HACCP & Food Safety

DESE Food and Nutrition Services

June 2014

Missouri DEPARTMENT OF ELEMENTARY & SECONDARY EDUCATION

HACCP
(Have A Cup of Coffee and Pray)

- Hazard
  - Biological, chemical, and physical dangers
- Analysis
  - Likelihood of occurrence
- Critical Control Point
  - Criteria that separates acceptable from unacceptable procedures

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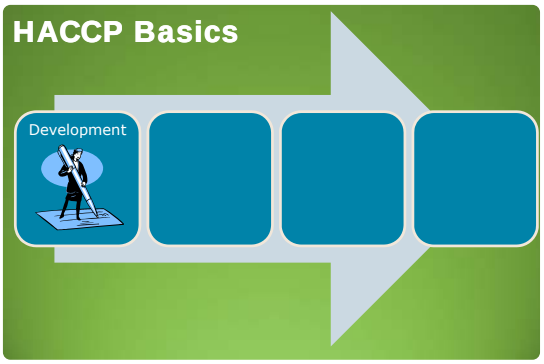
HACCP Basics



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Creating a HACCP Plan

Developing A Plan

- Assess the types of meal service facilities in your SFA
  - Types of equipment
  - Menu items
  - Food preparation processes
  - Number of employees at each site
  - Existing Standard Operating Procedures (SOPs)

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Developing a Plan

- Assess potential hazards at each facility.
  - If facilities within the district vary, different sets of SOPs may be implemented.
- Analyze likelihood of hazard occurring.
- Document in writing operating procedures for staff to follow in case of an event.

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HACCP Basics

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Standard Operating Procedures

Purpose:

- Essential for facilitating tracking of operations.
- Determine when there is a loss of control and/or deviation at a CCP.
- Provide written documentation for use in verification.
- Allow for easier monitoring.

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SOP(s) continued

- Written step-by-step instructions for routine food service tasks that affect the safety of food.
- Each SOP should contain instructions on:
  - Monitoring
  - Documentation
  - Corrective action taken
  - Periodic review of procedures they cover

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Main SOP Categories

- Personnel
  - Require hand washing after restroom use, sneezing, coughing, or cleaning
  - Develop policy for restricting ill employees from food production or preparation areas
- Product Procurement
  - Follow recommendations for vendor selection
- Receiving
  - Reject cans with swollen sides or ends, flawed seals and seams, & rust or dents
  - Immediately store perishable items

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Main SOP Categories cont'd

- Storing
  - Store all food and supplies 6-8 inches off the floor
  - Label food with school name and delivery date
- Transporting
  - Preheat transfer carts before use
  - Limit travel time to a maximum of 2 hours
- Holding
  - Keep Hot food Hot (>135 °F)
  - Keep Cold food Cold (<41 °F)

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Main SOP Categories cont'd

- Preparation
  - Keep food out of the danger zone
  - Handle food with utensils or gloved hands
- Cleaning/Sanitizing
  - Use clean water
  - Keep wiping cloths in fresh sanitizing solution
- Cooking & Temping
  - Record all temperatures when taken
  - Use clean, sanitized thermometer

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Main SOP Categories cont'd

- Cooling
  - Cool rapidly by storing food in small batches and cover loosely
  - Pre-chill ingredients to be used in salad bars
- Reheating
  - Use only cooking ranges ovens, steamers, and microwaves to reheat foods; transfer reheated food to hot holding equipment only when food reaches the proper temperature

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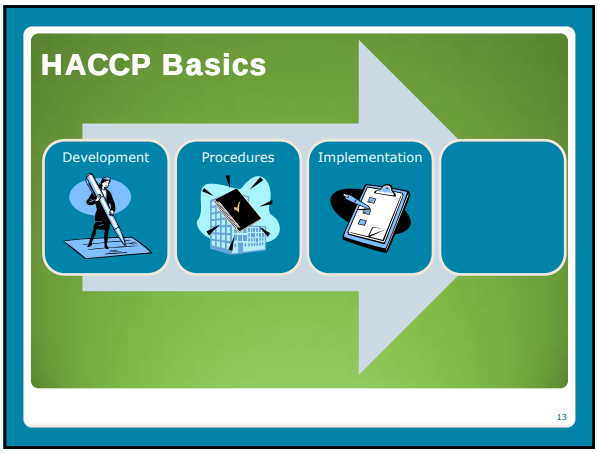
HACCP Basics
Development
Procedures
Implementation
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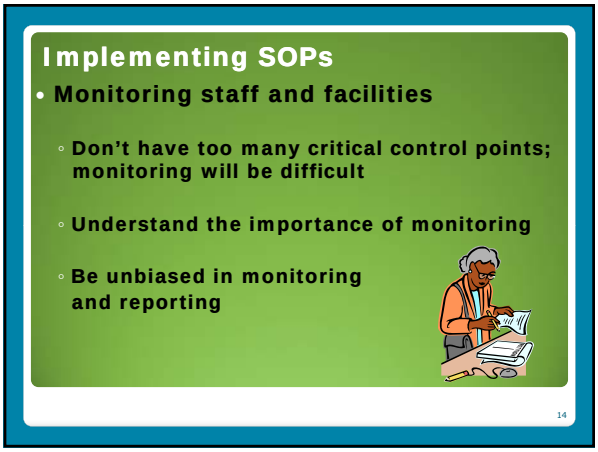
Implementing SOPs
• Monitoring staff and facilities
◦ Don't have too many critical control points; monitoring will be difficult
◦ Understand the importance of monitoring
◦ Be unbiased in monitoring and reporting
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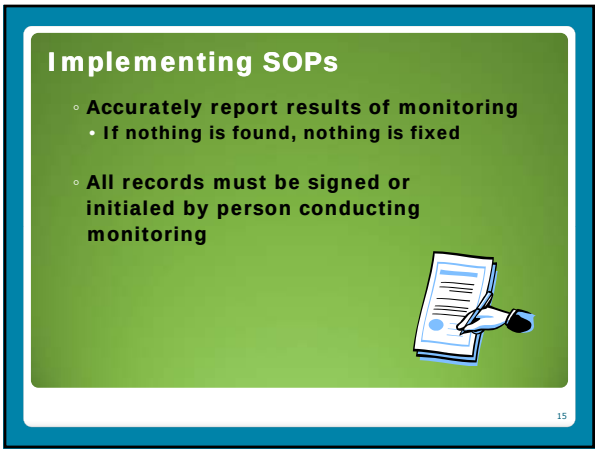
Implementing SOPs
◦ Accurately report results of monitoring
• If nothing is found, nothing is fixed
◦ All records must be signed or initialed by person conducting monitoring
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Monitoring

- Identify person(s) responsible for carrying out facility monitoring.
- Establish a frequency of monitoring.
  - How often?
- Type of monitoring procedure
  - What will be monitored?

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Monitoring

- Specify procedures used
  - How and where will it be monitored?
- Continuous monitoring
  - Calibrating equipment, monitoring automated equipment or sensors

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Establish Monitoring Procedures

- Monitoring critical limits and documenting them is very important. Doing this allows the school to have proof that food is being prepared, held, and handled properly in the case of being accused of causing food borne illness.

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Establish Monitoring Procedures

- When establishing your monitoring procedures, you should consider
  - How will you monitor CCPs and SOPs?
  - When and how often will you monitor?
  - Who will be responsible for monitoring?

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Establish Monitoring Procedures

- What you are monitoring depends on the critical limits associated with each CCP for the menu item.
- Final temperature and time measurements are very important, and their critical limits should be monitored effectively.
- Equipment used to monitor should provide accurate measurements and be used properly.

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Establish Monitoring Procedures

- When deciding how often you will monitor, you should ensure that the monitoring interval will be reliable enough to ensure hazards are being controlled.
- Your procedure should be simple and easy to follow.

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Establish Monitoring Procedures

- Different types of meat require different temperatures and holding times in order to meet proper preparation standards.

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Establish Monitoring Procedures

- Example: Cooking Chicken
  - The critical limit is cooking at 165°F for 15 seconds.
  - Therefore, the internal temp. of the chicken must be monitored and recorded to make sure it is at or above 165°F for 15 seconds.

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Establish Monitoring Procedures

- Example: Cold holding
  - The critical limit is 41°F or below.
  - Therefore, the temp. of the refrigerator must be recorded on a refrigeration temp. log at least 3 times daily to make sure the temp is 41°F or below.

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Process Approach

- Identify and document in writing all menu items according to the Process Approach to HACCP
  - Process Approach: a method of classifying food preparation into three broad categories.

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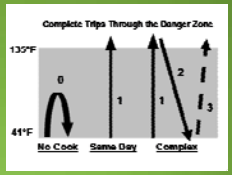
Process Approach

- The three categories in the process approach are:
  - No Cook
  - Same Day
  - Complex
- These categories are based on the number of times a menu item makes a complete trip through the temperature danger zone.



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Process Approach

- No Cook
  - The menu item does not go completely through he danger zone in either direction.
  - An example for this process would be a salad. Salads are stored at cold temperatures and served at cold temperatures.

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Process Approach

- Same Day Service
  - The menu item takes one complete trip through the danger zone (going up during cooking) and is served.
  - An example for this could be spaghetti.
  - The meat would be cooked to the proper temperature (155°F for 15 seconds), held at 135°F or above, served, and then discarded.

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Process Approach

- Complex Food Preparation
  - The menu item goes through both heating and cooling, taking two or more complete trips through the danger zone.
  - An example of this would be leftovers or food that is prepared and served at a later time or date.
  - A pizza would be cooked to the required temperature, held at 135°F or above, cooled, held below 41°F, then reheated to 165°F, and held for serving.

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Identify and Document Control Measures and Critical Limits

- Control measures are means taken to prevent, eliminate, or reduce hazards.
- Control measures include:
  - Following SOPs
  - Identifying Critical Control Points (CCPs)
  - Identify the critical limits established in each of the three processes.

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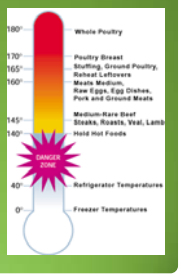
Critical Control Points and Corresponding Critical Limits

- Each Critical Control Point (CCP) has boundaries that define safety. These boundaries or critical limits are the time and/or temperatures that must be achieved or maintained to control a food safety hazard.
- When critical limits are not met, the food may not be safe.



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Identifying Critical Control Points

- Process #1 – No Cook
  - Receive
  - Store
  - Prepare
  - CCP: Cold Holding
  - Serve

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Identifying Critical Control Points

- Process #1 – No Cook
  - Cold holding or limiting time in the danger zone to inhibit bacterial growth and toxin production
    - e.g., limiting time would be holding at room temperature for 4 hours and then discarding

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Identifying Critical Control Points

- Process #1 – No Cook:
  - The temperature must be recorded when the food is received and stored.
  - The CCP occurs during cold holding. During this time if temperature is not controlled properly, the temperature can reach the danger zone and over time become unfit for consumption.

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Identifying Critical Control Points

- Process #2 – Same Day Service:
  - Receive
  - Store
  - Prepare
  - CCP: Cook
  - CCP: Hot Hold
  - Serve

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Identifying Critical Control Points

- Process #2 – Same Day Service
  - Cooking to destroy bacteria and other pathogens
  - Hot holding or limiting time in the danger zone to prevent the outgrowth of spore-forming bacteria

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Critical Control Points

- Process #2 – Same Day Service:
  - Temperature must be recorded when food is received and stored.
  - CCPs occur when the food is cooked (165°F for 15 seconds) and held at hot holding temperature (135°F or above).

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Identifying Critical Control Points

- Process #3 – Complex Food Preparation:
  - Receive
  - Store
  - Prepare
  - CCP: Cook
  - CCP: Cool
  - CCP: Reheat
  - CCP: Hot Hold
  - Serve

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Identifying Critical Control Points

- Process #3 – Complex Food Preparation
  - Cooking to destroy bacteria and other pathogens
  - Cooling to prevent the outgrowth of spore-forming bacteria
  - Hot and cold holding or limiting time in the danger one to inhibit bacterial growth and toxin formation
  - Reheating for hot holding if applicable

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Identifying Critical Control Points

- Process #3 – Complex Food Preparation
  - Temperature must be recorded when food is received and stored.
  - CCPs occur when food is cooked (165°F for 15 secs), cooled (41°F or below) and served, or reheated (165°F for 15 seconds), and held (135°F or above).

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Identifying Critical Control Points

- It is very important to make sure that the temperature of the food passes through the danger zone as quickly as possible in order to control food safety hazards.
- Also make sure to follow all SOPs during the receiving, storing, preparing, and serving of the food.

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Documenting CCPs and Critical Limits

- You must document in writing all CCPs and critical limits for each Process Approach in your food safety program and in each site plan
- The CCPs for each of these processes will be the same for all menu items. However, the critical limits will vary depending on the menu item and recipe.

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Establishing Corrective Actions

- Corrective actions should be determined for all SOPs and CCPs.
- A list of these corrective actions must be included in your school food safety program.

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Corrective Action

- Establishing Corrective Actions
  - When a critical limit is not met, a corrective action must be carried out immediately.
  - A corrective action may be continuing to heat food to the required temp.
  - This may also include rejecting foods that were not delivered at the right temp. or discarding food that has been held without temp. control for too long.

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Corrective Action cont'd

- Your food safety program must include corrective actions.
- Employees must know what these corrective actions are, and be trained in making the right decisions.
- This is very important because this allows you to correct any problems that arise before they cause illness or injury.

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Corrective Action cont'd

- It is very important to document whenever corrective action is taken.
  - This will protect the school in the case of potential hazards being introduced
    - e.g. ensuring that the school has documentation that recalled hazardous foods were not served.

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Corrective Action Example

- SOP: If the temperature in the refrigerator is above 41°F, the equipment must be checked to see if it is working properly.
- Also, the thermometer that is used to record the temperature must be calibrated regularly and checked to ensure that it is working properly as well.

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Recordkeeping

- Recordkeeping is important because it provides proof that necessary actions and preparations are being practiced.
- Keep documentation as simple as possible to make it easy for employees to understand.
- This is very helpful in the event that your operation is accused of causing a food borne illness.

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Recordkeeping cont'd

- Records to keep include:
  - Records documenting the SOPs
  - Time and temperature monitoring records
  - Corrective action records
  - Calibration records
  - Training records
  - Receiving logs
  - Verification/Review records

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Program Review

- Review and Revise
  - Your overall food safety program should be reviewed and revised periodically.
  - This step ensures that the program is operating properly.
  - This should be done at least once a year but can be done as often as deemed necessary.

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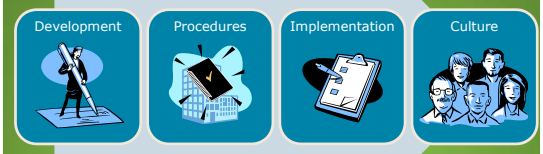
HACCP Basics



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Creating a Culture of Food Safety

- Characteristics of culture
  - Shared knowledge, beliefs, values, attitudes, meanings
  - A way of life
  - Pattern of behavior
  - Learned behavior of a group of people
  - Transferred from generation to generation

How to apply it To Food Safety?

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Food Safety Culture

- Traditional Approach: Command and Control
  - Regulation
  - Standard setting
  - Enforcement

VS.

- Safety Culture Approach
  - Maintain a behavior-based food safety management system
  - Integrates food science and behavioral science

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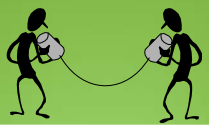
Behavior-based Food Safety Programs

- Strong leadership
- Founded on people
- Relies on strong partnerships
- Focuses on the 'why'
- Facilitates effective communication



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Culture

- The success of your food safety program depends upon the facility, equipment, and people associated with it.
  - Facilities and equipment should be reviewed to ensure that food is prepared properly.
  - Managers and employees need to be trained in order to reduce the risk of food borne illnesses.

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Getting Started

- You can develop your own food safety program based on HACCP principles by applying the principles in this guidance.
- The appendices in the HACCP guidance provide a variety of tools and resources including:
  - Recordkeeping logs
  - Checklists
  - Sample SOPs
  - Sample food safety plan

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Quiz

- What process approach category applies to each food item?
  - Fresh Fruit
  - Potato salad
  - Chili
  - Broccoli, cheese and rice casserole
  - Tuna salad sandwich
  - Green beans
  - Cheeseburger

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Quiz

- What process approach category applies to each food item?
  - Fresh Fruit - 1
  - Potato salad - 3
  - Chili – 2/3
  - Broccoli, cheese, rice casserole – 2/3
  - Tuna salad sandwich - 1
  - Green beans (cooked) – 2/3
  - Cheeseburger – 2/3

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Quiz

- Chicken nuggets were served for lunch on Tuesday and the leftovers were served on Wednesday. After lunch on Wednesday there were no chicken nuggets left. How many times did the temperature of the chicken nuggets cross through the danger zone?

59

Quiz

- Chicken nuggets were served for lunch on Tuesday and the leftovers were served on Wednesday. After lunch on Wednesday there were no chicken nuggets left. How many times did the temperature of the chicken nuggets cross through the danger zone?
  - 3 Times

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Quiz

- What is the proper holding temperature for cold holding?

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Quiz

- What is the proper holding temperature for cold holding?
  - 41°F or below

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Quiz

- How long should the internal temperature of a menu item be held at 165°F in order to be considered done?

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Quiz

- How long should the internal temperature of a menu item be held at 165°F in order to be considered done?
  - At least 15 seconds

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Resources

The HACCP guidance and Missouri Food Code 2013 are available on the Food and Nutrition Services website:

http://dese.mo.gov/financial-admin-services/food-nutrition-services/food-safetyhaccp

You may also find Food Safety resources on the USDA Food and Nutrition Service website:

http://www.fns.usda.gov/food-safety/food-safety-resources

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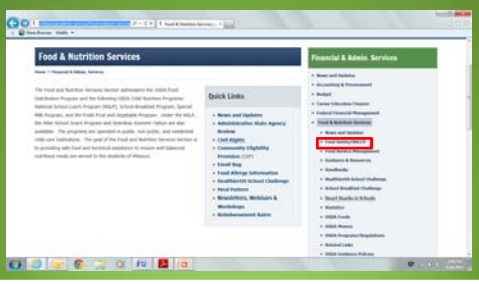
Resources



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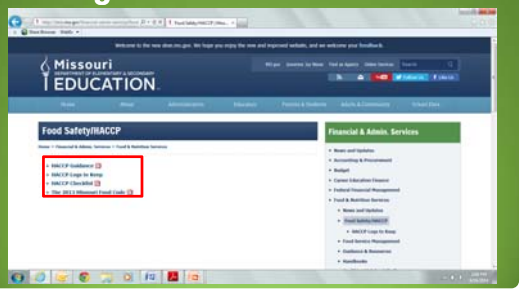
Getting Started



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Resources

Standard Operating Procedures:

- **National Food Service Management Institute website:** http://sop.nfsmi.org/sop_list.php

Posters available from:

- **Center of Excellence for Food Safety Research in Child Nutrition Programs:** http://cnsafefood.k-state.edu/resources/food-safety-posters/
- **Food and Drug Administration:** http://www.fda.gov/Food/GuidanceRegulation/RetailFoodProtection/IndustryandRegulatoryAssistanceandTrainingResources/ucm212661.htm#posters

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