FN-585

Cooking for Groups

A Volunteer's Guide to Food Safety

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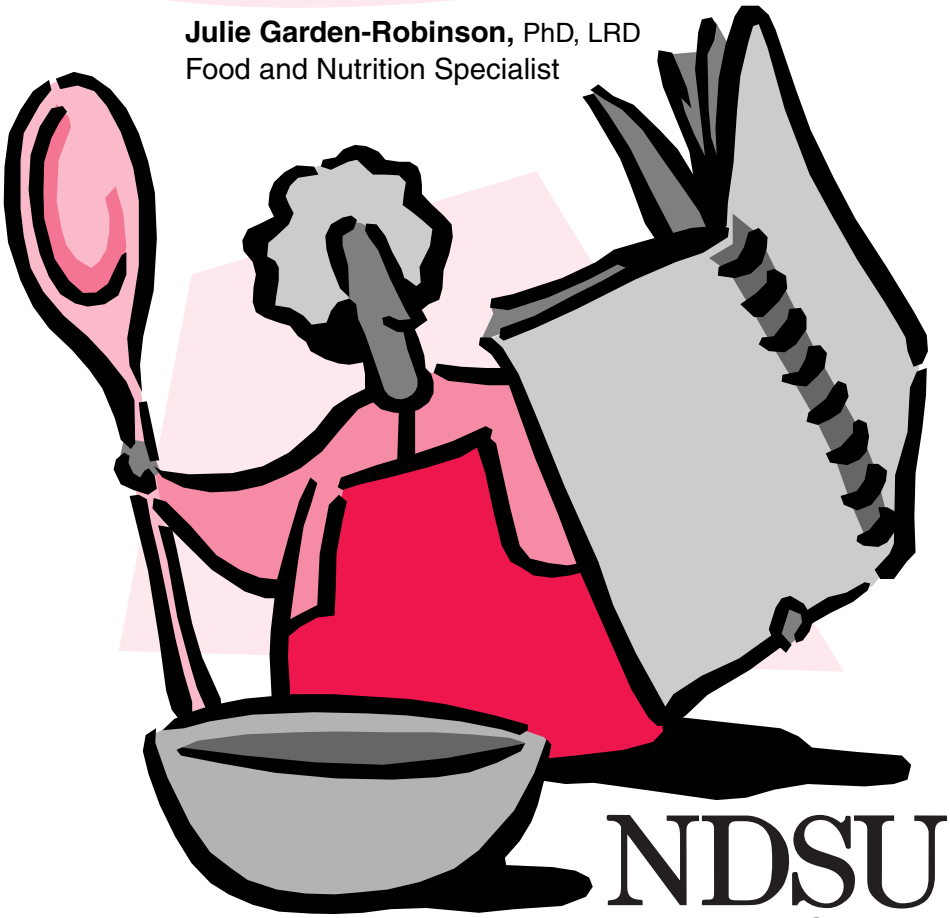

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Food that is mishandled can cause very serious consequences for all, especially infants, the elderly, pregnant women, and people with weakened immune systems. For this reason it is important that volunteers be especially careful when preparing and serving food to large groups.

The goal of this publication is to help volunteers prepare and serve food safely for large groups such as family reunions, church dinners, and community gatherings — whether the food is prepared at the volunteer's home and brought to the event, or prepared and served at the gathering.

The information provided in this publication was developed as a guide for consumers who are preparing food for large groups. Foodservice personnel should be aware that this guide was prepared for consumer use only. Foodservice personnel should contact their local, district or state health department for information on the rules and regulations governing the preparation of food in retail or institutional settings. "Food Safety Basics" (FN-572) is available from county offices of the North Dakota State University Extension Service and is based on FDA and North Dakota Food Code guidelines.

Adapted from a publication by the United States Department of Agriculture Food Safety and Inspection Service

Foodborne Illness: What You Need To Know

What Is Foodborne Illness?

Foodborne illness often presents itself as flu-like symptoms such as nausea, vomiting, diarrhea, or fever, so many people may not recognize the illness is caused by bacteria or other pathogens in food.

Thousands of types of bacteria are naturally present in our environment. Not all bacteria cause disease in humans. For example, some bacteria are used beneficially in making cheese and yogurt.

Bacteria that cause disease are called pathogens. When certain pathogens enter the food supply, they can cause foodborne illness. Millions of cases of foodborne illness occur each year. Most cases of foodborne illness can be prevented. Proper cooking or processing of foods destroys bacteria.

Age and physical condition place some persons at higher risk than others, no matter what type of bacteria is implicated. Very young children, pregnant women, the elderly, and people with compromised immune systems are at greatest risk from any pathogen. Some persons may become ill after ingesting only a few harmful bacteria; others may remain symptom free after ingesting thousands.

How Bacteria Get in Food

Bacteria may be present on products when you purchase them. Plastic-wrapped boneless chicken and ground meat, for example, were once part of live chickens or cattle. Raw meat, poultry, and eggs are not sterile. Neither is fresh produce such as lettuce, tomatoes, sprouts, and melons.

Foods, including safely cooked, ready-to-eat foods, can become cross-contaminated with bacteria transferred from raw products, meat juices or other contaminated products or from food handlers with poor personal hygiene.

Some of the leading causes of foodborne illness outbreaks include:

- Failure to cool food properly
- Food not hot enough
- Infected food handlers
- Preparation a day or more ahead of time
- Raw food mixed with cooked
- Food left in the danger zone (41° to 140°F)
- Leftover food not reheated high enough
- Cross contamination

In Case of Suspected Foodborne Illness

Follow these general guidelines:

- Preserve the evidence. If a portion of the suspect food is available, wrap it securely, mark “DANGER,” and freeze it. Save all packaging materials, such as cans or cartons. Write down the food type, the date, other identifying marks on the package, the time consumed, and when the onset of symptoms occurred. Save any identical unopened products.
- Seek treatment as necessary. If the victim is in an “at risk” group, seek medical care immediately. Likewise, if symptoms persist or are severe (such as bloody diarrhea, excessive nausea and vomiting, or high temperature), call your doctor.
- Call the local health department if the suspect food is served at a large gathering, from a restaurant or other foodservice facility, or if it is a commercial product.
- Call the USDA Meat and Poultry Hotline (1-800-535-4555) if the suspect food is a USDA-inspected product and you have all the packaging.

Fight BAC!™

When preparing for your special event, remember that there may be an invisible enemy ready to strike. It's called BAC (bacteria) and it can make you sick. But by following four simple steps, you have the power to Fight BAC!™ and keep your food safe.

Clean — Wash hands and surfaces often.

Separate — Don't cross contaminate.

Cook — Cook to proper temperatures.

Chill — Refrigerate promptly.

Fight BAC!™ is a consumer educational campaign sponsored by the Partnership for Food Safety Education. The Partnership is a public-private partnership of industry, government, and consumer groups created to educate the public about safe food handling to help reduce foodborne illness.

You can find more information about Fight BAC!™ at **www.fightbac.org**.

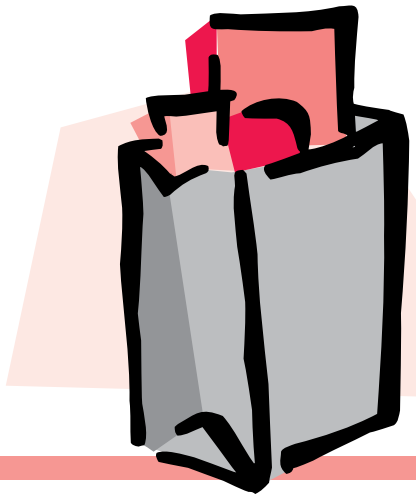
When You Plan

Select a reliable person to be in charge. The person-in-charge should contact the local health department for information about the rules and regulations governing preparation and serving of food for groups. The person-in-charge should provide instructions to the volunteers, answer questions, and oversee the preparations, service, and cleanup of the event.

Make sure you have the right equipment, including cutting boards, utensils, food thermometers, cookware, shallow containers for storage, soap, and paper towels.

For outdoor events, make sure you have a source of clean water. If none is available at the site, bring water for cleaning of hands, utensils, and food thermometers. Develop a plan for transporting equipment for cleanup after the event.

Plan ahead to ensure that there will be adequate storage space in the refrigerator and freezer.

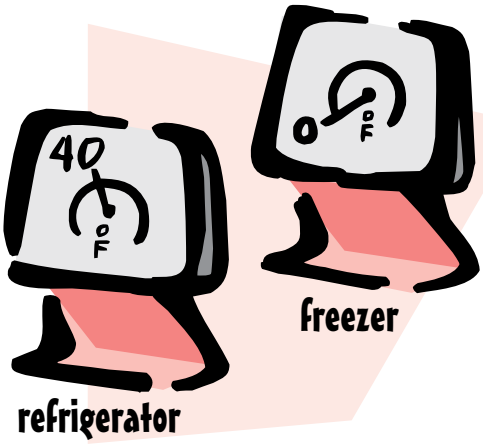


When You Shop

Do not purchase canned goods that are dented, cracked or bulging. These are the warning signs that dangerous bacteria may be growing in the can.

Separate raw meat, poultry, and seafood from other foods in your grocery-shopping cart and in your refrigerator.

Buy cold foods last. Drive immediately home or to the site from the grocery store. If the destination is more than 30 minutes away, bring a cooler with ice or commercial freezing gels from home and place perishables in it.



When You Store Food

Make sure you set the refrigerator temperature to 40°F and the freezer to 0°F. Check these temperatures with an appliance thermometer.

Refrigerate or freeze perishables, prepared foods, and leftovers within two hours of shopping or preparing. Place raw meat, poultry, and seafood in containers in the refrigerator, to prevent their juices from dripping on other foods. Raw juices may contain harmful bacteria.

When You Prepare Food

Wash hands and surfaces often. Bacteria can be spread throughout the kitchen and get onto cutting boards, utensils, and counter tops. To prevent this:

- Wash hands with soap and hot water before and after handling food, and after using the bathroom, changing diapers, or handling pets.
- Use paper towels or clean cloths to wipe up kitchen surfaces or spills. Wash cloths often in the hot cycle of your washing machine.
- Wash cutting boards, dishes, utensils, and counter tops with hot, soapy water after preparing each food item and before you go on to the next item. A solution of about one teaspoon bleach in 1 quart of water may be used to sanitize washed surfaces and utensils.

When cutting boards are used:

- Always use a clean cutting board.
- If possible, use one cutting board for fresh produce and a separate one for raw meat, poultry, and seafood.
- Once cutting boards become excessively worn or develop hard-to-clean grooves, you should replace them.

Never defrost food at room temperature. Thaw food:

- In the refrigerator.
- In the microwave (followed by immediate cooking).

Food may also be thawed in cold water. Be sure that the sink or container that holds food is clean before submerging food. **Two methods may be used when thawing:**

- Completely submerge airtight wrapped package. Change water every 30 minutes.
- Completely submerge airtight wrapped food in constantly running cold water.

Refrigerate or cook food immediately after thawing.

Marinades may be used to tenderize or add flavor to food. **When using marinades:**

- Always marinate food in the refrigerator, not on the counter.
- Use food-grade plastic, stainless steel, or glass containers to marinate food.
- Sauce that is used to marinate raw meat, poultry, fish or seafood should not be used on cooked foods, unless it is boiled before applying.
- Never reuse marinades for other foods.

Discard any leftover batter or breading after it has come in contact with raw food.

Prepare stuffing and place in poultry cavity or in pockets of thick sliced meat or poultry **just before roasting.**

Wash fruits and vegetables with cool tap water before use. Thick-skinned produce may be scrubbed with a brush. Do not use soap.

Food should not be tasted until it reaches a safe internal temperature as measured with a food thermometer. Use a clean utensil each time you taste food; otherwise you may contaminate the food.

When You Cook

Use a food thermometer to check the internal temperature of meat, poultry, casseroles, and other food. Check temperature in several places to be sure the food is evenly heated. Wash the thermometer with hot, soapy water after use.

Several types of thermometers are available, including:

- **Oven-safe** — insert 2 to 2½ inches deep in the thickest part of the food, at the beginning of the cooking time. It remains there throughout cooking and is not appropriate for thin food.
- **Dial instant-read** — not designed to stay in the food during cooking. Insert probe the full length of the sensing area, usually 2 to 2½ inches. If measuring the temperature of a thin food, such as hamburger patty or boneless chicken breast, insert probe sideways with the sensing device in the center. About 15 to 20 seconds are required for the temperature to be accurately displayed.
- **Digital instant-read** — not designed to stay in food during cooking. The heat sensing device is in the tip of the probe. Place the tip of the probe in the center of the thickest part of the food, at least ½ inch deep. About 10 seconds is required for the temperature to be accurately displayed.

Never partially cook food for finishing later because you increase the risk of bacterial growth on the food. Bacteria are killed when foods reach a safe internal temperature.

Don't use recipes in which eggs remain raw or only partially cooked. Eggs should be prepared immediately after breaking. When possible, substitute pasteurized eggs for raw eggs in cooked dishes.

When preparing food in the oven, set the oven to at least 325°F. Cook food to the safe recommended temperature. Check internal temperature in several places with a food thermometer.

If a convection oven is used to prepare food, you may reduce oven temperature 25°F. Refer to manufacturer's instructions for additional information.

A microwave oven can be used to prepare food, but care must be taken to make sure food reaches a safe temperature throughout.

- Stir or rotate food midway through the microwaving time to eliminate cold spots and for more even cooking. Cover food.
- Partial cooking may be done in the microwave only if the food is to finish cooking immediately on the range, grill, or in a convectional oven.
- Use a food thermometer or the oven's temperature probe to be sure the food has reached a safe temperature. Check temperature in several places.
- Observe standing times given in recipes so cooking is completed.
- Check manufacturer's instructions.

Recommended Cooking Temperatures*

Product	Internal temperature (°F)
Egg and Egg Dishes	
Eggs	Cook until yolk and white are firm.
Egg casseroles	160
Egg sauces, custards	160
Ground Meat and Meat Mixtures	
Turkey, chicken	165
Beef, veal, lamb, pork	160
Fresh Beef, Veal, Lamb	
Medium rare	145
Medium	160
Well done	170
Fresh Pork	
Medium	160
Well done	170
Ham	
Fresh (raw)	160
Fully cooked (to reheat)	140
Roast Beef	
Cooked commercially, vacuum sealed and ready-to-eat	140

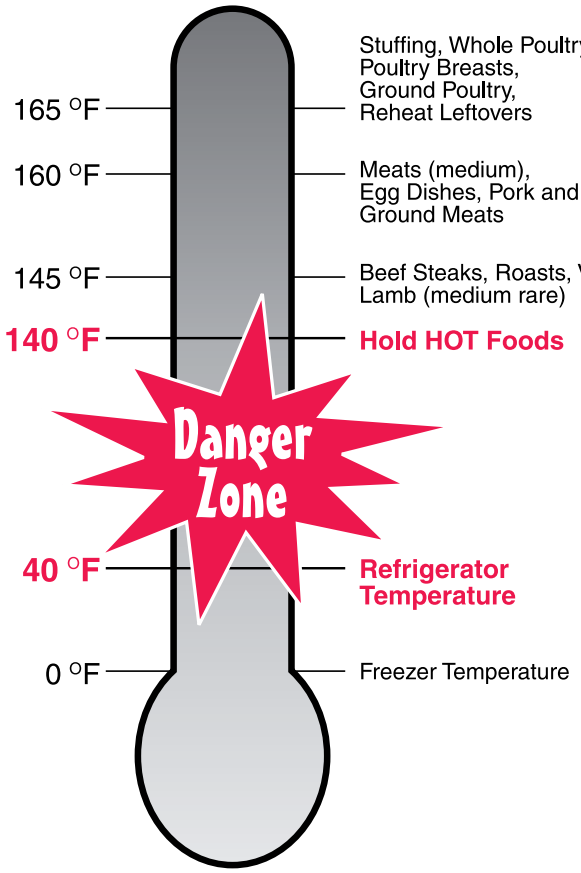
Product	Internal temperature (°F)
Poultry	
Chicken, turkey (whole)	165
Chicken, turkey (dark meat)	165
Poultry – breast	165
Duck and goose	165
Stuffing	
Cooked alone or in bird	165
Sauces, Soups, Gravies, Marinades	
Used with raw meat, poultry or fish	Bring to a boil
Seafood	
Fin fish	Cook until opaque and flakes easily with fork
Shrimp, lobster, crab	Should turn red and flesh should become pearly opaque
Scallops	Should turn milky white or opaque and firm
Clams, mussels, oysters	Cook until shells open
Leftovers	165

*These USDA consumer guidelines vary slightly from the FDA and North Dakota Food Code temperatures. Foodservice personnel in commercial settings should consult with the food code.

Keep It Hot — Keep It Cold or Just Don't Keep It!

Danger Zone

Bacteria multiply rapidly between 41 and 140°F. To keep food out of this "danger zone," keep cold food cold and hot food hot. Keep cold food in the refrigerator, in coolers, or on the service line on ice. Keep hot food in the oven, in heated chafing dishes, or in preheated steam tables, warming trays and/or slow cookers.



When You Chill Food

- Place food in the refrigerator at 40°F or lower.
- Don't overfill the refrigerator. Cool air must circulate to keep food safe.
- Divide food and place in shallow containers. Slice roast beef or ham and layer in containers in portions for service.
- Divide turkey into smaller portions or slices and refrigerate. Remove stuffing from cavity before refrigeration.
- Place soups or stews in shallow containers. To cool quickly, place in ice water bath and stir.
- Cover and label cooked foods. Include the preparation date on the label.

When You Transport Food

Keep cold food cold. Place cold food in cooler with a cold source such as ice or commercial freezing gels. Use plenty of ice or commercial freezing gels. Cold food should be held at or below 40°F.

Hot food should be kept hot, at or above 140°F. Wrap well and place in an insulated container.

When You Reheat Food

Heat cooked, commercially vacuum-sealed, ready-to-eat foods, such as hams and roasts, to 140°F.

Foods that have been cooked ahead and cooled should be reheated to at least 165°F.

Reheat leftovers thoroughly to at least 165°F. Reheat sauces, soups, and gravies to a boil.

- **On Stove Top** — Place food in pan and heat thoroughly. The food should reach at least 165°F on a food thermometer when done.
- **In Oven** — Place food in oven set no lower than 325°F. Use a food thermometer to check the internal temperature of the food.
- **In Microwave** — Stir, cover, and rotate fully cooked food for even heating. Heat food until it reaches at least 165°F throughout.

It is NOT recommended to reheat foods in s*low cookers, steam tables or chafing dishes.* This equipment is meant to hold hot foods hot. Reheating in these containers may allow foods to stay in the "danger zone" (41 and 140°F) too long. Bacteria multiply rapidly at these temperatures.

When You Keep Food Hot

Once food is cooked or reheated, it should be held hot, at or above 140°F. Food may be held in oven or on serving line in heated chafing dishes, or on preheated steam tables, warming trays, and/or slow cookers. Always keep hot food hot.

Hot holding for extended periods may reduce the quality of the food.

When You Keep Food Cold

Store in refrigerator set at 40°F. If there is not enough room in the refrigerator, place food in coolers with ice or commercial freezing gels. Always keep cold food cold.

When You Serve Food

Use clean containers and utensils to store and serve food.

When a dish is empty or nearly empty, replace with fresh container of food, removing the previous container.

Keep It Cold

Place cold food in containers on ice. Hold cold foods at or below 40°F.

Food that will be portioned and served on the serving line should be placed in a shallow container. Place this container inside a deep pan filled partially with ice to keep food cold.

Food like chicken salad and desserts in individual serving dishes can also be placed directly on ice, or in a shallow container set in a deep pan filled with ice. Drain off water as ice melts and replace ice frequently.

Keep It Hot

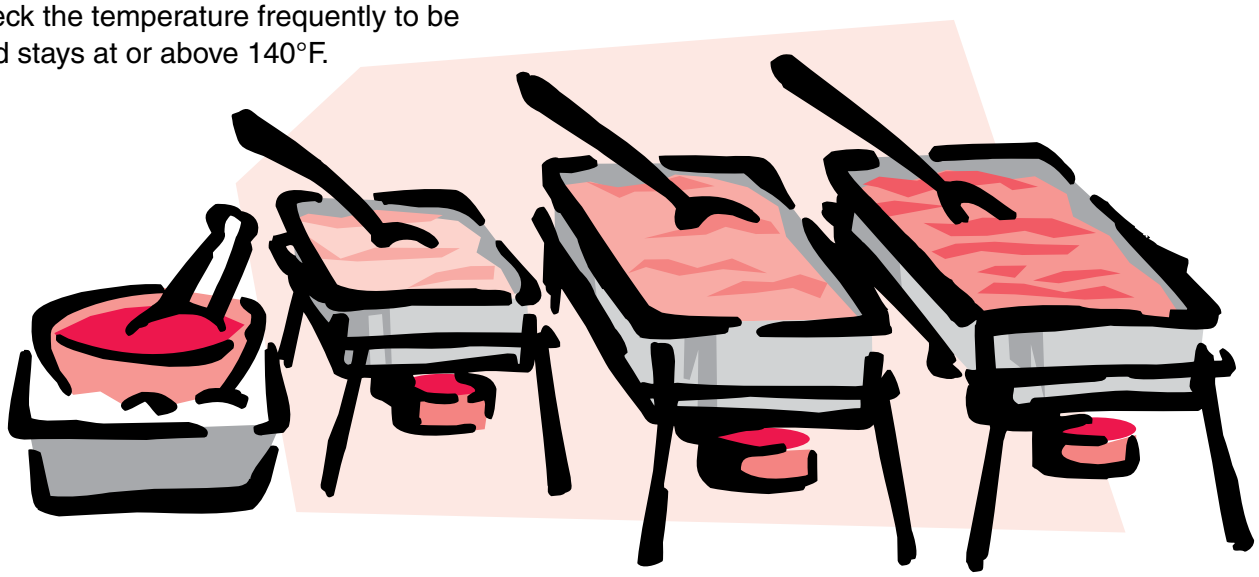
Once food is thoroughly heated on stovetop, oven or in microwave oven, keep food hot by using a heat source. Place food in chafing dishes, preheated steam tables, warming trays, and/or slow cookers.

Check the temperature frequently to be sure food stays at or above 140°F.

When You Finish Up

Discard any food left out at room temperature for more than two hours.

Immediately refrigerate or freeze remaining leftovers in shallow containers.



Additional Information

Your local NDSU Extension Service county office can provide general information on safe food handling practices. For additional information and to ensure that all state regulations or recommendations for food preparation and service are followed, contact your local/district health department or the state health department.

Visit the NDSU Extension Service website: **www.ag.ndsu.nodak.edu/food.htm**

Contact your local county office of the NDSU Extension Service for more information about food safety and nutrition.

For information about food storage, request "Food Storage Guide" (FN-579). Handouts and food safety posters promoting handwashing and thermometer use are available, too.

Toll-Free Numbers

USDA's Meat and Poultry Hotline
1-800-535-4555

FDA's Outreach and Information Center
1-888-SAFEFOOD

Food Safety Information is also available on the following sites:

Food Safety and Inspection Service
www.fsis.usda.gov

Government Food Safety Information
www.foodsafety.gov

Food and Drug Administration
www.cfsan.fda.gov

Centers for Disease Control and Prevention
www.cdc.gov/foodsafety

Partnership for Food Safety Education
(Fight Bac!™)
www.fightbac.org

USDA/FDA Foodborne Illness Education Information Center at the National Agricultural Library
www.nal.usda.gov/fnic/foodborne/foodborn.htm

For more information on this and other topics, see: www.ag.ndsu.edu

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