




After the Disaster: Food Safety and Dealing with Mold in Your Child Care Setting

May 14, 2018
8-9 p.m. ET

Is Your Child Care Program Prepared for Natural Disasters and Emergencies?

www.ChildCarePrepare.org



Look to Child Care Aware® of America for emergency preparedness, response and recovery resources!



Emergency Preparedness Webinar Schedule

*All webinars are from 8-9 p.m. ET




5/14	6/18	7/23	8/20
After the Disaster: Food Safety and Dealing with Mold in Your Child Care Setting	Keeping Kids Safe: Basics of Active Shooter Response	Let's Get Ready: Planning Together for Emergencies	Child Care Emergency Supply Kits: What to Pack and Where It's At

Webinar Details

- This webinar is being recorded and it will be posted at www.childcareprepare.org within one week.
- Certificates of attendance will be issued by NAFCC and will be e-mailed within two weeks to those participating in this live webinar. Certificates will be sent to the e-mail address that you registered with. Certificates will not be issued for those accessing the archived recording.
- All participant lines are muted, but you can type a comment or question into the question box. We will allow for time at the completion of the presentation for a question/answer period. If we can not get to all questions, we will try to follow up with an e-mail response to you.

Webinar Navigation Tips



Meet Our Presenters:



Susan Isberg
Investigator
USDA/F SIS/OIEA/CID



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Enforcement Investigations and Analysis Officer
USDA Food Safety and Inspection Service



Meet Our Presenters:



David Lipton, CIH

Industrial Hygiene Consultant
Occupational and Environmental
Epidemiology Branch
Division of Public Health
North Carolina Department of
Health and Human Services



United States Department of Agriculture

One Team, One Purpose



Food Safety and Inspection Service

Protecting Public Health and Preventing Foodborne Illness



Food Safety During Severe Weather

Know how to keep food safe before, during and after emergencies cause power outages.

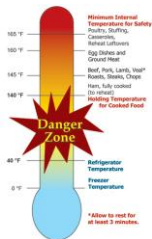
Follow these tips to help minimize food loss and reduce your risk of foodborne illness.



Food Safety During Severe Weather Power Outages



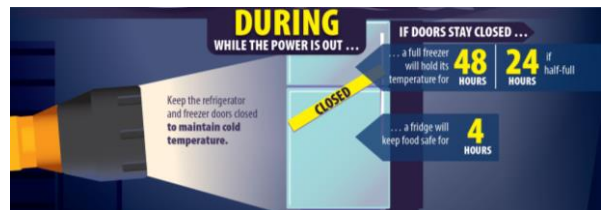
Food Safety During Severe Weather Power Outages



'Danger Zone'

This is the temperature range between 40°F and 140°F where bacteria grow most rapidly, doubling in number in as little as 20 minutes

Food Safety During Severe Weather Power Outages



Food Safety During Severe Weather Power Outages

WHEN IN DOUBT, THROW IT OUT!

AFTER
ONCE THE POWER IS BACK ON ...

Check the temperatures: Inside of your refrigerator and freezer. If they're still at safe temperatures, your food should be fine.

Never taste food to determine its safety!

WHAT CAN I KEEP?

The following foods are safe if held above 40 °F for more than 2 hours:

Hard cheeses (Cheddar, Colby, Swiss, Romano, Provolone, Brie)	Grated Parmesan, Romano, or cheddar (in can or jar)	Butter or margarine	Opened fruit juices	Opened canned fruits	Jelly, gelatin, taco sauce, mustard, ketchup, salad, pickles	Worcestershire, soy, barbecue, and hot sauce
Peanut butter	Opened vinegar-based dressing	Bread, rolls, cakes, muffins, pastries, donuts	Breakfast foods (pancakes, French toast)	Fruit pies	Fresh mushrooms, herbs, and spices	Uncut raw vegetables and fruit

WHAT SHOULD I THROW OUT?

Meat, poultry or seafood products	Soft cheeses and shredded cheeses	Milk, cream, yogurt, and other dairy products
Opened baby formula	Eggs and egg products	Dough, cooked pasta
Cooked or not produce		

REFREEZE FOOD THAT STILL CONTAINS ICE CRYSTALS OR IS AT 40 °F OR BELOW.

Food Safety During Severe Weather Power Outages

Removing Odors

- Dispose of spoiled or questionable food.
- Wash shelves, crispers and ice trays with hot water and detergent. Then rinse with a sanitizing solution of 1 tbsp. of unscented, liquid chlorine bleach per gallon of water.
- Wash interior of appliances, including door and gaskets, with hot water and baking soda. Rinse with a sanitizing solution.
- Leave the door open for about 15 minutes.



Food Safety During Severe Weather Power Outages

If Odor Remains

- Wipe with equal parts vinegar and water to destroy mildew.
- Stuff the appliance with rolled newspapers. Keep door closed for several days. Remove the newspaper and clean with vinegar and water.
- Sprinkle fresh coffee grounds or baking soda in a shallow container at bottom of appliance.
- Place a cotton swab soaked with vanilla extract inside the freezer. Keep the door closed for 24 hours.



Food Safety During Severe Weather Floods

FOLLOW THESE STEPS AFTER A FLOOD:

AFTER A FLOOD

DO NOT EAT any food that may have touched flood water.

DISCARD FOOD not in waterproof containers; screw-caps, snap lids, pull tops, and crimped tops are not waterproof.

DISCARD cardboard juice/milk/baby formula boxes and home canned foods.

DISCARD any damaged cans that have swelling, leakage, punctures, holes, fractures, extensive deep rusting, or crushing/distorting severe enough to prevent normal stacking or opening.

SANITIZE
1 tbsp. bleach + 1 gallon water

Pots, pans, dishes and utensils.

Undamaged all-metal cans after removing labels.

- Discard wooden cutting boards, plastic utensils, baby bottle nipples, and pacifiers that may have come in contact with flood waters. There is no way to safely clean them.
- Note: If your refrigerator or freezer was submerged by flood waters — even partially, it is unsafe to use and must be discarded.

Food Safety During Severe Weather

Fires and Food Safety

Discard all food that has been near a fire, such as:

- Foods stored outside the refrigerator, such as bread, fruits and vegetables.
- Raw food or food in permeable packaging (cardboard, plastic wrap, etc.).
- All foods in cans, bottles and jars.
- Foods stored in refrigerators or freezers. Refrigerator seals are not airtight and fumes can get inside.



USDA Meat and Poultry Hotline

Free Resources



Open Monday - Friday
10 a.m. to 6 p.m. ET
On Thanksgiving Day
8 a.m. to 2 p.m. ET

1-888-MPHotline
(1-888-674-6854)

Live Chat/Email:

AskKaren.gov

FoodKeeper App

Free Resources

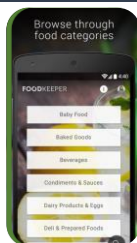
Prevent food waste

Storage advice on more than
600 food and beverage items

Cooking advice for meat and
poultry

Synchs to your **calendar**

Access to **AskKaren**



Free Publications

Free Resources



USDA has many free food safety publications available for order including:

- A Consumer's Guide to Severe Storms and Hurricanes
- Kitchen Companion
- Is it Done Yet? (magnet)
- Cold Food Storage (magnet)
- Food Safe Families Activity Book
- Let Me Tell You How Dad Got Sick (comic book)
- Back to School (infographic)

More Resources



1-888-
MPHotline



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www.FoodSafety.gov



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After the Disaster: Responding to Flood Damage and Mold Growth in Child Care Programs



About Me

David Lipton, CIH
Industrial Hygiene Consultant
Occupational and Environmental Epidemiology Branch
Division of Public Health
North Carolina Department of Health and Human Services

Experience

- Eight Years with North Carolina OSHA
- 23 years with Public Health
- Involved in response and recovery after 5 major hurricanes and floods
- Subject matter expert to the NC Division of Public Health, Environmental Health Section and Public Health Preparedness and Response Branch on flooding, dampness and mold growth



"Clean water"

- Plumbing leaks, rain water & condensation

"Grey water"

- Discharges from laundry machines, showers
- Over time clean water degrades into grey water

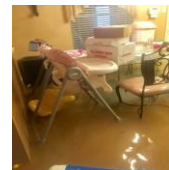
"Black Water" –grossly unsanitary

Any rising water, ground surface water, flooding from rivers, storm surge, sewage overflows

- Suspended Solids
- Dissolved materials
- Bacteria, viruses and other pathogens
- Chemical contaminants

Residues left behind when water recedes

Flood water characteristics



Disaster Planning

Children are more sensitive and vulnerable to effects from flooding, dampness and mold growth and other environmental that adults

Coordinate and develop relationships with local emergency management & building inspections,

Coordinate and develop relationships with your licensing agencies and public health entity

- Be sure you understand the appropriate steps and the process you will need to follow reopen your childcare program after a flood or when there is mold growth

Coordinate and develop business relationships with contractors electricians, heating and air-conditioning contractors, plumbers, electricians, vendors, tree services, roofers, insurance agents, and others

Recordkeeping and documentation

- Insurance/taxes/recovery funding
- Permitting and licensing
- Quality control



Disaster Response and Recovery

Emergency response

Interim Recovery

Long term community recovery

Interim Recovery

Actions to stabilize and maintain the human environments

Remove gross contaminants, promote drying, and prevents secondary mold growth on materials and contents

General strategy

- Air out
- Move out
- Tear Out
- Clean out
- Dry out
- Keep records



Planning for interim recovery-- creating order from chaos

- Who will be doing the work?
- How to perform work safely
- Equipment materials and supplies
- Personal Protective equipment
- Sanitation
- Record Keeping
- How and where will be clean and salvageable contents be stored?
- How will wastes be segregated, stored and disposed?



Air out

Start drying process as quickly as possible

- Open all doors and windows and leave as many open when security concerns allow
- Open all interior doors, including closets, to allow air flow in all areas of the building of the building. Consider taking doors off to promote air flow.
- Open all doors to built-in furniture (kitchen cabinet and bathroom vanity doors); remove drawers.
- When electricity is available, use fans to push moist air outside. Determine if air movement may spread contamination



Move Out

- Remove salvageable contents that were not impacted by the water. Protect clean contents from contamination
- Find a clean and dry place to store contents to be saved or salvaged (for example upper floor of multi-floor structure).
- Remove saturated porous materials such as mattresses or upholstery, especially those with visible fungal growth as soon as possible.



Tear Out

- Remove wet carpet, tack strips and baseboards. Wear leather gloves to protect hands from puncture wounds
- Remove built in furniture – may or may not be salvageable
- Remove finish flooring to one layer (vinyl tiles, wood floors, laminate floors over concrete or wood).
- Remove drywall, plaster and wood paneling saturated by flood water with sufficient margin to account for water wicking above high water mark.
- Remove all fibrous wall insulation (fiberglass, mineral wool, cellulose, wood fiberboard, etc.) saturated by floodwater.



Clean out

Muck out – gross removal of materials left behind when flood water recedes. May use squeegees, shovels, and brooms

Cleaning and sanitizing– may need to be repeated

- Pressure washing, elbow grease with detergent solution brushes, mops and rags
- Avoid contaminating washing solutions
- Rinsing with clean water
- Wet/dry vacuums to collect liquid wastes
- Consider using disinfectants when viral or bacterial contamination is suspected

Utility and limitations of bleach

- Appropriate sanitizer for clean hard, non-porous items.
- Corrosive to electrical components and other metal parts
- Loses effectiveness when in contact with residual organic matter
- Not a substitute for cleaning mold growth from surfaces



Dry out

Wet building materials will eventually dry to pre-flood conditions

- 2-4 weeks for exterior rooms with excellent ventilation
- 4-6 weeks for interior rooms and those with poor ventilation
- Fans, dehumidifiers, air conditioners, and/or auxiliary electric heaters may speed drying.

Solid wood – Check wood moisture content with pin type moisture meter using following guidance

- Greater than 20%, Wet - no good
- 15 - 20%, Partially dry –use caution
- Less than 15%, Dry - OK

Drywall, Plaster, Plywood, – Check moisture content by qualitative testing (compare flooded materials to same material in non impacted area)

Concrete – Concrete moisture meters, or qualitative

- Polyethylene Sheet Test – qualitative and Anhydrous Calcium Chloride Test – quantitative

Use patience and caution. Failure to allow for adequate drying prior to reconstruction can trap moisture in the building causing future structural damage and potential health problems



Filing Your Flood Insurance Claim

DOCUMENT THE OUTSIDE, INSIDE, CONTENTS

Your photos can save you THOUSANDS of dollars!



COMPASS 82
Compass82.org

USE the 7-pic (Photo) System

OUTSIDE (7 pics)

- Street view of front of house AND back of house (2 pics)
- ALL sides of house with foundation (4 pics)
- Waterline mark (1 pic)

INSIDE (7 pics each room)

- All walls EACH ROOM (4 pics)
- Ceiling and Floor EACH ROOM (2 pics)
- Waterline mark EACH ROOM (1 pic)

CONTENTS (As many as needed)

- EVERY piece of personal property you're throwing away
- Inside cabinets + drawers
- Front & back of all appliances & electronic items WITH model & serial numbers

IF SAFE, keep SAMPLES of the following:

- Carpet + floor coverings
- Base trim, crown trim, chair-rail trim
- ANY unusual or above average materials, such as granite countertops

Worker Protection

Worker protection

- Structural collapse
- Struck by falling materials materials
- Working at heights
- Lacerations
- Electrical hazards
- Manual Lifting
- Toxic and hazardous chemicals
- Thermal Stress
- Slips, trips, and falls

Personal Protective Equipment

- Long sleeve shirt
- Long pants
- Protective eyewear
- Water proof gloves
- Cut resistant gloves
- Respirator

Sanitation

- Hand washing facilities
- Eating and drinking
- Preventing take home contamination

Toxic and hazardous materials

- Disturbance of asbestos containing materials
- Disturbance of lead-based paint
- Carbon monoxide from combustion powered generators and equipment

Assure that workers have appropriate training and instruction on using powered equipment



Respirators

Use disposable Filtering Facepiece Respirators (FFR), aka "N95 respirators" or dust masks

- Certified by the National Institute for Occupational Safety and Health (NIOSH) or cleared by the Food and Drug Administration (FDA).
- Follow the manufacturer's instructions
 - Choose the best size of respirator for an effective fit,
 - Don respirator on correctly,
 - Inspect the respirator before each use to be sure that components - straps and nose bridges are in good condition
 - Other instructions (change out, storage)
- People with respiratory disease or heart disease should not wear respirators
- No protection against gases, vapors, and odors
- Never use a respirator if there is any potential for an oxygen deficient atmosphere



What are molds?

Part of the Kingdom of Fungi –ubiquitous

Molds reproduce by releasing of spores into air

- Always some mold spores in outdoor air
- A few mold spores are always found indoors

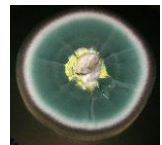
Other constituents of mold growth

- Hyphae--microscopic threadlike structures that take in water and food. May contain irritants and allergens
- Substances excreted into the environment to degrade organic mater, Metabolic waste products--
 - Secondary Metabolites
 - Mycotoxins --)
 - Useful products – antibiotics

Mold grows when a viable spore lands in a place with a suitable food source, adequate amount of moisture for a long enough time



Penicillium roqueforti



Penicillium chrysogenum



Impacts to health

Most healthy adults can inhale a large number of mold spores without ill effects

Usually associated with other dampness-related contaminants

- Other microbial growth, dust mites and insects

Most indoor molds are not human pathogens

Sensitive and susceptible people with certain medical conditions may be at greater risk

Children are more sensitive than adults

California Department of Public Health, Statement on Building Dampness, Mold, and Health (2014). Visible water damage, damp materials, visible mold, and/or mold odor is associated with an increased risk of respiratory illness especially in sensitive or susceptible people of :

- Developing and triggering asthma;
- Upper respiratory infections,
- Allergic rhinitis; wheeze; cough;
- Difficulty breathing

Best predictor is the duration, extent and severity of dampness, visible mold growth, moldy odors and pathways for airborne mold growth to reach people



Mold Remediation

Goal is to restore environment to a clean and dry condition

- Remediation is site-specific and based on:

- Category of quality of source water
- Class of damage

- First priority – finding and correcting sources excess moisture intrusion and accumulation; follow the water

- Second priority – remove mold growth from the environment

Guidance, best practices and standards

EPA, New York City Guidance, FEMA and CDC Guidance

Industry group standards --Institute for Inspection Cleaning and Restoration Certification (IICRC) and the Restoration Industry Association (RAI)

- Complexity is based size of affected area, types of affected materials and degree of damage.

- Are published guidelines appropriate for every setting?



Removal of fungal growth by category and class

Category of source water

- Clean
- Grey
- Black

Class of material/damage

- Nonporous, and hard surfaces with surface growth
- Permeable and washable or cleanable
- Permeable and not washable or cleanable

Option One –clean and dry



Option Two – remove and dispose



Removal of fungal growth by category and class



Remove and dispose



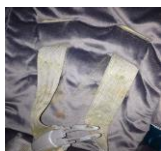
Remove and dispose



Clean and dry



Removal of Fungal Growth by category and class



Clean and dry?



Clean and dry



Remove and dispose



Remove and dispose



Selecting an Air Quality Consultant

Will the service(s) provide an assessment that is useful to develop an evidence-based action plan that promotes health and wellbeing, is realistic and affordable?

Licensing and certification

- License— Privilege granted by government agency to provide services
- Certification—3rd party organization attests expertise. Governmental oversight about curriculum, content, and quality of training, or other requirements to obtain certification may be limited



Selecting a Mold Remediation Contractor

- Provide written site specific work plan
- Workplan needs to describe how contractor will verify quality of work
 - Training and experience of supervisors and workers
 - Periodic inspections to verify and document
 - Work in progress that document is being performed according to site-specific plan
 - Work areas is isolated or contained according to plan
 - Lists, labels and Safety Data Sheets for all chemical products
 - Equipment such as air-scrubbers, negative air machines, and dehumidifiers are operating according to the plan
 - Wastes are disposed according to plan
- Inspections at critical times (closing a wall cavity or removing containment) to verify and document
 - That moisture sources have been addressed,
 - That mold contaminated materials have been removed or cleaned, and
 - That adjacent surfaces are free of visible dust and debris
- Air or Surface Sampling
 - Can sampling be used to validate the effectiveness of the cleanup?



Testing for mold

EPA –If there is visible mold growth, water damage and/or moldy odors sampling or testing is unnecessary.

CDC – does not recommend routine sampling for airborne molds

- No threshold limit values to predict safe or unsafe conditions
- Mold levels vary over time and space. Indoor and outdoor mold levels may not correlate
- In air, will a single short term sample represent other times, conditions or a person's exposure?
- No single sampling method for every substance present in mold growth
- What is the objective for collecting samples?
- What are the testable theory(s)?
- Does the sampling plan generate data sufficient to prove or disprove the theory being tested?
- Are samples analyzed by accurate and precise techniques?
- How will the results be interpreted?
- What are potential confounders, uncertainties, and limitations?
- Will results change recommendations from those made from a thorough and informed inspection or other verification means?



Conclusion

- Effective interim recovery efforts make attaining long term recovery goals easier
- Long term recovery goal is to restore and keep the facility dry, clean, well-ventilated and well maintained, contaminant free, pest free and safe (healthy housing)
- All hazards approach
- Allows for upgrades for durability, sustainability and ease of maintenance
- Tends to promote health and wellbeing

Questions?

Contact Me:

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Web-based Resources

[Homeowner's and Renter's Guide to Mold Clean Up After Disasters](#)

[California Department of Public Health Statement on Building, Dampness, Mold, and Health](#)

[CDC NIOSH Alert: Preventing Occupational Respiratory Disease from Exposures Caused by Dampness in Office Buildings, Schools, and Other Nonindustrial Buildings, 2012](#)

[CDC NIOSH Science Blog "Non-occupational Uses of Respiratory Protection – What Public Health Organizations and Users Need to Know"](#)

[Hurricane Sandy Recovery Advisory - Initial Restoration for Flooded Buildings](#)

[World Health Organization Guidelines for Dampness and Mould](#)

[EPA Mold Remediation in Schools & Commercial Buildings Guide](#)

[Voluntary Organizations Active in Disasters- Long Term Recovery Orientation](#)

[National Voluntary Organizations Active in Disaster- Cleanup Definitions and Practices](#)

[Restoration Industry Association Hurricane Cleanup Guide for Volunteers](#)

[ACAC find Certificates](#)



Questions for Panelists?

Type your questions into 'Question' section of your navigation panel on your screen.

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Contact us at:

preparedness@usa.childcareaware.org

Is Your Child Care Program **Prepared** for Natural Disasters and **Emergencies**?

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Look to Child Care Aware® of America for emergency preparedness, response and recovery resources!



Thank you for your participation!

