

Mold

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(http://www.nysut.org/cps/rde/xchg/nysut/hs.xsl/healthandsafety_6916.htm)

Mold, or (filamentous) fungi, is a natural part of the indoor and outdoor environment. Airborne mold spores are a type of bioaerosol, which include fungi, bacteria, pollen and dust mites. Fungi play an essential role in decomposing organic materials such as wood, leaves, and dead plants. Molds are present in homes in numbers similar to most workplaces, and are also present outdoors at relatively high levels most of the year.

Molds will only thrive and grow indoors if there is moisture and a food source such as wood, paper or dirt. Growth or the increased spread of mold indoors can lead to health symptoms. The problem should be addressed immediately by cleanup, disinfection, and control of the water source.

There are over 1,000 species of mold in the U.S divided into various groups. Common groups are *Penicillium*, *Cladosporium* and *Aspergillus*. Some molds such as *Stachybotrys chartarum*, (also known as *Stachybotrys atra*) and certain species of *Aspergillus*, *Penicillium*, *Fusarium*, *Trichoderma* and *Mimmoniella* can generate toxins called mycotoxins.

Exposure to mold or mold spores can occur by inhalation, eating contaminated food, or by skin contact. In workplaces like schools and office buildings, inhalation is the most common form of exposure. People may have health symptoms even if the mold is not visible. Both high-level, short-term exposures and lower level, long-term exposures to mold can cause health problems.

The most widespread illnesses that can be caused by mold exposure are asthma and allergies. Mold infections are also a concern if individuals are immune compromised. Mycotoxins are a concern if the molds capable of forming them are growing in the building.

Some indoor mold contamination could require certain persons be removed from the contaminated area until remediation and air testing are done. Anyone recovering from recent surgery, having immune suppressions, asthma, hypersensitivity pneumonitis, severe allergies, sinusitis or other chronic inflammatory lung diseases are at greater risk for developing health problems and should be removed. If contamination were linked to illnesses throughout a building, a building-wide evacuation would be recommended.

People with continuing health problems that appear to be related to mold exposure should see their doctors for a referral to someone who is knowledgeable about these types of exposures.

Molds enter buildings through ventilation systems, dirt, individuals' clothes and shoes. Mold spores can also be carried considerable distances through a ventilation system. Damp conditions or a relative humidity above 70% are sufficient for mold growth. Porous building materials that provide food for mold, include wood, paper, drywall, particleboard, paneling, ceiling materials, carpets, dead plant material, soil and dirt.

Since molds are part of the natural environment, it is impossible to achieve a "mold free" environment. However, mold growth can be controlled. Indoor air should be cleaner than outdoor air and mold species in indoor environments should be similar to those found outdoors. There should not be any visible mold in a building. Chronically wet areas like shower rooms should be regularly disinfected.

1. Control moisture sources! Leaky roofs, poorly maintained heating, ventilation and air conditioning systems, and inadequately sealed/insulated walls, foundations and ceilings can all introduce unwanted water and moisture into schools. As a first step in controlling molds, sources of water infiltration should be identified and repaired.
2. Remove water-damaged materials. Walls, ceilings, carpets and other porous building materials damaged by damp conditions or water should be dried within 48 hours or replaced. Moisture is an important medium for the growth of microorganisms, such as mold and bacteria.

3. Keep supplies dry. Any paper damaged by water should be discarded. Childproof paints lack a biocide that prevents the growth of mold. They should be purchased in small containers and discarded at the end of the school year.
4. Evaluate and change heating, ventilation and air conditioning (HVAC) system. Check the filters in the HVAC system. For buildings with mold problems, filters should be disposable and changed regularly. Check air intakes for standing water, leaves, garbage and mold damaged materials and remove nearby shrubbery and vegetation.
5. Increase airflow in the HVAC. Increased ventilation can reduce levels of mold and other bioaerosols.
6. Conduct regular housekeeping. Cleaning floors and bathrooms daily will also help prevent mold from finding organic material to live on. Adequate custodial staffing will also allow for periodic cleaning of walls and surfaces. Cotton mops and cleaning clothes should be regularly cleaned and dried.
7. Check drains. All drains should be regularly cleaned using steam or hot water to prevent the build up of mold, especially in U-pipes.
8. Control hot and cold spots. Condensation from the mixing of hot and cold air can occur during the heating or air conditioning season. Look for areas of temperature extremes, especially those near outside walls. Window condensation on non-insulated windows can serve as an early warning sign. Correction can include relocating ducts and diffusers, increasing insulation, changing temperature settings and sealing all cracks.
9. Look for concealed condensation. The "back side" of plywood or fiberboard walls (the hidden side, toward wall cavities and the outside) are concealed, and an ideal breeding ground for molds. Check wall cavities, restrict the entry of moisture-laden air and replace any water-damaged materials.

The New York City Department of Health developed Guidelines on Assessment and Remediation of Fungi in Indoor Environments. It is recommended by indoor air professionals as an excellent tool for dealing with mold problems. You can download it at www.ci.nyc.ny.us/html/doh/html/epi/moldrpt1.html or call 212-788-4290 for a copy.