to a biological agent that makes people sick? Well, it does. The control of substances hazardous to health regulations do precisely that. We have the control of lead regulator, control of lead at work regulations, control asbestos regulations and COSHH covers everything else, including biological organisms.

Sara Jackson

So by law we are covered? We are protected by law?

Adam Jankowski

Well, actually, a consumer is protected by law from the incompetent actions of a contractor who has not had the appropriate training, did not take the appropriate precautions protecting the occupants of a house where he's asked or tasked with removing the mold.

So, if you comply with the American standards for removing mold, you're actually in compliance with health and safety law in the U.K. Removing mold correctly in America means you're compliant in the U.K. under U.K. health and safety law.

Sara Jackson

Excellent. And where might someone who is looking for the right clean up service to come in? Where might they find them? Where's a good...?

Adam Jankowski

That's the problem. Lots of people claim they can clean mold, but for many of these companies perceive mold as just being another bit of dirt. So you'll hire a professional cleaning company to just treat mold, it's just a bit of mold, we will just clean it off for you. And unfortunately poor remediation is worse than no remediation at all, as I said earlier.

There are very few companies who, I know I trained them, there are very few companies who have gone to the trouble of having done the training, which is rather sad to be honest, they just don't understand the hazard. Everyone knows about asbestos. The big alarm bell thing back from the 1970s. But not a lot of people, many people dismiss mold as being a hazard and very few will accept that it's a hazard because they don't read the health and safety regulations. They're not conversant. You know, they haven't done the health and safety training.

Sara Jackson - [00:44:07]

So someone might be able to reach out to you at the restoration academy and you can advise them on appropriately trained cleaning companies?

Adam Jankowski

Well, I'm certainly not corner of the market but they're most welcome to call me. The upshot of it is they really need to find someone who has, the ideal company would be a company from the foreign flood restoration industry because these people are supposed to be trained in dealing with biological hazards. They may be dealing with properties which have had burst pipes or leaking pipes or been flooded by an external source. So they should really have had training in how to deal with, what is referred to as black water conditions. They should know how to put a Tyvek suit and a respirator and put on gloves, how to do it safely, how to remove them safely. So they should have had the training.

The only problem is that not all of them have been made aware of how much mold is a hazard and that the health and safety regulations we have in this country cover biological hazards as well. Biological hazards being mold in this case. They may not be aware.

But a client, one of your clients should really kind of, they need to scrutinize the contractor. How much experience have you got in mold remediation? Where's your certificate? Show us a certificate that says you've had specific training on this. Be demanding, I mean it's your health after all. In fact, you're only calling because you're sick, you're sick. You think it's your house. Why not interrogate the guy who actually claims he removes mold for a living?

Sara Jackson

It's very useful. So we've got a couple of key questions to ask that cleaning company to make sure that they're properly trained and qualified to do the job.

Adam Jankowski

But they will be expensive. Foreign flood guys are used to being paid by insurance companies, now insurance companies don't like paying a lot of money but insurance companies will pay properly for water damage and fire damage property to be reinstated, restored and reinstated.

Whereas a consumer might be used to paying what they perceive as minimum wage cleaning work, and it's not going to be minimum wage. We're talking about professional people who have been taught how to decontaminate buildings properly.

Sara Jackson

It's fascinating, really fascinating. I'm sure we could continue talking about this all day because there's so much to know, we're going to have to probably wrap it up. But if any of our audience wants to find out more about you and your work, can you tell us how they can find you?

Adam Jankowski

Yes, I do have a website. It's www.therestorationacademy.co.uk. The Restoration Academy as long as you can spell restoration and academy you'll be fine, but it is one word. TheRestorationAcademy. Please bear in mind that I am only one individual. If this hits an audience where my phone doesn't stop ringing I'm not going to cope. It's just me. So bear with me if I haven't got back to you in a couple of days, hang on. But yes, they can reach me.

Remember that I don't do the work myself, I just help people to find where problem might be coming from if they've got a problem and point them in the right direction. I don't remediate, I just investigate.

Sara Jackson

Thank you so much for sharing your 28 years worth of experience with us. There's so much to know and you've given a lot of really good starting points for people to start looking at mold and how we might engage on the cleanup process. So thank you so much for being part of the Super Fatigue Conference. Thanks.

Adam Jankowski

You're welcome Sara.