

QUESTIONS TO ASK WHEN HIRING AN INDOOR ENVIRONMENTAL PROFESSIONAL (IEP)

By Kendra Seymour, NCMP, NCRSI

WHAT TO KNOW BEFORE YOU BEGIN

Indoor Environmental Professional (IEP) is a general term used to describe someone who performs indoor environmental inspections of a building. They should provide an independent assessment of the entire home and make recommendations based on what is best for their client, not what is fastest, easiest, or cheapest for the remediation company.

Unfortunately, the requirements, qualifications, and skill sets vary greatly among IEPs. You cannot assume that because a person is an IEP that they are bound by certain requirements, standards, laws, or operating procedures. Be sure to thoroughly vet anyone you hire. The questions below are designed to help you find a knowledgeable professional.

WORD OF CAUTION: *In general, the company inspecting your home should be different from the company performing the remediation. Otherwise, it's a potential **conflict of interest** and is even **illegal** in some states!*

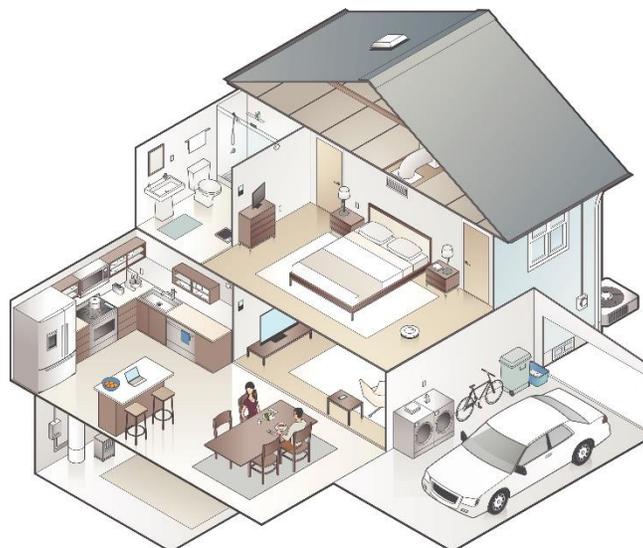
QUESTIONS TO ASK ABOUT PROCESS

Question 1: What does a typical mold investigation look like? How long does it typically take? Does your inspection include the entire home (including the exterior areas as well as attics, basements, crawlspaces, and HVAC)? Is there anywhere you won't look during that time?

*An investigation of a home for microbial growth and water damage includes **four key elements**:*

1. Thorough investigation of the entire home

2. Strategic and targeted testing



3. Detailed history of the home

4. Survey of occupant health

A good IEP includes all four elements from the previous page into their investigation. Each element represents an important piece of the puzzle, and skipping one or more may result in an incomplete picture of what might be going on in the home. A good IEP understands that mold is often hidden, and an odor may not always be present. Simply put, just because mold growth may not be visible, doesn't mean it's not there! Further, what is visible may be just the tip of the iceberg and can be the first clue to a much bigger problem that is hidden underneath surfaces, walls, and flooring.

A good investigation includes the entire home, top to bottom, including hard to reach places like attics, crawlspaces, basements, HVAC systems, ductwork, and other systems. It should also include an investigation around the exterior of the property to look for drainage, grading, and other issues that may impact the home.

Your IEP should use a variety of tools and strategic tests. Tests can include areas of actual or suspected microbial growth (known in industry terms as **Condition 3**) and areas that may be impacted by cross-contamination from source areas (known in industry terms as **Condition 2**).

Your IEP should also factor in the history of the home including additions, renovations, and past water events (even if the event seemed relatively minor, has already dried, or even was remediated previously). Equally important are the reported health symptoms and observations of the people in the home. This is a multi-hour and multi-pronged investigation, not an "in and out" in 45 minutes.

To learn more about the role of an IEP and what a good inspection looks like, be sure to check out our interviews with IEP Brian Karr [here](#) and [here](#).

Question 2: How does the history of the home factor into your inspection?

The history of the home, when known, should play a key part in an investigation. Historical water damage from sources such as burst pipes, floods, leaks, overflowed tubs, toilets, dishwashers, and washing machines are important clues. Water that is trapped behind walls for longer than 24-48 hours can lead to mold growth. Do not hire an IEP who dismisses the signs of water damage simply because the area is now dry. Dormant mold growth is still a health hazard.

To learn more about water damage, download your free copy of "[Moisture Basics](#)" at ChangeTheAirFoundation.org/free-downloads

MOISTURE BASICS
By Denise Seymour, NCMT, RCRI

Do you know the five signs of water damage?

- 1. Dribbling
- 2. Buckling or Separating
- 3. Peeling or Cracking
- 4. Humidity
- 5. Efflorescence
- 6. Staining

Did you know the secret to looking for hidden mold is to look for water damage?

Moisture can lead to mold and other microbial growth. Under the right circumstances, mold can grow in as little as 24-28 hours. Bacteria can grow even sooner. Stop the moisture, stop the growth!

The clock starts the moment the building material gets wet.

- NOT the moment you discover the leak.
- NOT the moment the water restoration company finally gets to your house.
- NOT three days later when the building material final starts to dry out.

MICROBIAL GROWTH TIMELINE

Day	1	2	3	4	5
Hour	moisture	moisture	fungi and	fungi and	fungi and
moisture	moisture	moisture	decomposition	decomposition	decomposition
moisture	moisture	moisture	continues	continues	continues and all
moisture	moisture	moisture	(24 hours)	(24 hours)	building
moisture	moisture	moisture			materials are
moisture	moisture	moisture			discarded dry
moisture	moisture	moisture			(200 hours)

Additional

- "The Signs of Water Damage"
- "Checklist: Steps to Take to Avoid a Water Claim"
- "Steps to Preventing a Mold Claim: Your Rights as a Water Damage"

MOISTURE IN A HOME

Leaky pipes and flooding. It can come from above, hidden, and relatively small water leaks and should be contained or the water source has dried up. Unfortunately, dry, mold.

Leaky Windows

Bath

Cooking

Appliances

Types of Water

Category 1 "Clean Water"

Category 2 "Black Water"

Question 3: How do I prepare my home for your visit? Do I need to empty out closets or under sinks? Do I need to turn off air purifiers or keep windows closed for a certain period prior to your visit?

Each IEP will have their own requests in this area. Your IEP may ask you to turn off any air purifiers and keep the windows closed for a few days prior to inspection. Even if your IEP does not request it, it's generally a good idea to empty out everything from under your sinks. You want your IEP to be able to easily see any signs of water damage. While you usually do not need to empty out your closets, make sure your IEP can clearly see the floor and walls. Consider pulling furniture away from walls and windows so your IEP can easily see walls, baseboards, and areas around windows. Most IEPs will **not** move furniture or belongings, so it is important that you make these areas as accessible as possible.

QUESTIONS TO ASK RELATED TO TOOLS AND TESTING

Question 4: What tools do you use to help in your inspection?

Tools such as moisture meters, thermal imaging cameras, hygrometers, and flashlights can assist an investigation. All tools have specific purposes and limitations. The most important tools your IEP should use are their eyes and a flashlight. Do not rely on an IEP who depends only on tools such as moisture meters or thermal cameras, as these tools may miss previous water damage that has already dried.

Helpful tools in an investigation may include:



Eyes



Flashlight



Hygrometer



Moisture Meter



Thermal Camera

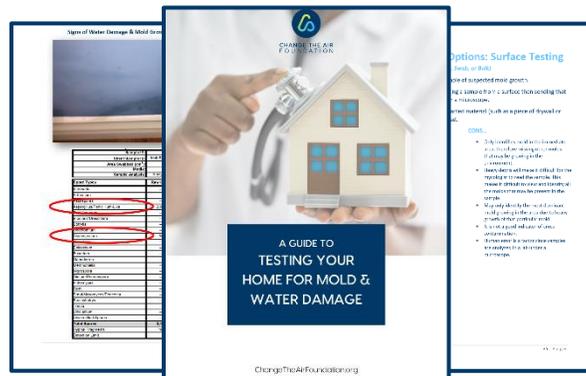
Question 5: What types of testing do you do? How do you conduct each of those tests?

There are a variety of tests that can provide valuable information about your home. It is important to remember that all tests have specific purposes and limitations and that there are no perfect tests. All testing should be targeted and strategic. If your IEP suspects an area of your home is a problem, testing can confirm if that is true. The information from that test can help the IEP provide an accurate assessment of what might be going on in that area.

The type of testing an IEP will use should depend on the unique circumstances and goals for that home. Testing methods may include air testing (close to a suspected source or in a wall cavity), dust testing, and surface sampling (i.e. swab or tape). How a test is conducted influences the accuracy of the results. Your IEP should be able to explain how and why they are collecting tests

in that way. Do not rely on an IEP who only takes ambient air samples in the center of different rooms. Testing in this way may not accurately reflect what is going on in the home.

To learn more, watch our FREE mini class series on [Testing Options for Your Home](#) or download your free copy of [“A Guide To Testing Your Home for Mold & Water Damage.”](#)



Question 6: How do you decide when a test is needed?

All testing should be performed for a specific reason and to collect specific data. Testing is performed to prove or disprove if mold, microbial growth, or other contamination are present in the home. An IEP should be able to tell you why they are testing a specific area. An IEP should not be randomly taking samples. Testing should always answer a question about your home and/or influence your next steps.

Question 7: How do you use that testing to inform your recommendations?

Testing should always answer a question you have about your home or influence your next steps. It should help confirm if something is or is not going on in the building. Any data from a test should be combined with information from a thorough physical investigation in order to paint the most accurate picture of what might be going on in the home. Ultimately, the data from these tests will help the IEP make recommendations and write the recommended protocol if remediation is needed.

As a reminder, physical mold growth, regardless of species, needs to be safely removed. Testing in that case may not be needed.

Question 8: Do you test for and address cross-contamination in the rest of the home? If so, how?

Mold spores, fungal fragments, and mycotoxins (if produced), can easily move around a room or building on air currents, people, pets, and possessions. For example, mold growing in the corner of your basement can lead to cross-contamination of other areas of the home such as adjoining rooms, other levels, and even your HVAC system. These spores, fungal fragments, and mycotoxins can affect your health. It is important to understand how these contaminants may have affected other areas of the home so that they can be successfully removed. Cross-contamination is sometimes referred to as **Condition 2**.

Question 9: If remediation is conducted, what does the post-remediation verification (PRV), also known as post testing or clearance testing, look like? What clearance criteria is used to decide if a remediation project was successful?

The goal of PRV is to determine if the remediation was successful and met the expected goals. Like the initial inspection and assessment of your home, PRV includes a visual inspection and testing of the home. Generally speaking, PRV involves three main parts:

Three Components of Post-Remediation Verification:

1. Visual inspection and moisture measurements
2. Air testing
3. Surface sampling

At a *minimum*, a “pass” should meet Wonder Makers Environmental’s Post-Remediation Criteria for Mold Contamination which has been reprinted in our free guide, [Mold Remediation at a Glance](#).

The IEP should perform a visual inspection and confirm buildings materials are dry using a tool such as moisture meter. Remember, dry is a measurement and the moisture content of a material cannot be determined by look or feel. A remediation project may “fail” simply because the visual inspection shows mold, dirt, or debris inside the containment. The presence of this large debris likely means that smaller particles such as spores, fungal fragments, mycotoxins, and bacteria have been left behind because the small particle cleaning was insufficient or nonexistent. If this occurs, your IEP may decide not to perform further testing until the remediation company comes back and recleans the area at no additional cost to the client.

If the visual inspection reveals the area is free of visible debris, the IEP should perform air sampling inside and outside containment as well as a control sample(s) outdoors. Surface samples (tape or swab) are taken inside the containment to ensure that mold growth and byproducts have been removed from surfaces.

*Do **not** remove containment and other engineering controls or enter the contained area until test results are returned and your IEP determines the area has “passed” PRV.*

IMPORTANT NOTE: *There is **no** standard (federal, health, or otherwise) that says that “X” amount of a mold or bacteria is safe or acceptable while “Y” amount is not. As a result, you will want to work with your Indoor Environmental Professional (IEP) and remediator to determine what constitutes a “pass” or “fail.” Be sure this agreement is in writing prior to work beginning.*

*Learn more about PRV by watching Part 11 of our **Mold Remediation Mini Class Series (Coming Fall 2024)** or downloading your free copy of [“Mold Remediation at a Glance”](#) and [“Mold Remediation Contracts.”](#)*

QUESTIONS TO ASK ABOUT BACKGROUND EXPERIENCE

Question 10: What certifications and training have you received?

IEP is a general term, not a specific certification. There are several organizations that offer certifications in the indoor air quality industry that are specific to assessing residential properties. In addition to the list of the most widely accepted certifications, it is important to check state regulations as some require licenses to perform mold inspections. The ACAC and NORMI websites are a good place to start your search for an IEP.

ACAC www.acac.org/find

- CMI (Counsel-certified Microbial Investigator)
- CIE (Counsel-certified Indoor Environmentalist)
- CIEC (Council-certified Indoor Environmental Consultant)

NORMI www.normipro.com/serach-certs.php

- CMA (Certified Mold Assessor)

IMPORTANT NOTE: Certifications are a *minimum* requirement. Just because an individual or company is certified, does not mean they implement the practices, processes, or standards required by that certification. Always ask for details about their process. Use these questions and resources at ChangeTheAirFoundation.org to find a knowledgeable professional.

Question 11: Have you worked with sick or sensitive individuals before? Does your process and recommendations change in that case? If so, how?

It's recommended to work with someone who understands how those who are sick or sensitive to mold may be affected by seemingly small amounts of contamination. Mold and other microbial growth in water-damaged buildings can have a wide range of health effects. Unfortunately, some IEPs do not believe dormant microbial growth, or microbial growth behind walls or in attics, crawlspaces, basements, or HVACs to be a health risk. Mold and other microbial growth, regardless of species, should be safely removed from the home and the moisture source corrected.

QUESTIONS TO ASK ABOUT REMEDIATION

Question 12: What standards or guidelines do you use to develop your protocols and recommendations?

*There are **no** federally mandated standards in the United States. The [ANSI/IICRC S520](#) provides a reliable and accredited set of standards that can serve as a starting point for your remediation project.*

Question 13: What does a remediation protocol that you write typically entail?

A remediation protocol should outline the entire scope of the work to be performed including the standards and procedures to be followed. It should include information about proper engineering controls (like containment and pressure), how the home and workers will be protected, and specifics about how demolition, removal, and cleaning inside the containment will occur.

For a detailed consumer-friendly overview of what safe and effective remediation should look like, download our free guide, [“Mold Remediation at a Glance”](https://www.ChangeTheAirFoundation.org/free-downloads/) available at [ChangeTheAirFoundation.org/free-downloads/](https://www.ChangeTheAirFoundation.org/free-downloads/)

STEP 2 OF THE INSPECTION & REMEDIATION PROCESS

Step 2.1: Personal Protective Equipment Step 2.2: Proper Engineering Controls Step 2.3: Controlled Demolition & Removal Step 2.4: Detailed Cleaning

Step 2.2: Proper Engineering Controls

What is it? Personal protective equipment (PPE) is a critical part of the remediation process. Because containment alone will not keep 100% of spores, fragments, mycotoxins, and any other particles from leaving the area, proper pressure and filtration are needed to help reduce contamination and exposure both inside and outside the containment. Further, your remediation company should clean any equipment between jobs to reduce cross-contamination from one job to another.

Why is it important? Using both proper containment and air filtration devices (AFDs) is a critical part of the remediation process. Because containment alone will not keep 100% of spores, fragments, mycotoxins, and any other particles from leaving the area, proper pressure and filtration are needed to help reduce contamination and exposure both inside and outside the containment. Further, your remediation company should clean any equipment between jobs to reduce cross-contamination from one job to another.

Tip: Ask to see a diagram or sketch in your contract of where engineering controls like containments will go, where the NAM will vent, etc.

Important Note: Proper engineering controls remain up until after post testing is completed and the area passes testing. No unauthorized personnel should enter the containment at any time, even after workers have gone home for the night. Doing so risks cross-contaminating inside and outside the containment and may void any post testing guarantees made by the remediation company.

Questions for your remediator: When and how do you establish and maintain proper pressure? When and how do you use an air scrubber?

Demolition & Removal

and your remediation company agree and cannot be saved. The table below to categorize building materials with Michael Pinto's Fungal Contamination: A Guide.

From a Mold-Impacted Environment

Visible Growth

and replacement unless high value, then specialized restoration.

and replacement if structural damage or significant staining, scrubbing, sanding, or abrasive blasting of base contamination.

vacuuming, scrubbing, wiping, immersion washing, ultrasonic bath, power washing, air washing, air blasting, steam cleaning.

digging, killing, and removal. If the moisture source is on the hidden side of the wall, expect to find mold in place. If the moisture source is on the backside of the material is exposed?

Questions for your remediator: How do you determine what material to keep and what to remove? What measures do you use?

QUESTIONS TO ASK ABOUT REPORTS

Question 14: What information can I expect in my report? Are pictures included? If remediation is warranted, is a remediation plan included or is it an additional fee?

You should receive a detailed report that includes pictures, test results, and observations about the entire home. The report should include the analysis and explanation of any test results and observations, as well as recommendations about next steps, including proper remediation and correction of moisture sources. In the event you can't afford every recommendation, your IEP can help you prioritize recommendations.

Question 15: How long will it take to receive my written report?

Time will vary. Be sure you are comfortable with the timeline for your project.

Question 16: What is included in the post-remediation verification (PRV) report?

A PRV report should include observations from the visual inspection, test results, analysis, and a final statement about if the remediation project “passed” or “failed” post testing.

QUESTIONS TO ASK RELATED TO COST

Question 17: What are your fees for an initial inspection? What is included in that cost? What is not included in that cost?

Cost can vary greatly depending on the location and scope of the project. Be sure you are clear on prices and ask about any hidden or additional fees. A thorough assessment with a strategic testing plan can start at a thousand dollars and increase depending on the condition of the building and size of the home. Because an IEP should not have a financial interest in the size of your project, it's best to avoid IEPs who charge a percentage of the overall remediation job.

Question 18: How much does each type of test cost? Can you tell me ahead of time how many tests you will run?

Be sure to understand how much each type of test costs. Unfortunately, it's hard to say (as it should be) how many tests will need to be run in a home until the investigation occurs. Discuss with your IEP ahead of time how and when your IEP will run a test and if they should notify you prior to running any tests.

Question 19: How much does post-remediation verification (PRV), also known as clearance testing or post testing, typically cost?

Post-remediation testing is an additional but important cost. Based on the scope of the work, you should be able to get a pretty good idea of the types and number of samples that will be needed during PRV. Note: As tempting as it is to skip this step, don't! Microbial growth is microscopic and even good remediation companies have projects that fail PRV testing.

For step-by-step support navigating the inspection and remediation process, please visit our “**Start Here**” tab at [ChangeTheAirFoundation.org](https://www.ChangeTheAirFoundation.org)

Additional Resources

“Steps to Inspecting & Remediating Your Home for Mold & Water Damage”

“Three Key People in Your Inspection & Remediation Project”

“The 5 Signs of Water Damage”

“Moisture Basics”

“Checklist: Where to Look for Mold & Water Damage”

“A Guide to Testing Your Home for Mold & Water Damage”

“Questions to Ask When Hiring a Mold Remediator”

STEPS TO INSPECTING & REMEDIATING YOUR HOME FOR MOLD & WATER DAMAGE
By Yandra Seymour, NCMR, NCSFI

1. Inspect your home or building for signs of mold and water damage. If mold and water damage is found or suspected, consider hiring a knowledgeable Indoor Environmental Professional (IEP) who can determine the extent of any problems and determine next steps.
2. If remediation is recommended, consider hiring a knowledgeable remediation company that follows, at a minimum, the practices outlined in “Mold Remediation at a Glance.”
3. Perform post-remediation verification (clearance testing) of work areas. This is typically done by a third party such as an IEP.
4. Clean the rest of the home and belongings (sometimes known as small particle cleaning), and consider cleaning the HVAC and ductwork (if HVAC and ductwork were not addressed as part of Step 2) to remove cross-contamination. Additional testing may be considered at this point.
5. Reevaluate how you feel in the home and consider working with a knowledgeable healthcare practitioner if health symptoms and concerns persist. Implement preventive measures, regular maintenance, and a cleaning schedule.