



Motivating patients to upgrade indoor air quality

Make sure any patient education materials or conversations touch on the nature of mold. Among the questions patients may ask:

- ▶ **What are molds and fungi?**
- ▶ **What do molds do?**
- ▶ **How do they grow and reproduce?**
- ▶ **What does mold growth look like?**
- ▶ **Do molds have a certain smell?**

"Patients are interested to discover that mold is often visible as a colored spot, which is green, gray, brown, black or white and that is sometimes shows up as a powdery, fuzzy, or hairy material," says Barry A. Lampl, DO, a Beachwood, Ohio-based allergist. "Molds also generate odors that are often described as earthy, moldy, or like old dirty socks or ammonia."

Advise patients of the home-damage potential of molds.

Patients need to know that mold is commonly found in the air of most homes, as well as on clothes, walls, and furniture. Routine and targeted cleaning of visible mold around areas such as the shower can help prevent problems. "Concern rises with large amounts of active mold growth due to a water leak, food, or high levels of humidity," says Dr. Lampl. "This can cause high levels of mold spores, which spread to other, high-moisture areas of the house. Such growth can damage carpets, sofas, and cabinets—even the structure of the house. The best advice for patients is to keep homes clean and dry."

Advise patients on how mold can damage their health, as well as common symptoms of mold exposure.

"Most people are exposed to small amounts of mold or mold spores in indoor environments every day and suffer little harm," says Massoud Mahmoudi, DO, PhD, assistant clinical professor of medicine, division of allergy and Immunology at University of California San Francisco. "However, mold growing inside a house is unsanitary and puts peoples' health at risk. All patients need to pinpoint and correct high moisture conditions quickly before mold grows and health problems emerge."

Health effects of mold include allergic rhinitis—also known as hay fever—asthma, hypersensitivity pneumonitis, or nonspecific symptoms. Among the symptoms reported by patients living in moldy homes are skin rashes or irritation, fatigue, headaches, coughing and throat irritation, eye irritation, sneezing and/or nasal congestion, and respiratory problems, such as wheezing, difficulty breathing, and shortness of breath.

Inform patients on the variables of mold exposure.

"Effects of mold depend on the amounts and types of mold, length and frequency of exposure, the health condition of the people exposed to it, and genetic predisposition to allergies" says Dr. Mahmoudi. "While some people are unaffected by mold exposure, others develop serious illnesses. Still others become sensitized to the mold and develop allergies."

"Because exposure to mold or mold spores can cause allergy, irritation, and toxigenic reactions in susceptible individuals, patients need to know that complete removal and cleanup of mold is the only answer," adds Dr. Mahmoudi.

Give added attention to some patients.

Among patients who need additional attention are those with more severe symptoms or those who become ill more rapidly than others. Patients with respiratory conditions, such as allergies and asthma, or those with chemical sensitivities, weakened immune systems due to HIV infection or cancer treatments, infants, young children, and the elderly also need special attention.

Advise patients on how they can protect their homes from molds.

Emphasize areas such as moisture control, inspection, and other precautions. Offer specific precautions targeted at specific areas of the home such as the following:

- ▶ Vent bathrooms and other moisture-generating areas, such as the laundry room, to the outside.
- ▶ Focus on specific appliances and devices such as hot water heaters, showers, tubs, sinks, toilets, and garbage disposal systems.
- ▶ Share practical tips such as these: Avoid carpeting bathrooms, basements, kitchens or other areas prone to collect moisture.
- ▶ Repair damages that could lead to water intrusion promptly.
- ▶ Ensure that your home has adequate ventilation, including exhaust fans in the kitchen and bathrooms.
- ▶ Avoid humidifiers and if used keep the humidity below 50%. Use dehumidifiers where indicated to keep the humidity between 30 and 50%. *iw*

Resources

The following are a variety of resources on mold prevention to share with patients:

Environmental Protection Agency
Indoor Environments Resource Page on Mold

www.epa.gov (quickfinder, indoor air quality)

US Department of Labor, Occupational Health and Safety Administration
A Brief Guide to Mold in the Workplace

www.osha.gov (search molds, fungi)

US Centers for Disease Control and Prevention, National Center for Environmental Health
Mold Resource Page

www.cdc.gov (search NCEH, mold)

American Red Cross
Repairing Your Flooded Home

www.redcross.org
(disaster services, flood)

National Academy of Sciences
Damp Indoor Spaces and Health Project

www.nas.edu

American Academy of Allergy, Asthma and Immunology

www.aaaai.org

American Academy of Pediatrics, Committee on Environmental Health
Policy Statement: Toxic Effects of Indoor Molds

www.aap.org/policy/re9736

American College of Occupational and Environmental Medicine

Position Statement on Health Effects of Molds

www.acoem.org
(position statements, molds)

American Industrial Hygiene Association
The Facts About Mold

www.aiha.org (info topic, mold)

California Department of Health Services

Mold Resources

www.cal-iaq.org (mold)

Montana State University
Healthy Indoor Air for America's Homes Project
Indoor Air Quality: Eliminate Molds, Excessive Moisture and Other Biological Pollutants

www.montana.edu (search molds)

New York City Department of Health and Mental Hygiene
Guidelines on Assessment and Remediation of Fungi in Indoor Environments

www.ci.nyc.ny.us/html/doh (browse health topics a-z, mold)

Kansas Department of Health and Environment

Mold—How to Make Your Home Mold-Free and Keep It That Way

www.kdhe.state.ks.us (mold)

University of Minnesota, Environmental Health & Safety
Managing Water Infiltration into Buildings

www.dehs.umn.edu
(search water infiltration)



A Summary of Patient Tips on Mold

- ▶ Keep the house or building, including attics and basements, dry.
- ▶ Eliminate water sources such as poor drains, faulty water lines, defective or broken siding or roofs, and basement seepage.
- ▶ Fix leaks immediately.
- ▶ Use ventilation to stop condensation—typically brought about through washing, cooking, and bathing.
- ▶ Ventilate basements in spring, summer and fall and use a dehumidifier in humid months, such as July and August.
- ▶ Ventilate the attic through special types of vents.
- ▶ Control basement seepage by grading the land around the home so it slopes away from the house.
- ▶ Make sure downspouts discharge water at least 10 feet from the house.
- ▶ Consider an interior drain that guides water to a sump and pump in the basement floor that pumps it outdoors.
- ▶ Use air conditioning to reduce moisture in summer.
- ▶ Kill mold with bleach and water or with special preparations available at hardware stores. However, always be sure to wear eye and skin protection.
- ▶ If using humidifiers do not humidify above 50%
- ▶ Keep the humidity in the home between 30 and 50%. Monitor the humidity if necessary.