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## MOLD ALLERGY

### What is mold?

Mold, mildew, and fungus all refer to the same thing. Mold grows in damp environments, so the only way to prevent mold is to keep your environment dry. It can live anywhere and on almost anything and it is estimated that mold is “hidden” fifty percent of the time. Molds can live for thousands of years waiting for water, this is accomplished because of a tough outer shell that protects it from ultraviolet light and sunlight. Molds are made up of clusters of filaments, and live on plant or animal matter, which they decompose for their nourishment. Many molds reproduce by releasing spores into the air, which then settle on organic matter and grow into new mold clusters. These airborne mold spores are far more numerous than pollen grains, and when inhaled, can produce allergic symptoms. Some molds produce beneficial products like penicillin, while others can produce powerful toxins that can cause disease. Many molds reproduce by releasing spores into the air, which then settle on organic matter and grow into new mold clusters.

Molds can suppress the immune system, and the longer you are exposed the higher the likelihood they will be affected and have more severe symptoms. Long term mold exposure can lead to allergies or asthma in the otherwise healthy person. A face mask should be worn when such exposures are unavoidable.

### Where are molds found?

Molds can be found in most environments, and unlike pollens, do not have a strictly limited season. Their growth is encouraged by warmth and high humidity, so they are most prevalent during the humid seasons of the year. Molds are found outdoors and in the home. They are present in outside air unless there is a cover of snow on the ground, and are especially prevalent in shady, damp areas and on decaying leaves or other vegetation. Mold spores produced outside become widely dispersed through the air, and can enter the home. Other molds are produced in the home, especially in areas of high humidity, such as showers and basements. Plumbing leaks are the #1 cause for mold growth.

### What can be done to decrease mold exposure?

Mold sensitive individuals should avoid exposure to areas of high mold growth, such as basements, compost piles, fallen leaves, cut grass, barns and wooded areas. These and other important mold avoidance measures are detailed below.

It is no longer recommended to use bleach to “kill” mold. It is acceptable to use soap and water but if you want an antimicrobial cleaner you can use one of the following.

- Dr. Bronner’s Peppermint soap
- ¼ cup of vinegar to 1 gallon of water
- 3% Hydrogen Peroxide
- Borax. Make a paste with water to scrub with.
- It is no longer recommended to use bleach on mold.
- Naturally distilled white vinegar

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## MOLD CONTROL MEASURES

### *Throughout the whole home*

- Keep humidity low, 35% if possible, not greater than 50%.
- Keep windows closed at times of high humidity.
- Special air conditioner filters can be added to help trap the airborne allergens.
- Use a room air purifier to help clear the air of mold spores. This will also help with decreasing pollen, dust and pet dander also.
- Very tightly insulated houses prevent the escape of moisture and encourage mold growth. Allow adequate ventilation.
- Avoid over humidifying, especially in the winter. You must empty your humidifier often or connect it to a constant drain. If you notice a musty smell or iff mold is present, you must clean the dehumidifier with soap and water. Central humidifiers should be checked and cleaned frequently.
- If you are going to paint your walls, wash them well first. NEVER paint over mold, paint is food for mold. Mold will also grow through paint even if it has a mold inhibitor in it.
- Check window frames for condensation, which can lead to mold growth.
- Although indoor plants are not a major source of mold spores inside the house, limit the number of houseplants and keep them out of the bedroom.
- If using a fireplace or wood burning stove, do not store the wood inside. Mold is present on the bark of the wood. Avoid live Christmas trees because they harbor mold. When people are “allergic to their Christmas tree” most of the time it is caused by mold.
- Use a HEPA air cleaner to remove mold spores from the air.  
<http://www.airpurifierguide.org/faq/cadr>

### **In the bedroom**

- Avoid foam rubber pillows and mattresses since they are likely to become moldy. Encase pillows and mattresses in allergen impermeable zippered covers.
- Mold grows in closets that are damp and dark. Be sure shoes and boots are dry before storing. Use a chemical moisture remover in closets and storage spaces to help prevent mold growth.

### **In the Bathroom**

- Use an exhaust fan or open window to remove humidity after showering. Use a squeegee to remove excess water from the shower stall, tub, and tiles.
- Wash shower curtain, bathroom tiles, toilet tanks and tile with mold killing and mold prevention solutions.
- Do not carpet the bathroom

### **In the kitchen**

- Use an exhaust fan to remove water vapor when cooking.
- Mold can grow on refrigerators, especially door gaskets. Empty the water pans below the self-defrosting refrigerators often. Remove spoiling foods immediately.
- Molds grow in garbage containers. They should be emptied often and kept clean.

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## MOLD CONTROL MEASURES

### In the laundry room

- Vent the dryer to the outside. Dry clothing immediately after washing.

### In the basement

- Carpet and pad should not be laid on a concrete floor. Vinyl flooring is a better choice.
- Remove any previously flooded carpet and correct seepage or flooding problems.
- Keep the basement free of dust and remove any moldy stored items.
- Allergic individuals should not have their bedroom in the basement.

### Outside

- Avoid cutting grass and raking leaves, or use a well-fitting face mask if these must be done by the allergic individual. Avoid exposure to soil, compost piles, sandboxes, hay, fertilizer, and barns. Prune or cut trees to avoid shading of the home. Eliminate vines.
- Pooled water greatly increases mold growth.
- Avoid camping or walking in the woods. Mold growth on rotted logs and other vegetation is high. Some mold spores are spread on dry and windy days, others at times of rainfall.

### Work and miscellaneous environments

- Greenhouses, antique shops, saunas, sleeping bags, summer cottages, tents, and hotel rooms are all sources of increased mold exposure. Auto air conditioners may harbor mold.
- Occupational exposure to mold occurs in farmers, gardeners, bakers, brewers, florists, carpenters, mill workers, upholsterers and wallpaper hangers.

## COMMON MOLDS

### Alternaria

- Found in soil, food and textiles, rotten wood, composts, bird nests, forest plants.
- Appears whenever the weather is warm.
- Considered an outdoor mold.

### Cladosporium

- Most frequent mold in the air, found more outside than inside.
- Can be taken over oceans via air currents making it the most widely distributed mold in the world.
- Peak months are July-October, but can start as early as May.

### Aspergillus

- Highest incidence during the wide temperature range, even the coldest months.
- Found in litter box layers, onions, rice, coffee, plants, and cereals, roots of strawberries, bird droppings, plant debris and hay.
- Prominent in basements.
- Found on leaves, plant stems, in soil, cereals, cucumbers, tomatoes, and peaches.
- Found in unclean refrigerators, houses with poor ventilation, houses in low, damp, environments, upholstery and pet areas.

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## COMMON MOLDS

### **Aureobasidium**

- Invades leaves, surface layer of soil, and seed of wheat, barley, oats, tomatoes, and pecans.
- Found in kitchens, bathrooms, wood, sauna/hot tub water.

### **Mucor**

- Soul fungus, also found in horse dung, plant remains, wheat grain, barley, tomato and pecans.
- Decomposes carbohydrates, fruits, fruit juices and marmalade.
- Main mold in floor dust.
- Typically an indoor mold.

### **Penicillium**

- Penicillin producing fungus.
- Widely distributed as soil fungus from vineyards, soil of citrus plantations, stored seeds of cereal, hay, bird nests, grapes, nuts, dried fruit, and fruit juices.
- Found in basements more than any other room in the house.
- Peaks in winter and spring.

### **Fusarium**

- Common in soil and as a cause of plant disease.
- Loves, warm, wet weather; bur survives in winter on soil and plant debris in their dominant state.
- Found in banana roots, tomato, watermelon and rice.

### **Drechslera**

- Found in plant debris and soil and on decaying food.
- Is a plant pathogen (causes disease) on cereal grains, such as corn, wheat, oats and rye.
- Can cause health problems in humans, such as liver and kidney damage, if ingested.

### **Curvularia**

- Found outside growing in soil, plant litter and decaying plants as well as on leaves.
- Often found growing inside on a variety of building materials.
- Grows well on cellulose surfaces

### **Rhodoturula**

- Typically reddish in color
- Often found in moist environments such as carpeting, cooling coils and drain pans.

### **Grass and Grain Smuts**

- Do not usually grow indoors.
- Are parasitic in nature.
- Found on cereal grasses, weeds and other fungi, and flowering plants.
- Considered a wet-weather spore, plentiful in pre-dawn condensation, or during light rainfall.
- Needs cool, wet weather of spring and early summer.