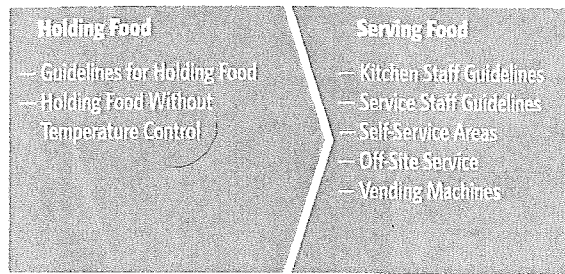




chapter 7
The Flow of Food: Service



((NEWS)) One Hundred Sickened by Norovirus Outbreak

A buffet attendant sickened over 100 guests at a large southwestern golf resort. Those that got sick had symptoms that included severe vomiting, diarrhea, and physical weakness. A food handler later tested positive for Norovirus. While the food handler was not experiencing symptoms at the time of the outbreak, he indicated that he had vomiting and diarrhea the week before.

Local regulatory authorities determined that the food handler contaminated items on the buffet line as he worked. The food handler failed to wash his hands correctly and change gloves as he moved from buffet station to buffet station. Authorities believed that utensils used by the guests had become contaminated by the food handler. This led to the outbreak.

You Can Prevent This

The operation in the story above had two problems. First, the food handler should have reported his illness the week before the outbreak. Second, the food handler should have been washing his hands and changing his gloves correctly while serving food.

Serving food the correct way would have helped prevent this outbreak. In this chapter, you will learn guidelines for keeping food safe after you have prepped and cooked it. These guidelines include the following.

- Holding hot food
- Holding cold food
- Using time as a method of control for food
- Preventing contamination of food in self-service areas and when serving food to customers

Holding Food	Serving Food
<ul style="list-style-type: none"> — Guidelines for Holding Food — Holding Food Without Temperature Control 	<ul style="list-style-type: none"> — Kitchen Staff Guidelines — Service Staff Guidelines — Self-Service Areas — Off-Site Service — Vending Machines

Holding Food

Food that is being held for service is at risk for time-temperature abuse and cross-contamination. If your operation holds food, you must make policies that reduce these risks. Focus on time and temperature control, but don't forget about protecting the food from contamination. In some cases, you might be able to hold food without controlling its temperature.

Guidelines for Holding Food

Create policies about how long the operation will hold food. Also, create policies about when to throw away held food. For example, your policy may let you refill a pan of veal in a buffet all day, as long as you throw it out at the end of the day. Policies should also consider the following.



Food covers and sneeze guards Cover food and install sneeze guards to protect food from contaminants. Covers, like the ones shown in the photo at left, also help maintain a food's internal temperature.

Temperature Hold TCS food at the correct internal temperature.

- Hold hot food at 135°F (57°C) or higher. This will prevent pathogens such as *Bacillus cereus* from growing to unsafe levels.
- Hold cold food at 41°F (5°C) or lower. This will prevent pathogens such as *Staphylococcus aureus* from growing to unsafe levels.

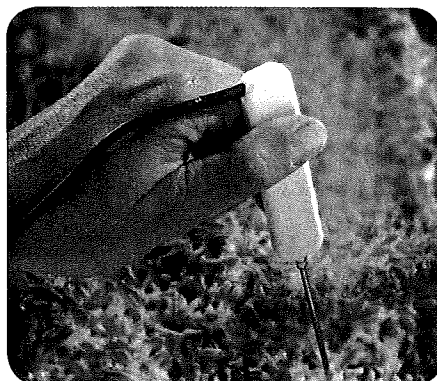
Thermometer Use a thermometer to check a food's internal temperature, as the food handler in the photo at left is doing. **NEVER** use the temperature gauge on a holding unit to do it. The gauge does not check the internal temperature of the food.

Time Check food temperature at least every four hours.

- Throw out food that is not 41°F (5°C) or lower, or 135°F (57°C) or higher.
- You can also check the temperature every two hours. This will leave time for corrective action. For example, hot TCS food that has been held below 135°F (57°C) can be reheated and then placed back in the hot-holding unit.

Hot-holding equipment **NEVER** use hot-holding equipment to reheat food unless it is built to do so. Most hot-holding equipment does not pass food through the temperature danger zone quickly enough. Reheat food correctly. Then move it to the holding unit.

Check your local regulatory requirements.



How This Relates to Me

At what temperature must your operation hold hot TCS food?

At what temperature must your operation hold cold TCS food?

**Holding Food without Temperature Control**

Your operation may want to display or hold TCS food without temperature control. Here are some examples of when you might hold food without temperature control.

- When displaying food for a short time, such as at an off-site catered event, as shown in the photo at left
- When electricity is not available to power holding equipment

If your operation displays or holds TCS food without temperature control, it must do so under certain conditions. Also note that the conditions for holding cold food are different from those for holding hot food.

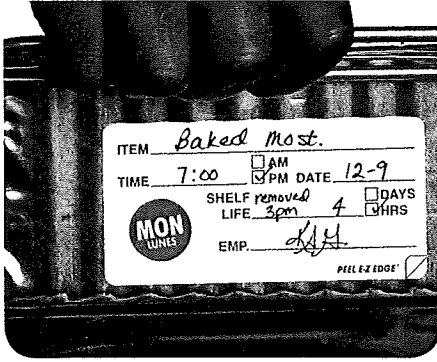
Before using time as a method of control, check with your local regulatory authority for specific requirements.

Cold Food

You can hold cold food without temperature control for up to six hours if you meet these conditions.

- Hold the food at 41°F (5°C) or lower before removing it from refrigeration.
- Label the food with the time you removed it from refrigeration and the time you must throw it out. The discard time on the label must be six hours from the time you removed the food from refrigeration, as shown in the photo at left. For example, if you remove potato salad from refrigeration at 3:00 p.m. to serve at a picnic, the discard time on the label should be 9:00 p.m. This equals six hours from the time you removed it from refrigeration.
- Make sure the food temperature does not exceed 70°F (21°C) while it is being served. Throw out any food that exceeds this temperature.
- Sell, serve, or throw out the food within six hours.





Hot Food

You can hold hot food without temperature control for up to four hours if you meet these conditions.

- Hold the food at 135°F (57°C) or higher before removing it from temperature control.
- Label the food with the time you must throw it out. The discard time on the label must be four hours from the time you removed the food from temperature control, as shown in the photo at left.
- Sell, serve, or throw out the food within four hours.

How This Relates to Me

Does your jurisdiction allow you to hold ready-to-eat TCS food without temperature control?

If yes, what are the requirements for doing so?

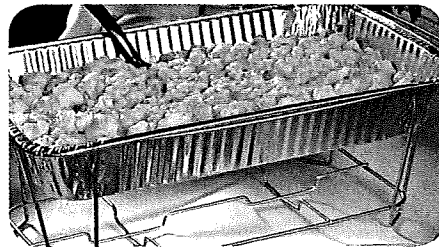
Apply Your Knowledge

Is It Being Handled Safely?

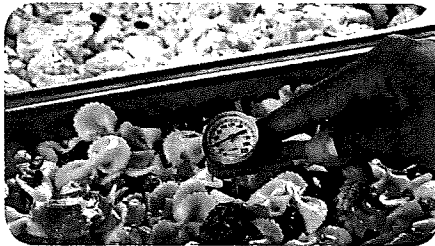
Write an **X** next to each food item that is not being handled safely.



① _____ Soup held at 120°F (49°C)



③ _____ Potato salad held at 75°F (24°C)



② _____ Pasta salad held at 39°F (4°C)



④ _____ Soup placed in a hot-holding unit at 40°F (4°C)

For answers, please turn to page 7.15.

Holding Food	Serving Food
<ul style="list-style-type: none"> — Guidelines for Holding Food — Holding Food Without Temperature Control 	<ul style="list-style-type: none"> — Kitchen Staff Guidelines — Service Staff Guidelines — Self-Service Areas — Off-Site Service — Vending Machines

Serving Food

The biggest threat to food that is ready to be served is contamination. Your kitchen and service staff must know how to serve food in ways that keep it safe. Dining rooms, self-service areas, off-site locations, and vending machines all have specific guidelines that staff must follow.

Kitchen Staff Guidelines

Train your kitchen staff to serve food in these ways.

Bare-hand contact with food Food handlers must wear single-use gloves whenever handling ready-to-eat food. As an alternative, food can be handled with spatulas, tongs, deli sheets, or other utensils. The photo at left shows two ways to avoid bare-hand contact.

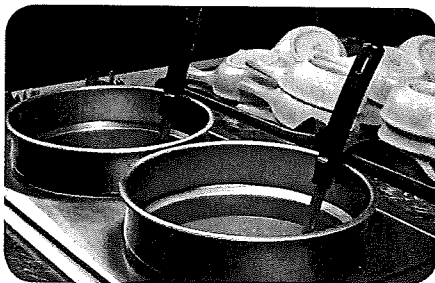
Check your local regulatory requirements.



How This Relates to Me

Does your regulatory authority allow bare-hand contact with ready-to-eat food?

If yes, what are the requirements for doing so?



Clean and sanitized utensils Use separate utensils for each food item. Clean and sanitize them after each serving task. If using utensils continuously, clean and sanitize them at least once every four hours.

Serving utensils Store serving utensils in the food with the handle extended above the rim of the container, as shown in the photo at left. You can also place them on a clean and sanitized food-contact surface. Spoons or scoops used to serve food such as ice cream or mashed potatoes can be stored under running water that is 135°F (57°C).

Service Staff Guidelines

Service staff must be as careful as kitchen staff. They can contaminate food simply by handling the food-contact areas of glasses, dishes, and utensils. Service staff should use these guidelines when serving food.



Hold dishes by the bottom or edge.

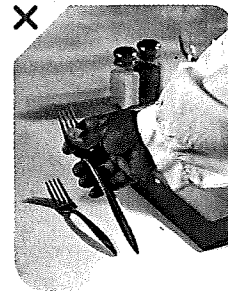
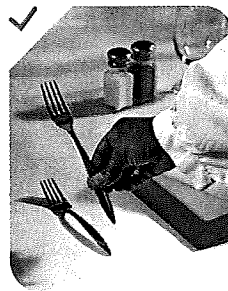
Hold glasses by the middle, bottom, or stem.

Do **NOT** touch the food-contact areas of dishes or glassware.



Carry glasses in a rack or on a tray to avoid touching the food-contact surfaces.

Do **NOT** stack glasses when carrying them.



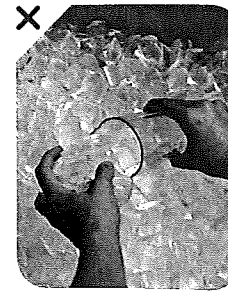
Hold flatware by the handle.

Do **NOT** hold flatware by food-contact surfaces.

Store flatware so that servers grasp handles, not food-contact surfaces.



Avoid bare-hand contact with food that is ready to eat.



Use ice scoops or tongs to get ice.

NEVER scoop ice with your bare hands or a glass. A glass may chip or break.



Preset Tableware

If your operation presets tableware on dining tables, you must take steps to prevent it from becoming contaminated. This might include wrapping or covering the items as shown in the photo at left.

Table settings do not need to be wrapped or covered if extra, or unused, settings meet these requirements.

- They are removed when guests are seated.
- If they remain on the table, they are cleaned and sanitized after guests have left.

Re-serving Food

Service and kitchen staff should also know the rules about re-serving food previously served to another customer.

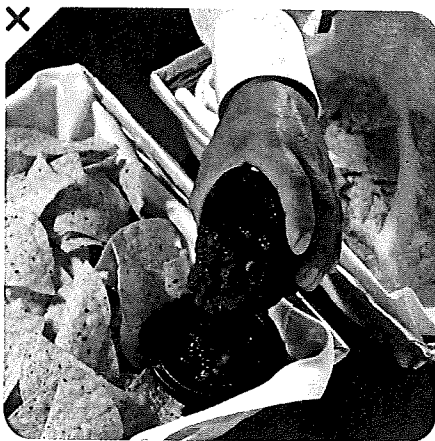
Menu items Do **NOT** re-serve food returned by one customer to another customer.

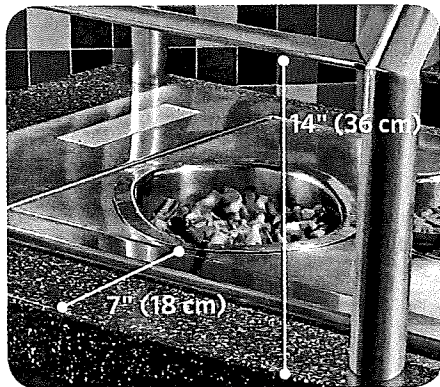
Condiments You must protect condiments from contamination. Serve them in their original containers or in containers designed to prevent contamination. Offering condiments in individual packets or portions can also help keep them safe. **NEVER** re-serve uncovered condiments. Do **NOT** combine leftover condiments with fresh ones, like the food handler in the photo at left is doing. Throw away opened portions or dishes of condiments after serving them to customers. Salsa, butter, mayonnaise, and ketchup are examples.

Bread or rolls Do **NOT** re-serve uneaten bread to other customers. Change linens used in bread baskets after each customer.

Garnishes **NEVER** re-serve plate garnishes, such as fruit or pickles, to another customer. Throw out served but unused garnishes.

Prepackaged food In general, you may re-serve only unopened, prepackaged food in good condition. These include condiment packets and wrapped crackers. You may re-serve bottles of ketchup, mustard, and other condiments. The containers must remain closed between uses.





Self-Service Areas

Self-service areas can be contaminated easily. Follow these guidelines to prevent contamination and time-temperature abuse.

Protection Food on display can be protected from contamination using sneeze guards. They should be located 14 inches (36 centimeters) above the counter and should extend 7 inches (18 centimeters) beyond the food, as shown in the photo at left. Food can also be protected by placing it in display cases or by packaging it in a way that will protect it from contamination. Whole, raw fruits and vegetables and nuts in the shell that require peeling or hulling before eating do not require the protection measures discussed above.

Labels Label food located in self-service areas. For example, place the name of the food, such as types of salad dressing, on ladle handles.

Temperature Keep hot food hot, 135°F (57°C) or higher. Keep cold food cold, 41°F (5°C) or lower.

Raw and ready-to-eat food Typically, raw, unpackaged meat, poultry, and seafood cannot be offered for self-service. However, these items are an exception.

- Ready-to-eat food at buffets or salad bars that serve food such as sushi or raw shellfish
- Ready-to-cook portions that will be cooked and eaten immediately on the premises, such as at Mongolian barbeques
- Raw, frozen, shell-on shrimp or lobster

Refills Do not let customers refill dirty plates or use dirty utensils at self-service areas. Pathogens such as Norovirus can easily be transferred by reused plates and utensils. Assign a staff member to monitor guests. Post signs reminding customers not to reuse plates and utensils.

Utensils Stock food displays with the correct utensils for dispensing food. This might include tongs, ladles, or deli sheets.

Ice Ice used to keep food or beverages cold should **NEVER** be used as an ingredient.



Labeling Bulk Food

Bulk food in self-service areas must be labeled. The label must be in plain view of the customer. When labeling food, you can include the manufacturer or processor label provided with the food. As an alternative, you can provide this information using a card, sign, or other labeling method.

Bulk unpackaged food, such as bakery products and unpackaged food portioned for customers, does not need to be labeled if it meets these conditions.

- The product makes no claim regarding health or nutrient content.
- There are no laws requiring labeling.
- The food is manufactured or prepared on the premises.
- The food is manufactured or prepared at another food operation or processing plant owned by the same person. The operation must be regulated.

Off-Site Service

Delays from the point of preparation to the point of service increase the risk that food will be exposed to contamination or time-temperature abuse. To transport correctly, follow these procedures.

Food containers Pack food in insulated food containers. Use only food-grade containers, such as those shown in the photo at left. They should be designed so food cannot mix, leak, or spill. At the service site, use appropriate containers or equipment to hold food at the correct temperature.

Delivery vehicles Clean the inside of delivery vehicles regularly.

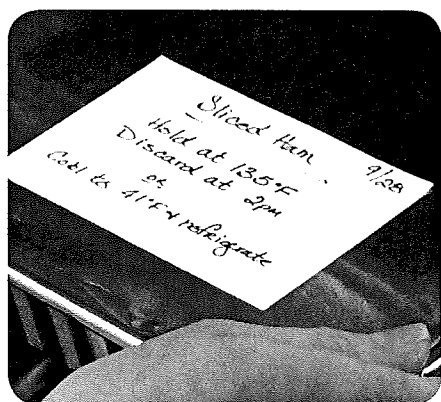
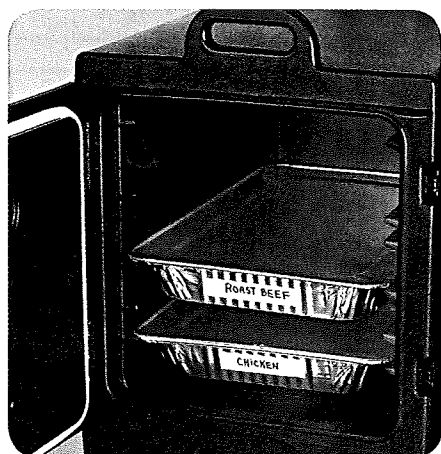
Internal temperature Check internal food temperatures. If containers or delivery vehicles are not holding food at the correct temperature, reevaluate the length of the delivery route or the efficiency of the equipment being used.

Labels Label food with a use-by date and time, and reheating and service instructions for staff at off-site locations. This is shown in the photo at left.

Utilities Make sure the service site has the correct utilities.

- Safe water for cooking, dishwashing, and handwashing
- Garbage containers stored away from food-prep, storage, and serving areas

Storage Store raw meat, poultry, and seafood and ready-to-eat items separately. For example, store raw chicken separately from ready-to-eat salads.



Vending Machines

Handle food prepped and packaged for vending machines with the same care as any other food served to customers. Vending operators should protect food from contamination and time-temperature abuse during transport, delivery, and service. To keep vended food safe, follow these guidelines.



- Check product shelf life daily. Products often have a code date, such as an expiration or use-by date, like that shown in the photo at left. If the date has expired, throw out the food immediately. Throw out refrigerated food prepped on-site if not sold within seven days of preparation.
- Keep TCS food at the correct temperature. It should be held at 41°F (5°C) or lower, or at 135°F (57°C) or higher. These machines must have controls that prevent TCS food from being dispensed if the temperature stays in the danger zone for a specified amount of time. This food must be thrown out.
- Dispense TCS food in its original container.
- Wash and wrap fresh fruit with edible peels before putting it in a machine.

Apply Your Knowledge

Is It Being Served Safely?

Write an **X** next to each food item that is not being served safely.

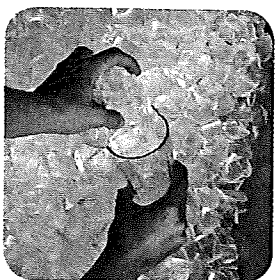
① _____



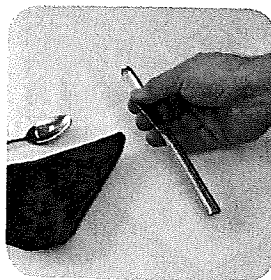
③ _____



② _____



④ _____



For answers, please turn to page 7.15.

Apply Your Knowledge

Re-serve or Throw Out?

Write a **T** next to the food that you must throw out. Write an **R** next to the items you can re-serve.

- ① _____ Chili held without temperature control for 5 hours
- ② _____ Previously served, but untouched, basket of bread
- ③ _____ Bottle of ketchup
- ④ _____ Untouched slice of pie with whipped cream returned by a customer
- ⑤ _____ Individually wrapped crackers
- ⑥ _____ Unwrapped butter served on a plate
- ⑦ _____ Mustard packets
- ⑧ _____ Ice used to hold cold food on a self-service area
- ⑨ _____ Breaded, baked fish returned by a customer who wanted broiled fish
- ⑩ _____ An apple that has been in a vending machine for 8 days that has been washed and wrapped

For answers, please turn to page 7.15.

Chapter Summary

- When holding TCS food for service, keep hot food at 135°F (57°C) or higher. Never use hot-holding equipment to reheat food. Keep cold food at 41°F (5°C) or lower. Check the internal temperature of food at least every four hours. Throw food out if it is not at the correct temperature.
- Review the guidelines for keeping food safe when holding food without temperature control.
- Staff should be trained to avoid bare-hand contact with ready-to-eat food, and use separate utensils for serving different food items.
- Teach staff the correct ways for handling service items and tableware. Staff should also be trained on the potential hazards of re-serving food such as plate garnishes, breads, or open dishes of condiments.
- Self-service areas can be contaminated by staff and customers. Protect food on display with sneeze guards, packaging, or other tools designed to keep food safe. Post self-service rules. Make it clear to customers that clean plates must be used for refills. Put the correct labels on displayed food and bulk food available for self-service. Make sure equipment holds food at the correct temperature. Follow safety procedures when prepping, delivering, or serving food off-site.
- Vending machine food should be handled as carefully as any other food. Check product shelf life daily. Hold TCS food at the correct temperature.

Chapter Review Case Study

To keep food safe during holding and serving, you must know how to hold hot and cold food; use time as a method of control to hold food; and prevent contamination of food in self-service areas and when serving food to customers.

Now, take what you have learned in this chapter and apply it to the following case study.

Jill, a line cook on the morning shift at Memorial Hospital, was busy helping the kitchen staff put food on display for lunch in the hospital cafeteria. Ann, the kitchen manager who usually supervised lunch in the cafeteria, was at an all-day seminar on food safety. Jill was also responsible for making sure meals were trayed and put into food carts for transport to the patients' rooms. The staff also packed two dozen meals each day for a neighborhood group that delivered them to homebound elderly people.

First, Jill looked for insulated food containers for the delivery meals. When she could not find them, she loaded the meals into cardboard boxes she found near the back door, knowing the driver would arrive soon to pick them up. The lunch hour was hectic. The cafeteria was busy, and the staff had many meals to tray and deliver.

As the lunch period was ending, Jill breathed a sigh of relief. She moved down the cafeteria serving line, checking food temperatures. One of the casseroles was at 130°F (54°C). Jill checked the water level in the steam table and turned up the thermostat. She then went to clean up the kitchen and finish her shift.

- ① What did Jill do wrong?

- ② What should Jill have done?

For answers, please turn to page 7.15.

Study Questions

Circle the best answer to each question.

- ① Which part of the plate should a food handler avoid touching when serving customers?
 - A Bottom
 - B Edge
 - C Side
 - D Top

- ② An operation has a small salad bar with 8 different items on it. How many serving utensils are needed to serve the items on the salad bar?
 - A 2
 - B 4
 - C 6
 - D 8

- ③ At what maximum internal temperature should cold TCS food be held?
 - A 0°F (-17°C)
 - B 32°F (0°C)
 - C 41°F (5°C)
 - D 60°F (16°C)

- ④ What item must customers take each time they return to a self-service area for more food?
 - A Clean plate
 - B Extra napkins
 - C Hand sanitizer
 - D New serving spoon

- ⑤ At what minimum temperature should hot TCS food be held?
 - A 115°F (46°C)
 - B 125°F (52°C)
 - C 135°F (57°C)
 - D 145°F (63°C)

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- ⑥ An operation is located in a jurisdiction that allows it to hold TCS food without temperature control. How many hours can it display hot TCS food without temperature control before the food must be sold, served, or thrown out?
- A 2
 - B 4
 - C 6
 - D 8
- ⑦ Which food items can be displayed in a self-service area without the use of packaging, sneeze guards, or a display case to protect them from contamination?
- A Bulk deli rolls
 - B Nuts in the shell
 - C Sushi-grade fish
 - D Cooked shrimp
- ⑧ What is the maximum distance that sneeze guards can be located from the self-service counter to protect food from contamination?
- A 8 inches (20 cm)
 - B 10 inches (25 cm)
 - C 12 inches (30 cm)
 - D 14 inches (35 cm)

For answers, please turn to page 7.15.