

HEALTH RISKS AFTER A FLOOD – PROTECTING YOUR FAMILY

Food safety: Preventing food-borne diseases
☐ Individuals should not eat any food that may have come into contact with contaminated water from floods or tidal surges.
Commercially prepared cans of food should not be eaten if there is a bulging or opening on the can or the screw caps, soda pop bottle tops or twist-caps.
☐ Undamaged, commercially canned foods can be saved if you remove the labels and then disinfect the cans in a bleach solution. Use ¼ cup of bleach in one gallon of water; re-label the cans including expiration date and type of food. Assume that home-canned food is unsafe. ☐ Infants should preferably be breast fed or fed only pre-mixed canned baby formula. Do not use powdered formulas prepared with untreated water, use boiled water instead.
Sanitation and Hygiene: Preventing waterborne illness
☐ Flood water may contain fecal matter from sewage systems, agricultural and industrial waste and septic tanks. If you have open cuts or sores exposed to the floodwater, keep them as clean as possible by washing them with soap and disinfected or boiled water.
☐ Do not allow children to play in floodwater or with toys that have been in floodwater until the toys have been disinfected. Use ¼ cup of bleach in one gallon of water to disinfect toys and other items.
HEALTH DANGERS OF MOLD IN WATER-DAMAGED BUILDINGS Take precautionary measures to avoid indoor air quality problems in homes and buildings. Moisture that enters buildings from leaks or flooding accelerates mold growth. Molds can cause disease, trigger asthma symptoms and allergic reactions and continue to damage materials long after the storm. Failure to control moisture and mold can present short and long-term health risks. Mold growth can often be seen or smelled. Mold often appears as a staining or fuzzy growth on furniture or building materials (it may look cottony, velvety, rough, or leathery and have different colors like white, gray, brown, black, yellow, or green). If you can smell an earthy or musty odor, you may have a mold problem.
TO PROTECT AGAINST HEALTH RISKS ASSOCIATED WITH MOLD:
☐ Remove standing water from your home or office.
Remove wet materials. If the moldy material is not easily cleanable, such as drywall, carpet padding and insulation, then removal and replacement may be necessary.
Consider using personal protective equipment when cleaning or removing mold – gloves, goggles and an N-95 particle respirator (found at most local hardware stores).
☐ Check with a health care provider before wearing a respirator. Do not use a respirator if you have heart disease or chronic lung disease such as asthma or emphysema.
☐ Individuals with known mold allergies or asthma should not clean or remove moldy materials. If you have concerns regarding your health before starting the cleanup, consult your healthcare provider.
If mold growth has already occurred, carefully remove or clean the moldy material in a well

ventilated area. If the moldy area is less than about 10 square feet (less than roughly a 3 ft. by 3 ft.

patch), in most cases, individuals may clean up the mold using a detergent/soapy water or a commercial mildew or mold cleaner. The cleaned area should then be thoroughly dried. Throw away any sponges or rags used to clean mold. If the mold returns quickly or spreads, it may mean the building materials are still wet enough to support mold growth. Additional drying of these materials may be needed.

After working in a mold affected area, shower and launder work clothes separate from the other laundry. Keep shoes and work clothes away from the unaffected living area. NEVER mix cleaners (such as a cleaner with ammonia) and disinfectants (such as bleach), as chemical reactions between these ingredients are likely to result in the release of hazardous gases (such as chlorine). Read and follow label instructions of cleaners and disinfectants carefully. Open windows and doors to provide plenty of fresh air.

For more information about indoor air quality and mold growth, contact your local county health department, the Florida Department of Health's Indoor Air Toxics Hotline at 1-800-543-8279 or visit http://www.doh.state.fl.us and select —Mold from the A-Z Topics list.

WHAT TO DO IF YOUR WELL IS FLOODED

If you are unsure about the impact of flooding on your well water, either use bottled water, or boil or disinfect all the water you use for drinking, making beverages, cooking, brushing your teeth, making ice, washing dishes, and washing areas of the skin that have been cut or injured. Common unscented household bleach (4 to 6%) can be used effectively as a chlorine disinfectant. Add 8 drops (about 1/8 teaspoon) of unscented household bleach per gallon of water. then let stand for 30 minutes, repeating the procedure if the water is still cloudy. An alternative disinfecting method involves bringing water to a rolling boil for one minute. If your well has been flooded, please call your local county health department for information on how to sample your water and where to bring the sample for bacteriological testing. You may be advised to disinfect your well before having a water test done to minimize the delay in having safe water. If the test reveals bacteria, the well and water system need to be disinfected. It is important to disinfect both well and plumbing water with unscented household bleach to ensure that all infectious agents are destroyed. If you have water treatment devices, remove all membranes. cartridges, and filters and replace them after the chlorination process is completed. The amount of chlorine determines the length of time you allow the bleach to remain in your system. DOH recommends the following steps to disinfect a contaminated well:

☐ If the water is discolored before adding the bleach, run the water until it is clear for up to 10 minutes.
☐Turn off and then drain your hot water heater— bleach is not effective in water above 105 degrees.
Remove and replace charcoal filters after the disinfecting process is completed.
□ To avoid adding contamination to the well during disinfection, clean the work area around the top of the well. Then remove grease and mineral deposits from accessible parts of the well head and flush the outside surfaces with 1/2 cup of unscented household bleach in 5 gallons of water. □ Turn off the pump. Remove the cap or the well plug on the rubber seal. There are many types of well caps and plugs. If you have questions, you should contact a licensed well driller. If you have a submersible pump, you may also want to contact a licensed well driller for advice on disinfection procedures.
☐ Consult the bleach chart and pour the recommended amount of unscented bleach (4 to 6%) solution into the well. Try to coat the sides of the casing as you pour. If you get bleach on the pump or wiring, flush it thoroughly with fresh water to prevent later corrosion.

BLEACH CHART

Well Depth in Feet Well Diameter in Inches

2|| 4|| 5|| 6||

Amount of Bleach to Use

20' 1 cup 1 cup 1 cup 1 cup

30' 1 cup 1 cup 1 cup 2 cups

40' 1 cup 1 cup 2 cups 2 cups

50' 1 cup 2 cups 2 cups 3 cups

80' 1 cup 2 cups 1 qt 1 qt

100' 1 cup 3 cups 1 qt 1.5 qts

150' 2 cups 1 at 2 ats 2.5 ats

200' 3 cups 1.5 qts 2.5 qts 3 qts

Conversions 8 oz = 1 cup /16 oz = 1 pint = 2 cups

24 oz = 3 cups / 32 oz = 1 quart / 48 oz = 1.5 quarts

64 oz = 2 quarts / 80 oz = 2.5 quarts / 96 oz = 3 quarts

Re-cap or plug the well	opening and wait 30 minutes
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□Turn on and, if needed, re-prime the pump. Open all of the faucets on the system one at a
time. Allow the water to run until there is a noticeable smell of bleach. You may also want to flush
the toilets. If you have outside faucets, you may want to direct the water away from sensitive
plants. If you cannot detect a bleach odor, repeat the disinfecting process.

∐Turn o	ff all	of	the 1	faucets	and	allow	the	bleacl	า tc	remain in	the sys	tem 1	for at	least	eight	hours.
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☐ Backwash water softeners, sand filters, and iron removal filters with bleach water.

After disinfection, open all the faucets and run the water until there is no bleach smell—for up to 15 minutes.

After disinfecting your well and plumbing, the water needs to be tested to verify that it is safe to drink.

Although unscented household bleach is effective against microorganisms, it will not remove chemical contamination that may have gotten into your well. Contact your county health department for sampling instructions to get your water tested for chemicals if you are concerned.

FLOODING AND SEWAGE SYSTEMS

Following a flood, you may be experiencing difficulties with your sewage system not functioning properly. If you have a septic system that operates by a dosing pump, it will not function without electricity. You should refrain from using water in your home as much as possible until electricity is restored.

Without the pump working, the tanks will fill and may cause backups of sewage in your home. Additionally, the yard around your septic system may become saturated and prevent the system from draining normally. This also can cause the sewage to back up into your house. Having your septic tank pumped while the yard is saturated can cause the tank to float or collapse. It is likely that your septic system will function normally when the yard dries.

General precautions:

☐ Do not let children play in flood waters as these waters may be contaminated by sewage.
☐ If you live in a low-lying or flood-prone area, the ground in your area may be saturated from
heavy rainfalls or flooding from the hurricane. You should use household water as little as possible
to prevent backups of sewage into your home.

What should I do if sewage backs up?

☐ If a sewage backup has occurred in your home, stay out of affected areas and keep children away. If your entire home has been saturated, abandon the home until all affected areas, including but not limited to carpets, rugs, sheetrock, drywall, and baseboards, have been thoroughly cleaned and disinfected. ☐ If sewage has overflowed in open areas or streets, etc., avoid these areas and keep children out of these areas. ☐ If you are having problems in areas served by sewer systems, please contact your utility company to insure they are aware of problems in your area.
PROPER SEWAGE CLEAN UP PROCEDURES Heavy rainfall may result in flood waters that are contaminated with sewage. Proper cleaning and disinfecting procedures are recommended to prevent illness.
How to clean up sewage contaminated items and sewage spills inside your home: Wear protective clothing such as rubber boots and waterproof gloves. Clean walls, hard-surfaced floors, and other household surfaces with soap and water and disinfect with a solution of 1/4 cup of bleach in one gallon of water. Once cleanup is complete, dry out affected items to prevent the growth of mold. Do not mix ammonia cleansers with bleach as toxic vapors will form. Wash all linens and clothing in hot water or dry clean them. Discard Items that cannot be washed or dry cleaned, such as mattresses, carpeting, wall coverings and upholstered furniture.
For spills outside your home: Contact your utility or a registered septic tank contractor for clean up. Minor spills requiring immediate attention may be disinfected with regular garden lime from a garden shop. Follow the lime container's label instructions for personal protective equipment needed. Sprinkle the lime onto the spill so the spill is dusted mostly white on the surface. If the residue is hicker in some places use a rake to mix the lime and the residue. After a day, rake up the thicker residue and place it in a trash bag for disposal with the other trash. Use a sprinkler or hose to water the lime and residue into the soil. Let the area dry in the sun a day before allowing access. If there is still white lime dust visible on the yard, water it in until the white dust is gone.
Follow proper hygiene procedures to prevent illness: Keep hands and fingers away from the nose, mouth, eyes and ears. Wash hands with soap and water immediately after cleanup efforts as well as before eating or drinking. Keep fingernails short and clean. Use a stiff brush to remove dirt and foreign materials. Do not store fresh work clothes with used work clothes. Shower after each work day.
SAFETY TIPS FOR HOME CLEANUP AFTER A FLOOD

Remove water in your home as quickly as possible since it may contain material from overflowing sewage systems. Failure to remove contaminated materials can cause health risks.

If there has been a backflow of sewage into the house, the following measures should be taken to ensure proper clean-up:

☐ Walls, hard-surfaced floors and many other household surfaces must be cleaned with soap and water and disinfected with a solution of 1 cup of bleach to five gallons of water.
☐ Thoroughly disinfect surfaces that come in contact with food and children's play areas.
Wash all linens and clothing in hot water or dry-clean.
☐ Items that cannot be washed or dry-cleaned, such as mattresses and upholstered furniture that have been contaminated with sewage should be discarded.
☐ Steam-clean all carpeting.
Fiberboard, fibrous insulation and disposable filters that have contacted floodwater or sewage should be replaced in your heating and air conditioning system.
☐ Wear rubber boots and waterproof gloves during clean-up. Be careful about mixing household cleaners and disinfectants, as combining certain types of products can produce toxic fumes and result in injury or death.
It can be difficult to throw away items in a home, particularly those with sentimental value. However, keeping certain items soaked by sewage or floodwaters may be unhealthy. Materials that cannot be thoroughly cleaned and dried within 24-48 hours should be discarded.
MOSQUITO PREVENTION
To prevent mosquitoes from living and multiplying around your home or business:
DRAIN standing water:
☐ Drain water from garbage cans, buckets, pool covers, coolers, toys, flowerpots or any other containers where sprinkler or rainwater has collected.
☐ Discarded old tires, drums, bottles, cans, pots and pans, broken appliances and other items that aren't being used.
☐ Empty and clean birdbaths and pet's water bowls at least once or twice a week. ☐ Protect boats and vehicles from rain with tarps that don't accumulate water.
☐ Maintain swimming pools in good condition and appropriately chlorinated. Empty plastic
swimming pools when not in use.
COVER your skin with:
☐ CLOTHING- If you must be outside when mosquitoes are active, cover up. Wear shoes, socks, long pants and long sleeves.
☐ REPELLENT- Apply mosquito repellent to bare skin and clothing. Always use repellents according to the label. Repellents with 10-30% DEET, picaridin, oil of lemon eucalyptus, and IR3535 are effective.
☐ Use mosquito netting to protect children younger than 2 months old.
COVER doors and windows with screens:
\square Keep mosquitoes out of your house. Repair broken screening on windows, doors, porches, and patios.
For additional information, visit http://www.doh.state.fl.us. Follow us on Twitter and Facebook.