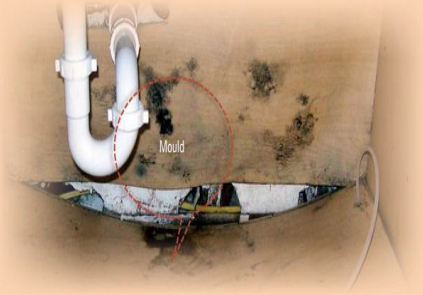
Moulds and leaky buildings

What are moulds?

Moulds, along with mushrooms and yeasts, are fungi, which are simple, microscopic organisms. They are present everywhere, indoors and outdoors.



To grow they need a food source (any organic material such as leaves, wood, paper, or dirt), moisture and a place to grow. They don't need light to grow. When they reproduce they release countless tiny, lightweight spores, which travel through the air, and can be inhaled.

If indoor mould contamination is extensive, high airborne spore levels may exist. Exposure can also occur via contaminated foods, or by touching infected materials.

Adverse health effects

Everyone is exposed to some mould spores on a daily basis without noticeable harm without harm. But they can cause health problems when they are inhaled in large numbers. This may occur with very active mould growth in indoor working and living environments. Moulds can produce adverse health effects such as inflammation, allergy, or infection. Allergic reactions like 'hay fever' or allergic rhinitis and sinusitis are most common. In some people an allergic reaction to fungal spores may take the form of asthma.

Symptoms that exposed people report include:

- Respiratory problems, such as wheezing and shortness of breath
- Nasal and sinus congestion
- Eye irritation (burning, watery or reddened eyes)
- Dry, hacking cough
- Nose or throat irritation
- Skin rashes or irritation.

Although uncommon, infection from moulds can result in a fever. Other reported symptoms include headaches, memory problems, mood swings, nosebleeds, and body aches and pains; but their causes are not well understood.

People with pre-existing asthma are at greater risk, as even a relatively small number of spores may trigger an asthma attack. Similarly, those with weakened immune systems (such as people on chemotherapy or with HIV infection) will be more susceptible to infection, as may elderly people and infants.

Anyone suffering from the general symptoms described and who has been exposed to mouldy conditions should see their GP for a medical assessment.

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A special danger

Certain types of moulds, such as Stachybotrys chartarum, can produce compounds that have other toxic properties called mycotoxins. These come from a greenish black mould that grows on material with a high cellulose content, such as fibreboard, the paper covering of gypsum wallboard, wallpaper and dust and wood when these become wet.

It requires very wet conditions for days or weeks in order to grow.

While Stachybotrys chartarum is growing, a wet slime layer covers its spores, preventing them from becoming airborne. Significant exposure to individuals can occur when the mould dies and dries up. Air currents or physical handling can then cause the spores to become airborne.

However, finding Stachybotrys chartarum in a building does not necessarily mean that occupants have been exposed to either allergens or toxins.

Just how much stachybotrys and other toxic moulds affect people is uncertain.

The key cause of Mould - dampness

Excessive indoor humidity resulting in water vapour condensation on walls from plumbing leaks, spills from showering or bathing, water leaking through foundations or roofs will promote mould growth.

Preventing mould growth is, in principle, a straightforward matter of keeping things dry.

Evidence of past or ongoing water damage (including warping of floors, or an earthy, musty odour) should trigger a thorough inspection of areas such as those underneath water-damaged surfaces or behind walls, floors or ceilings.

Significant sources of indoor moisture include:

- Flooding leaky roofs or walls
- Sprinkler spray hitting the house
- Plumbing leaks
- Overflow from sinks or sewers
- Damp basement or crawl space
- Steam from shower or cooking
- Humidifiers
- Wet clothes drying indoors or
- Clothes dryers exhausting indoors.

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Clean-up procedures

Dealing with mould is, in principle, simple through:

- Removing mouldy materials
- Cleaning and drying mouldy areas

1. Remove mouldy materials

Spores are more easily released when mouldy materials dry – so remove mouldy items and clean mouldy surfaces as soon as possible.

- Discard porous materials from which it will be difficult to remove mould completely, e.g. paper, rags, wallboard, and wood products, ceiling tiles, carpet, curtains, and upholstered furniture.
- Contaminated carpet is often difficult to clean, especially when the backing and/or padding can become mouldy.
- Solid materials (such as glass, plastic, and metal) can generally be kept after they are thoroughly cleaned.
- Adequately bag and discard mouldy items - dispose with household rubbish.
- Dry affected areas for 2-3 days.

2. Clean and dry the mouldy areas

- Use non-ammonia soap or detergent, or a commercial cleaner in hot water; scrub the entire affected area
- Use a stiff brush or cleaning pad on cement walls and uneven surfaces
- Rinse cleaned items with water and dry thoroughly. A wet/dry vacuum cleaner is helpful for removing water and cleaning.

Use of biocides:

Don't use bleach or other biocodes , except in specific circumstances.

In most cases it is not possible to sterilize an area because of the presence of background mould spores – which settle on the area after it has been dealt with and remain viable.

Biocides may be deemed appropriate in some circumstances: for example if immune compromised people are present.

If they are used, adequate ventilation must be supplied.

Personal Precautions:

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Use respiratory protection when you are dealing with moulds. A respirator with particulate filter(s) (P1 minimum) is required for spores. With the prolonged substantial use of cleaning agents, a combined particulate and vapour respirator is preferable. If in doubt, consult a safety equipment supply company.

Protective clothing that is easily cleaned or discarded, and rubber or other suitable gloves should be worn

If you are concerned about the effects on your health, work for short time periods with rest in fresh air. Try cleaning a test area first. Small areas or light mould growths should not cause significant problems.

Gross contamination or heavy growths may be more of a problem for certain individuals.

Bleach fumes can irritate the eyes, nose, and throat, and damage clothing and shoes. Minimise exposure when using disinfectants with good ventilation and air it well afterwards. Wear gloves, mask and eye protection.

Never mix bleach with ammonia as toxic fumes may be produced.

Ozone air cleaners ARE NOT recommended. Ozone is a known lung irritant and is not effective in controlling airborne moulds and other microbial contamination. It may damage materials in the home, such as causing rubber items to become brittle.

Never use a gasoline or LPG-fuelled engine indoors for drying as this could produce dangerous levels of carbon monoxide.

Ensuring dry conditions will be the best way of preventing mould from growing.

Preventing mould growth

Inspect your building regularly for the indications and sources of indoo r moisture and mould.

If a leak or flooding occurs, it is essential to act quickly:

- Stop the source of leak/flooding
- Remove excess water with mops or wet vacuum
- Whenever possible, move wet items to a dry, well-ventilated area, or outside to expedite drying. Move rugs and pull up areas of wet carpet as soon as possible
- Open furniture doors and move furniture away from walls to increase circulation
- Run portable fans to increase air circulation. DO NOT use fans if mould has already started growing
- Run dehumidifiers to lower humidity
- DO NOT turn up the heat or use heaters in confined areas, higher temperatures increase the rate of mould growth
- If water has soaked inside walls, it may be necessary to open wall cavities, remove baseboards, and/or pry open wall panelling.