

Volunteer Leaders TraininG Guide

There's A Fungus Among Us – A Guide to Mold Identification and Remediation

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Target Audience

- EHC members
- Adult audiences

Objectives

- Participants will be able to identify and clean up mold.
- Participants will learn ways to prevent mold in homes.

Main Teaching Point

- Importance of elimination of moisture for mold prevention.

Handouts

- Handout 1: Ten Things You Should Know About Mold
- Handout 2: Controlling Moisture in Your Home
- Handout 3: What Do I Do if a Leak Occurs
- Handout 4: Strategies for Preventing or Removing Mold Growth After Contamination

Suggestions for Teaching

- Obtain enough copies of handouts for each participant.
- Review the information in the lesson guide and on the handouts.

Introduction

Mold is a term used to describe a type of fungus that is often a fuzzy-looking growth that appears on the surface of organic materials in damp conditions, both outdoors and indoors. Molds may be gray, black, green, yellow, orange or various other colors and may have a velvety or woolly texture.

Fungi are plant-like organisms that lack chlorophyll. Fungi are one of the five kingdoms of life. Many fungi are good and useful (edible mushrooms would be an example of these), while some fungi cause problems (some fungi can injure plants and people). There are over 100,000 species of fungi.

Since they do not have chlorophyll, fungi must absorb food from others. Since they don't use light to make food, fungi can live in damp, dark places. Fungi are supposed to "eat" things when they are dead, but sometimes they start eating when the organism is still alive.

Good fungus can help with many things to make the world a better place. Out of the many kinds of fungi, the ones we love to eat, are mushrooms. We put them on pizza, burgers, salads and more. Fungi can even make some big things happen in food. For example, a yeast fungus called *Saccharomyces cerevisiae* is used to make the alcohol in beer. This same fungus is used when we make bread – without its help, we would have flat bread. Without fungi, we would have piles of trash everywhere because fungi get food from our trash. They eat the trash and make it into soil.

Bad fungus is just good fungus trying to do its job way too early to an organism. Most commonly, fungi cause something to happen on the skin of animals or people. This is sometimes called ringworm. Ringworm is the kind of fungus that gets on the body, but some fungus just irritates the body. Fungus irritates the nose and causes allergies. Over 37 million people have allergies, and many of them are caused by fungus.

Buildings can also get sick. Buildings can get some fungi known as *Penicillium* and *Stachybotrys*. They float in the air and can cause watery eyes and breathing problems.

Molds thrive on organic materials like natural fibers (such as cotton and wool), paper, leather, wood or surfaces coated with the slightest amount of organic matter such as food, grease and soil. Molds that continue to grow can eventually eat away the organic medium that is their source of food. Wooden structural materials and textiles can deteriorate when mold is allowed to thrive on them.

Molds grow best in warm temperatures, 77 to 86 degrees Fahrenheit; though some growth may occur anywhere between 32 and 95 degrees Fahrenheit. Molds require oxygen, but not light, for growth. Mold growth can continue indefinitely without light.

Fungi are ubiquitous organisms that make up approximately 25 percent of earth's biomass. Molds are part of the natural environment. Outdoors, molds play a part in nature by breaking down dead organic matter such as fallen leaves and dead trees, but indoors, mold growth should be avoided. Molds reproduce by means of tiny spores; the spores are invisible to the naked eye and float through outdoor and indoor air. Mold may begin growing indoors when mold spores land on surfaces that are wet. There are many types of mold, and none of them will grow without water or moisture.

How Do Molds Get in the Indoor Environment and How Do They Grow?

Mold spores occur in the indoor and outdoor environments. Mold spores may enter your house from the outside through open doorways, windows, heating, ventilation and air conditioning systems with outdoor air intakes. Spores in the air outside also attach themselves to people and animals, making clothing, shoes, bags and pets convenient vehicles for carrying mold indoors.

When mold spores drop on places where there is excessive moisture, such as where leakage may have occurred in roofs, pipes, walls, plant pots or where there has been flooding, they will

grow. Many building materials provide suitable nutrients that encourage mold to grow. Wet cellulose materials, including paper and paper products, cardboard, ceiling tiles, wood and wood products, are particularly conducive for the growth of some molds. Other materials such as dust, paints, wallpaper, insulation materials, drywall, carpet, fabric and upholstery, commonly support mold growth.

Molds will grow and multiply whenever conditions are right – sufficient moisture is available and organic material is present. Be on the lookout in your home for common sources of indoor moisture that may lead to mold problems:

- Flooding
- Leaky roofs
- Sprinkler spray hitting the house
- Plumbing leaks
- Overflow from sinks or sewers
- Steam from shower or cooking
- Humidifiers
- Wet clothes drying indoors or clothes dryers exhausting indoors

Potential Signs of Mold Growth

- Unexplained discoloration on any surface
- Musty odor
- Dark spots on or around vents
- Water stains anywhere
- Peeling or curling of vinyl floors or wallpaper
- Warping floors and discoloration of walls and ceilings
- Condensation on windows or walls is also an important indication, but it can sometimes be caused by an indoor combustion problem! Have fuel-burning appliances routinely inspected by your local utility or a professional heating contractor.

The level of concern greatly increases when there are large amounts of active mold growth in your home. Large-scale mold problems are most likely to occur when there has been an ongoing water leak, a flood or very high levels of humidity in the home. Indoor mold growth may cause very high levels of airborne mold spores, which, in turn, may cause the spread of mold growth from the original source to other areas of the home where high moisture levels exist. Extensive mold growth can damage your home and belongings, such as carpets, sofas and cabinets. In time, unchecked mold growth can cause damage to the structural elements in your home. While there is no practical way to eliminate all mold and mold spores in the indoor environment, keeping your home clean and dry can prevent extensive mold growth and its related damage.

Health Effects

The vast majority of people are exposed to small amounts of mold or its spores on a daily basis without evident harm. However, mold growing inside a home is an unsanitary condition that may present potential health risks to occupants. Therefore, it is always best to identify and correct high moisture conditions quickly before mold grows and possible health problems develop. Fungi can even grow in the human body. If not properly treated, intense inflammation can recur often. It can permanently damage airway walls. This is not common.

Who Gets the Allergy?

It is common for people to get mold allergy if they or other family members are allergic to substances such as pollen or animal dander. People may become allergic to only mold or fungi, or they may also have problems with dust mites, pollens and other spores. If you are allergic to only fungi, it is unlikely that you would be bothered by all fungi. The different types of fungi spores have only limited similarities.

People in some occupations have more exposure to mold and are at greater risk of developing allergies. Farmers, dairymen, loggers, bakers, mill workers, carpenters, greenhouse employees, wine makers and furniture repairers are at increased risk.

There is only weak evidence that allergic symptoms are caused by food fungi (e.g., mushrooms, dried fruit, foods containing yeast, vinegar or soy sauce). It is more likely that reactions to food fungi are caused by the food's direct effect on blood vessels. For example, histamine may be present because of the fermentation of red wines.

Fungi on house plants can cause an allergic reaction, but this is only likely to happen if the soil is disturbed.

What Are the Symptoms?

The symptoms of mold allergy are very similar to the symptoms of other allergies, such as sneezing, itching, nasal discharge, congestion and dry, scaling skin. Some people with mold allergies may have allergy symptoms the entire summer because of outdoor molds or year-round if symptoms are due to indoor molds.

Mold spores can deposit on the lining of the nose and cause hay fever symptoms. They also can reach the lungs, to cause asthma or another serious illness called allergic bronchopulmonary aspergillosis.

Sometimes the reaction is immediate, and sometimes the reaction is delayed. Symptoms often worsen in a damp or moldy room such as a basement; this may suggest mold allergy.

Potential health effects produced by molds may include allergic, irritating, or toxigenic effects and, rarely, infection. Allergic reactions are generally the most common health effect. Typical symptoms (alone or in combination) reported by people living in moldy homes include:

- respiratory problems, such as wheezing, difficulty breathing and shortness of breath
- sneezing and/or nasal congestion
- eye irritation (itching, burning, watery or reddened eyes)
- coughing or throat irritation
- skin rashes or irritation
- headaches
- fatigue

The potential health effects depend on the amounts and types of mold present, the length and frequency of exposure and the sensitivity and health condition of exposed individuals. While many people seldom experience ill effects from mold exposures, some may develop very serious

illnesses. Some people exposed to mold or mold spores may become sensitized and develop allergies to the mold or other health problems. Even “dead” mold (including spores and pieces of mold) may still cause allergy, irritation or toxigenic reactions. Thus, killing mold without removing the residue may still be a health concern. Complete removal and thorough cleanup of mold is the safest solution.

Individuals at greater risk who may experience more severe symptoms or become ill more rapidly than others include:

- individuals with existing respiratory conditions, such as allergies, asthma or chemical sensitivities
- individuals with weakened immune systems due to conditions such as HIV infection or cancer treatment
- infants and young children
- pregnant women
- the elderly

Anyone with a health problem they believe may be due to mold exposure should consult a medical professional.

Inhaling the spores causes allergic reactions in some people. Allergic symptoms from fungus spores are most common from July to late summer. But with fungi growing in so many places, allergic reactions can occur year-round.

Although there are many types of molds, only a few dozen cause allergic reactions. Some common spores can be identified when viewed under a microscope. Some form recognizable growth or colonies.

Many molds grow on rotting logs and fallen leaves, in compost piles and on grasses and grains. Unlike pollens, molds do not die with the first killing frost. Most outdoor molds become dormant during the winter. In the spring, they grow on plants killed by the cold. Indoors, fungi grow in damp areas, particularly in the bathroom, kitchen or basement.

Stachybotrys chartarum (also known by its synonym *Stachybotrys atra*) or “black mold” is a greenish-black mold. It can grow on material with a high cellulose and low nitrogen content, such as fiberboard, gypsum board, paper, dust and lint. Growth occurs when there is moisture from water damage, excessive humidity, water leaks, condensation, water infiltration or flooding. Constant moisture is required for its growth.

The term “toxic mold” is not accurate. While certain molds are toxigenic, meaning they can produce toxins (specifically mycotoxins), the molds themselves are not toxic or poisonous. Hazards presented by molds that may produce mycotoxins should be considered the same as other common molds which can grow in your house. There is always a little mold everywhere – in the air and on many surfaces. There are very few reports that toxigenic molds found inside homes can cause unique or rare health conditions such as pulmonary hemorrhage or memory loss. These case reports are rare, and a causal link between the presence of the toxigenic mold and these conditions has not been proven. A common-sense approach should be used for any mold contamination existing inside buildings and homes. The common health concerns from molds include hay fever-like allergic symptoms. Certain individuals with chronic respiratory disease (chronic obstructive pulmonary disorder, asthma) may experience difficulty breathing.

Individuals with immune suppression may be at increased risk for infection from molds. If you or your family members have these conditions, a qualified medical clinician should be consulted for diagnosis and treatment. For the most part, one should take routine measures to prevent mold growth in the home.

How Can I Protect My Home From Mold?

Since you cannot remove all food sources for molds, it is important as a homeowner to take sensible precautions to prevent moisture from creating a breeding ground for mold.

Fix leaky plumbing and leaks as soon as possible. Moisture can come from water leaks, flooding, capillary movement (wicking from one area to another), high relative humidity and condensation.

- Condensation and wet spots are a moisture source for mold. Fix moisture sources as soon as possible. The moisture may be in the host material, on its surface or in the form of humidity in the air. Materials that are exposed to a constant leak or have been soaked and not dried thoroughly can support mold growth. Some molds can take hold and form a new colony in one or two days on damp materials. When the relative humidity is low, the temperature is too high or too low or the organic material is gone, molds go dormant. But when the relative humidity gets high, they can regenerate.
- Keep heating and air conditioning drip pans clean and flowing properly and unobstructed.
- Excessive condensation on windows and other surfaces indicates that humidity levels in your house are too high. The relative humidity inside your house should be just high enough so that people are comfortable. But, excess humidity may cause problems on the windows, in the walls and in the attic. It also impacts wood floors, furniture and human health.

Relative humidity is a function of moisture in the air and temperature. Warm air holds more moisture. So, if a window is colder than the surrounding air, the moisture in the air condenses when it comes into contact with the cold surface. Some condensation can be expected in cold weather. The colder the outdoor temperature, the more likely you are to have condensation. The best way to control condensation is to keep relative humidity low.

- Maintain levels of humidity below 60 percent (preferably between 30 and 50 percent) by:
 - venting bathrooms, dryers and other moisture-generating sources to the outside.
 - avoiding blockage of air conditioning vents.
 - using air conditioners and de-humidifiers.
 - increasing ventilation by installing additional crawlspace and attic vents, opening windows or installing an air-to-air heat exchanger.
 - using exhaust fans when cooking, dishwashing and cleaning.
 - avoiding the use of un-vented heaters or high heat in confined areas.
 - setting the air conditioning thermostat to “auto” to prevent circulation of humid air.
- Do not use un-vented kerosene or gas heaters.
- Add insulation to reduce the potential for condensation on cold surfaces (windows, piping, exterior walls, roof or floors).
- Do not store firewood inside the home.

Consider sources of moisture that make relative humidity high, such as the kitchen and bathroom. You can control moisture by providing adequate ventilation directly outside from these rooms.

- Use bathroom fans during and after showers and baths. Install a timer that keeps the fan running for at least 15 or 20 minutes after showering or bathing. This removes most of the excess moisture. Use kitchen fans that vent directly outside during and after cooking or baking. They remove moisture and reduce relative humidity inside.
- Make sure clothes dryers are properly vented. You don't want moisture being removed from clothes to get in the house. Make sure vent ducts for the dryer are sealed and as short as possible. Sealing them assures that excess moisture leaves the house and doesn't end up in the floor or wall where hidden mold and damage happen.

Also make sure your windows are sealed. Caulk where the inside frame meets the wall and between the frame and the sash. Use weather-strips to close gaps on sliding window parts. If condensation problems persist, consider a whole-house ventilation system. These balanced systems manage humidity and keep indoor air healthier. This means fresh air is brought into the house in the same amount that is being exhausted. Many systems recover the heat from outgoing air in the winter to save energy.

Dehumidify humid areas. A dehumidifier, an air conditioner or a furnace will help dry the air. Increasing ventilation by opening windows or installing vents may help if relative humidity level is lower outside the house than inside. It is particularly important to dehumidify or ventilate the house when new construction materials have been added.

Increase the air flow in problem areas. Move furniture a few inches away from outside walls so that air flow will decrease the problem of condensation on the walls. If mold is growing in closets, keep closet doors open to promote air flow. Closets should not be overfilled, as this will reduce air circulation in the closet. Louvered closet doors aid in ventilation. Circulating fans may help with air flow in problem areas.

Prevent condensation problems by installing adequate insulation to keep walls warm. Installing storm or thermal pane windows raises the temperature of the glass during winter months resulting in less condensation on windows.

Reduce sources of moisture coming in from the outside. Seal cracks in the basement walls and foundation. Slope the earth away from the house to promote drainage away from the foundation walls. Use downspouts to direct rainwater away from the house.

Install vapor barriers in crawlspaces to prevent ground moisture from entering. Crawlspaces that continue to have high humidity need ventilation.

Cleanup Methods

A variety of mold cleanup methods are available for remediating damage to building materials and furnishings caused by moisture control problems and mold growth. The specific method or group of methods used will depend on the type of material affected. Please note that professional remediators may use some methods not covered in these guidelines; absence of a method in the guidelines does not necessarily mean that it is not useful.

Who should do the cleanup depends on a number of factors. One consideration is the size of the mold problem. If the moldy area is less than about 10 square feet (less than roughly a 3-foot by 3-foot patch), in most cases, you can handle the job yourself, following the guidelines below. However:

- If there has been a lot of water damage and/or mold growth covers more than 10 square feet, consult the U.S. Environmental Protection Agency (EPA) guide, *Mold Remediation in Schools and Commercial Buildings*. Although focused on schools and commercial buildings, this document is applicable to other building types.
- If you choose to hire a contractor (or other professional service provider) to do the cleanup, make sure the contractor has experience cleaning up mold. Check references and ask the contractor to follow the EPA recommendations.
- If the water and/or mold damage was caused by sewage or other contaminated water, then call in a professional who has experience cleaning and fixing buildings damaged by contaminated water.

Method 1: Wet Vacuum – Wet vacuums are vacuum cleaners designed to collect water. They can be used to remove water from floors, carpets and hard surfaces where water has accumulated. They should not be used to vacuum porous materials, such as gypsum board. They should be used only when materials are still wet – wet vacuums may spread spores if sufficient liquid is not present. The tanks, hoses and attachments of these vacuums should be thoroughly cleaned and dried after use since mold and mold spores may stick to the surfaces.

Method 2: Damp Wipe – Whether dead or alive, mold is allergenic, and some molds may be toxic. Mold can generally be removed from nonporous (hard) surfaces by wiping or scrubbing with water or water and detergent. It is important to dry these surfaces quickly and thoroughly to discourage further mold growth. Instructions for cleaning surfaces, as listed on product labels, should always be read and followed. Porous materials that are wet and have mold growing on them may have to be discarded. Since molds will infiltrate porous substances and grow on or fill in empty spaces or crevices, the mold can be difficult or impossible to remove completely.

Method 3: HEPA Vacuum – HEPA (High-Efficiency Particulate Air) vacuums are recommended for final cleanup of remediation areas after materials have been thoroughly dried and contaminated materials removed. HEPA vacuums are also recommended for cleanup of dust that may have settled on surfaces outside the remediation area. Care must be taken to assure that the filter is properly seated in the vacuum so that all the air must pass through the filter. When changing the vacuum filter, remediators should wear Personal Protective Equipment to prevent exposure to the mold that has been captured. The filter and contents of the HEPA vacuum must be disposed of in well-sealed plastic bags.

Method 4: Discard – Remove damaged materials and seal in plastic bags. Building materials and furnishings that are contaminated with mold growth and are not salvageable should be double-bagged using 6-mil polyethylene sheeting. These materials can then usually be discarded as ordinary construction waste. It is important to package mold-contaminated materials in sealed bags before removal from the containment area to minimize the dispersion of mold spores throughout the building. Large items that have heavy mold growth should be covered with polyethylene sheeting and sealed with duct tape before they are removed from the containment area. Always use gloves and eye protection when cleaning up mold!

Personal Protective Equipment (PPE)

If the remediation job disturbs mold and mold spores become airborne, then the risk of respiratory exposure goes up. Actions that are likely to stir up mold include breakup of moldy porous materials such as wallboard, invasive procedures used to examine or remediate mold growth in a wall cavity, actively stripping or peeling wallpaper to remove it and using fans to dry items.

The primary function of Personal Protective Equipment (PPE) is to avoid inhaling mold and mold spores and to avoid mold contact with the skin or eyes.

Skin and Eye Protection – Gloves are required to protect the skin from contact with mold allergens (and in some cases mold toxins) and from potentially irritating cleaning solutions. Long gloves that extend to the middle of the forearm are recommended. The glove material should be selected based on the type of materials being handled. If you are using a biocide (such as chlorine bleach) or a strong cleaning solution, you should select gloves made from natural rubber, neoprene, nitrile, polyurethane or PVC. If you are using a mild detergent or plain water, ordinary household rubber gloves may be used. To protect your eyes, use properly fitted goggles or a full-face respirator with HEPA filter. Goggles must be designed to prevent the entry of dust and small particles. Safety glasses or goggles with open vent holes are not acceptable.

Respiratory Protection – Respirators protect cleanup workers from inhaling airborne mold, mold spores and dust.

Minimum: When cleaning up a small area affected by mold, you should use an N-95 respirator. This device covers the nose and mouth, will filter out 95 percent of the particulates in the air and is available in most hardware stores.

Limited: Limited PPE includes use of a half-face or full-face air purifying respirator (APR) equipped with a HEPA filter cartridge. These respirators contain both inhalation and exhalation valves that filter the air and ensure that it is free of mold particles. Note that half-face APRs do not provide eye protection. In addition, the HEPA filters do not remove vapors or gases. You should always use respirators approved by the National Institute for Occupational Safety and Health.

Full: In situations in which high levels of airborne dust or mold spores are likely or when intense or long-term exposures are expected (e.g., the cleanup of large areas of contamination), a full-face, powered air purifying respirator (PAPR) is recommended. Full-face PAPRs use a blower to force air through a HEPA filter. The HEPA-filtered air is supplied to a mask that covers the entire face or a hood that covers the entire head. The positive pressure within the hood prevents unfiltered air from entering through penetrations or gaps. Individuals must be trained to use their respirators before they begin remediation. The use of these respirators must be in compliance with OSHA regulations.

Disposable Protective Clothing – Disposable clothing is recommended during a medium or large remediation project to prevent the transfer and spread of mold to clothing and to eliminate skin contact with mold.

Limited: Disposable paper overalls can be used.

Full: Mold-impervious disposable head and foot coverings and a body suit made of a breathable material, such as TYVEK®, should be used. All gaps, such as those around ankles and wrists, should be sealed (many remediators use duct tape to seal clothing).

Containment

The purpose of containment during remediation activities is to limit release of mold into the air and surroundings in order to minimize the exposure of remediators and building occupants to mold. Mold and moldy debris should not be allowed to spread to areas in the building beyond the contaminated site.

In general, the size of the area helps determine the level of containment. However, a heavy growth of mold in a relatively small area could release more spores than a lighter growth of mold in a relatively large area. Choice of containment should be based on professional judgment. The primary objective of containment should be to prevent occupant and remediator exposure to mold.

Limited Containment – Limited containment is generally recommended for areas involving between 10 and 100 square feet (ft²) of mold contamination. The enclosure around the moldy area should consist of a single layer of 6-mil, fire-retardant polyethylene sheeting. The containment should have a slit entry and covering flap on the outside of the containment area.

For small areas, the polyethylene sheeting can be affixed to floors and ceilings with duct tape. For larger areas, a steel or wooden stud frame can be erected and polyethylene sheeting attached to it.

All supply and air vents, doors, chases and risers within the containment area must be sealed with polyethylene sheeting to minimize the migration of contaminants to other parts of the building. Heavy mold growth on ceiling tiles may impact HVAC systems if the space above the ceiling is used as a return air plenum. In this case, containment should be installed from the floor to the ceiling deck, and the filters in the air handling units serving the affected area may have to be replaced once remediation is finished.

The containment area must be maintained under negative pressure relative to surrounding areas. This will ensure that contaminated air does not flow into adjacent areas. This can be done with a HEPA-filtered fan unit exhausted outside of the building. For small, easily contained areas, an exhaust fan ducted to the outdoors can also be used. The surfaces of all objects removed from the containment area should be remediated/cleaned prior to removal.

Moisture Control Is the Key to Mold Control

Full Containment – Full containment is recommended for the cleanup of mold-contaminated surface areas greater than 100 ft² or in any situation in which it appears likely that the occupant space would be further contaminated without full containment. Double layers of polyethylene should be used to create a barrier between the moldy area and other parts of the building. A decontamination chamber or airlock should be constructed for entry into and exit from the remediation area. The entryways to the airlock from the outside and from the airlock to the main containment area should consist of a slit entry with covering flaps on the outside surface of each slit entry. The chamber should be large enough to hold a waste container and allow a person to put on and remove PPE. All contaminated PPE, except respirators, should be placed in a sealed bag while in this chamber.

Respirators should be worn until remediators are outside the decontamination chamber. PPE must be worn throughout the final stages of HEPA vacuuming and damp-wiping of the contained area. PPE must also be worn during HEPA vacuum filter changes or cleanup of the HEPA vacuum.

I Found Mold Growing in My Home; How Do I Test the Mold?

Generally, it is not necessary to identify the species of mold growing in a residence, and CDC does not recommend routine sampling for molds. Current evidence indicates that allergies are the type of diseases most often associated with molds. Since the reaction of individuals can vary greatly, either because of the person's susceptibility or type and amount of mold present, sampling and culturing are not reliable in determining your health risk. If you are susceptible to mold and mold is seen or smelled, there is a potential health risk. Therefore, no matter what type of mold is present, you should arrange for its removal. Furthermore, reliable sampling for mold can be expensive, and standards for judging what is and what is not an acceptable or tolerable quantity of mold have not been established.

Hidden Mold

In some cases, indoor mold growth may not be obvious. It is possible that mold may be growing on hidden surfaces, such as the backside of dry wall, wallpaper or paneling, the top of ceiling tiles, the underside of carpets and pads, etc. Possible locations of hidden mold can include pipe chases and utility tunnels (with leaking or condensing pipes), walls behind furniture (where condensation forms), condensate drain pans inside air handling units, porous thermal or acoustic liners inside ductwork or roof materials above ceiling tiles (due to roof leaks or insufficient insulation).

Some building materials, such as dry wall with vinyl wallpaper over it or wood paneling, may act as vapor barriers, trapping moisture underneath their surfaces and providing a moist environment where mold can grow. You may suspect hidden mold if a building smells moldy, but you cannot see the source, if you know there has been water damage and building occupants are reporting health problems. Investigating hidden mold problems may be difficult and will require caution when the investigation involves disturbing potential sites of mold growth – make sure to use PPE.

For example, removal of wallpaper can lead to a massive release of spores from mold growing on the underside of the paper. If you discover hidden mold, you should revise your remediation plan to account for the total area affected by mold growth.