

Testing for Mold in Water-Damaged Public Buildings

The Massachusetts Department of Public Health (DPH), Bureau of Environmental Health's Indoor Air Quality Program (IAQ) conducts indoor air quality inspections of schools and public buildings. Although inspections include an assessment for mold, **DPH does not test for mold and does not recommend mold testing as part of routine water damage remediation.** This document clarifies the reasons for this recommendation and provides guidance on mold remediation and prevention in public buildings. For further information, please contact the DPH Indoor Air Quality Program at 617-624-5757.

WHAT CAUSES MOLD?

Water and moisture cause mold growth. When porous carbon-containing materials get wet, they must be dried within 24-48 hours or mold growth is likely.^{1,2} In hot, humid weather, an indoor relative humidity above 70% (even in the absence of liquid water) can cause building materials to be wet enough to develop mold growth.³

WHAT CAN BE DONE TO PREVENT OR STOP MOLD GROWTH?

To prevent or stop mold growth, the water source must be identified and removed or repaired. Materials that absorb water and become moldy cannot be adequately cleaned and should be discarded. Finding and repairing sources of moisture/water combined with cleaning is the best way to deal with mold.

WHY DOES DPH NOT CONDUCT OR RECOMMEND CONDUCTING MOLD TESTING?

1. **The presence of mold does not necessarily indicate a problem.** Mold spores waft through the indoor and outdoor air continually. There is no practical way to eliminate all mold and mold spores in the indoor environment; the way to control indoor mold growth is to control moisture.⁴
2. **There are no established limits (federal or state regulations, building standards or guidelines) on how much mold can exist before health impacts are expected.** This means that even if tests are conducted, there is no way to compare results or determine whether the measured level could cause health effects.
3. **There is no way to determine whether an individual's symptoms or reactions were caused by mold.** While mold, spores, and other associated materials can make allergies and asthma symptoms worse, different people react differently to mold and mold spores. In addition to mold, reactions experienced by individuals could be caused by bacteria, other compounds in the air caused by the breakdown of wet building materials, or something different altogether.^{5,6,7,8}
4. **The U.S. Environmental Protection Agency (EPA) does not recommend testing.** DPH follows the guidelines contained in the U.S. EPA *Mold Remediation in Schools and Commercial Buildings* report for cleaning and removing water-damaged materials.⁸ EPA's guidelines recommend, in most cases, that if visible mold growth is present, mold sampling is not necessary.

IF TESTING IS NOT RECOMMENDED, HOW DO YOU DETERMINE WHETHER MOLD IS PRESENT?

Visual evidence of mold growth and/or the presence of musty odors are reliable indicators of mold problems that are correlated with health risks in buildings where indoor environmental complaints have been made.⁹

EPA's guidelines on mold remediation provide information and helpful pictures on identifying mold.

ARE THERE SITUATIONS WHERE MOLD SAMPLING MAY BE CONSIDERED?

Mold testing may be appropriate if:

1. Occupants continue to have symptoms associated with mold after water sources are repaired and moldy building materials and items in the building have been removed or cleaned. Mold testing can sometimes be helpful to identify which materials may be an ongoing source of mold to assist in completing the remediation; or
2. An individual has a diagnosed respiratory fungal infection, and the treating medical provider requests mold testing to help direct medical treatment.

¹ ACGIH. 1989. Guidelines for the Assessment of Bioaerosols in the Indoor Environment. American Conference of Governmental Industrial Hygienists, Cincinnati, OH

² IICRC. 1997. IICRC S001 Standards Reference Guide for Professional On-location Cleaning of Installed Textile Floor Covering Materials. 3rd ed. The Institute of Inspection, Cleaning and Restoration Certification, Vancouver, WA.

³ ASHRAE. 1985. ASHRAE Transactions. Optimum Relative Humidity Ranges for Health. American Society of Heating, Refrigeration and Air Conditioning Engineers. Vol. 91, Part 1B.

⁴ U.S. EPA Frequent Questions on Mold and Moisture, <https://iaq.zendesk.com/hc/en-us/articles/211432848-What-is-mold>- accessed September, 2019.

⁵ CADPH. 2011. Statement on Building Dampness, Mold, and Health. California Department of Public Health. Last updated February 2016. Accessed at: <https://www.cdph.ca.gov/Programs/CCDC/DEOD/DCDC/DEOD/DCDC/DEOD/Pages/Mold.aspx>

⁶ Mendell, M. J., Mirer, A. G., Cheung, K., & Douwes, J. 2011. Respiratory and allergic health effects of dampness, mold, and dampness-related agents: a review of the epidemiologic evidence. *Environmental Health Perspectives* 119(6):748.

⁷ WHO. 2009. *WHO Guidelines for Indoor Air Quality: Dampness and Mould*. World Health Organization Copenhagen: WHO Europe.

⁸ NIOSH. 2015. Testing and Remediation of Dampness and Mold Contamination. National Institute of Occupational Safety and Health, Cincinnati, OH. <https://www.cdc.gov/niosh/topics/indoorenv/moldtesting.html>

⁹ EPA. 2008. Mold Remediation in Schools and Commercial Buildings. EPA 402-K-01-001. <https://www.epa.gov/sites/production/files/2014-08/documents/moldremediation.pdf>

⁹ NIOSH. 2015. Testing and Remediation of Dampness and Mold Contamination. National Institute of Occupational Safety and Health, Cincinnati, OH. <https://www.cdc.gov/niosh/topics/indoorenv/moldtesting.html>

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September 2019