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Stay Safe After a Flood

Avoid Flood Water

- Flood water is contaminated with sewage and chemicals.
- Flood water may contain sharp objects and open storm drains.
- Do not allow children to play or swim in flood water.
- Children and adults who have been exposed to floodwaters should bathe as soon as possible.

Wash Your Hands

- Always wash your hands with soap and boiled or disinfected water before preparing or eating food, after toilet use, after participating in cleanup activities, and after handling articles contaminated with floodwater or sewage. Wash children's hands frequently (always before meals).
- Disinfect water for washing by mixing 1/8 teaspoon of household bleach per 1 gallon of water). Let it stand for 30 minutes. If the water is cloudy, use a solution of 1/4 teaspoon of household bleach per 1 gallon of water.
- If water isn't available, use alcohol-based hand sanitizer.

Clean Up Safely After Floods

People with asthma, allergies, or other breathing conditions may be more sensitive to mold. People with immune suppression (such as people with HIV infection, cancer patients taking chemotherapy, and people who have received an organ transplant) are more susceptible to mold infections.

• Possible Health Effects of Mold Exposure

People who are sensitive to mold may experience stuffy nose, irritated eyes, wheezing, or skin irritation. People allergic to mold may have difficulty in breathing and shortness of breath. People with weakened immune systems and with chronic lung diseases, such as obstructive lung disease, may develop mold infections in their lungs. If you or your family members have health problems after exposure to mold, contact your doctor or other health care provider.

• Recognizing Mold

You may recognize mold by:

- **Sight** (Are the walls and ceiling discolored, or do they show signs of mold growth or water damage?)
- **Smell** (Do you smell a bad odor, such as a musty, earthy smell or a foul stench?)

• Safely Preventing Mold Growth

Clean up and dry out the building quickly (within 24 to 48 hours). Open doors and windows. Use fans to dry out the building.

When in doubt, take it out! Remove all porous items that have been wet for more than 48 hours and that cannot be thoroughly cleaned and dried. These items can remain a source of mold growth and should be removed from the home. Porous, noncleanable items include carpeting and carpet padding, upholstery, wallpaper, drywall, floor and ceiling tiles, insulation material, some clothing, leather, paper, wood, and food. Removal and cleaning are important because even dead mold may cause allergic reactions in some people.

- To *prevent* mold growth, clean wet items and surfaces with detergent and water.
- Homeowners may want to temporarily store items outside of the home until insurance claims can be filed.

If there is mold growth in your home, you should clean up the mold *and* fix any water problem, such as leaks in roofs, walls, or plumbing. Controlling moisture in your home is the most critical factor for preventing mold growth.

To *remove* mold growth from hard surfaces use commercial products, soap and water, or a bleach solution of no more than 1 cup of bleach in 1 gallon of water. Use a stiff brush on rough surface materials such as concrete.

If you choose to use bleach to remove mold:

- **Never mix bleach with ammonia or other household cleaners.** Mixing bleach with ammonia or other cleaning products will produce dangerous, toxic fumes
- Open windows and doors to provide fresh air.
- Wear non-porous gloves and protective eye wear.
- If the area to be cleaned is more than 10 square feet, consult the U.S. Environmental Protection Agency (EPA) guide titled *Mold Remediation in Schools and Commercial Buildings* . Although focused on schools and commercial buildings, this document also applies to other building types. You can get it free by calling the EPA Indoor Air Quality Information Clearinghouse at (800) 438-4318, or by going to the EPA web site at http://www.epa.gov/mold/mold_remediation.html.
- Always follow the manufacturer's instructions when using bleach or any other cleaning product.
- More information on personal safety while cleaning up after a natural disaster is available at www.bt.cdc.gov/disasters/workers.asp.

If you plan to be inside the building for a while or you plan to clean up mold, you should buy an N95 mask at your local home supply store and wear it while in the building. Make certain that you follow instructions on the package for fitting the mask tightly to your face. If you go back into the building for a short time and are not cleaning up mold, you do not need to wear an N95 mask.

Keep Food Safe

In the event of a power outage, perishable foods including meats, dairy products and eggs that haven't been refrigerated for more than two hours should be discarded because they are no longer safe to consume. Foods that have been contaminated by flooding should also be discarded.

Infectious Disease

Short bouts of diarrhea and upset stomach and colds or other breathing diseases sometimes occur after a natural disaster. Basic hygiene measures like frequent [hand washing or use of an alcohol hand gel](#), especially after using the restroom or changing diapers and before eating, can help prevent these diseases.

Immunizations

A tetanus shot is recommended if you have not had one in 10 years.

Protect Mental Health

- The days and weeks after an emergency are going to be rough. Some sleeplessness, anxiety, anger, hyperactivity, mild depression, or lethargy are normal and may go away with time. If you feel any of these symptoms acutely, seek counseling. Your state and local health departments will help you find local resources, including hospitals or health care providers that you may need.
- Seek medical care if you are injured, feel sick, or have acute stress and anxiety.
- Keep as many elements of your normal routine incorporated into the disaster plans as possible, including activities to calm children's fears.
- Be aware that you may have fewer resources to attend to your day-to-day conflicts, so it is best to resolve what you can ahead of time.
- Turn to family, friends, and important social or religious contacts to setup support networks to deal with the potential stressors.
- Let your child know that it is okay to feel upset when something bad or scary happens. Encourage your child to express feelings and thoughts, without making judgments.

Prevent Illness from Sewage

- If there is flooding, the waters may contain fecal material from overflowing sewage systems and agricultural and industrial waste. Although skin contact with floodwater does not, by itself, pose a serious health risk, there is risk of disease from eating or drinking anything contaminated with floodwater.
- If there has been a backflow of sewage into your house, wear rubber boots and waterproof gloves during cleanup. Remove and discard contaminated household materials that cannot be disinfected, such as wall coverings, cloth, rugs, and drywall.
- If you have any open cuts or sores that will be exposed to floodwater, keep them as clean as possible by washing them with soap and applying an antibiotic ointment to discourage infection.
- Wash clothes contaminated with flood or sewage water in hot water and detergent and separately from uncontaminated clothes and linens.
- Do not allow children to play in floodwater areas and do not allow children to play with floodwater-contaminated toys that have not been disinfected. Disinfect toys by using a solution of one cup of bleach in five gallons of water.

Prevent or Treat Wounds

- Immediately clean out all open wounds and cuts with soap and clean water. Keep wounds covered with clean, dry bandages that are large enough to cover the wound and contain any pus or drainage. Change bandages as needed and when drainage can be seen through the bandage. Contact a doctor to find out whether more treatment is needed (such as a tetanus shot). If a wound gets red, swells, or drains, seek immediate medical attention.
- Avoid wild or stray animals. If you are bitten by any animal, seek immediate medical attention. If you are bitten by a snake, try to identify it, so that if it is poisonous, you can be given the correct anti-venom. Do not cut the wound or attempt to suck the venom out.
- If your skin or eyes may have come in contact with hazardous materials, such as acid from a car battery, wash thoroughly with decontaminated water and seek medical attention as needed.
- If you have wounds, you should be evaluated for a tetanus immunization, just as you would at any other time of injury. If you receive a puncture wound or a wound contaminated with feces, soil, or saliva, have a doctor or health department determine whether a tetanus booster is necessary based on individual records.

Prevent Temperature-Related Illness

- When standing or working in water that is cooler than 75 °F (24°C):
 - Wear rubber boots.
 - Ensure that clothing and boots have adequate insulation.
 - Take frequent breaks out of the water.
 - Change into dry clothing when possible.
- Prevent heat-related illness:
 - Stay in air-conditioned buildings.
 - Take breaks in shaded areas or in cool rooms.
 - Drink water and nonalcoholic fluids often.
 - Wear lightweight, light-colored, loose-fitting clothing.
 - Do outdoor activities during cooler hours.

Protect Yourself from Animal-Related Hazards

- Avoid wild or stray animals and biting or stinging insects.
- Call local authorities to handle animals.
- Get rid of dead animals, according to local guidelines, as soon as you can.
- For more information, contact your local animal shelter or services, a veterinarian, or the Humane Society for advice on dealing with pets or stray or wild animals after an emergency.

Avoid Mosquitoes

- Rain and flooding may lead to an increase in mosquitoes, which can carry diseases like [West Nile virus](#). In most cases, the mosquitoes will be pests but will not carry communicable diseases.
- To protect yourself from mosquitoes, use screens on dwellings, and wear long pants, socks, and long-sleeved shirts and use insect repellents that contain DEET or Picaridin. Care must be taken when using DEET on small children.
- To control mosquito populations, drain all standing water left in open containers, such as flower pots, tires, pet dishes, or buckets, outside your home.

Prevent Carbon Monoxide Poisoning

- Carbon monoxide (CO) is an odorless, colorless gas that can cause sudden illness and death if you breathe it. Never use generators, pressure washers, grills, camp stoves, or other gasoline, propane, natural gas, or charcoal-burning devices inside your home, basement, garage, or camper—or even outside near an open window, door, or vent.
- Don't heat your house with a gas oven.
- If you are too hot or too cold, or you need to prepare food, don't put yourself and your family at risk for CO poisoning—look to friends, family, or a community shelter for help.
- If your CO detector sounds, leave your home immediately and call 911.
- Seek prompt medical attention if you suspect CO poisoning and are feeling dizzy, light-headed, or nauseated.