

Safety recommendations for reentering a home after flooding

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As the floodwaters from Hurricane Harvey begin to recede, many will return to their homes to assess damage and start the long process to clean up and rebuild. This raises questions about potential health risks that may be lurking in the standing water and muddy sludge left behind, as well as within water-damaged walls, floors and furniture. Experts at Baylor College of Medicine have compiled an overview of precautions to take and what to look out for when returning to homes that experienced flooding.

"A few key things to keep in mind when returning to your home after a flood are personal protection, stability of the structure and developing an action plan for cleanup, including safe cleaning techniques and proper disposal of waste," said Dr. Rebecca Bruhl, assistant professor of medicine-general medicine and associate director of the Environmental Health Service at Baylor. "It's important to appropriately protect yourself whenever you enter a flood-damaged or moldy building by wearing an N95 face mask, hat, heavy rubber gloves, goggles, clothing with long sleeves and pant legs, closed-toed shoes with rubber soles and disposable shoe covers. Also, be sure to cover any open wounds with a watertight bandage."

Protecting yourself will help limit exposures to potentially dangerous pathogens such as mold and bacteria, as well as other likely contaminants such as industrial chemicals, pesticides, arsenic and lead. Avoid direct contact with any standing water or flood debris in or around your home, wash all clothing worn during clean-up activities separately in hot water

with detergent, and thoroughly wash after clean-up activities and before eating.

"Additionally, individuals with asthma or other respiratory conditions or weakened immune systems should not help with clean-up activities," Bruhl said.

Before returning to a flooded home for the first time, wait until it is safe to get to your home, and return only during daylight hours. Assess for structural damage, including potential damage to your electrical, natural gas and plumbing systems before entry. If you are uncertain, turn off these systems and contact a professional. If you use a generator for your initial clean-up work, make certain that it is outside to avoid exposure to carbon monoxide.

Minimal Flooding

In homes with relatively minimal flooding, appearances may not be indicative of what is lurking in the air, under floors or behind walls.

"Homes that experienced only several inches of flooding may appear relatively normal except for the smelly mud and debris left by the flood waters. However, that doesn't mean the home is not at risk for [dangerous pathogens](#) or parasites," said Dr. Abiodun Oluyomi, assistant professor of medicine-general medicine at Baylor. "Look out for areas that may have trapped water for a longer period of time or may still hold standing water, such as behind floor moldings. These areas are breeding grounds for microorganisms such as viruses, bacteria and mold."

For minimal flooding scenarios with no damage to electrical and other systems, the general guidelines include use of a wet vacuum to remove [standing water](#), use of a shovel to remove mud, removal of carpeting and other porous items, including dry wall, that got wet, vacuuming with a

HEPA vacuum, and washing all hard surfaces using water and detergent. Ventilate the home by opening windows and doors and use fans and dehumidifiers to help reduce moisture levels, unless there is significant mold growth.

Severe Flooding

Severely flooded homes generally require professional help to assess the damage and design a remediation plan. Removal of water, sludge and wet items as described above by homeowners and volunteers is recommended only if it can be done safely. Homes built before 1978 often present additional remediation risks, including the presence of lead and asbestos. Be particularly wary of electric shock, as exposed outlets and downed neighborhood wires can be hidden under water. Any special items such as photographs removed from the home after flooding need to be properly cleaned and decontaminated.

"If water has not cleared, wet furnishings removed, and the drying process significantly underway within 48 hours there is a high risk for [mold growth](#)," said Dr. Winifred Hamilton, associate professor of medicine-general medicine and director of the Environmental Health Service at Baylor.

Mold is most easily identified by a musty smell or the appearance of mold colonies in damp areas. In general, nonprofessionals should not attempt mold removal if the affected area is larger than roughly a 6' x 5' area. For small amounts of mold, washing with a solution of five gallons of [water](#), one cup of bleach and a non-phosphate detergent may be effective.

"Avoid the use of air fresheners and industrial strength cleaners," added Hamilton. "These unneeded chemicals will only add to your exposure to toxins."

Next Steps

Cleaning up after flooding poses a set of risks and challenges all its own. Know the risks, use effective personal protective equipment, and get proper medical attention immediately if symptoms likely associated with exposures related to flooding or clean-up activities present.

For more specific information about how to safely enter a [home](#) and begin the clean-up process, visit the [Centers for Disease Control and Prevention](#) and the [U.S. Department of Housing and Urban Development](#).

Provided by Baylor College of Medicine

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