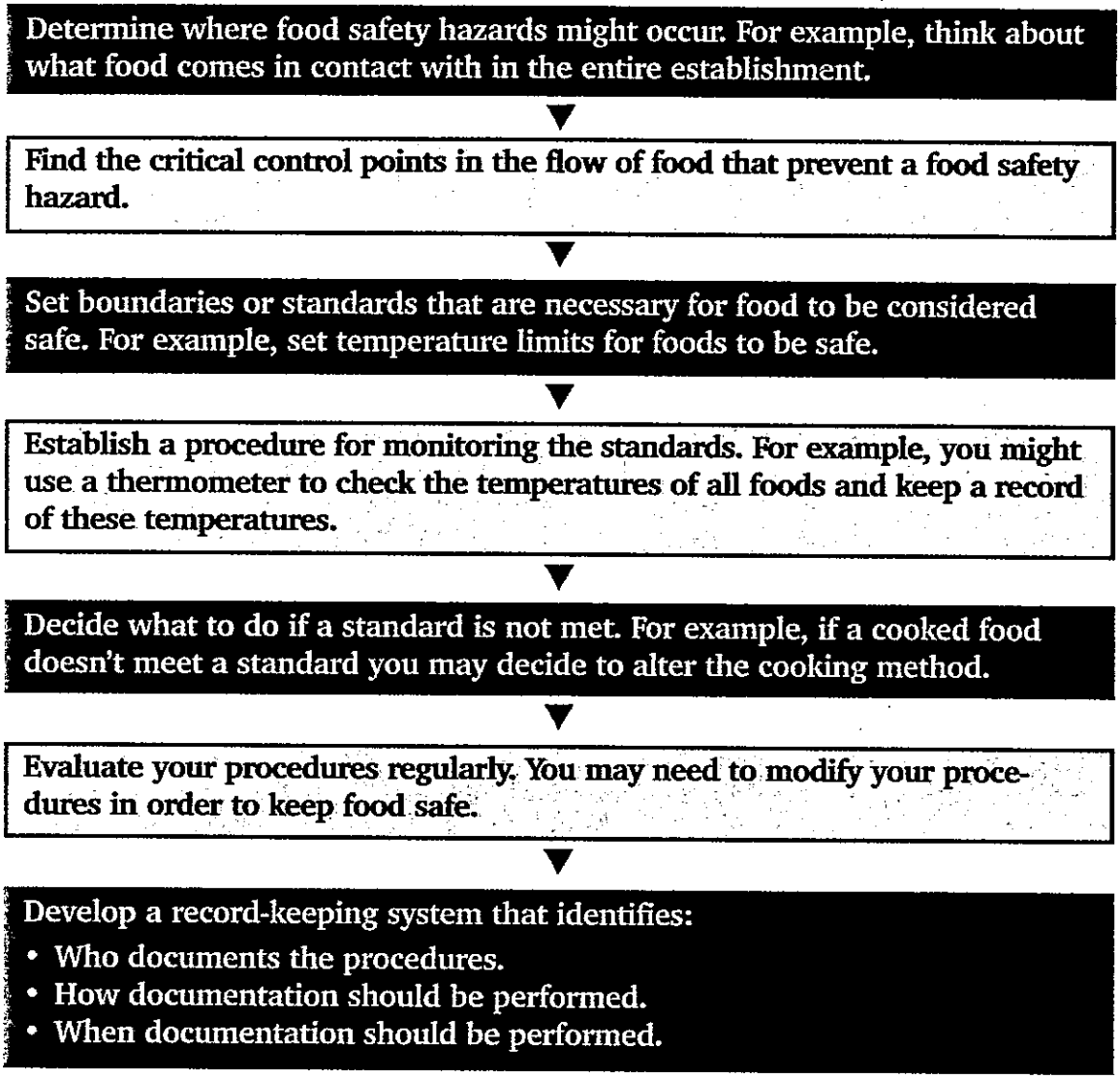
Fig. 8-7.

The HACCP System



HACCP Hazards

The first step of HACCP is to identify and evaluate hazards. These hazards could cause illness or injury if they're not controlled. The most frequently found hazards include:

- Poor personal hygiene.
- Contaminated raw foods.
- Cross-contamination.
- Improper cooking.
- Improper holding.
- Improper cooling.
- Improper reheating.
- Improper cleaning and sanitizing of equipment.

Any of these hazards can lead to an outbreak of foodborne illness. Because of this, it's critical that foodservice workers follow the HACCP System.

Critical Control Points

The next step in the HACCP System involves analyzing each control point. See Fig. 8-8. A **critical control point** is a step in the flow of food where contamination can be prevented or eliminated. For example, cooking food improperly allows bacteria and other harmful biological haz-

Fig. 8-8.

HACCP Analysis—The Flow of Food

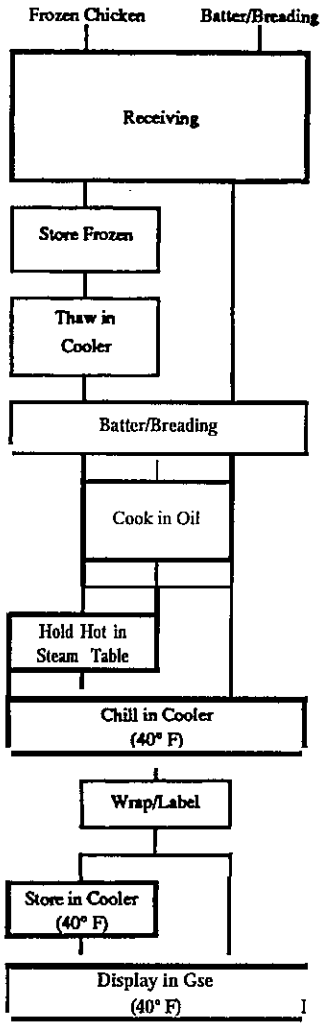
POTENTIAL HAZARD	CONTROL POINT	CORRECTIVE ACTION
Selection of hazardous items; improper food preparation.	Menu Items & Recipes	Proper training.
Receipt and acceptance of contaminated food products.	Receiving	Inspect each delivery, reject contaminated goods.
Cross-contamination; improper storage resulting in spoilage; bacteria.	Storing	Follow FIFO procedures; maintain proper storage temperatures; discard old items.
Cross-contamination; bacteria.	Food Preparation	Good personal hygiene; gloves; hand washing; clean and sanitize utensils and work surfaces.
Bacteria not killed; physical and chemical contaminants.	Cooking	Achieve the minimum internal temperature.
Bacteria; physical contaminants.	Food Holding & Serving	Maintain proper temperatures, use clean serving equipment.
Bacteria.	Cooling	Apply rapid cooling methods; store food properly.
Bacteria.	Reheating	Heat food rapidly; don't mix old food with new food.

ards to grow. When a food such as poultry is cooked, the minimum internal temperature must be reached. If it isn't, microorganisms could survive and contaminate the food. This could make those who eat the food very sick. Cooking at high temperatures kills harmful microorganisms.

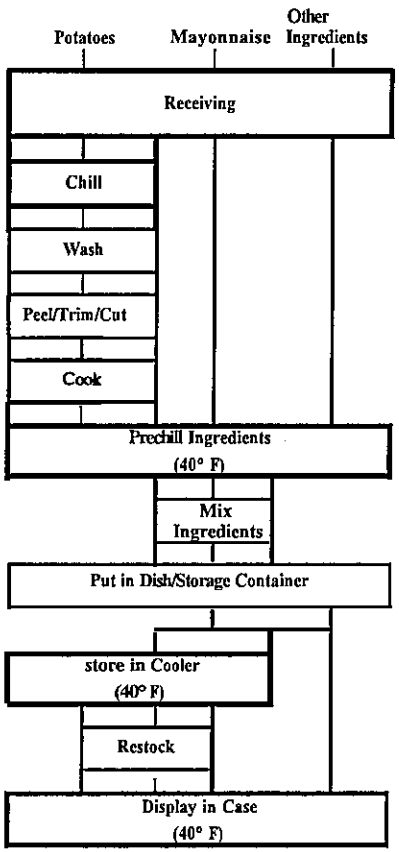
The same is true for cooling food. If food is cooled improperly, harmful bacteria can grow. Cooling food quickly prevents bacterial growth. According to the U.S. Centers for Disease Control, improperly cooled food is the most common cause of all reported foodborne illness. One technique used to cool food is as follows:

1. Place food in a shallow pan.
2. Place the pan of food into a large pan filled with ice. Do not stack more than one pan of food on top of the large pan of ice.
3. Use a thermometer to check the internal temperature of the food often. Foods that have an internal temperature of 140°F should drop to 70°F within 2 hours and to 41°F or below within 4 hours. Replenish ice as needed.
4. When the chilled temperature has been achieved, remove the pan of food from the pan of ice.
5. Dry the bottom of the pan of food and place the pan on the top shelf of the refrigerator.
6. Place a lid on the pan of food.
7. Label the pan of food with the date the food was prepared and its temperature at the time of storage.

FRIED CHICKEN

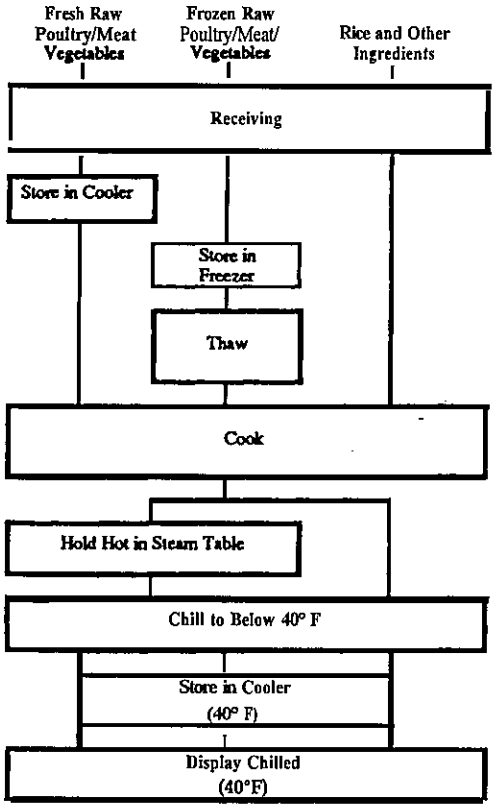
Flowchart	Potential Hazards	CCP	Critical Limits	Monitoring Procedures	Corrective Actions
					
Receiving	Rapid bacterial growth; Spoilage; Contamination; Foreign objects	CCP	Chilled items below 40° F; Frozen items with no signs of thawing; No spoilage, contamination, or foreign objects	Visual inspection; Measure/record temperature	Reject thawed frozen items, chilled items above 40° F, and items with spoilage, contamination, or foreign objects
Store Frozen					
Thaw in Cooler	Incomplete thawing can cause undercooking; Rapid bacterial growth		Thaw in cooler or under cold running water Chill to 40° F after thawing	observe thawing	Modify thawing practice
Batter/Breading	contamination		Do not recycle used batter/breading	observe practices	Modify practices
Cook in Oil	Undercooking may not kill illness-causing bacteria	CCP	Internal temperature of 165° F; Immediate transfer to hot hold after cooking	Follow time/temperature instructions; Measure/record center temperature	Continue cooking until center temperature reaches 165° F
Hold Hot in Steam Table	Rapid bacterial growth	CCP	Product above 140° F; Hold batches less than 5 hours	Measure/record case temperature every 4 hours	Reheat or chill
Chill in Cooler (40° F)	Rapid bacterial growth	CCP	Product below 40° F	Measure/record cooler air temperature every 4 hours	Adjust cooler thermostat
Wrap/Label	Contamination		Avoid hand contact	Observe practices	Modify practices
Store in Cooler (40° F)	Rapid bacterial growth	CCP	Product below 40° F	Measure/record cooler air temperature every 4 hours	Adjust cooler thermostat
Display in Gse (40° F)	Rapid bacterial growth	CCP	Product below 40° F	Measure/record case temperature every 4 hours	Adjust use thermostat

POTATO SALAD

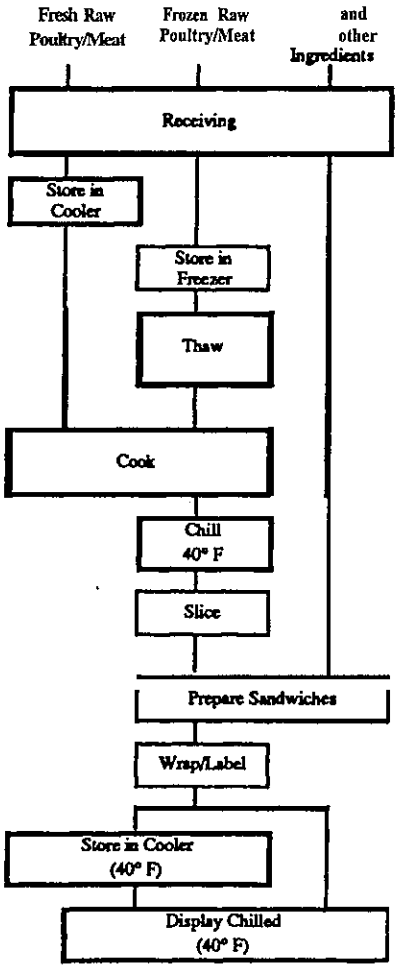


Flowchart	Potential Hazards	CCP	Critical Limits	Monitoring Procedures	Corrective Actions
Receiving	Spoilage; Contamination; Foreign objects	CCP	No spoilage, contamination, or foreign objects	Visual inspection	Reject items with spoilage, contamination, or foreign objects
Chill	Spoilage	CCP	Chill to below 40° F	Measure/record cooler air temperature	Adjust cooler thermostat
Wash			Use clean sink; Rinse sink between items	Observe practices	Modify practices
Peel/Trim/Cut	Contamination		Spoilage removed	Observe practices	Modify practices
Cook				Follow time/temperature instructions	Cook longer
Prechill Ingredients (40° F)	Rapid bacterial growth	CCP	Chill in shallow containers to below 40° F	Measure/record cooler air temperature every 4 hours	Adjust cooler thermostat
Mix Ingredients	Contamination		Minimize hand contact; Use clean utensils	Observe practices	Modify practices
Put in Dish/Storage Container	Contamination		Use clean dish/container	Observe practices	Modify practices
store in Cooler (40° F)	Rapid bacterial growth	CCP	Product below 40° F	Measure/record cooler air temperature every 4 hours	Adjust cooler thermostat
Restock	Contamination		Avoid hand contact	Observe practices	Modify practices
Display in Case (40° F)	Rapid bacterial growth	CCP	Product below 40° F	Measure/record case temperature every 4 hours	Adjust case thermostat

HOT ENTREES

Flowchart	Potential Hazards	CCP	Critical Limits	Monitoring Procedures	Corrective Actions
					
Receiving	Spoilage; Contamination; Foreign objects	CCP	No spoilage, contamination, or foreign objects	Visual inspection	Reject items with spoilage, contamination, of foreign objects
Store in Cooler	Rapid bacterial growth	CCP	Chill to below 40° F	Measure/record cooler air temperature every 4 hours	Adjust cooler thermostat
Thaw	Incomplete thawing; Rapid bacterial growth	CCP	Thaw in cooler or under cold running water, chill to 40° F after thawing	Observe thawing	Modify thawing practice
Cook	Undercooking may not kill illness causing bacteria	CCP	Cook to internal temperature of 165° F, Immediate transfer to hot-hold after cooking	Measure/record center temperature	Continue cooking
Hold Hot in Steam Table	Rapid bacterial growth	CCP	Product above 140° F; Hold batches less than 5 hours	Measure/record center temperature every 2 hours	Reheat or chill
Chill to Below 40° F	Rapid bacterial growth	CCP	Chill in shallow container to below 40° F	Measure/record cooler air temperature every 4 hours	Adjust cooler thermostat
Store in Cooler (40° F)	Rapid bacterial growth	CCP	product below 40° F	Measure/record cooler air temperature every 4 hours	Adjust cooler thermostat
Display Chilled (40°F)	Rapid bacterial growth	CCP	Product below 40° F	Measure/record cooler air temperature every 4 hours	Adjust display thermostat

SLICED POULTRY/MEAT SANDWICH



Flowchart	Potential Hazards	CCP	Critical Limits	Monitoring Procedures	Corrective Actions
Receiving	Spoilage; Contamination; Foreign objects	CCP	No spoilage, contamination. or foreign objects	Visual inspection	Reject items with spoilage. contamination, or foreign objects
Store in Cooler	Rapid bacterial growth	CCP	Chill to below 40° F	Measure/record cooler air temperature every 4 hours	Adjust cooler thermostat
Thaw	Incomplete thawing; Rapid bacterial growth	CCP	Thaw in cooler or under cold running water; chill to 40° F after thawing	Observe thawing	Modify thawing practice
Cook	Under cooking may not kill illness-causing bacteria	CCP	Cook to internal temperature as specified for each product	Measure/record center temperature	continue cooking
Chill 40° F	Rapid bacterial growth	CCP	Chill in shallow container to below 40° F	Measure/record cooler air temperature every 4 hours	Adjust cooler thermostat
Slice	Contamination		Avoid hand contact; Use disposable gloves	Observe practices	Modify practices
Prepare Sandwiches	Contamination		Avoid hand contact; Use disposable gloves	Observe practices	Modify practices
Wrap/Label	Contamination		Avoid hand contact; Use disposable gloves	Observe practices	Modify practices
Store in Cooler (40° F)	Rapid bacterial growth	CCP	Product below 40° F	Measure/record cooler air temperature every 4 hours	Adjust cooler thermostat
Display Chilled (40° F)	Rapid bacterial growth	CCP	product below 40° F	Measure/record cooler air temperature every 4 hours	Adjust display thermostat