

Hiring the Right  
People to Test,  
Inspect and  
Remediate your  
home.

Kendra Seymour,  
Change the Air  
Foundation



# The Challenge

It can be really hard to separate the good companies from bad companies.



# Objectives:



Getting Started



3 Key People in Your Project



Why & How to Find a Good Indoor Environmental (IEP)



Why & How to find a Good Remediation Company



Common Mistakes People Make

# Reasons People Test & Inspect Their Home

- ✓ You have visible water damage or mold (**Note: *Visible mold growth, regardless of the test results, should be removed safely following at a minimum the standards laid out by the IICRC S520.***
- ✓ You suspect your home might have a problem (odors, suspicious growth, etc.).
- ✓ Your home has a history of mold or water damage, or you are unsure of the history of the home.
- ✓ You or someone in the home has unexplained chronic health problems, environmentally acquired illness, autoimmune disease, or another condition that compromises your health.
- ✓ You have young children or elderly in the home.
- ✓ You are looking to buy or rent a home.
- ✓ You are considering legal action against a third party like a landlord or build
- ✓ **You have any of the 5 Signs of Water Damage! (More on that later!)**



# Reasons People Test & Inspect Their Home

90%

The average American spends more than 90% of their time indoors.

**HOW CLEAN IS YOUR AIR?**

@changetheairFDN

SOURCE: THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH

To put it into perspective, by the time you hit 40, you will have spent roughly 36 years indoors!

# Getting Started

What you **DON'T** do:

- Panic
- Spray, touch, or otherwise disturb suspected mold and water damage. (PUT DOWN THE BLEACH!)
- Call a remediation company
- Hire the first person you see online, who can get to your home, etc.

What you **SHOULD** do:

- Take a deep breath
- Research before you react
- Focus on your next step (not 10 steps down the road)
- Watch this presentation 😊



# 3 Key People in Your Project

You



Provides key information about what's going on in the home.

An I.E.P.



Performs environmental inspections and assessments of buildings.

A Remediation Company



Removes mold, microbial growth, and any affected building materials.

*\*Honorable mention: A knowledgeable health care practitioner*



Tip: The company doing the inspection/testing of your home should be different than the company doing the remediation.

\*Using the same person for both is a potential conflict of interest and is not even legal in some states.



# Why Hire an Indoor Environmental Professional (I.E.P.)?

## Ideally, an I.E.P...

- ✓ Offers an independent assessment (no financial interest is size of remediation project)
- ✓ Specifically trained to seek out sources of water intrusion, mold, and other indoor toxins
- ✓ Investigates the ENTIRE home (not just one area) using a variety of tools and tests (also takes into consideration history of home & health of occupants)
- ✓ Mold is often hidden behind walls & in hard-to-reach places
- ✓ Ensures the practices and procedures used are what's best for **YOU!**
- ✓ Writes the remediation plan
- ✓ Is the go between you and the remediation company
- ✓ Performs post remediation verification (testing)

\*I.E.P. is a blanket term. It is not regulated. Skill sets and expertise vary greatly among IEPs



# Different “types” of IEPs

**#1**

Only does  
air samples



**#2**

Only does visual  
assessments or  
relies only on tools



**#3**

Multi-pronged  
approach



# What does a good IEP do?

- ✓ Does a thorough inspection of ENTIRE home.
- ✓ Uses a variety of tools & strategic testing.
- ✓ Pays attention to the history of the home.
- ✓ Takes into account the health of the people in the home.



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[Resource](#)

# 5

# SIGNS OF HIDDEN MOLD GROWTH

Rust & Efflorescence



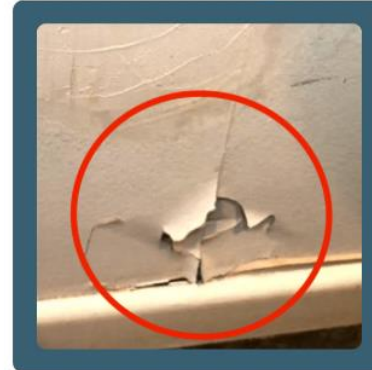
Staining



Bubbling



Cracking & Peeling



Buckling & Separating



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# Test, Don't Guess!



<b>Sample ID:</b>	366939-13
<b>Client Sample ID:</b>	Mstr Bdrm W Wall Under Wndw 5
<b>Area Swabbed (cm<sup>2</sup>):</b>	6.45
<b>Media:</b>	Swab
<b>Sample Analysis:</b>	Analyzed at 600X Magnification

Spore Types	Raw Count	Count/cm <sup>2</sup>	%
Alternaria	—	—	—
Arthrinium	—	—	—
Ascospores	—	—	—
Aspergillus/Penicillium-Like	2,967	18,400	97
Basidiospores	—	—	—
Bipolaris/Dreschlera	—	—	—
Botrytis	—	—	—
Chaetomium	—	—	—
Cladosporium	94	583	3
Curvularia	—	—	—
Epicoccum	—	—	—
Fusarium	—	—	—
Ganoderma	—	—	—
Memnoniella	—	—	—
Nigrospora	—	—	—
Oidium/Peronospora	—	—	—
Pithomyces	—	—	—
Rust	—	—	—
Smut/Myxomyces/Periconia	—	—	—
Stachybotrys	—	—	—
Torula	—	—	—
Ulocladium	—	—	—
Unidentified Spores	—	—	—
<b>Total Spores</b>	<b>3,061</b>	<b>18,983</b>	
Hyphal Fragments	188	1,166	
Detection Limit		73	



[Resource](#)

# Test, Don't Guess!



<b>Sample ID:</b>	377034-04
<b>Client Sample ID:</b>	HVAC Mini Split AHU Interior
<b>Area Swabbed (cm<sup>2</sup>):</b>	6.45
<b>Media:</b>	Swab
<b>Sample Analysis:</b>	Analyzed at 600X Magnification

Spore Types	Raw Count	Count/cm <sup>2</sup>	%
Alternaria	12	74	<1
Arthrinium	—	—	—
Ascospores	—	—	—
Aspergillus/Penicillium-Like	—	—	—
Basidiospores	—	—	—
Bipolaris/Dreschlera	—	—	—
Botrytis	—	—	—
Chaetomium	—	—	—
Cladosporium	107,152	664,509	100
Curvularia	—	—	—
Epicoccum	—	—	—
Fusarium	—	—	—
Ganoderma	—	—	—
Memnoniella	—	—	—
Nigrospora	—	—	—
Oidium/Peronospora	—	—	—
Pithomyces	—	—	—
Rust	—	—	—
Smut/Myxomyces/Periconia	—	—	—
Stachybotrys	—	—	—
Torula	—	—	—
Ulocladium	—	—	—
Unidentified Spores	—	—	—
<b>Total Spores</b>	<b>107,164</b>	<b>664,583</b>	
Hyphal Fragments	1,884	11,684	
Detection Limit		73	



# Test, Don't Guess!



Sample ID:	347914-02
Client Sample ID:	F Kitch Fridge Freezer Gasket
Area Swabbed (cm <sup>2</sup> ):	6.45
Media:	Swab
Sample Analysis:	Analyzed at 600X Magnification

Spore Types	Raw Count	Count/cm <sup>2</sup>	%
Alternaria	—	—	—
Arthrinium	—	—	—
Ascospores	—	—	—
Aspergillus/Penicillium-Like	44,745	277,488	63
Basidiospores	—	—	—
Bipolaris/Dreschlera	—	—	—
Botrytis	—	—	—
Chaetomium	—	—	—
Cladosporium	25,905	160,651	37
Curvularia	—	—	—
Epicoccum	—	—	—
Fusarium	—	—	—
Ganoderma	—	—	—
Memnoniella	—	—	—
Nigrospora	—	—	—
Oidium/Peronospora	—	—	—
Ophiostoma	—	—	—
Pithomyces	—	—	—
Rust	—	—	—
Smut/Myxomyces/Periconia	—	—	—
Stachybotrys	—	—	—
Torula	—	—	—
Ulocladium	—	—	—
Unidentified Spores	—	—	—
<b>Total Spores</b>	<b>70,650</b>	<b>438,140</b>	
Hyphal Fragments	11,775	73,023	
Detection Limit		73	



# Test, Don't Guess!



<b>Sample ID:</b>	389650-07
<b>Client Sample ID:</b>	Foyer R Wall Front Door B
<b>Area Swabbed (cm<sup>2</sup>):</b>	6.45
<b>Media:</b>	Swab
<b>Sample Analysis:</b>	Analyzed at 600X Magnification

Spore Types	Raw Count	Count/cm <sup>2</sup>	%
Alternaria	—	—	—
Arthrinium	—	—	—
Ascospores	—	—	—
Aspergillus/Penicillium-Like	—	—	—
Basidiospores	—	—	—
Bipolaris/Dreschlera	—	—	—
Botrytis	—	—	—
Chaetomium	—	—	—
Cladosporium	—	—	—
Curvularia	—	—	—
Epicoccum	—	—	—
Fusarium	—	—	—
Ganoderma	—	—	—
Memnoniella	—	—	—
Nigrospora	—	—	—
Oidium/Peronospora	—	—	—
Ophiostoma	—	—	—
Pithomyces	—	—	—
Rust	—	—	—
Smut/Myxomyces/Periconia	—	—	—
Stachybotrys	17,662	109,532	100
Tenella	—	—	—
Ulocladium	59	366	<1
Unidentified Spores	—	—	—
<b>Total Spores</b>	<b>17,721</b>	<b>109,898</b>	
Hyphal Fragments	1,519	9,420	
Detection Limit		73	





# Test, Don't Guess!



Sample ID:	390826-13
Client Sample ID:	Garage Water Htr/HVAC Platform
Area Swabbed (cm <sup>2</sup> ):	6.45
Media:	Swab
Sample Analysis:	Analyzed at 600X Magnification

Spore Types	Raw Count	Count/cm <sup>2</sup>	%
Alternaria	—	—	—
Arthrinium	—	—	—
Ascospores	—	—	—
Aspergillus/Penicillium-Like	777	4,819	3
Basidiospores	—	—	—
Bipolaris/Dreschlera	—	—	—
Botrytis	—	—	—
Chaetomium	9,420	58,419	34
Cladosporium	—	—	—
Curvularia	—	—	—
Epicoccum	—	—	—
Fusarium	—	—	—
Ganoderma	—	—	—
Memnoniella	—	—	—
Nigrospora	—	—	—
Oidium/Peronospora	—	—	—
Pithomyces	—	—	—
Rust	—	—	—
Sporothrix/Myxomycetes/Periconia	—	—	—
Stachybotrys	17,662	109,532	63
Torula	—	—	—
Ulocladium	—	—	—
Unidentified Spores	—	—	—
<b>Total Spores</b>	<b>27,859</b>	<b>172,769</b>	
Hyphal Fragments	212	1,315	
Detection Limit		73	



# Test, Don't Guess!



<b>Sample ID:</b>	343403-02*		
<b>Client Sample ID:</b>	A Kitchen Cabinetry South Wall		
<b>Detection Limit:</b>	15		
<b>Media:</b>	Tape		
<b>Sample Analysis:</b>	Analyzed at 600X Magnification		
<b>Spore Types</b>	<b>Raw Count</b>	<b>Count/cm²</b>	<b>%</b>
Alternaria	—	—	—
Arthrinium	—	—	—
Ascochyta	—	—	—
Aspergillus/Penicillium-Like	17,000	261,800	72
Bacidiomycetes	—	—	—
Bipolaris/Dreschlera	—	—	—
Botrytis	—	—	—
Chaetomium	—	—	—
Cladosporium	6,500	100,100	28
Curvularia	—	—	—
Epicoccum	—	—	—
Fusarium	—	—	—
Ganoderma	—	—	—
Memnoniella	—	—	—
Nigrospora	—	—	—
Oidium/Peronospora	—	—	—
Pithomyces	—	—	—
Rust	—	—	—
Smut/Myxomyces/Periconia	—	—	—
Stachybotrys	—	—	—
Torula	—	—	—
Ulocladium	—	—	—
Unidentified Spores	—	—	—
<b>Total Spores</b>	<b>23,500</b>	<b>361,900</b>	
Hyphal Fragments	5,500	84,700	



# Test, Don't Guess!



Sample ID:	371574-27
Client Sample ID:	Master Bedroom West Wall B
Area Swabbed (cm <sup>2</sup> ):	6.45
Media:	Swab
Sample Analysis:	Analyzed at 600X Magnification

Spore Types	Raw Count	Count/cm <sup>2</sup>	%
Alternaria	—	—	—
Arthrinium	—	—	—
Ascospores	—	—	—
Aspergillus/Penicillium-Like	3,132	19,423	10
Basidiospores	—	—	—
Bipolaris/Dreschlera	—	—	—
Botrytis	—	—	—
Chaetomium	—	—	—
Cladosporium	—	—	—
Curvularia	—	—	—
Epicoccum	—	—	—
Fusarium	—	—	—
Ganoderma	—	—	—
Memnoniella	—	—	—
Nigrospora	—	—	—
Oidium/Peronospora	—	—	—
Pithomyces	—	—	—
Rust	—	—	—
Smut/Myxomyces/Periconia	—	—	—
Steganzhina	—	—	—
Stachybotrys	29,438	182,561	90
Tortula	—	—	—
Ulocladium	—	—	—
Unidentified Spores	—	—	—
<b>Total Spores</b>	<b>32,570</b>	<b>201,984</b>	
Hyphal Fragments	7,065	43,814	
Detection Limit		73	



# Test, Don't Guess!



Sample ID:	386909-04*
Client Sample ID:	Attic (Framing Composite) A
Area Swabbed (cm <sup>2</sup> ):	25.81
Media:	Swab
Sample Analysis:	Analyzed at 600X Magnification

Spore Types	Raw Count	Count/cm <sup>2</sup>	%
Alternaria	—	—	—
Arthrinium	—	—	—
Ascospores	—	—	—
Aspergillus/Penicillium-Like	65,940	102,193	100
Baidiopores	—	—	—
Bipolaris/Dreschlera	—	—	—
Botrytis	—	—	—
Chaetomium	—	—	—
Cladosporium	—	—	—
Curvularia	—	—	—
Epicoccum	—	—	—
Fusarium	—	—	—
Ganoderma	—	—	—
Memnoniella	—	—	—
Nigrospora	—	—	—
Oidium/Peronospora	—	—	—
Pithomyces	—	—	—
Rust	—	—	—
Smut/Myxomyces/Periconia	—	—	—
Stachybotrys	—	—	—
Torula	—	—	—
Ulocladium	—	—	—
Unidentified Spores	—	—	—
<b>Total Spores</b>	<b>65,940</b>	<b>102,193</b>	
Hyphal Fragments	436	676	
Detection Limit		18	

\* Bacteria Present.



# Free Testing Series

## FREE Mini Class Series

TESTING OPTIONS FOR YOUR HOME

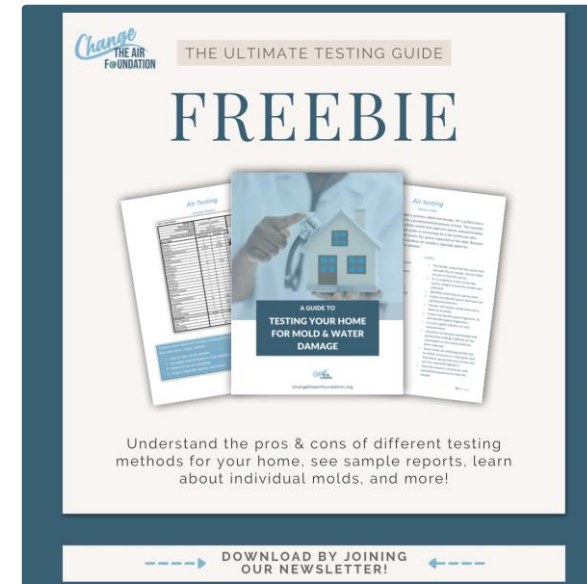


You'll learn:

- ✓ About common testing methods for mold, mycotoxins, and bacteria;
- ✓ When & how to conduct each test;
- ✓ To read test results;
- ✓ and more!

WATCH NOW

[changetheairfoundation.org](http://changetheairfoundation.org)



# How do you find an I.E.P.?

- The ACAC and NORMI websites are a good place to start your search for an I.E.P.

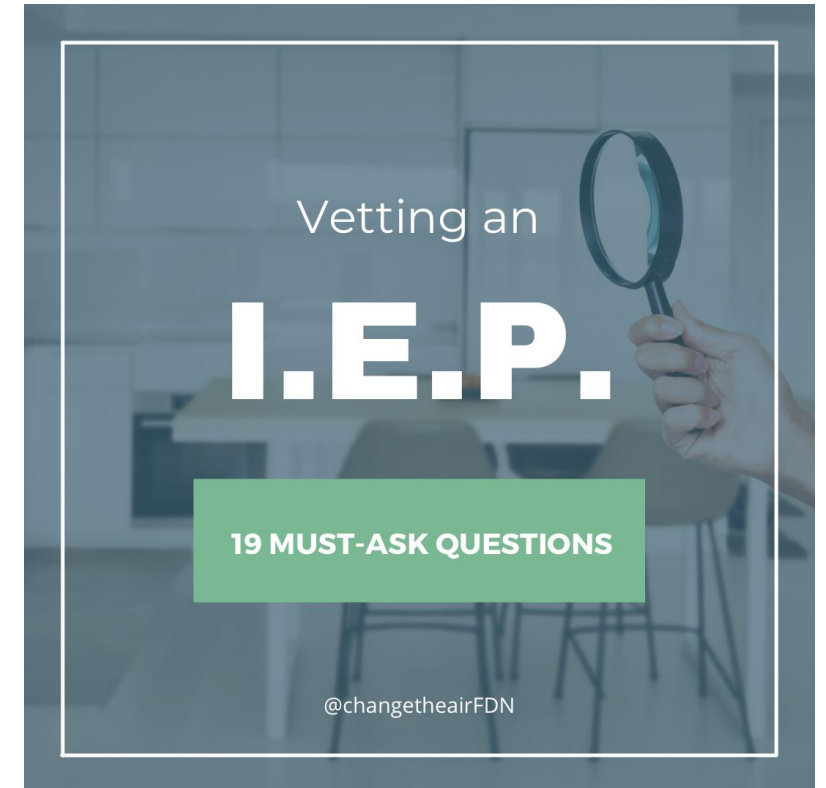
ACAC <https://www.acac.org/find>

- CMI (counsel-certified microbial investigator)
- CIE (counsel-certified indoor environmentalist)

NORMI <https://www.normipro.com/search-certs.php>

- CMA (certified mold assessor)

- **Ask the questions listed on our website on how to vet an I.E.P.!**



<https://changetheairfoundation.org/questions-to-ask-when-hiring-an-iep/>



# Why is it Important to Hire a Good Remediation Company?

- Mold, mold fragments, mycotoxins, bacteria and other biocontaminants found in water-damaged homes pose a health hazard.
- While remediation is not rocket science, it does require an understanding of how to safely remove these biocontaminants using proper procedures, engineering controls, etc.
- Remediation is not very regulated. A lot of what passes as “remediation” is often insufficient and even unsafe.



# PSA: Just Say “No” to Bleach

- The EPA & OSHA no longer recommends bleach as part of routine clean up from mold and water damage.
- Bleach is effective on hard, nonporous surfaces like tile or glass. (It is not effective on porous and semi porous materials like drywall or wood.)
- May remove the staining giving the appearance mold is gone when in reality the microflora are left behind.
- Commercial bleach is over 90% water. When the chlorine evaporates, all that water is left behind and can provide a moisture source for mold to grow.



Remediation is NOT like buying a burger



# Mold Remediation is about Removal!

- “Physically removing mold contamination is the primary means of remediation. Mold contamination should be physically removed from the structure, systems and contents.... Attempts to kill, encapsulate or inhibit mold instead of proper source removal generally are not adequate.” [Section 4.4 – Principles Of Mold Remediation; page 18]
- “Source removal of mold contamination should always be the primary means of remediation. Indiscriminate use of antimicrobials, coatings, sealants, and cleaning chemicals is not recommended.” [Section 5.8.1 – Chemicals (Antimicrobials & Biocides); page 20]
- “Porous building materials (e.g., drywall, insulation and ceiling tiles)... should be removed and discarded. Remediators should remove mold growth on wood framing members by HEPA-vacuuming followed by damp wiping, wire brushing, sanding, or other appropriate method.” [Section 12.2.6 – Demolition & Surface Cleaning; pages 47-48]
- “Using antimicrobials, fungicidal coatings, mold-resistant coatings, or sealants... during mold remediation as a substitute for proper source removal is discouraged. If [they are used], remediators should apply them after completion of remediation, and after completion of post-remediation verification, when necessary.” [Section 12.2.9 – Clean-Up; page 50]

# What Does a Good Remediation Co. Do?

## Ideally, a remediation company...

- Follows at a minimum standards laid out by the ANSI/IICRC S520 and can perform remediation accordingly. (*Remember, following these standards is optional. Remediation is not regulated at the federal level with little to nothing in place at the state level.*) **\*Check out the Summit talk by David Myrick on Mold Remediation Basics**
- Uses the recommendations from the I.E.P., creates a contract that matches those recommendations, and clearly defines and guarantees the outcome of the work performed.
- Focuses on removal of mold (not “killing”) and does not rely on things like harsh chemicals, encapsulates, or fogs as the sole method of remediation. Understands how to work with those who are sick, immunocompromised, or sensitive to mold and other indoor pollutants.
- Has written in their contract that if they fail the post-remediation verification, they will come back to address the issues at no additional cost to the client (you).

**\*Remediation is not very regulated. Training and skill sets vary greatly.**



# How to Find a Good Remediation Company

- Use the **IICRC website** to find a certified company <https://iicrc.org/iicrcgloballocator/>
- Get quotes from at least 3 different companies.
- Don't forget to ask for certifications and references.
- Ask for proof that they are properly insured (this means pollution liability as well as general liability and workers compensation).
- Read every part of the contract – *especially the fine print.*
- **Ask the questions listed on our website on how to vet a remediation company!**

<https://changetheairfoundation.org/questions-to-ask-when-hiring-a-remediation-company/>



Sometimes the only thing worse than  
NO remediation, is BAD remediation.



**CAUTION**

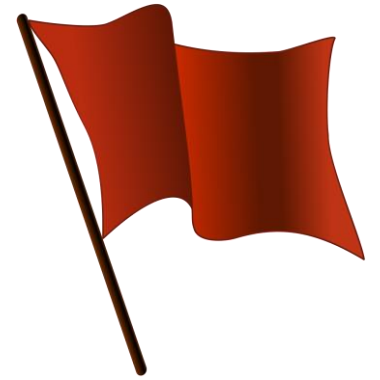
# A Note About Contracts!

**Get everything in writing!! Do NOT rely on verbal, email, or text agreements!**

Everything should be in writing. For example, it should include the exact procedures, materials, equipment, and scope of work to be performed, etc. For example,

- A diagram and specific instructions on where containment will go and where it will be vented
- How materials will be removed
- How workers will be protected
- How your home will be protected
- What materials will be used
- How much material will be removed
- What happens if the mold goes beyond the original scope of the contract
- What post remediation verification entails and time frame
- Insurance
- And more!

# Red Flags When Hiring a Remediation Company



- The remediator only guarantees the area will pass visual inspection.
- You ask a question, and they answer with how many years they have been in the profession.
- They rely on harsh chemicals and don't provide MSDS sheets when asked.
- They promise no demolition is needed, magic sprays, fogs, etc. can be used in place of source removal.
- Say things like “its just a little bit, it can't hurt you” or “ It's not black so don't worry” or “Its dead, it can't hurt you” “Its trapped behind a wall so you are fine” “We stopped the water source so that's all we need to do.
- Check out our Summit talks by David Myrick, Michael Rubino & Michael Pinto

Sometimes remediation  
doesn't make sense or it is  
out of your control.





# Common Mistakes

- Using the same company to inspect and test
- Skipping post remediation verification
- Not reading the fine print of the contract/  
making sure everything is in writing.
- Thinking renovation is the same as remediation
- Thinking a home inspector is the same as an I.E.P.
- Tip: Verify with the crew the day off to verify you are all on the same page.



# Final Thoughts

- Research before you react
- No one will care about your home or health as much as you
- Progress over perfection
- Become your own advocate
- Give yourself grace





## *Join the community!*

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[www.Changetheairfoundation.org](http://www.Changetheairfoundation.org)

