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How to find mold

Where to look, for mold, and ways to uncover VISIBLE mold, bacteria and yeast growth, in your home or building

Inside Cabinets

Any place that is **dark**, and where **moisture** can accumulate, is a potential breeding ground for mold.

Beneath Drywall

When mold grows within wall cavities (which it often does) the nearby drywall is usually infected as well. If toxic mold does become engrained in the drywall, it should be cleaned up and the source of excessive moisture resolved. Signs of mold are cracked/peeling paint, bulging behind the paint, discoloration of the walls.

Behind Floor Baseboards

The space between the wall and the baseboards serves as a great growing ground for mold. Since it is a fairly sealed off space, it traps moisture. Plus, a lot of **dirt** ends up here, providing the mold colonies with plenty of **nutrients** to thrive.

Basements/Crawl Spaces

If you suspect that you have a mold problem, then you should be especially conscientious of the basement or crawl space of your house. This level has more of a chance of fostering mold growth **than any other level** in the home.

In basements and crawl spaces, just look for any evidence of dampness. Be especially aware of any black mold growth that might be taking place in **wooden building materials**, especially in the framing, since this is the **best path for mold to take to other parts** of the home. It can also lead to the weakening of beams and other bearing walls that are crucial in the stability of the structure.

Water-Damaged Areas

Any area where flooding, leaks, or other types of water damage have occurred are prime candidates for toxic black mold growth.

Rooms / Areas with High Relative Humidity

If the relative humidity in a certain room or area is commonly **above 55%**, then over time, there is a strong likelihood a mold problem will occur. In which case, it is important to monitor areas with high humidity on a regular basis.

In order to determine the relative humidity for a room or area, you will need a **relative humidity sensor** (a.k.a. **moisture meter** or **hygrometer**):

Above Ceiling

Just as mold in the wall cavities can lead to mold growth in interior walls, the same can happen in the spaces above ceilings. Especially since a common source of water infiltration - **roof leaks** - start from above.

If you see any evidence of water damage or biological growth in your ceilings, then you should investigate right away.

Beneath Bathroom/Kitchen Sinks

This is yet another place where **moisture** is commonly a problem, and therefore another place where mold can often be found.

Behind Wallpaper

The **glue** from the wallpaper attracts a lot of organic material (such as dust) that serves as a **favorite nutrient** of mold.

Moist Window Frames

The window frame is in a position where **warm air commonly meets cold or cooler air**, as a result of the temperature difference outside and inside. This formula leads to **condensation**, which leads to mold growth. Look for biological growth in the seal where the window frame meets the wall.

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Inside Wall Cavities

This is another place where **warm air meets cooler air**, especially the walls around the perimeter of the home or building. Plus, wall cavities are good at **trapping moisture**. In addition to all this, **pipes often leak in between walls**, where we are not aware they are occurring.

If mold is present inside mold cavities, it will eventually manifest its presence by working its way to the outside of the walls, where it will be visible. If signs of excessive moisture and mold begin to show on your walls, you can smell the musty odor, and you, or others, in your home or building are showing [health effects from mold](#), then it is likely growing in your wall cavities. If this is the case, then you will need to [clean and remove the mold](#), [preventing Excessive Moisture in Walls](#)

Particle Board Material

This material is another desirable source of **nutrition** for mold.

Fiberglass Insulation and/or Backing and other Insulation Material

Mold does not live and grow on the insulation itself. However, fiberglass and other types of insulation **collect a lot of dust** and other organic particulate. It is this dirt and grime that are able to make insulation a nice home and breeding ground for mold. Exposed insulation in the **ductwork**, attics, and basements/crawl spaces are most susceptible to mold growth.

Flooring

Just as moisture and dirt become trapped between walls and above ceilings, they also become trapped beneath the floor. **Tile** and **carpet** make great environments for mold since they collect a lot of dust and other organics for mold to feed on. Carpet can become especially ideal for mold growth since it also holds in moisture.

Ductwork/HVAC Systems

In addition to the insulation (if present), mold can grow in a variety of other places in the ductwork/HVAC system. Other than the insulation, the two other places mold is most likely to grow is the condenser or cooling coil and the drain pan. In central air systems, these are located in the air handler (by the fan).

The **cooling coil** cools the air that comes into the system below the dew point, to remove the condensation from the air. As a result, condensation builds up on the coil itself, making it vulnerable to biological growth, including mold.

The **drain pan** is located beneath the coil, and collects the condensation that drips off the coil. Naturally, the water in the drain pan can become the perfect environment for mold growth, especially if the pan is not sloped. If it is flat, then the water will become stagnant, increasing the likelihood of mold growth.

If your system has an **in-duct humidifier**, then it can add too much moisture into the ductwork. When this added moisture combined with dirt and grime, mold can germinate in the ducts.

Evaporative Coolers (a.k.a. Swamp Coolers)

Evaporative coolers **increase humidity** in the home or building. They cool the air by evaporating water (which has a cooling effect), then blow this air inside. In which case, the air has an increased moisture content. As a result, evaporative coolers increase the potential for mold growth, especially nearby the unit.

Refrigerators

The **drain pan** beneath the refrigerator should be regularly checked for mold and other types of microbiological growth.

Plant Pots

The fact that plants need to be **watered regularly**, and that the **soil** contains **valuable nutrients** for mold, equals a haven for mold.

Cracked/Peeling Paint

This is a sign that there is **excessive moisture within the wall**, meaning that there could also be mold growth nearby.

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Sweating Pipes

When this happens, track where the moisture is accumulating. This can lead you to mold growth.

Shower Curtains

Between the dirt and grime we wash off ourselves, and the water that can usually be found on shower curtains, mold is often to be found as well.

1. High Humidity

If you live in an area with high humidity (Florida), then you should always be on the lookout for potential mold problems. Naturally, the outdoor humidity affect indoor humidity levels, creating a **perfect environment for toxic mold growth**.

A **relative humidity (RH) level of greater than 55% promotes the growth of mold** and other fungi. Although relative humidity remains fairly consistent outdoors, it **fluctuates drastically inside** as a result of being altered by the artificial heating and cooling (i.e. climate control by the HVAC system).

In which case, it is critical to closely monitor the relative humidity level in various parts of your home or building, since **relative humidity can also vary from room to room**).

In addition to using humidity sensors to monitor the moisture level, you can also run dehumidifiers and employ other products and methods to control humidity in the home or building.

2. Water/Pipe Leaks

Mold needs moisture in order to grow and thrive. Many mold problems originate as a result of some kind of water intrusion, especially those that are not resolved quickly. In which case, water and pipe leaks are common culprits, since they provide plenty of moisture, and are **often undetected** for days, months, or even years if minor enough.

When leaks are discovered, appropriate **steps are not normally taken** to minimize potential mold growth problems. By the time they are discovered, it is often too late, since the mold will have had ample opportunity to grow in the same **hard-to-find places** where water leaks occur, such as in wall

3. Flooding

Mold problems are very common after flooding for obvious reasons (plenty of moisture which is conducive for mold growth). Plus, it usually requires several days or weeks to fully dry out the home or building once flooding occurs, giving colonies of black mold more than adequate time to become fully ingrained in these sections.

4. Mildew & Musty Odors

Odors can often be the **first or only sign** of a potential mold problem, since mold commonly propagates in places not normally in view. This does not necessarily mean that you definitely have a mold problem, but it should prompt you to **look for the other signs**, or to look for the mold growth itself

In some cases, mildew smells will only be evident when the air conditioning or heat is turned on, or it may just be **much more evident when the HVAC system** is running. If this is the case, then it is very possible that you have significant mold growth within the HVAC system.

5. Increased Allergy/Respiratory Symptoms

If one or more people living in a house, or working in a building (especially if it is an unusually high percentage of occupants) begin suffering allergic reactions that **seem to be associated with your home or building**, then it could be due to the presence of high levels of mold, especially if other signs are also present.

This may mean that people began experiencing much more allergic and respiratory-related symptoms after moving into a home, or after beginning to work in a building. Remember, that according to a 1999 Mayo Clinic study, **nearly all chronic sinus infections** (afflicting about 37 million Americans) are a result of mold.

6. Signs of Toxic Poisoning

Toxic black mold and other fungi produce **Volatile Organic Compounds (VOCs)** during the process of degrading substances to obtain nutrition. The VOCs are the cause of the typical “moldy/musty” commonly associated with fungal contamination indoors. Exposure to high levels of VOCs may irritate the mucous membranes and the central nervous system leading to symptoms of **headaches, decreased attention span, difficulty in concentration, and dizziness**.

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7. Leaky Roof

Like other types of water leaks, water intrusion through the roof is difficult to find until it is too late. If you suspect a leaky roof, **check in the attic** for signs of water damage or mold growth. Also be on the lookout for signs of water damage or mold growth in **ceilings** on the **uppermost floor** of the home.

8. Use of Humidifiers without Relative Humidity Control

Using humidifiers can easily **raise the moisture level** in the air to the point where **mold is able to grow** at a rapid rate. When using a humidifier, the key is to regulate the relative humidity level, to ensure it **stays within 55-60% RH**. This can be accomplished with a relative humidity sensor. However, if you are using a humidifier, it is best to have one that can be **programmed to automatically shut off when relative humidity reaches 60%**, such as the [Super Air Humidifier](#) (with built in relative humidity sensors).

9. Damp Basements or Crawl Spaces

Basements and crawl spaces tend to receive **less ventilation** (especially crawl spaces), while also seeing **cooler temperatures**. With all things being equal, cooler temperatures will lead to a **higher relative humidity** percentage, since cooler air is able to hold less water before **condensation** occurs. Of course condensation means moisture.

In addition to all of this, basements and crawl spaces are more likely to be **neglected** than other parts of the home, so mold can grow undeterred for a longer period of time. Also, **water from leaks** in the home will eventually **make its way down** to the lowest areas, thanks to gravity.

10. Condensation or Rusting

Condensation on or around pipes, windows, or walls is a sign of a leak or high humidity. Rusting on pipes in particular, and anything else metal, is also a sign of a high humidity problem or nearby leak.

11. Lots of House Plants

House plants **require consistent watering**, which increases moisture levels inside.

12. Discoloration of Walls (Water Stains)

Yellowish stains on walls and ceilings are a sign of excessive moisture. In more obvious cases, where mold growth may already be in full swing, the wall or ceiling may have a **greenish, brownish, or blackish** discoloration to it.

You may also notice places where the paint is coming off due to moisture, or where it is "bowing" out. One way to check for mold growth is to move a medical grade, fluorescent tube ("**black light**") around walls, ceilings, and even carpets while it is dark. A **yellow glow** is a sign of **mold growth**.

13. Cracked, Peeling Paint

This usually means that there is moisture build up behind the paint. By the time the paint shows these signs, the moisture has often had an opportunity to spawn the growth of mold within the wall.

14. Blocked Gutters

Gutters that are blocked can cause water to seep into walls, through the roof, and can cause water to collect at the base of the foundation, which will result in further water damage in the home or building

15. Warped Wood

Naturally, moisture is going to cause wood to warp. If wooden materials in your home have been infiltrated by enough water to actually warp, then sufficient levels of moisture are probably present to accelerate mold growth.

16. Black Growth in Bathroom Tiles

Bathrooms are a favorite breeding ground of mold. The **increased moisture** and common presence of **tile** in bathrooms are each highly conducive to the proliferation of mold colonies.

Tile grout is **porous** and will allow **water penetration**, and behind the tiles themselves. In addition, **dirt and other grime** (favorite foods of mold) are **easily trapped** in the grout. This combination creates an ideal environment for mold to thrive. Even if some type of sealant is applied, tiles expand and contract, and pieces of grout will eventually break off, compromising the seal.

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17. Loosening of Drywall Tape

This is a sure sign that moisture has infiltrated the wall.

18. Visible Biological/Mold Growth

This may seem like an obvious sign, but many people do not take a little visible mold growth very seriously. However, this can be an indication of a much larger mold growth in less visible places.

Mold can take on a **variety of appearances**, such as black, grey-brown, grey-green, white & orange spots, or even pink or purple splotches if growing behind vinyl wallpaper. *Stachybotrys* is commonly a dark, slimy, greenish-black mold. Some of the more **common locations** where mold is found inside includes in bathroom tile, basements/crawl spaces, and other damp and/or dark areas.

19. Clothes Dryers/Other Appliances Not Vented Outdoors

If the steam from these types of appliances is vented inside, then this significant amount of additional moisture creates a great environment for mold to flourish.

20. Poor Ventilation

If the air pressure in your home is "negative", meaning the air pressure outside is greater than it is inside, then it will force moisture and contaminants back into the home. If the air pressure is well into the "positive" side, then it can cause moisture to be forced into walls. The air pressure in your home should be slightly positive, or at least balanced.

21. Presence of Wet Materials Indoors

This can include rags, steam from cooking, indoor clothes-lines, carpet, or furniture. If these or other items are damp for extended periods of time, then the moisture level can be high enough to accommodate mold growth.

22. Mold Test

There are a variety of sampling techniques that can be used to help determine whether or not you have excessive levels of mold. There are mold tests that take **samples from the air**, and some that take **samples from surfaces**. Each method has its advantages and disadvantages.

Mold tests **by themselves cannot give you the full picture**, but when combined with other evaluation methods (such as those listed on this page) you can better determine the extent of the problem. Since they can be expensive, and **usually tell you only what you already know**, it is usually best to find the source of excessive moisture and to try fixing it before resorting to a mold test.

Some techniques identify what species of molds are present. This can be helpful since some mold species pose a greater health risk than others.

"The only factor that can be controlled is moisture."

*National Association of Home Builders (NAHB)
statement on controlling mold*

**"The way to control indoor mold growth
is to control moisture."**

*The U.S. Environmental Protection Agency
Controlling Humidity Level
Surround Air Dehumidifiers*

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Why Proactive instead of Reactive

Financial Cost

Once mold infests the home, it is very expensive to clean up. To make matters worse, many home insurance companies are denying mold claims.

Health Cost

Mold causes strong allergic reactions in many people. If the mold level is high enough in the home, or if those exposed have vulnerable immune systems (e.g. children, elderly), it can also cause neurological effects.

Value of Home

Mold infestation can cause the value of your home or building to drop tremendously. If it has not been cleaned properly through expensive remediation efforts, it may not even be inhabitable.

Mold Prevention & Control Tips

1. Controlling Humidity Level (Relative Humidity)
2. Monitoring Relative Humidity
3. Dehumidification
4. Preventing Water Leaks / Water Intrusion
5. Basements / Crawl Spaces
6. Ductwork / HVAC System
7. New Construction
8. Dirt / Dust Removal
9. Ventilation
10. Properly Vent Combustion Appliances
11. Keep Firewood Outdoors
12. Shower Curtains
13. Air Purification

Controlling Humidity Level (Relative Humidity)

If the humidity level in any part of your home or building **approaches or exceeds 55% Relative Humidity (RH)**, then it needs to be corrected. Toxic molds and other forms of biological contaminants (like dust mites) will thrive and expand in this type of atmosphere.

There are **two elements to controlling humidity levels**:

1. Monitoring Relative Humidity
2. Dehumidification

Monitoring Relative Humidity

It is absolutely vital to know whether or not you have a humidity problem. Not only do you need to know "if", but you also need to know "where" (which areas or rooms) a humidity problem may exist, since the humidity level will not necessarily be consistent throughout a home or building.

Otherwise, you will not know if something needs to be done to correct the problem, or where you need to focus your efforts.

To monitor the relative humidity level throughout the home or building, you will need **relative humidity sensors**, also known as **hygrometers** or **moisture meters**.

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Places where you should monitor Relative Humidity (at least periodically):

- Each of the rooms (especially bathrooms)

Attic, space between roof and ceiling

- Basements, crawl spaces, cellars
- In wall cavities
- Ductwork, especially closer to air handler (nearby where filter is installed)
- Cabinets
- Closets, food storage areas

Dehumidification

If you find through monitoring the relative humidity that your home or building (or certain areas within it) has chronically high relative humidity (55% or more), then you will need to use dehumidifiers. Dehumidifiers will **control the humidity level**, which will help **minimize toxic mold** and other microbiological contaminants.

With dehumidifiers, it is **more effective to use multiple room units**, as opposed to a single large unit that attempts to dehumidify a large area. It is also affordable to include a few **small-area units** for bathrooms, closets, cabinets, etc. Dehumidifiers can reduce the humidity in the room or area where they are placed, but a single unit will not impact the humidity level beyond this area very much, if at all.

Other factors to consider with **dehumidifiers**:

Water extraction (measured in pints)

- Automatic tank shut off (when tank is full)
- Air filtration
- Anti-frost sensor
- Efficient air flow
- Water pumped out of room/home
- LCD screen
- Fan speeds
- Energy consumption
- Chassis material
- Lowest temperature at which it can operate
- Noise level

Preventing Water Leaks / Water Intrusion

Other than just having a high humidity level in the home (due to humid climate), water leaks and other forms of water intrusion into the home or building is the most common reason a toxic black mold problem originates. **Below are types of water leaks and places where unwanted water can enter the home**, and ways to avoid these types of water intrusion problems.

Leaking Pipes:

Condensation or **rusting** on or around a pipe is a sign of a leak. Covering cold surfaces, such as cold water drainpipes, with insulation helps to prevent condensation. The most difficult part of preventing leaking pipes is determining whether or not they are leaking in the first place, since they are normally concealed from view.

Here are some signs to look for:

1. You can hear running water sounds when nothing is turned on.
2. Musty odors that seem to originate from walls or floors.
3. Running toilets and dripping faucets.
4. Abnormally high water bills.
5. A water meter reading that changes when you aren't using any water for an hour.
6. Discolored or damaged walls.
7. A cracked or damp foundation or slab.
8. Warm spots on concrete slab floors, mildew, or excess moisture under carpets.
9. Regular sewer backups.
10. Areas in the yard that are too wet and with unusual plant or grass growth.

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Foundation:

To prevent water from collecting around the foundation, and seeping up through the walls, make sure the **ground slopes away** from the foundation. Here are some **additional tips** in preventing water seepage through the foundation:

1. Ensure the floor is well ventilated and walls are properly sealed against moisture entry. Polythene put over damp ground can help prevent dampness rising into the house.
2. Insulate your home properly. In the winter, insulated ceilings, walls and floors have temperatures similar to those of the warmer air inside the home, therefore condensation is less likely to form.
3. Prevent rising damp from entering a foundation wall by improving your home's perimeter drainage. Direct all surface rainwater away from the home through drainpipes, culverts, French drains, etc.
4. If no other methods are feasible, a last resort would be to install either a physical or chemical horizontal damp-proof course.

Roof:

1. Ways to Inspect for a Roof Leak.

A **common cause** of leaks is from **cracked or damaged chimneys**. Look for loose brick, cracked mortar joints, and a solid metal or concrete cap on top. Look for **water stains on the inside ceiling**, and on the beams in an attic. Beams that have been exposed to water will become weakened and cause a sag in the roof. Look for any **visible damage** such as cracks, tears, splits. These will most likely lead to leaking. Closely inspect all **roof penetrations** (i.e. skylights, chimneys, vents, etc). Look for signs that the cement is separating from the surface, especially at a vertical penetration of the roof.

Check areas **where different materials meet** such as metal to brick, shingles to metal, etc. These surfaces expand and contract at varying rates and will pull away from each other. Make sure the seals between materials are tight, not loose. You can attempt to find a leak from the inside by using a flashlight and tracing the leak uphill.

2. How to Protect/Maintain the Roof.

Inspect your roof at least twice a year. Especially proceeding harsh weather conditions and between seasons. Roofs will weather under the heat/sunlight. It can essentially be "baked" and become dry and brittle (alligating), hence it is more likely to split and eventually leak. Metal components of the roof can rust and corrode, and asphalt-based plastic cement used for seals around pipes, vents, and other penetrations may deteriorate over time and leak. You can apply a coating to some roofs to create a layer of waterproof protection.

3. Ice Dams and Leaks.

Leaks caused by ice dams occur when warm, heated air from the home begins to migrate through the insulation and into the attic area of the house. Without proper ventilation, this warm air collects in the attic area and may warm the underside of the roof decking. Cold outside temperatures keep the top outside layer of moisture frozen and the warm decking melts the bottom layer of ice turning into liquid water. This water will run down the shingles until it meets the "dam" at the gutter line. With no escape route, the water pools, then backs up underneath the shingles and enters the attic area through nail holes and seams in the roof decking

4. Ways to Minimize the Occurrence of Ice Dams.

Keep the attic adequately insulated. Do not cover the attic soffit air intake vents with insulation (add these to your home if you don't have any). Ensure attic has sufficient air exhaust outlets and airflow is distributed evenly throughout the attic (peak mounted ridge vents maximize air flow). An ice and water shield can be installed at the eaves of the home and under the shingles to prevent water from entering the home. Install electric heat tapes in the gutter system.

Windows:

Condensation on or around the window is the sign of a excessive moisture. If this is happening, use a **sealant** around the window to make sure that it is completely airtight.

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Walls:

Taking measures to **reduce water leakage** through the **roof**, leaky **pipes**, and the **foundation** (see above for each of these), as well as through the **gutters** (below) will go a long way in keeping the walls from collecting too much moisture.

In addition to this, make sure that the **air pressure is not too high** on the **positive side** (see Ventilation tips below). However, you do want the air pressure inside to be slightly positive.

Also, make sure that the **relative humidity level is below 55%** to prevent your walls from taking in too much moisture (Relative Humidity Sensor Buying Guide). Use dehumidifiers if necessary.

Gutters:

Clogged or faulty rain gutters can cause excessive water leakage through the walls, roof, and foundation of the home. You can **clean your rain gutters** with a light broom, a garden hose with a controllable-spray nozzle, or by using one of many gutter-cleaning devices on the market.

Adding **perforated covers** over your rain gutters will cut down on the frequency of cleaning. Rainwater and some dirt/small debris can permeate the cover but large debris, such as large leaves and twigs, cannot. These covers can typically be found in a local hardware store for only a couple of dollars for about every 4-feet of length.

Make sure your gutters' **downspouts** are properly cleaned too. Spray water into the gutter or the top of the downspout to ensure it drains freely and with no obstructions. Water must also be diverted away from your home's foundation.

If you don't have a spout going directly into a drain system in your yard and toward the street or a drainage basin, use **splash blocks**. These relatively small devices will channel the water from your downspout and away from your home and only cost a couple of dollars.

Basements/Crawl Spaces:

1. Put a **plastic cover** over dirt in **crawlspace**s to prevent moisture from coming in from the ground. Be sure crawlspaces/basements are **well ventilated** with good cross ventilation under the house so air will circulate freely. Make sure all vents are unobstructed and repair any torn vent screens. If you don't have sufficient vents, add more.
2. Get your basement **waterproofed** through a professional service or seal you concrete yourself against water and vapor with RadonSeal deep-penetrating concrete sealer
3. Building construction practices to prevent moisture in a new home, particularly in the basement:

Site selection.

The first and perhaps most important step is to select a suitable site. Moisture problems are greatly reduced if a home is built on a site with a high water table.

Surface drainage.

Landscaping should be graded/sloped to direct rainwater and melting snow away from the foundation, at least six inches over the first ten feet from the foundation wall.

Damp-proofing.

A damp-proof coating on the below grade portion of the foundation wall. Tell your builder you want a high quality, durable waterproofing. A thin damp proof coating is vulnerable to damage during construction.

Floor slab. The basement floor can be a significant source of moisture. To reduce water absorption, the concrete slab should be poured on top of three to four inches of washed aggregate, with a sheet of polyethylene installed beneath the aggregate. Insulating the floor slab saves energy and improves comfort; it also reduces basement condensation in the summer.

Drainage system. An effective exterior drainage system drains bulk water away from the foundation. A channel of coarse rock or drainage tile may be used. The drainage system must be installed on the outside, and near the bottom of the footing

Foundation wall insulation. Foundation insulation may be placed on the exterior wall, be an integral part of the wall, or placed on the interior of the foundation wall. Regardless of where the insulation is placed, a moisture barrier is required to reduce outdoor moisture from coming through the foundation wall. In the case of insulation placed on the interior side of the foundation wall, both sides of the insulation must be protected. A moisture barrier is required between the insulation and the wall from floor to grade, and a vapor retarder is

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required on the interior side of the insulation.

4. To keep water out of crawlspaces, **dig ditches** around the sides of the house down to the footing. Install **gravel and drain lines** that are sloped about 2 inches per 10 feet to carry water away from the house. Direct the water to a natural drainage, to the street, or a French drain. Before backfilling, place waterproof membranes against the foundation wall. Also, ensure water from downspouts is directed away from the house.

Ductwork / HVAC System

Sanitize Cooling Coils

Make sure you periodically wipe any biological growth from the coils. Condensation is continually dripping off the coils when the HVAC system is running. This condensation provides a perfect place for mold to grow. In which case, **disinfectant** should be periodically applied to the coils.

Drain Pan

This is where the condensation from the cooling coils drips. If you have a flat drain pan, the stagnant water will become infested with mold growth. In which case, a **sloped drain pan** should be used, so the water runs off to the proper location. You also need to check to make sure that **drain lines** are flowing properly.

In addition, the drain pan should be cleaned with a **disinfectant** on occasion, and should be replaced when **corrosion** becomes significant.

Filters

Change your HVAC filters on a regular basis. If this is not done, the filter itself can become a **fertile breeding ground** for all the molds and other biological contaminants that are collected. Once this happens, the **spores from the mold will multiply**, and will be **circulated** throughout the home or building through the ductwork.

Insulation

If you have **insulation lining the interior** of the ductwork, then it should be **removed**, so you are left with bare sheet metal. The fiber glass insulation collects a lot of dirt and dust, which provides a good habitat for mold colonies. Once the mold begins to grow inside the ductwork, the mold spores will be spread throughout the house when the HVAC system is running. [Cleaning Mold in the HVAC System](#)

New Construction

In many cases, mold problems can be avoided or caused during the construction of a home or building. In which case, you can take precautions during this phase to save yourself mold headaches down the road.

First, **review many of the tips on this page** to make sure that the house is built in such a way that as many of these as possible can be put into place.

In addition, **avoid using moldy materials**, ensure that any fake stucco that is used is installed 100% properly, since this is a common cause for mold growth in exterior wall cavities. If you are really adamant about preventing potential mold problems, then you may want to avoid using fake stucco altogether.

Dirt / Dust Removal

An environment that is "dirty" or "dusty" is far more conducive to mold problems than a clean environment. Dirt, dust, and grime are often composed of **organic material**, which is a staple of the **toxic "black" mold diet**.

House dust also serves as a **means for locomotion** for mold spores, enabling them to spread throughout the home more effectively.

Ventilation

Proper ventilation can reduce moisture in the home. Keeping the **air pressure** in the home or building at a *slightly* higher level than the air pressure outside will help to ensure proper ventilation. Slightly positive air pressure forces moisture and contaminants outside.

If the air pressurization is the other way around (negative), where the air pressure is higher outside, then it **will force moisture and pollutants back into the home** or building.

Avoid over-pressurization though (too much of a positive air pressure), since it will cause moisture to be forced into walls and structural cavities, compounding the moisture level inside, and potentially damaging the home or building. In order to achieve a slightly positive air pressure, adjust the supply ventilation slightly higher than the exhaust ventilation. Also, try to ventilate appliances and bathroom/kitchen fans outside if possible.

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Properly Vent Combustion Appliances

Combustion appliances include space heaters, ranges, ovens, stoves, furnaces, fireplaces, water heaters, and clothes dryers. Typically these appliances are safe. However, the combustion process always **produces water vapor**, if the appliance is not properly vented, it can lead to increased amounts of moisture in the home and provide an ideal environment for mold growth.

Examples of properly venting combustion appliances include equipping ranges with hood fans that are exhausted to the outside, keeping doors open to rooms where these appliances are operating, making sure that the vents are connected and unblocked, and that there are no holes or cracks in the ventilation systems. Finally, make sure that you follow manufacturer instructions when installing and using combustion appliances.

Keep Firewood Outdoors

Firewood often has a little mold growth on it before being brought indoors, since it contains nutrients for mold to grow and thrive. This is not a problem if kept outdoors, but the mold growth can really progress if the firewood is kept in contained areas.

Shower Curtains

Replace shower curtains when mold begins to become visible.

Air Purification

You may want to use an **air purifier** to minimize the airborne particulate, which allows mold spores to disperse to other areas of the home or building.

To neutralize something as difficult as mold, purifying with multiple technologies is needed. HEPA filters and ionizers combine to effectively capture the allergenic spores released into the air (HEPA stands for High Efficiency Particulate Arrestor). Germicidal UV light purification is also important to destroy the toxic micro-organisms associated with mold.

Air Purifier with Hepa filtration, germicidal UV light and ionizer: The Multi-Tech air purifier will capture mold spores and disinfect the trapped microorganisms.

For more information on how this new technology can improve your health habits

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