Addressing and Detecting Hazards from Mold Transcript

Topic 1: Types of Mold

Slide 1: Title Slide

Welcome! My name is Jim Evans from Quadel Consulting and Training, LLC. My colleagues and I developed this video training on "Detecting and Addressing Hazards from Mold" for the U.S. Department of Housing and Urban Development, HUD. The video training is adapted from an in-person training that HUD has offered at about 20 locations across the country.

Slide 2: Training Topics

This training covers 6 topics: types of mold; causes of mold growth; health concerns associated with mold; types of mold assessment; mold remediation; and managing risk. We have broken the training down into six segments.

As you're watching this training, please follow along using the course Handbook, which you can download from HUD Exchange. We will be referring to the course Handbook throughout the training.

Slide 3: Topic 1: Types of Mold

The first topic is Types of Mold.

Slide 4: Topic 1 Objectives

Under this topic, we will describe some common molds and provide examples and explanations of the various types of mold.

Slide 5: Molds are part of the fungi kingdom

So, what are molds? Molds are organisms found indoors and outdoors. Molds play an important role in the ecosystem by breaking down organic matter. They are not plant or animal but are part of the fungi kingdom.

Fungi are singular celled and multicellular organisms that vary in size from microscopic to quite large, like mushrooms. Fungi do not make their own food but absorb nutrients, mostly from decaying material. In fact, the main role of fungi is to break down decaying materials such as trees, leaves, and other dead organic material, including insect and animal remains.

While animals digest their food internally, fungi excrete chemicals called enzymes into the environment to break down organic matter. It's the enzymes in fungi that make them dangerous to buildings. What fungi sit on; they will break down in order to obtain nutrients from it.

Not all fungi are mold. Yeast, mold, mildew, and mushrooms are common forms of fungi. Mold is a type of fungi that can sit on a dead surface like a shower wall and get nutrients from that. Molds can live indoors or outdoors. In fact, there are just as many if not more molds growing outdoors than indoors.

Slide 6: Five common molds

There are five common molds: Penicillium, Alternaria, Aspergillus, Cladosporium, and Stachybotrys.

Penicillium is nearly always green or blue. It has a fuzzy appearance and a musty smell. In a residence, you commonly find Penicillium on wallpaper, on decaying fabrics, and in carpets with water damage. Penicillium is known to cause allergies.

Alternaria is a type of plant mold that you can bring into a building on your shoes or clothing. It grows in damp areas of the home like enclosures under sinks. You often find Alternaria after water damage or flooding, and in showers or in window frames. Alternaria is black with a velvet or fuzzy texture. Although black in color, Alternaria is not the Black Mold we associate with serious illness.

Aspergillus can be found in areas of extreme dampness and can be located around house dust. Its surface appearance is a yellow-green color, with a red-brown appearance underneath.

Cladosporium is the most common airborne outdoor mold, but it can often be found indoors. It has an olive-green or brown pigmentation, but over time, it may turn black. Cladosporium grows on porous surfaces like wood or textiles. It is linked to hay fever or asthma-type symptoms.

Stachybotrys, often called Black Mold, is harmful to humans. It is usually black in color but can vary. Depending on its water source, it can appear wet, or dry and powdery. It has a distinctive musty odor and produces airborne toxins.

The label “toxic mold” is misleading. Mold is not in itself toxic, although some molds produce mycotoxins that have the toxic effects attributed to mold. It may not be the presence of a specific type of mold that creates health issues for people, but exposure to a large volume of mold. So, you can’t point to specific molds as the “dangerous” kind or the “harmless” kind.

Let’s take a look at some examples of common molds.

Slide 7: Aspergillus in a petri dish

Here we see Aspergillus in a petri dish. Aspergillus lives indoors and outdoors, and its spores are in the air we breathe.

Slide 8: Various molds

This next slide illustrates that mold doesn’t have to be one color. Even the same mold type may come in different colors.

Slide 9: Common surface mold

This common surface mold starts off as a small dot. Left over a long period of time, it will blossom and eventually eat through and destroy the wood.

Slide 10: Mold or mildew in the bathroom

Here we have a common bathroom scene. You’ll often have a combination of mold and mildew in a bathroom. Why are bathrooms a common place to find mold and mildew in homes? The reason is that molds like warmth and moisture and can grow on a variety of building materials, such as wall surfaces, porous tiles, grout, and caulk. There is typically a lot of moisture in a bathroom. Bathrooms don’t always have the best ventilation, bathroom floors get wet, and

towels and shower curtains hold moisture. The combination of lingering moisture and warmth in a bathroom creates ideal conditions for mold growth.

If a resident states “I’ve got mold in my bathroom,” your response is to check the area. But you should not confirm it is mold until you are sure. If you off-handedly say “yes, that might be mold,” the only thing a resident is going to hear is that they have mold.

I like to use the analogy of a doctor and a nurse. The nurse may know a lot but avoids putting a diagnosis out there. For example, imagine you are called back to the doctor to review some test results. While waiting for the doctor to arrive, you may ask the nurse: “Do you know what’s wrong with me?” The nurse’s answer will probably be “Wait for the doctor.” In cases where you suspect mold in a unit, you are the nurse. You can collect visual information, but then you consult with your supervisor. You don’t have to be dismissive with the resident, but you don’t want to give them false information or a reason to be fearful.

Slide 11: Mold near windows

Mold does not need much moisture to grow. Here you see mold on plaster and paint. It probably began to grow inside the cracks and on the grout where moisture has accumulated. Note that in this photo, the window ledge is marble. And marble is cold, so condensation is drawn into the plaster and drywall, promoting mold growth.

Slide 12: Mold growth on ceiling

In this slide, we see mold growth on a ceiling. A pattern of mold like this could indicate a leak from above, or dampness in a corner of the room that has limited airflow.

Slide 13: Growth on food

Mold growth on food, as seen on this onion, is very common. Even the cleanest houses will have some food with mold. Most kitchen cabinets get no sunlight and have limited air flow, so if moisture gets inside, the cabinet may stay damp long enough for mold to grow.

Slide 14: Mold in nature

Mold in nature is very common. In fact, it is a naturally occurring phenomenon. There's a lot of dead organic material in nature. At some point, mold will grow, open up, and release spores into the air. The spores then float on air currents, moving from outdoors to indoors.

Slide 15: Mold and mold spores

Here is a microscopic view of spores. The picture on the left is mold under a microscope. The picture on the right is what you might see with the naked eye.

Slide 16: Pay attention to odors

As we will repeat several times in this training, it is important to pay attention to odors. Although our ability to smell varies from one person to another, a musty smell in a room or indoor space can be a warning. Odors are byproducts of mold activity. The odor tells you something is going on within the building that may be conducive to mold growth. Odors can also be a warning of other undetected environmental problems. Unpleasant, musty odors may cause headaches, nausea, or bring on asthma symptoms.

Slide 17: Topic 1 key takeaways

So, what are the takeaways from this first topic?

First, molds are found everywhere. They are indoors and outdoors, and they take many different forms.

Second, not all mold is the same color and not all mold is toxic. Just because a mold is black in color doesn't mean it's toxic, but it could be.

Third, not all mold bothers everybody. How mold affects an individual may depend on the health of that individual and the level of exposure. The elderly, infants, people with chronic respiratory problems, and people with HIV or other immune deficiency issues could be more bothered by mold.

Finally, don’t panic if you see what looks like mold, but do investigate further. We will talk more about that later in the training.

Slide 18: Thank you

That completes training Topic 1, Types of Mold. Please continue to the next video for Topic 2, What Causes Mold Growth