

Volunteer Leader Training Guide

Food Safety and Health Before and After Storms

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Introduction

Oh no! The power just went out!

Every household has experienced a power outage at some point, and residents should always be ready when they occur. Floods, ice storms, hurricanes and tornados all result in emergency preparedness for potential power outages. Therefore, it is important to know how to properly store food and to recognize the types of food that are safe for consuming during and after the storm. In addition, residents should be aware of safe drinking water sources during and after floods. Proper food, water and hand sanitation are needed to decrease the level of bacteria exposure. Moreover, sanitizing the home after a flood will help to reduce smells, bacteria and other harmful pathogens that arise from contaminated water.

Target Audience

- EHC leaders
- Adult audiences

Objectives

The participants will learn how to:

- Prepare for storms.
- Keep food safe during a power outage.
- Keep food and water safe after a flood.
- Properly clean and sanitize the home after a flood.

Main Teaching Points

- Understanding the importance of preparing for storms.
- Food storage practices.
- Food, water and hand safety during and after the storm.
- How to sanitize the home after a flood.

Lesson Materials

- Handout 1: Wash Your Hands information sheet
- Handout 2: How to Properly Clean With Bleach
- Handout 3: Pre- and Post-Evaluation Survey

Suggestions for Teaching

- Review the lesson introduction and study the major teaching points.
- Make copies of:
 - Handout 1: Wash Your Hands information sheet
 - Handout 2: How to Properly Clean With Bleach
 - Handout 3: Pre- and Post-Evaluation Survey

How to Prepare for the Storm

- Always keep an appliance thermometer in your refrigerator and freezer. This is needed to determine the safety of food at all times and, most importantly, in an emergency. The freezer should be kept at 0°F, and if food is left in the refrigerator, the temperature should be at 40°F or below.
- Freeze all items found within the refrigerator such as leftovers, milk and fresh meat and poultry that you may not need immediately. Also, pack food as tightly as possible in the freezer to help food stay cold longer. This will help to keep food at a safe temperature and out of the danger zone.
- Plan ahead and research the closest location for purchasing dry ice and block ice. Also, coolers are a great source for preserving food when refrigerators have been without power for more than four hours. Use frozen gel packs, ice and frozen water to help keep food cold and safe.
- Safely store nonperishable food items and water in cool, dry areas such as shelves and boxes. Suggested food choices include powdered and canned milk and canned meat, fish, beans, fruits and vegetables.

Storage

- Store foods your family normally eats with the addition of favorite treats.
- Store foods that require no refrigeration.
- Store one gallon of water per person per day for drinking, cooking and personal hygiene. Store bottled water, tap water stored in clean containers or purified water.
- The optimum length of storage for quality and nutrition for canned fruits, vegetables, juices, dried rice and dry milk products is 24 months. Canned fish will store for 18 months.

Area

- Store foods in your coolest kitchen cabinets – not over a range or near a refrigerator's exhaust. The best location is where the average temperature can be kept above 32°F and below 70°F. Cooler storage areas result in longer quality of food.
- Remember dry foods will stay fresh longer in airtight containers, which also keep out insects. Also, refrigeration may not be available, so store single servings or one-meal size food items to avoid leftovers.

- Try to keep the storage area dry (less than 15% humidity) and adequately ventilated to prevent condensation of moisture on packaging material. Also, never store food on the floor, and keep the lowest shelf at 2 to 3 feet off the floor.
- Always label your food items, and check your cabinets every six months. This is needed to rotate older items to the front of the shelf so they may be used before newer food items. During longer food storage cycles, flavors begin to fade and lose nutrient density.
- Seal all cracks and crevices to eliminate any openings that insects or rodents may use to gain entrance to the storage area.
- Avoid storing near freezers, furnaces and hot water heaters that produce heat.

Containers

- Store items in food-grade containers that will not transfer non-food chemicals to the food. Trash or garbage bags, paint or solvent cans, industrial plastics and fiber barrels should not be used for storing food.
- If unsure if containers are food storage friendly, contact the manufacturer if the container is not already labeled.
- Store dried foods in airtight, moisture- and insect-proof containers, such as glass jars or plastic freezer boxes or bags. Also, food that has been placed in plastic bags may then be transferred to metal cans with tight-fitting lids.

Food Safety During and After the Power Outage

- Remember to practice keeping the refrigerator and freezer doors closed as much as possible. This is done to maintain the cold temperature inside appliances. An unopened refrigerator will keep food safely cold for about 4 hours. A full freezer will hold its temperature for about 48 hours, and if it is half full, it can safely store food for 24 hours.
- Never taste food to determine its safety!
- If planning to eat refrigerated or frozen items such as meat, poultry, fish or eggs, please remember to cook food at the recommended temperature to eliminate foodborne illnesses. Also, wash all fruits and vegetables with a safe water supply.
- For infant safety, use prepared canned baby formula that requires no added water. If using powdered formula, always use safely stored bottled water, boiled or treated, when the local source is potentially contaminated.
- Food may be safely refrozen if it still contains ice crystals or is at 40°F or below. Use a food thermometer to determine temperature of items inside and out of the freezer and an appliance thermometer to check temperature inside the freezer.
- Discard any perishable food items such as meat, poultry, fish, soft cheeses, milk, eggs, leftovers and deli items after 4 hours without power. If uncertain of food safety, throw it out.

Hand Sanitation After a Flood

When to Wash Hands: Review Handout 1.

- Wash your hands with soap and warm water that has been boiled or disinfected after participating in flood cleanup activities.
- Do not allow children to play in floodwater areas, and wash children's hands frequently.

Food and Water Safety After Flooding

Food

- Do not consume food that may have been contaminated by flood waters.
- Discard all food that was not kept in a waterproof container if there is a high degree of contact with unsafe water. Unsafe containers consist of those with screw-caps, snap lids, pull tops and crimped caps.
- Discard all cardboard juice, milk, baby formula boxes, and home canned foods if they have come in contact with flood water even if these items have been cleaned and sanitized.
- Thoroughly inspect all canned food items and throw out any damaged ones. Damage is present when swelling, leakage, punctures, holes, fractures, extensive deep rusting, crushing and denting are evident.

Water [Review Handout 2 (first page)].

- Consume bottled water that has not been exposed to floodwater. If unavailable, boil water to kill organisms. If the water is cloudy, filter it through clean cloths or allow it to settle and draw off the clear water for boiling. Boil the water for one minute, let it cool and store it in clean containers with covers.
- If you cannot boil water, disinfect it using household bleach. Bleach will kill some, but not all, types of disease-causing organisms that may be in the water. If the water is cloudy, filter it through clean cloths or allow it to settle and draw off the clear water for disinfection. Add 1/8 teaspoon (or 8 drops) of regular, unscented, liquid household bleach per gallon of water. Stir it well and let it stand for at least 30 minutes before you use it. Store disinfected water in clean containers with covers.
- If you have a well that has been flooded, the water should be tested and disinfected after floodwaters recede. If you suspect that your well may be contaminated, contact your local or state health department or agriculture extension agent for specific advice.

Cleaning With Bleach After a Flood [Review Handout 2 (second page)].

- Use regular unscented 5.25% household bleach. Read and follow the safety instructions on the bleach container's label.
- Never mix bleach with ammonia or any other cleaner, and wear rubber boots, rubber gloves and eye protection. Try not to breathe bleach fumes, and open windows and doors to get fresh air.
- The amount of bleach to mix with water depends on what you are cleaning or sanitizing.

Conclusion

Natural disasters and power outages can occur at any time; hence, emergency preparedness is vital during and after the storm. Practicing simple food, water and hand safety rules throughout daily living routines will aid in eliminating bacteria and pathogen exposure during emergencies. Food and water storage should also be in practice to ensure proper and sufficient amounts of food during these situations. Lastly, after flooding, remember to carefully follow each step of bleach cleaning to guarantee adequate sanitation of the home.

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