Flood INFORMATION

NORTH DAKOTA
DEPARTMENT of HEALTH
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Mold in Homes

About Mold

What is mold?

Molds are simple, microscopic organisms found virtually everywhere, indoors and outdoors. Molds are an important part of the life cycle because they decompose organic matter. Molds can be found on plants, foods, dry leaves and other organic material. Because mold spores are tiny and lightweight, they can travel through the air. Mold growths often can be seen in the form of discoloration ranging from white to orange and from green to brown or black.

Should I be concerned about mold in my home?

Yes, if contamination is extensive. When airborne mold particles, such as mold spores, are present in large numbers, they can cause allergic reactions, asthma episodes, infections and other respiratory problems for people. Mold also can cause structural damage to your home.

Why does mold grow?

Mold grows when environmental conditions are favorable. Those conditions include a food source, the right temperature and the presence of moisture. Because molds will decompose a wide variety of materials and many molds thrive at room temperature, moisture control becomes the key factor in preventing indoor mold growth.

Can mold be a problem in my home?

Yes, if moisture is available to allow mold to thrive and multiply. Common moisture sources include:

- Flooding.
- Backed-up sewers.
- Leaky roofs.
- Humidifiers.
- Damp basements or crawl spaces.
- Constant plumbing leaks.
- Shower/bath steam and leaks.
- Clothes dryers and combustion appliances (stove, furnace, water heater, etc.) not exhausted to the outdoors.

Health Effects

How am I exposed to indoor mold?

It is common to find mold spores in the air of homes and growing on damp surfaces. Much of the mold indoors originates from an outdoor source; therefore, everyone is exposed to some mold on a daily basis. Because people spend a great deal of time indoors and buildings tend to have limited outdoor air ventilation, an indoor source of mold can create higher indoor concentrations of airborne mold spores.

How much can make me sick?

It depends. Mold spores primarily cause health problems when they become airborne and are inhaled in large numbers. For some people, a relatively small number of mold spores can cause health problems. For others, it may take much more. There are no health-based standards or exposure limits for mold. The basic rule is: If you can see or smell mold, take steps to eliminate the excess moisture and to clean up and remove the mold.

Who is at greatest risk?

Exposure to elevated concentrations of mold is not healthy for anyone. The following individuals appear to be at higher risk for adverse health effects of molds:

- Infants and children
- Elderly
- Immune-compromised patients (people with HIV infection, cancer chemotherapy, liver disease, etc.)
- Pregnant women
- Individuals with existing respiratory conditions such as asthma, allergies and multiple chemical sensitivities

What symptoms are common?

Typical symptoms (alone or in combination) include:

- Respiratory problems, such as wheezing and difficulty breathing.
- Nasal and sinus congestion.
- Eye problems, such as burning, watering, reddening, blurred vision and light sensitivity.
- Dry, hacking cough.
- Sore throat.
- Nose and throat irritation.
- Shortness of breath.
- Skin irritation.
- Aches and pains.
- Fever.

The symptoms above can be attributed to many causes. People who are experiencing one or more of these symptoms should seek assistance from a physician.

Are some molds more hazardous?

Yes. All molds can cause health problems; however, some species of mold are more capable of causing infections than others. In addition, some molds produce mycotoxins. Although the health effects from exposure to mycotoxins are unclear at this point, people should exercise added caution when dealing with a mold species known to produce a mycotoxin.

Detection of Mold

How can I tell if I have mold in my house?

The easiest way is if you see mold growth. If there is a musty or earthy odor, or if the house exhibits chronic moisture problems, you can assume you have a mold problem. In addition, allergic individuals may experience symptoms listed on the front of this sheet. Mold may be found behind walls or underneath materials where water has damaged the surface. Look for discoloration of drywall or plaster.

Should I test my home for mold?

Testing is not recommended as the first step to determine if you have a mold problem. Reliable sampling for mold can be expensive and requires equipment not usually available to the general public.

Few standards are available for judging what is an acceptable quantity of mold. All locations contain some mold. The simplest approach is: If you can see or smell mold, you have a problem. Unless the source of moisture is found and removed and the contaminated area cleaned and disinfected, mold growth is likely to recur. Once you know the problem exists, follow the clean-up steps below.

General Cleanup

Identify and fix the moisture source. Remove the mold. Clean, disinfect and dry the area.

It is most critical to remove the source of the moisture to ensure that the mold will not re-grow. Removing the source of moisture is especially important before replacing any discarded items with new materials, so the new materials will not become moldy.

What should I discard? Save?

Porous materials such as paper, wallboard, carpet, sheetrock and insulation that exhibit mold growth should be discarded. Because of the porous nature of these items, mold growth is typically throughout the material, making them very difficult to clean thoroughly. Harder-surfaced materials such as glass, plastic or metal can be kept after they are cleaned and disinfected. Foundation materials that are impractical to remove should be assessed on a case-by-case basis and may need to be inspected by a building inspector for structural damage.

When considering what to keep and what to discard, the important thing to remember is that the mold must be removed. Simply killing the mold may be inadequate because it does not remove the mold allergens from the environment.

What should be removed?

Remove all porous materials such as ceiling tile, sheetrock, carpet and insulation that exhibit mold growth. Bag and seal all moldy material before removal from the work area. A vacuum can be used to clean up, but only a vacuum with a high efficiency particulate air (HEPA) filter.

How do I clean the affected areas?

Before disinfecting contaminated areas, clean the areas to remove as much mold (and material it is growing on) as possible. Clean with a non-ammonia detergent in hot water.

Scrub the entire area affected by the moisture. Use a stiff brush or cleaning pad on block walls or uneven surfaces. Rinse the area with clean water. Thoroughly dry the area as quickly as possible. Repeat cleaning as necessary to remove mold.

What is the best way to disinfect?

After removing as much of the mold as possible, a disinfectant can be used to kill mold that might remain. A 10 percent bleach solution (1 cup of bleach to 1 gallon of water) is recommended as a disinfectant for mold cleanup.

Apply a thin coat of bleach solution to the entire area, ensuring that the entire area is cleaned, not just where the moisture problem occurred and the mold growth was removed. Use a sprayer or a sponge to apply the solution liberally, but avoid excessive amounts of runoff or standing pools. Allow the area to dry naturally. Drying time is important for the disinfectant to be effective at killing mold and bacteria.

WARNING!
Never mix bleach and ammonia.
The fumes are toxic!

After cleaning thoroughly, can I still have mold odors?

Yes. It is possible that odors may persist. Continue to dry out the area and search for any hidden areas of mold growth. If the area continues to smell musty, you may have to clean the area again. Follow the cleaning steps on this fact sheet. Continue to dry and ventilate the area. Do not replace flooring or begin to rebuild with finish materials until the area has dried completely.

Can mold cleanup be a health hazard?

Yes, exposure to mold can occur during the mold removal and cleaning stage. Whether you or a professional contractor is doing the cleanup, steps should be taken to protect the health of the workers and other occupants. Have mold-sensitive people leave the area while the work is performed. Wear protective clothing (that can be cleaned thoroughly or discarded), gloves, goggles and breathing protection. Seal off the area as much as possible. Cover any air vents near the work area. Remove any furnishings from the area for later cleaning. Use negative pressure in the work area if possible, or at least provide ventilation (open window, etc.). Use a HEPA air filter in the work area if one is available.

Assistance

For more information or further assistance, contact your local public health unit or the North Dakota Department of Health, or visit the Indoor Air Quality Program website at: www.ndhealth.gov/AQ. The NDSU Extension service also provides helpful information at: www.ag.ndsu.edu/disaster/flood.html.