

# Mold Response and Remediation Plan

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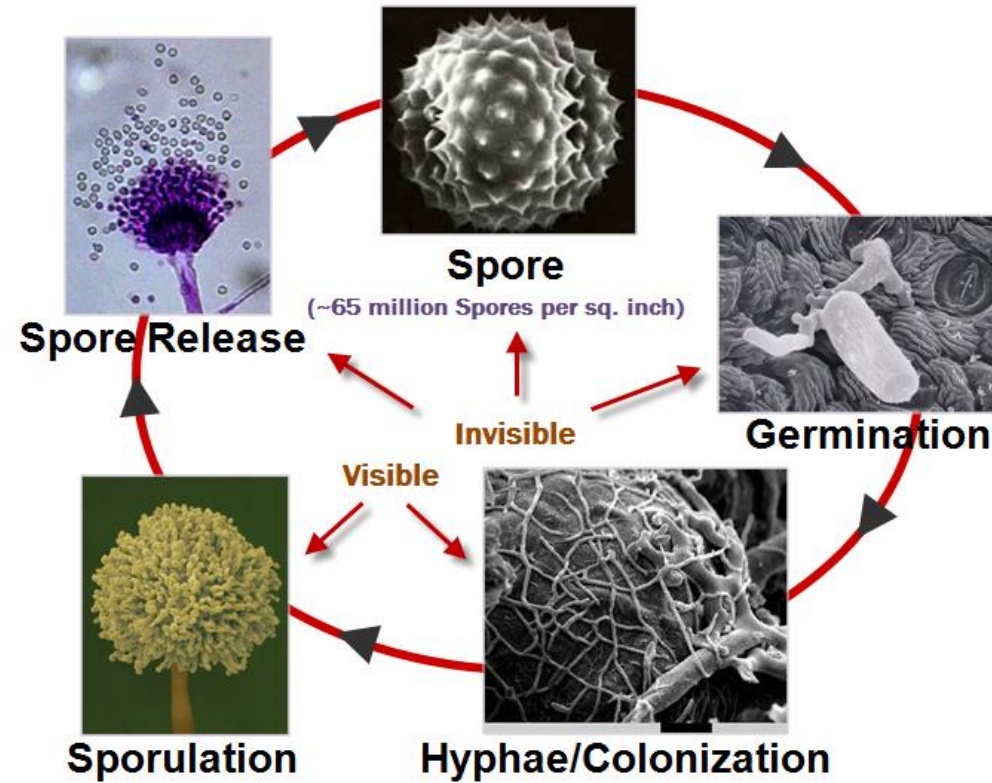
# Introduction

- Molds are part of the natural environment. Molds are fungi that can be found anywhere - inside or outside - throughout the year. About 1,000 species of mold can be found in the United States, with more than 100,000 known species worldwide.
- Molds can grow on virtually any substance, as long as moisture or water, oxygen and an organic source are present.
- Molds reproduce by creating tiny spores (viable seeds) that usually cannot be seen without magnification.
- Mold spores continually float through the indoor and outdoor air.
- All molds share the characteristic of being able to grow without sunlight; mold needs only a viable seed (spore), a nutrient source, moisture and the right temperature to proliferate.

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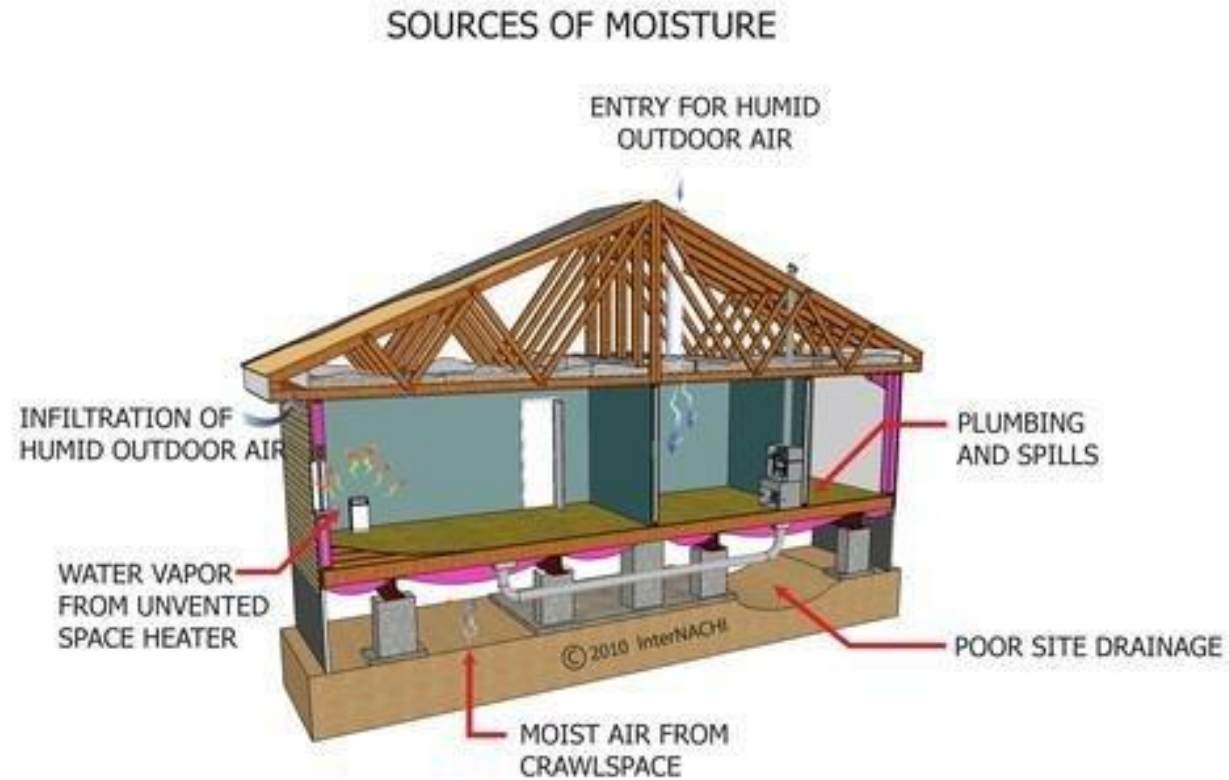
# Lifecycle of a Mold Spore



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# Sources of Moisture and Thus Mold Growth



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# Examples of Mold Growth

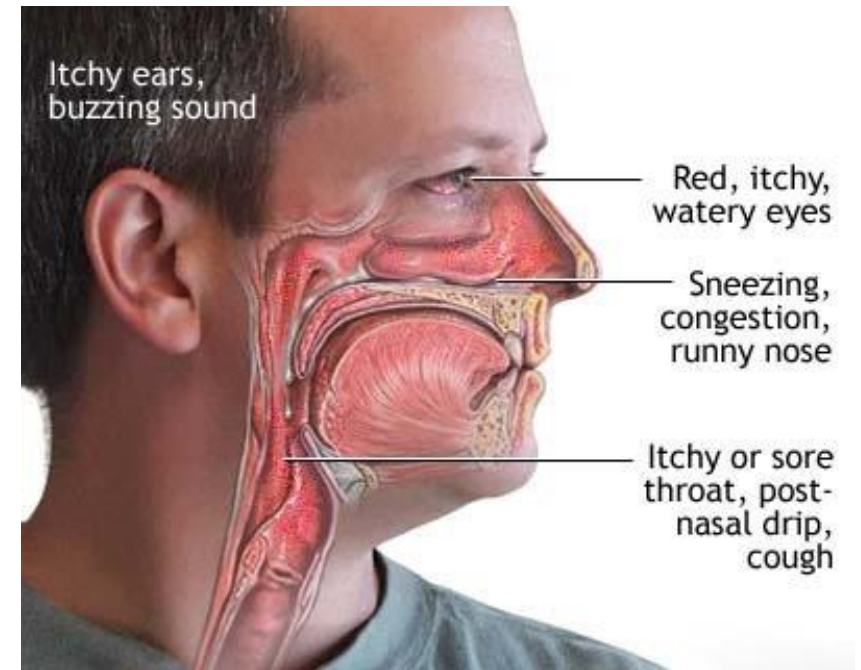


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# Health Effects of Mold Exposure

- Molds produce irritating substances that may act as allergy-causing substances (allergens) in sensitive individuals.
- Allergic reactions may happen immediately or develop after a period of time following exposure. Both growing mold and mold spores may lead to allergic reactions. Symptoms of
- mold allergy may include:
  - sneezing, runny nose, coughing, wheezing, watery eyes, redness of the eyes, itchy eyes, skin irritation or rash.



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## Health Effects of Mold Exposure

- Even in some nonallergic individuals, mold can irritate the eyes, skin, and airways.
- The "black mold" *Stachybotrys*, along with some other types of mold, produces toxins known as mycotoxins that can cause irritation of the skin and airways in susceptible individuals.
- People may develop severe reactions to mold exposure.
- Symptoms of severe reactions, which are uncommon, include fever and difficulty breathing.
- People with compromised immune systems or those with chronic lung disease can develop serious infections of the lungs due to molds.

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# University of New Haven Mold Response and Remediation Plan

## Mold Response Plan

- The University of New Haven has developed a mold response and remediation plan to identify and correct conditions within the University that permit mold growth while protecting the health of faculty, staff and students.
- Located on MyCharger in the Environmental Health and Safety section or is available via supervisor.

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# Roles and Responsibilities

- **Managers**

- Ensure that employees assigned to their work areas have been trained on the mold response and remediation plan.
- Ensure that respirators are not removed by employees until the employees have left the area of contamination or until contaminants have been effectively removed from the work area.
- Work closely with the Director of Facilities to enforce and ensure effective and compliant use of this program.
- Share any problems or concerns with the program with Director of Facilities.

- **Custodians**

- Promptly call the facility department at 203.932.7087 to report discovery of water leaks, water damaged materials, odor of mildew or the presence of visible mold.
- Assist in cleaning up water, if any, inclusive of wet vacuuming, mopping and HEPA vacuuming.

- **Maintenance Mechanics**

- Respond promptly to requests for inspection and remediation.
- Promptly identify and locate the source of leak and in cases where mold is present notify the Director of Facilities.

***Director of Facilities will make the determination if further actions are required.***

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# Prevention of Mold Growth

- In order to prevent mold growth, the following measures should be taken:
  - Reduce the presence of moisture and humidity.
  - Address all leaks immediately and absorb excess water.
  - Monitor indoor relative humidity levels.
  - Perform regularly scheduled building/HVAC inspections and maintenance, including filter changes and checking to assure exhaust fan screens are not clogged.

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# Remediation Methods

- **Method 1:** Wet vacuum (in the case of porous materials, some mold spores/fragments will remain in the material but will not grow if the material is completely dried)—steam cleaning may be an alternative for carpets and some upholstered furniture
- **Method 2:** Damp-wipe contaminated surface with plain water or with water and detergent solution (except wood —use wood floor cleaner)—scrub as needed
- **Method 3:** High-efficiency particulate air (HEPA) vacuum after the material has been thoroughly dried—dispose of the contents of the HEPA vacuum in well-sealed plastic bags
- **Method 4:** Discard—remove water-damaged materials and seal in plastic bags while inside of containment, if present—dispose of as normal waste—HEPA vacuum area after it is dried

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# Methods for Cleanup

<b>Books and papers</b>	<ul style="list-style-type: none"><li>• For non-valuable items, discard books and papers.</li><li>• Photocopy valuable/important items, discard originals.</li><li>• Freeze (in frost-free freezer or meat locker) or freeze-dry.</li></ul>
<b>Carpet and backing - dry within 24-48 hours</b>	<ul style="list-style-type: none"><li>• Remove water with water extraction vacuum.</li><li>• Reduce ambient humidity levels with dehumidifier.</li><li>• Accelerate drying process with fans.</li></ul>
<b>Ceiling tiles</b>	<ul style="list-style-type: none"><li>• Discard and replace.</li></ul>

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# Methods for Cleanup

<b>Cellulose insulation</b>	<ul style="list-style-type: none"><li>• Discard and replace.</li></ul>
<b>Concrete or cinder block surfaces</b>	<ul style="list-style-type: none"><li>• Remove water with water extraction vacuum.</li><li>• Accelerate drying process with dehumidifiers, fans, and/or heaters.</li></ul>
<b>Hard surface, porous flooring</b> (Linoleum, ceramic tile, vinyl)	<ul style="list-style-type: none"><li>• Vacuum or damp wipe with water and mild detergent and allow to dry; scrub if necessary.</li><li>• Check to make sure underflooring is dry; dry underflooring if necessary.</li></ul>
<b>Non-porous, hard surfaces</b> (Plastics, metals)	<ul style="list-style-type: none"><li>• Vacuum or damp wipe with water and mild detergent and allow to dry; scrub if necessary.</li></ul>

# Methods for Cleanup

<b>Upholstered furniture</b>	<ul style="list-style-type: none"><li>• Remove water with water extraction vacuum.</li><li>• Accelerate drying process with dehumidifiers, fans, and/or heaters.</li><li>• May be difficult to completely dry within 48 hours. If the piece is valuable, you may wish to consult a restoration/water damage professional who specializes in furniture.</li></ul>
<b>Drywall and gypsum board</b>	<ul style="list-style-type: none"><li>• May be dried in place if there is no obvious swelling and the seams are intact. If not, remove, discard, and replace.</li><li>• Ventilate the wall cavity, if possible.</li></ul>
<b>Window drapes</b>	<ul style="list-style-type: none"><li>• Follow laundering or cleaning instructions recommended by the manufacturer.</li></ul>
<b>Wood surfaces</b>	<ul style="list-style-type: none"><li>• Remove moisture immediately and use dehumidifiers, gentle heat, and fans for drying. (Use caution when applying heat to hardwood floors.)</li><li>• Treated or finished wood surfaces may be cleaned with mild detergent and clean water and allowed to dry.</li><li>• Wet paneling should be pried away from wall for drying.</li></ul>

\* This table has been adapted and modified from the EPA's "Mold Remediation in Schools and Commercial Buildings".

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# Mold Remediation Cleanup

- In the event that Mold has formed, utilize Table 2 from the Mold Response Policy for proper PPE and procedure.
- Utilize proper PPE
  - N95 Respirators
  - Gloves
  - Goggles

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# Remediation Continued

Material or Furnishing Affected	Cleanup Methods	Personal Protective Equipment	Containment
<b>SMALL - Total Surface Area Affected Less Than 10 square feet (ft<sup>2</sup>)</b>			
Books and papers	4		
Carpet and backing	1, 3		
Concrete or cinder block	1, 3		
Hard surface, porous flooring (linoleum, ceramic tile, vinyl)	1, 2, 3		
Non-porous, hard surfaces (plastics, metals)	1, 2, 3	Minimum - N-95 respirator**, gloves, and goggles	None required
Upholstered furniture & drapes	1, 3, 4		
Wallboard (drywall and gypsum board)	3, 4		
Wood surfaces	1, 2, 3		

**LARGE - Total Surface Area Affected Greater Than 30 (ft<sup>2</sup>) or Potential for Increased Occupant or Remediator Exposure During Remediation Estimated to be Significant**

All large scale remediation projects shall be completed by an outside contractor.

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# Post Remediation

- Supervisor will conduct visual inspection for mold
- If needed, re-sample of environment will be conducted utilizing a state certified laboratory
- Ensure all moisture sources have been eliminated and mitigated to eliminate the potential of future issues

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# Questions?

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