Food Safety Education
for Residential Child Care Institutions

Food Safety Basics
Staff Training

THE
UNIVERSITY
OF RHODE ISLAND

Food Safety Education
for Residential Child Care Institutions

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Introduction

Project Background

The National School Lunch Program (NSLP) is a federally assisted meal program that operates in public and non-profit private schools and Residential Child Care Institutions (RCCI) that provides nutritionally balanced low-cost or free breakfasts, lunches, and after school snacks. While the Food and Nutrition Service (FNS) branch of the USDA administers the program at the Federal level, State education agencies administer the program at the State level through agreements with the local or district level school food authorities. In 2004, the Child Nutrition and WIC Reauthorization Act amended the National School Lunch Act by requiring the state school food authorities, to implement a Hazard Analysis Critical Control Point (HACCP) based food safety program for the preparation and service of meals served during the school year beginning July 1, 2005, for all institutions that participate in either the NSLP or School Breakfast Programs (SBP). The Act also required schools participating in these meal programs to undergo a minimum of two health inspections each year with State standards, such as the Food Code, used to guide the inspection process. As of January 14, 2010, the Food and Nutrition Service implemented the final rule which codifies the requirements regarding schools food safety program based on HACCP principles (7 CFR Parts 210 and 220). Since all NSLP and SBP recipients must comply with the food safety requirements, this new reauthorization requirement not only impacts public and private school based foodservice operations but also Residential Child Care Institutions (RCCI) that participate in these programs.

In an effort to help RCCIs successfully comply with the Federal requirement for a HACCP-based food safety plan at all locations serving food under the NSLP and/or the SBP programs, in 2007 food safety experts at the Universities of Rhode Island and Massachusetts received CSREES/USDA funding to design and pilot test a hands-on instructional program for personnel and residents at RCCI facilities.

Project Goal

The overall goal of this project was to train and assist Residential Child Care Institution personnel to develop and implement a HACCP-based food safety plan as required by the Section 111 of the Child Nutrition and WIC Reauthorization Act of 2004 (Public Law 108-265). Special emphasis was directed to smaller RCCI facilities of 20 residents or less.

12/11

Overview of Food Safety Basics RCCI Staff Training

The food safety information and resources presented in this staff training program are focused on two concepts: 1. *Fight BAC!/Be Food Safe* and 2. Hazard Analysis Critical Control Point (HACCP). *Fight BAC!/ Be Food Safe* are national food safety campaigns designed to educate consumers about four food safety principles: Clean, Separate, Cook, and Chill. HACCP is a food safety management system that focuses on product preparation and production to reduce food safety hazards. The process approach to HACCP is utilized in this RCCI staff training.

The materials and resources presented in this staff training program reflect food safety principles applicable to a food-service environment. The temperatures, handwashing time and cooling times included are based on the current FDA Model Food Code. A copy of the current FDA Model Food Code may be found at: http://www.fda.gov/Food/FoodSafety/RetailFoodProtection/FoodCode/FoodCode2009/. Check with the local/ state health regulatory authority concerning regulations relating to the operation of food service operations in your community.

The training is divided into 3 modules:

Module 1 and Module 2 are general food safety staff training. **Module 1** focuses on the cause and prevention of food-borne illness using the four *Fight BAC!/Be Food Safe* principles: Clean, Separate, Cook, and Chill. **Module 2** focuses on the development of a food safety plan using process Hazard Analysis Critical Control Points (HACCP). Participant activities with charts and fact sheets necessary to complete them are located in the training manual.

Module 3 focuses on the contents of the food safety plan. Included in this module are sample documents and data collection forms that are required for the completion and implementation of the food safety plan.

The **Appendicies** include information and resources on using the 15 minute *Food Safety Smart* video with RCCI residents, a series of fact sheets which complement the food safety principles addressed in each of the modules, and data collection forms that support the development and implementation of the food safety plan.

Acknowledgements

Residential Childcare Facilities in Pilot Project

Food Safety Basics

Activity 1:
Assess Menus for Food Safety Hazards, 1-12

Activity 2:
Go With the Flow to Keep Food Safe, 1-29

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Food Safety Basics for Residential Child Care Institutions (RCCI)

Staff Training: Module 1

Funded by CSREES/USDA Project 2007-51110-03816

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Food Safety Basics for Residential Child Care Institutions (RCCI)

Introduction

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Food Safety Education:
RCCI Staff

- **USDA funded project**
- **Multistate Development**
  - **Rhode Island**
    - University of Rhode Island
    - RI Department of Education
  - **Massachusetts**
    - University of Massachusetts
    - MA Department Elementary and Secondary Education

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Why now?

FEDERAL MANDATE

➤ Child Nutrition Act of 2004 requires school foodservice authorities to implement a food safety program beginning July 1,2005 and fully implemented by the end of the 2005/2006 school year. Final rule: 1/14/2010.

➤ Includes any agency participating in the National School Lunch and Breakfast Programs such as Residential Child Care Institutions (RCCI)

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Why now?

FEDERAL MANDATE

➤Food safety program to be based on Hazard Analysis Critical Control Points (HACCP) and conforms to guidance issued by USDA

➤ Requires two inspections by local health regulatory agency each year

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After this program you will be able to…

▪ Understand food safety principles

▪ Develop a written food safety plan

▪ Implement food safety HACCP plan

▪ Comply with USDA regulations

HACCP PLAN   USDA

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Training program

Module 1
- Cause and prevention of foodborne illness
- Strategies to reduce the risk of foodborne illness

Module 2
- Components of an effective Food Safety Plan (HACCP)
- Components of effective Standard Operating Procedures (SOP's)

Module 3
- Developing a HACCP-based Food Safety Plan and SOP's
- Implementing monitoring strategies
- Using HACCP /food safety resources

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Results of on-site pre-audits

Ten RCCI's evaluated: 5 RI, 5 MA

Common microbiological contaminated areas in kitchen:
- **Refrigerator/freezer – shelfs, drawers**
  (cold storage areas)
- **Preparation areas/cutting boards**
- **Handles – sink, refrigerator, microwave keypad etc.**

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Results of on-site pre-audits

Common deficiencies in inspection reports:
- No Food Safety Plans
- No Standard Operating Procedures (SOP)
- Lack of internal temperature monitoring of food and lack of thermometer calibration
- No records for proper re-heating
- Lack of wrapping and dating – impacts FIFO
- No refrigerator/freezer records for temperature monitoring
- Food storage problems
- No MSDS
- Lack of monitoring sanitizer strength: no test strips

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Food Safety Basics

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You won't spot unsafe food by using your senses

Sight

Smell

Taste

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Foodborne Illness: Symptoms

- Nausea
- Vomiting
- Diarrhea
- Headache
- Fever

A "tiny taste" will not protect you …

… as few as 10-100 bacteria or viruses could make you sick!

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Foodborne Illness: People at Greatest Risk

Infants & Children

Pregnant women

Elderly

People with weakened immune systems

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Foodborne Illness: Dangers

- **Cases:** **48 million per year***
- **Hospital:** **127,000 per year**
- **Deaths:** **3,000 per year**
- **Cost:** **Billions per year**

* Scallan E. and others. 2011. Foodborne illness aquired in the US – unspecified agents.
   www.cdc.gov/EID/content/17/1/pdfs/09-1101p2.pdf
Scallan E. and others. 2011. Foodborne illness aquired in the US – major pathogens.
   www.cdc.gov/EID/content/17/1/pdfs/09-1101p1.pdf

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Foodborne Illness: Food Safety Hazards:

Biological	**Chemical**	**Physical**
Parasites	Allergens	Plastic Glass Metal
Viruses	Pesticides Sanitizers Lubricants	Wood Bandages
Bacteria		Jewelry and other personal items

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Biological Food Safety Hazards:
What are the differences?

➢ **Bacteria**

Salmonella spp.

Norwalk virus

➢ **Viruses**

➢ **Parasites**

Cryptosporidium parvum

➢ **Fungi**

(yeast and mold)

Penicillium spp.

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Sources of Biological Contamination

▪ **Animals**

▪ **People**

▪ **Environment**

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Source of pathogenic or harmful bacteria/viruses

Animal/human intestinal tract
▪ *Salmonella*
▪ *E.coli* O157:H7

Human
▪ *Shigella*
▪ **Hepatitis A virus**
▪ **Norovirus**
▪ *Staphylococcus*

Environment
▪ *Listeria*
▪ *Clostridium*
▪ *E.coli* O157:H7

Water
▪ **Most of the above**

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Foodborne Illness:
Most likely sources

- **Potentially Hazardous Foods***

- **Ready to Eat Foods**

* Time/Temperature Control for Safety Foods (TCS-Food)

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Viruses

- Need suitable host in which to grow

- Does not require food, air, water to survive

- Spread via poor hygiene - fecal/oral

- Infect living cells, reproduce inside host cell

- Do not cause spoilage

- Survive in human intestines, water or food for months

- Heat resistant
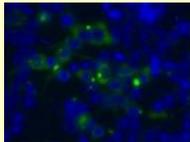
Norwalk virus

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To Grow, Bacteria Need: FAT TOM

- **Food**
- **Acidity**
- **Time to grow**
- **Temperature**
- **Oxygen**
- **Moisture**

E. Coli 0157:H7

Not all bacteria are created equal - different bacteria have different requirements

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Food

- Protein
- Carbohydrates
- Minerals
- Vitamins

Everything we eat

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Acidity

- Acidity measurement = pH
- Low pH values = high amount of acidity
- pH 7.0 - Neutral
- Bacteria can grow between pH 4.6 and pH 9.0
- Pathogens grow best between pH 4.6 and pH 7.5. It depends on the pathogen.

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Acidity

Acid	Alkaline
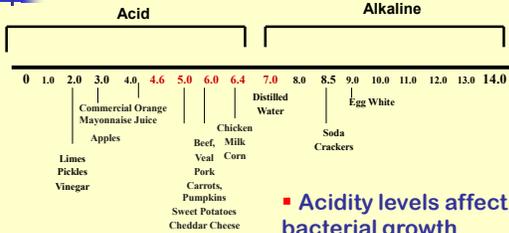
0 1.0 2.0 3.0 4.0 4.6 5.0 6.0 6.4 7.0 8.0 8.5 9.0 10.0 11.0 12.0 13.0 14.0

Commercial Orange
Mayonnaise Juice

Distilled
Water

Egg White

Apples

Beef, Milk
Veal Corn
Pork

Chicken

Soda
Crackers

Limes
Pickles
Vinegar

Carrots,
Pumpkins
Sweet Potatoes
Cheddar Cheese

- Acidity levels affect bacterial growth

- Different bacteria, different acid tolerance

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The Right Temperature

135 ° F

"Danger Zone"

41 °F

Temperatures based on current FDA
Food Code/USDA Guidance.

State regulations may differ.

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Bacteria Growth
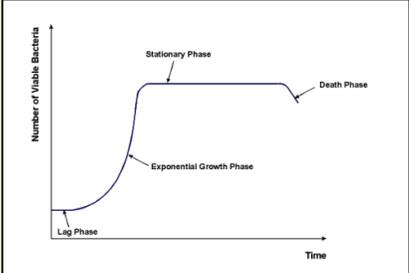
Number of Viable Bacteria

Stationary Phase

Death Phase

Exponential Growth Phase

Lag Phase

Time

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Time and Temperature
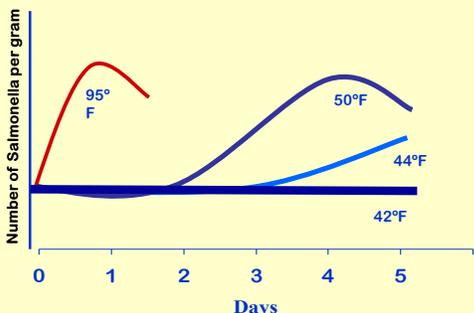
Number of Salmonella per gram

95°
F

50°F

44°F

42°F

0   1   2   3   4   5

Days

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Oxygen

- **Three groups of bacteria**
  - **Some must have oxygen to grow**
  - **Some can grow with or without oxygen**
  - **Some can only grow without oxygen**

- **Many harmful bacteria "swing" either way**

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Moisture

Water Activity

Minimum needed for bacteria to grow

Cocoa **Dried fruit** **Fresh and canned Fruits and vegetables**

0   0.1   0.2   0.3   0.4   0.5   0.6 0.67   0.7 0.75 0.8 0.85 0.9 0.92 0.95 0.98   1.0

Dry Egg Noodles Crackers **Jams & Jellies** **Meats, Fish Poultry**

Dried Whole Milk **Distilled Water**

Sugar **Flours Candy** **Potentially Hazardous Foods**
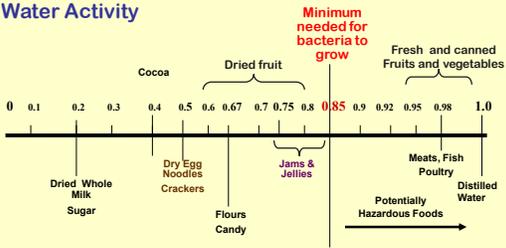
29

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How do bacteria grow?

- **If the right conditions exist (FAT TOM), bacteria will grow very quickly – doubling every 20 minutes or faster.**
- **One bacteria can multiply to more than 30,000 in 5 hours or millions in just 8 hours**

Bacterial Growth Curve
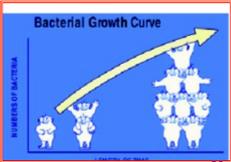
30

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Potentially Hazardous Foods (TCS-Food) are:

Foods that support the growth of pathogenic microorganisms are usually high protein, high moisture and/or low in acid such as:

- Raw or cooked meat
- Cooked vegetables
- Cooked pasta, beans and rice
- Other foods that have history of foodborne illness

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Food Safety Basics:
Activity 1

Menu assessment:

- Examine your group menu set (all available menus/recipes)
- Identify and list five (5) potentially hazardous foods (TCS-Food) among foods used in your group menu set
- Using the Microbiological Foodborne Illness Chart, found in the Appendix, identify the pathogen(s) associated with each food and potential sources of contamination for each food

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Assess Your Menu
for Food Safety Hazards

Instructions

1. In your working group:
    1. Select a group leader, note taker, and spokesperson.
    2. Select a menu from among the available set for your group.
2. Look at your menu. Find five potentially hazardous foods (TCS Foods) and list them in the first column. Information about TCS Foods can be found on page A-21.
3. Use the *Microbiological Foodborne Illness Chart* found on page A-18 to identify one (1) pathogen most commonly found in the food you listed in the first column. Write the name of the pathogen in the second column.
4. In the third column, list at least five potential sources of contamination for each food.
5. Report back to the group for discussion and comments.

Food	Pathogen	Potential Source(s) of Biological Contamination

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Food Safety Basics

Food safety practices to reduce the risk of foodborne illness

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Food Safety Basics: Goals

- **Prevent contamination**
  - ➢ **Practice good personal hygiene**
  - ➢ **Clean and sanitize**
  - ➢ **Separate, don't cross-contaminate**
- **Prevent/Eliminate microbial growth**
  - ➢ **Practice the four food safety principles**

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Food Safety Basics: Goals

- **Prevent contamination**
  - ➢ **Practice good personal hygiene**
  - ➢ **Clean and sanitize**
  - ➢ **Separate, don't cross-contaminate**
- **Prevent/Eliminate microbial growth**
  - ➢ **Practice the four food safety principles**

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Food Safety Basics - Clean

- Pathogenic or harmful bacteria can spread throughout the kitchen and get on hands, cutting boards, knives and countertops.

- Cleaning can keep that from happening

be food safe.

clean
wash hands & surfaces often

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Food Safety Basics - Clean

Wash hands

- Before handling food
- After using the bathroom
- Between tasks
- After eating or drinking
- Before putting on single use, disposable gloves

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Food Safety Basics - Clean

WASH hands with warm water and soap for 20 seconds before and after handling food

- Wet hands
- Apply soap
- Scrub thoroughly
- Rinse
- Dry

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Food Safety Basics - Clean

WASH food preparation utensils/equipment:

- in hot soapy water and rinse with hot water

- or wash in the dishwasher

- after preparing each food item and before you use it for the next food.

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Food Safety Basics - Clean

WASH countertops with hot soapy water and rinse after preparing each food item and before preparing the next food.

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Food Safety Basics - Clean

RINSE fruits and vegetables under running tap water, including those with skins and rinds that are not eaten.

SCRUB fruits with rinds with a brush under running water

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Food Safety Basics – Clean **and** Sanitize
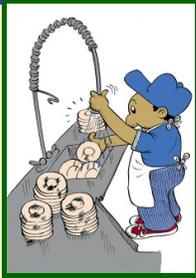
Cleaning **and** sanitizing food preparation equipment and utensils is an important part of keeping food safe

Dishwashing

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What is the difference between cleaning and sanitizing?

Clean:
Physical removal of soil and food residues from the surfaces of equipment and utensils.

Sanitize:
Treatment of cleaned surfaces with a sanitizer or high heat to eliminate or reduce the number of harmful microorganisms to a safe level.

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Food Safety Basics – Clean **and** Sanitize

- Food-contact surfaces must be thoroughly cleaned prior to sanitizing
- Sanitizers do not work well on dirty surfaces
- Remember to use new paper towels or clean cloths to wipe spills and clean areas

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Food Safety Basics –
Clean and Sanitize

Sanitize with chemicals:
- **Chlorine, commonly used**
- **Others (Quats, Iodine)**
- **Household, scented, sanitizers not acceptable**
- **Verify concentrations using appropriate test kits/strips**

Note: **Material Safety Data Sheets (MSDS) are required, on-site, for chemicals used.**

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Measuring sanitizer strength

- **Test strips**
- **Chlorine: 50 – 200 ppm**
- **Quats: 200 – 400 ppm**
- **More is NOT better.**
- **More or less is NOT allowed**

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Food Safety Basics –
Clean and Sanitize

Sanitize with heat:
- **Dishwasher: 165°F**
  - **Varies with dishwasher type**
- **Verify temperatures**

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**Food Safety Basics –
Clean and Sanitize: 4 Steps**

- **Wash** hot soapy water
- **Rinse** hot water
- **Sanitize**
- **Air Dry**

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Food Safety Basics - Separate

Cross-contamination occurs when pathogenic bacteria are passed from one food or object to another

be food safe.

separate
don't cross contaminate

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Food Safety Basics - Separate

For example, when tomatoes are cut on the same cutting board as raw chicken without the cutting board being properly cleaned and sanitized **cross-contamination** occurs

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Food Safety Basics - Separate

**Harmful bacteria can
be transferred by**

- People
- Equipment
- Utensils
- Other foods
- Pests

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Food Safety Basics - Separate

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 food.

USE one cutting board for raw meat, poultry
and seafood and another for salads and ready-
to-eat food

STORE raw meat, poultry, and seafood in a
container or on a plate so juices can't drip on
other foods.

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Food Safety Basics - Separate

When shopping, keep
raw meat, poultry,
seafood and their
juices apart from
other, ready to eat, or
unpackaged food
items in your grocery
cart

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Food Safety Basics

To prevent microbial growth:

Keep it Hot,
Keep it Cold,
or
Don't Keep It!!!
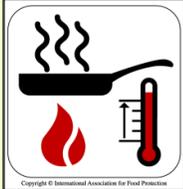
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Food Safety Basics - Cook

Thorough **cooking and reheating** food to the right temperature is essential to destroy harmful microorganisms that could cause foodborne illness.

be food safe.

cook
cook to safe temperature

55

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Food Safety Basics - Cook

Food is **SAFELY COOKED** when it reaches a high enough internal temperature to kill the pathogenic bacteria that cause illness.

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Food Safety Basics - Cook

Keeping foods above 135ºF will:
- Prevent growth of microorganisms
- Destroy harmful microorganisms

Keeping foods below 41ºF will:
- Prevent or slow down the growth of bacteria.

Temperatures based on current FDA Food Code/USDA Guidance. State regulations may differ.

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Food Safety Basics - Cook

Food has potential to cause illness if:

- It is exposed to temperatures in the danger zone 41ºF-135ºF for more than 4 hours

- It is not cooked or reheated sufficiently to destroy harmful microorganisms.

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Food Safety Basics - Cook

USING a food thermometer is the only way to ensure that food is thoroughly cooked

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Food Safety Basics - Cook

The range of safe cooking temperatures can vary from:

145ºF

To

165ºF

60

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Food Safety Basics - Cook

Safe Cooking Temperatures

- Ground Meat & Meat Mixtures   155° F *
- Poultry (Chicken & Turkey)   165° F *
- Egg Dishes   145° F *
- Fish   145° F *
- Casseroles and Leftovers   165°F *

* All for at least 15 seconds

Temperatures based on current FDA Food Code/USDA Guidance. State regulations may differ.

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Food Safety Basics - Cook

- **ROTATE** and **STIR** food cooked in the microwave midway during cooking due to cold spots
- **Final** internal temperature :165ºF
- **Stand** 2 minutes

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Food Safety Basics - Chill

- Pathogenic bacteria multiply rapidly at temperatures between 41°F and 135 °F

- Keeping foods cold is the most effective way to reduce the risk of foodborne illness.

be food safe.

40°

chill
refrigerate promptly

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Food Safety Basics - Chill

Pass foods through the temperature danger zone quickly and as few times as possible!
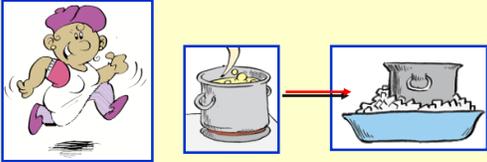
64

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Food Safety Basics - Chill

Two step process – total 6 hours:

Step 1: 135ºF to 70ºF within 2 hours

Step 2: 70ºF to 41ºF or less within 4 hours

Note: If Step 1 takes less then 2 hours, the complete cooling process still can be completed in 6 hours

Cooling temperature process based on current FDA Food Code/USDA Guidance. State regulations may differ.

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Food Safety Basics - Chill

CHILL leftovers within 4 hours

KEEP the refrigerator at 41 °F or below

USE a refrigerator thermometer

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Food Safety Basics - Chill

- The temperature of a refrigerator: 41°F or below.
- Place a thermometer on a middle shelf at the rear of the unit
- Check often and record at least 2 times/day

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Food Safety Basics - Chill

THAW frozen meat, poultry, and seafood in the refrigerator on a shelf below ready-to-eat foods and fresh produce.

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Food Safety Basics - Chill

Other ways to thaw:

Submerged under cool running water

In a microwave for food cooked immediately

As part of the cooking process

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Food Safety Basics - Chill

How long would it take to cool this large stockpot of thick beef stew in a refrigerator at 41°F?

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Food Safety Basics - Chill

It would take 6 days to cool the beef stew in this large pot to 41°F!

Temperature (°F)
160
150
140
120
100
80
60
40

16"
16"

41°F

1   2   3   4   5   **Day 6**
Time (Days)

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Food Safety Basics - Keep Pests out of the Kitchen

No pests in the foodservice or kitchen area

Foodborne illnesses may be passed on by pests like rodents, flies and cockroaches and their droppings and urine

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What happens when a fly lands on your food ?

- Flies can't eat solid food, so to soften it up, they vomit on it

- Then they stamp the vomit in until it's liquid, usually stamping in a few germs for good measure

- Then, when it's good and runny, they suck it all back again, probably dropping some excrement at the same time

- And then, when they've finish eating, it's your turn

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Food Safety Basics: Follow Flow of Food

- Purchasing
- Receiving
- Storage
- Preparation
- Cooking
- Holding/Serving
- Cooling/Storage
- Reheating

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FIFO

- **First In First Out: Dry and Cold**
  - **Storing**
  - **Wrapping/Covering**
  - **Labeling**
  - **Dating**
  - **Rotating**
- **Food Storage Times – Dry and Cold**
  - **University of Kentucky handout**

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Recipes Wanted

- **Do you have written recipes?**
- **You need them!**
  - **Uniform production**
  - **Used during Food Safety Plan assessments**

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Recipe Sources

- http://www.allrecipes.com
- http://www.fns.usda.gov/fdd/recipes/ schrecipes.htm
- http://www.fns.usda.gov/tn/Resources/ usda_recipes.html
- http://www.nfsmi.org/ResourceOverview. aspx?ID=115

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Food Safety Basics:
Activity 2

Determine food safety measures that can be applied at various steps in the flow of food in order to prevent, eliminate or control food safety hazards

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Food Safety Basics Module 1
Go With the Flow
to Keep Food Safe

Instructions

1. In your working group:
    1. Select a group leader, note taker, and spokesperson.
    2. Choose one (1) food item from the Menu Assessment (Activity 1, pp 1-1 to 1-12).
2. Write the name of the food item you have chosen at the top the chart.
3. Describe the food safety measures you would use to keep food safe, including preventing, eliminating, or controlling biological hazards at each stage in the flow of food.
4. Next, list the food safety measures that can be applied at each stage in the flow of food to prevent the food from becoming unsafe. For example:
    • control time-temperature abuse
    • prevent cross-contamination
5. Report back to the group for discussion and comments

Food: _____

	Food safety measures to prevent food from becoming unsafe
Purchasing	
Receiving	
Storage	
Preparation	
Cooking	
Holding/Serving	
Cooling/Storage	
Reheating	

Stages in the Flow of Food

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Homework

- Bring Menu and recipes
- Bring Facility Equipment List
  - If don't have one, take a look and list
- Bring staff training notebook to the next session

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Resources for Illustrations

1. International Association for Food Protection http://www.foodprotection.org/aboutIAFP/SafetyIcons.asp
2. National Registry of Food Safety Professionals, Essentials of Food Safety & Sanitation, 2004
3. Partnership for Food Safety Education. Be Food Safe. http://www.befoodsafe.gov

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Food Safety Basics Module 1

Please take a moment to complete this evaluation. *We are interested in your thoughts on today's presentation.*	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1. Information was presented in a clear, organized manner.	____	____	____	____	____
2. Presenters were organized and well prepared.	____	____	____	____	____
3. Handouts and materials are relevant to the information presented.	____	____	____	____	____
4. Important points were reviewed and emphasized.	____	____	____	____	____
5. Group Participation and questions were encouraged.	____	____	____	____	____
6. Questions were answered sufficiently.	____	____	____	____	____
7. Handouts will be useful.	____	____	____	____	____
8. Food safety principles are understood.					

9. What did you like most and/or least about today's sessions?

_____

_____

_____

_____

_____

10. What new information did you learn today?

_____

_____

_____

_____

_____

11. What could presenters do differently to deliver this information more effectively?

_____

_____

_____

_____

_____

Developing a Food Safety Plan

1

Food Safety Basics for Residential Child Care Institutions (RCCI)

Staff Training:

Module 2

Funded by CSREES/USDA Project 2007-51110-03816

1

2

Food Safety Basics for Residential Child Care Institutions (RCCI)

Developing a Written Food Safety Plan

2

3

FEDERAL MANDATE

➤ Child Nutrition Act of 2004 requires school foodservice authorities to implement a food safety program beginning July 1,2005 and fully implemented by the end of the 2005/2006 school year. Final rule: 1/14/2010.

➤ Includes any agency participating in the National School Lunch and Breakfast Programs such as Residential Child Care Institutions (RCCI)

3

4

Training program

Module 1
- Cause and prevention of foodborne illness
- Strategies to reduce the risk of foodborne illness

Module 2
- Components of effective Standard Operating Procedures (SOP's)
- Components of an effective Food Safety Plan (HACCP)

Module 3
- Developing a HACCP-based Food Safety Plan and SOP's
- Implementing monitoring strategies
- Using HACCP /food safety resources

4

5

Getting Started:
Purpose of a Food Safety Plan

Control of food safety hazards:

- From receiving of ingredients to serving and storing food

- Throughout the food service environment - personal hygiene, sanitation, cross-contamination, pests etc.

5

6

Getting Started:
Fundamentals of the Program

Two parts to a food safety program:

- Standard Operating Procedures (SOP's)

- Process Approach to HACCP

6

7

Let's Review: FAT TOM

- **What does bacteria need to grow?**
  - Food
  - Acidity
  - Time to grow
  - Temperature
  - Oxygen
  - Moisture

Illness

an (HACCP)
ng

Module 3
- **Developing a HACCP-based Food Safety Plan and SOP's**
- **Implementing monitoring strategies**
- **Using HACCP /food safety resources**

7

8

Let's Review:
Four Food Safety Principles

- **Clean**
- **Separate**
- **Cook**
- **Chill**

be food safe.

clean. separate.
cook. chill.

8

9

Step 1: Getting Started on a Food Safety Plan

Describe the Foodservice Operation

9

10

Getting Started on a Food Safety Plan

- Describe Facility/Equipment
- Describe Employees
- Describe Residents role
- Review current food preparation activities
- Review current food safety practices

11

Facility/Equipment

- Describe facility (e.g. central kitchen, self preparation, satellite)
- Average number of meals served – breakfast, lunch, dinner
- Inventory of food preparation equipment

11

12

Employees/Residents

- Number of employees/residents at each site and their responsibilities
- Records of employee/residents training, topics, attendees
- Any documentation required by state/local health regulatory authority (e.g. food safety manager certification, employee illness reporting agreements)

12

13

Current Food Preparation Activities

- **Assemble and organize menus and recipes**

13

14

Recipes Wanted - Reminder

- **Do you have written recipes?**
- **You need them!**
  - **Uniform production**
  - **Used during Food Safety Plan assessments**

14

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Recipe Sources - Reminder

- **http://www.allrecipes.com**
- **http://www.fns.usda.gov/fdd/recipes/ schrecipes.htm**
- **http://www.fns.usda.gov/tn/Resources/ usda_recipes.html**
- **http://www.nfsmi.org/ResourceOverview. aspx?ID=115**

15

16

Current Food Safety Practices: What is in place?

- Are there any food safety-related records?
- Are there any written food safety policies?
- Are there any written purchasing policies?
- What are the standard operating procedures related to food safety for the facility? Are they written?
- Is there a food safety plan? Is this written?

16

17

Step 2: Implementing a Food Safety Program

Developing and Implementing Standard Operating Procedures (SOP's)

17

18

What are SOP's?

- Practices that support process HACCP and help reduce food safety hazards

- Based on food safety guidance or regulation

- In place before HACCP can be effective

- Non-specific and specific SOP's

- Foundation for employee food safety training

18

19

SOP's: Non-specific or Facility-Wide

- Written instruction for operations that impact the foodservice environment regardless of product or preparation
  - Examples of topics for SOP's
    - Personnel hygiene
    - Cleaning and sanitizing
    - Pest control
    - Preventing cross-contamination
    - Calibration of thermometers
    - Date-marking
    - Storing and labeling chemicals
    - Receiving deliveries

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SOP's: Specific

- General written instructions for the different food preparation processes
  - Not specific menu items
  - Includes written procedures for monitoring and corrections
  - Examples of topics for SOP's
    - Cooking potentially hazardous food *
    - Cooling potentially hazardous food *
    - Hot and cold holding
    - Reheating
    - Transporting food to satellite sites

* TCS - Food

be food safe.

cook
cook to safe temperature

20

21

Format for Written SOP's

- Purpose
- Instructions
- Monitoring
- Corrections
- Verification/Records
- Date implemented and by whom
- Date reviewed and by whom
- Date revised (if necessary), reviewed and by whom
  - Signatures

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22

Group Activity 1

- Description of facility
- Required SOP's
- Checklist

22

Food Safety Basics Module 2
Description of the Facility

Overview/Description

_____   _____   _____
Date developed   Foodservice Director   Facility

The program follows the USDA guidance on developing a food safety program based on the Process Approach to HACCP.

Average Daily Participation

_____   _____   _____
Breakfasts   Lunches   Dinners

Foodservice Staff

_____   _____   _____
Manager/Supervisor   Baker   Dish washer

_____   _____   _____
Line worker   Server   Driver

_____
Other

Kitched Equipment

Food Preparation Equipment

❐ Mixer   ❐ Toaster   ❐ Slicer
❐ Electric can opener   ❐ Food processor/Blender   ❐ Other (list)_____

Cooking Equipment

❐ Range/oven   ❐ Grill   ❐ Other (list)
❐ Microwave oven   ❐ Crock pot   _____
❐ Electric fry pan   ❐ Other (list)   _____

Small Wares

❐ Knives   ❐ Serving utensiles

Refrigeration

❐ Refrigerator and freezer   ❐ Ice machine, Ice storage bin, Ice dispenser
❐ Milk dispensers   ❐ Other (list)_____
❐ Beverage dispenser   _____

Other

❐ Dishasher   ❐ Garbage disposal
❐ Trash compactor   ❐ Trash barrels
and can crusher

Menu

❐ Week/Month Cycle with recipes/instructions in notebook in manager's office

Food Safety Basics Module 2

Required Standard Operating Procedures Checklist

(Check all that currently apply)

Standard Operating Procedure (SOP)	Policy is in Place	Policy is not in Place	Don't Know
1. General Food Safety Practices			
a. Personal Hygiene e.g. Washing Hands			
b. Calibrating a Thermometer (Check fo Accuracy)			
c. Operating Without Power			
d. Operating Without Hot Water			
e. Storing and Using Chemicals			
f. Implementing an Employee Health Policy			
g. Practicing first-in-first-out (FIFO) Product Rotation			
h. Preventing Cross-Contamination			
2. The Flow of Food			
a. Purchasing Food from Reputable Vendors			
b. Receiving Deliveries			
c. Storing Food in Appropriate Storage Containers and Keeping Food Covered At All Times during Storage			
d. Washing Fresh Fruits and Vegetables			
e. Thawing Food Properly			
f. Cooking Potentially Hazardous Foods (TCS Foods)			
g. Cooling Potentially Hazardous Foods (TCS Foods)			
h. Labeling and Date Marking Ready-to-Eat, Potentially Hazardous Foods (TCS Foods)			
i. Holding Cold and Hot Potentially Hazardous Foods (TCS Foods)			
j. Reheating Potentially Hazardous Foods (TCS Foods)			
k. Handling Ready-to-Eat Foods e.g. Preventing Bare Hand Contact with Ready-to-Eat Foods			
l. Transporting Food			

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Step 3: Implementing a Food Safety Plan

Developing and Implementing the Process HACCP Approach

24

Hazard Analysis and Critical Control Point (HACCP)

HACCP

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HACCP Purpose: Food Safety Management

Control/prevent/minimize food safety hazards that may cause illness or injury:

- **Biological:** bacteria, viruses, parasites
- **Chemical:** compounds causing illness either immediately or from long-term exposure
- **Physical:** foreign objects like metal or glass

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The HACCP System: A Food Safety Management Tool

- Focuses on factors that cause foodborne illness
- Analyzes potential hazards
- Determines critical points in process that assures food safety
- Develops monitoring procedures to confirm safety control

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HACCP is NOT:

- Crisis management
- About quality
  - Quality issues do not mean safety problems
  - Safety issues could be present without clear quality indicators

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HACCP DOES:

- Emphasize process control
- Concentrate on the points in the process that are critical to the safety of the product
- Work to prevent rather then react
- Minimize risk and maximize safety

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STEPS IN DEVELOPING A HACCP PLAN

Step 1
Step 2
Step 3…
HACCP

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1) **Conduct** hazard analysis and identify prevention or control measures

2) **Identify** critical control points (CCPs)

3) **Determine** critical limits (CL)

4) **Monitor** each critical control point/process step

5) **Establish** corrective action with a critical limit deviation

6) **Verify** that the food safety plan is working

7) **Recordkeeping** for critical control points, corrective action and verification

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HACCP

Risk Assessment = Evaluation
- **Hazard Analysis**

Risk Management = Control
- **Critical Control Points**
- **Critical Limits**
- **Monitoring**
- **Corrective Action**
- **Verification**
- **Recordkeeping**

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What is Process HACCP?

- **HACCP:** Food safety management system that focuses on product, preparation and production to reduce food safety hazards

- **Process HACCP:** Basic HACCP principles that are modified for foodservice operations

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STEPS IN DEVELOPING A PROCESS HACCP PLAN

Step 1
Step 2
Step 3…
HACCP

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Process HACCP for Foodservice

- **Assessment (Hazard Analysis)**
  - Menu review and group by Process
  - Identify control measures
- **Identifying Critical Control Points (CCP)**
- **Identifying Critical Limits (CL)**
- **Monitoring Critical Control Points**
- **Recordkeeping**
- **Review**

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Getting Started

Beginning risk assessment
Procedural Step #1

Group menu items into one (1) of three (3) preparation processes that reflects trips through the "temperature danger zone". This will begin to group hazards.

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Categorize Menu Items

Trips Through the Danger Zone

135 º F

First   Second   Third

41º F

[1]No Cook Step   COOK   COOL   REHEAT

[2]Same Day Service   [3]Complex Food Prep

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Food Preparation Action Plan

Review menu items and sort by process

Process I No Cook	Process II Cook & Serve Same Day	Process III Complex Food Preparation

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Flow charts

Diagrams that show step-by-step progression of food preparation

- Will help to group menu items
- May help develop SOP's (prerequisite programs) common to recipes
- Will help identify food flow in recipe/prep procedures into **major operational steps**
  - ➢ Receiving, storing, preparing, cooking, holding etc.

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Examples of Major Operational Steps Used for Flow Charts

- Receiving
- Storing
- Preparing
- Cooking
- Cooling
- Assembling
- Reheating
- Holding
- Serving   FDA, Managing Retail Food Safety. FD 2015

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Process 1:
Food Preparation with No Cook Step

Receive → Store → Prepare → Cold Hold → → Serve

Example: Sandwiches w/ "Ready-to-Eat" (RTE) Fillings
Canned Tuna
Canned Chicken
Lunch Meat
Fruit salad

FDA, Managing Retail Food Safety. FD 2015   40

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Process 2:
Preparation for Same Day Service

Receive → Store → Prepare → Cook → Hot Hold →
→ Serve

Example: Hamburgers

Baked Chicken

FDA, Managing Retail Food Safety. FD 2015

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Process 3:
Complex Food Preparation

Receive → Store → Prepare → Cook → Cool
↓
Reheat → Hot Hold → Serve

Example: Baked pasta with sauce

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Categorize Menu Items

Trips Through the Danger Zone

135 º F

First | Second | Third

41º F

| [1]No Cook Step | COOK | COOL | REHEAT |

[2]Same Day Service | [3]Complex Food Prep

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Example:
Flow Chart from Recipe
Baked Chicken

1. Chicken breasts are received frozen and stored in the refrigerator until thawed.

2. Chicken is dipped in milk and seasoned bread crumbs.

3. Chicken is baked for 30 minutes at 375º F.

4. Chicken is placed to metal sheet pan and placed under a heat lamp/steam table until served.

5. Chicken is placed on clean plates using tongs and is immediately picked up by residents.

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45

Flow Chart for Baked Chicken
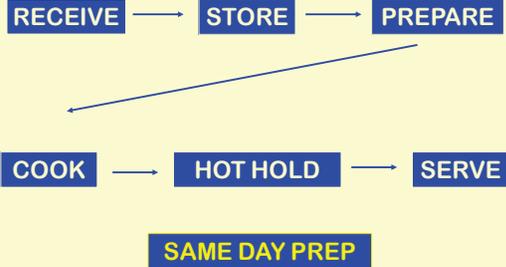
RECEIVE → STORE → PREPARE

↓

COOK → HOT HOLD → SERVE

SAME DAY PREP

FDA, Managing Retail Food Safety. FD 2015

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Example: Menu Items Sorted by Process

PROCESS 1 (NO COOK)	PROCESS 2 (COOK AND SERVE SAME DAY)	PROCESS 3 (COMPLEX FOOD PREPARATION)
Milk	Green Beans in Cheese Sauce	Bean Burrito
Juice	Chili	Bean Soup
Tuna Salad Sandwich	Macaroni and Cheese	Potato Salad
Waldorf Fruit Salad	Scrambled Eggs	Baked Pasta
Cole Slaw	Sloppy Joe on Roll	Hot turkey sandwich from leftovers
Fresh Fruit	Fried Chicken	
Egg Salad Sandwich	Scalloped Potatoes	
Broccoli Salad	Chicken Taco	
Three Bean Salad	Taco Salad	
Store purchased Chicken or Turkey Salad	Hamburger	Chicken or Turkey salad made from cooked leftovers

Source: Modified from Guidance for School Food Authorities. USDA/FNS June 2005

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Group Activity 2

Sorting menu items in process categories

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Food Safety Basics Module 2
Your Menu Items

Instructions

1. In section A, list 8 menu items from a current weekly/monthly menu.
2. In section B, list the menu items in section A by process—1(no cook), 2 (cook and serve the same day), or 3 (complex food preparation) categories. If there is question about the food item, review slides # 39-46.

Section A: List at least eight (8) menu items in your facility

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Section B: Sort by Process

Group your menu items into process 1, process 2, or process 3.

Process 1	Process 2	Process 3
(No cook)	(Cook and serve same day)	(Complex food preparation)

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Identifying control measures

Procedural Step #2
- **Identify significant hazards**
  - **Biological, Chemical, Physical**
- **Assess likelihood of occurrence**
- **Determine control or prevention methods to eliminate or minimize identified hazards**

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Recognize the Problems: Foodborne illness risk factors

Specific – Preparation Process
- **Inadequate cooking**
- **Inadequate cooling**
- **Improper holding/time-temperature**

Non-specific – SOP's (Facility-wide)
- **Contaminated equipment**
- **Poor personal hygiene**
- **Food from unsafe sources**

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Recognize the Problems: Control Measures for HACCP:

- **Proper time/temperature for cooking**
- **Proper temperature for hot/cold hold**
- **Proper time/temperature for cooling**
- **Proper time/temperature for reheating**
- **Proper temperature for thawing**

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Procedural Step #3

- **Identify and implement** Control Measures
- **Determine** Critical Control Points
- **Establish** Critical Limits

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Critical Control Point (CCP)

An operational step in a food preparation process where control measures must be applied to **prevent** or **eliminate** or **reduce** a food safety hazard to an acceptable level.

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Process 1: NO COOK
Example: Fruit Salad

RECEIVE
Control Measures: Known Source, Receiving Temperatures

STORE
Control Measures: Proper Storage Temperatures, Prevent Cross Contamination, Store away from chemicals

PREPARE
Control Measures: Personal Hygiene, Restrict Ill Employees, Prevent Cross Contamination

CCP: COLD HOLDING
Critical Limit: Hold at 41°F or Below.*
Check and record temperatures.

SERVE
Control Measures: No Bare Hand Contact with Ready to Eat Food, Personal Hygiene, Restrict Ill Employees

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ocess 2: SAME DAY SERV
Example: Baked Chicken

RECEIVE
Control Measures: Known Source, Receiving Temperatures

STORE
Control Measures: Proper Storage Temperatures, Prevent Cross Contamination, Store away from chemicals

PREPARE
Control Measures: Personal Hygiene, Restrict Ill Employees, Prevent Cross Contamination

CCP: COOK
Critical Limit: Internal Temperature of 165°F for 15 seconds.*
Check and record temperatures.

CCP: HOT HOLD
Critical Limit: Hold at no less than 135°F.*
Check and record temperatures.

SERVE
Control Measures: No Bare Hand Contact with Ready to Eat

Process 2:
Same day service

55

ss 3: Complex Food Prepa
Example: Beef and Bean Tamale Pie

RECEIVE
Control Measures: Known Source, Receiving Temperatures

STORE
Control Measures: Proper Storage Temperatures, Prevent Cross Contamination, Store away from chemicals

PREPARE
Control Measures: Personal Hygiene, Restrict Ill Employees, Prevent Cross Contamination

CCP: COOK
Critical Limit: Cook to 165°F for at least 15 seconds.*
Check and record temperatures.

CCP: COOL
Critical Limit: Cool to 70°F within 2 hours and from 70°F to 41°F or lower within an additional 4 hours.*
Check and record temperatures.

CCP: REHEAT
Critical Limit: Heat to 165°F for at least 15 seconds.*
Check and record temperatures.

CCP: HOT HOLD
Critical Limit: Hold for hot service at 135°F or higher.*
Check and record temperatures.

SERVE

Process 3:
Complex Food
Preparation

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Receiving
Ready-to-Eat (RTE) Food

CCP for
temperature
control
should be at
receipt

CRISPY MIX

56

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Critical Limits

- A critical limit is a criteria or boundary that must be met for each control measure at a CCP.

- A maximum and/or minimum value to ensure that the biological, chemical or physical hazard identified at the CCP is controlled.
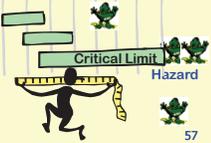
Critical Limit

Hazard

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Determining Critical Limits

- Usually established by a regulatory standard - FDA Food Code/State-Local regs/USDA

- Can be measured, quantified, monitored

- Based solely on food safety

- May need >1 CL to control a hazard
    Time and Temperature

- Critical Limits vs. Operational Goals
    ➢ Safety vs. Quality

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Recipes as a Guide

- Using recipes as part of the food safety plan
- Include critical temperature and time at appropriate food preparation step(s)
    ▪ Preparation steps = CCP
    ▪ Temperature/time = CL

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USDA: Quantity Recipes for School Food Service

National Food Service Management Institute's website (University of Mississippi):

http://www.nfsmi.org/Information/
school_recipe_index_alpha.html

Recipes with CCP and CL that fulfill process approach requirements to HACCP

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Group Activity 3

Determining CCP(s) in one of the menu items from those sorted into process category 2 from Group Activity 2

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Food Safety Basics Module 2

Determine Critical Control Points and Critical Limits for One Food from the 'Process 2' Items

Instructions
1. List the food item in the blank provided.
2. Briefly describe the steps in the preparation of the food item.
3. List the Critical Control Point (CCP) in the first column, list the Critical Limit (CL) in the second column. Under the Coments section describe the hazard and how it will be prevented, eliminated, or reduced to safe levels by applying the CCP(s) and CL(s).

Food Item _____

Briefly describe how the food item is prepared.

Identify hazards and find the points in the process where identified hazards can be prevented, eliminated, or reduced to sfae limits.

Please note there may be more than one CCP.

CCP	CL	Comments

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Procedural Steps #4 and #5

- **Establish Monitoring Procedures**
  - ✓Who, What, When, How
  - ✓Visual, temperature, time
  - ✓ Document
  - ✓ Track operation/assess that CCP in control
- **Develop Corrective Actions**
  - ✓ Correct deviations from CL
  - ✓ Determine disposition of food
  - ✓ What to do if something goes wrong?
  - ✓ Document

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Thermometer Accuracy/Calibration

- **Importance**
  - **Cannot evaluate hot or cold temperature of food without accurate thermometer**
  - **Internal temperature only as good as the accuracy and calibration of the thermometer**
- **Bimetallic and Digital**
- **Ice water or boiling water ?**

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Measuring accuracy of thermometers

Recommendations:
- **Measuring cold internal temperature of food:**
  - **Ice bath accuracy check**
  - **32 º F**
- **Measuring hot internal temperature of food:**
  - **Boiling water**
  - **212 º F**

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Group Activity 4

- Checking the accuracy of a food thermometer using ice bath

- Group or Demonstration

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Food Safety Basics Module 2
Checking Food Thermometer Accuracy

Ice Water Method
1. Fill a 2-quart measure with ice.
2. Add water to within 1 inch of top of container.
3. Stir mixture well.
4. Let sit for one minute.
5. Place thermometer in container so that the sensing area of stem or probe is completely submerged over the dimple.
6. Keep the thermometer from touching sides or bottom of container.
7. Let thermometer stay in ice water for 30 seconds or until the dial stops moving.
8. Place the calibration tool on the hex adjusting nut and rotate until the dial reads 32 °F, while in ice water.
9. Some digital stemmed thermometers (thermistors) and thermocouples have a reset button which should be pushed.
10. Repeat process with each thermometer.

Head
Hex Adjusting Nut
Stem
Ice Water
(32 °F, 0 °C)
2 in. (5 cm)
Minimum

Thermometer Information Resource (2005).

Boiling Water Method
1. Fill a saucepan or stockpot with water.
2. Bring water to a rolling boil.
3. Place thermometer in the container so that the sensing area of the stem or probe is completely submerged over the dimple.
4. Do NOT let the thermometer stem/probe touch sides or bottom of container.
5. Let thermometer stay in the boiling water for 30 seconds or until the dial stops moving.
6. Place the calibration tool on the hex adjusting nut and rotate until the thermometer dial reads 212 °F, while in boiling water.
7. Some digital thermometers (thermistors) and thermocouples have a reset button which should be pushed.
8. Repeat process with each thermometer.

Head
Hex Adjusting Nut
Stem
Boiling Water
(212 °F, 100 °C)
2 in. (5 cm)
Minimum

Thermometer Information Resource (2005).

Note: The boiling point of water is about 1 °F lower for every 550 feet above sea level. If you are in high altitude areas, the temperature for calibration should be adjusted. For example, if you were at 1100 feet above sea level, the boiling point of water would be 210 °F.

For more information, contact NFSMI at 800-321-3054 or www.nfsmi.org.

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Scenario 1

PRODUCT: Raw hamburger patty
CCP: Cooking
CL: 155ºF for 15 seconds internal
             temperature and time

Burger internal temperature was only 140ºF

CA: Continue cooking until patty reaches
an internal temperature 155ºF for 15
seconds

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Scenario 2

PRODUCT: Leftover chili
CCP: Cooling
CL: Cool 135ºF to 70ºF in 2 hours
             and 41ºF or below within 4 hours

Chili is placed in refrigerator in large
container and was at 80ºF after 1.5 hours

CA: Reheat chili to 165 ºF for 15 seconds. Divide
and place in small containers in refrigerator,
loosely covered. Cool to 70 ºF within 2 hours or
less, and to 41 ºF or less in an additional 4 hours. If
these times and temperatures are not met, discard

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Procedural Steps #6 and #7

- **Keep Records**
- **Review**
  - **To validate that the food preparation**
    process chosen results in safe food
  - **To routinely verify that the food safety**
    plan is:
    - being followed
    - working
    - resulting in a safe product
    - being revised as necessary

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Review to validate

- Initially – to make sure the food preparation or process is doing what it is supposed to do
- New processes or menu items
- Changes in suppliers, equipment
- New food safety information
- Periodic, at least yearly
    - Monthly audit check recommended

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Examples of Validation Review

- Cooling Chart – Product specific
    - Chicken soup made with broth and vegetables
    - Chicken soup made with cream, (thickened) and vegetables
    - Cooling time records (Appendix) to document rate
- Cooking time/temperatures from the Food Code and/or USDA/FNS

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Review to verify

- On-going - daily, weekly, monthly
    - Monthly audit checklist
- Review CCP monitoring logs
    - Receiving/storage temperature
    - Cooking temperature
    - Cooling temperature
    - Reheating temperature
- Review menus periodically

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Records

- Records documenting SOP's
- Monitoring records (e.g. temperature)
- Corrective Action records
- Calibration records
- Review of records (verification)

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Examples of Records

- Food temperature logs
- Refrigerator temperature logs
- Freezer temperature logs
- Sanitizer concentration logs

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Recipes Wanted – Don't forget

- Do you have written recipes?
- You need them for Module 3
- Bring staff training notebook to next training

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Questions ???

75

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Resources for Illustrations

1. International Association for Food Protection http://www.foodprotection.org/aboutIAFP/SafetyIcons.asp
2. National Registry of Food Safety Professionals, Essentials of Food Safety & Sanitation, 2004
3. Partnership for Food Safety Education. Be Food Safe. http://www.befoodsafe.gov

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Food Safety Basics Module 2

Please take a moment to complete this evaluation.
We are interested in your thoughts on today's presentation.

As a result of this training, I...	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1. understand the components/principles of an effective SOP.					
2. understand the components/principles of an effective food safety plan.					
3. understand the HACCP principles.					
4. am familiar with the format needed for SOPs.					
5. understand how to catergorize menu items as to "process."					
6. understand how to prepare a "flow chart" for menu items.					
7. understand major operational steps in foodservice.					
8. can determine control measures for recipe process.					
9. understand the Critical Control Point concept and its application to the HACCP-based food safety plan of my menu items.					
10. understand the Critical Limit concept and its application to the HACCP-based food safety plan of my menu items.					
11. understand the Monitoring concept and its application to the HACCP-based food safety plan of my menu items.					
12. understand the Corrective Action concept and its application to the HACCP-based food safety plan of my menu items.					
13. understand what validation is, and its importance.					
14. understand why it is important to review records.					
15. think the handouts and materials are relevant to the information presented.					
16. think that important points were reviewed and emphasized.					
17. think group participation and questions were encouraged.					
18. think questions were answered sufficiently.					
19. think handouts will be useful.					

20. What did you like most and/or least about today's sessions?

_____

_____

21. What new information did you learn today?

_____

_____

22. What could presenters do differently to deliver this information more effectively?

_____

_____

Workshop Comments:
Please offer any comments you feel would assist us in evaluating how successful we were in accomplishing the objectives of the workshop.

_____

Food Safety Plan Development

Introduction

Module 3 focuses on the actual development of a food safety plan specifically for your facility.

Section I is a detailed description of the foodservice facility including the number of meals served and a listing of all the food preparation equipment

Section II begins with a Standard Operating Procedures (SOP) Checklist to help you identify those specific SOPs which are needed for your facility. Following the Checklist is a collection of samples of various SOPs that address both specific hazards and nonspecific hazards in the facility. Many of the SOPs also include logs that may be used for recordkeeping. The SOP's included in this section have been adapted from the USDA Food and Nutrition Service Guidance for School Food Authorities "Developing a Food Safety Program Based on the Process Approach to HACCP" which may be found at: www.fns.usda.gov/cnd/Lunch/Downloadable/HACCPGuidance.pdf

Section III includes all the necessary resources to develop your food safety action plan, including the necessary forms to categorize all your menu items by process, identifying critical control points for each process as well as in the recipes for each food item in each of the three processes.

Section IV includes a listing of all those logs/records to verify that the food safety principles addressed in the SOPs are followed.

The last section of the module is an exercise to help you begin the process of identifying and including Critical Control Points and Critical Limits in your recipes

Resources provided in this module (for example, SOPs, record sheets/logs) are sample documents that may be modified to address the operational needs of your facility. The exceptions are those procedures or critical limits that are required by the current FDA Food Code or your state/local regulatory authority.

Description of the Facility

Overview/Description

_____   _____   _____
Date developed   Foodservice Director   Facility

The program follows the USDA guidance on developing a food safety program based on the Process Approach to HACCP.

Average Daily Participation

_____   _____   _____
Breakfasts   Lunches   Dinners

Foodservice Staff

_____   _____   _____
Manager/Supervisor   Baker   Dish washer

_____   _____   _____
Line worker   Server   Driver

_____
Other

Kitched Equipment

Food Preparation Equipment

❒ Mixer   ❒ Toaster   ❒ Slicer
❒ Electric can opener   ❒ Food processor/Blender   ❒ Other (list)_____

Cooking Equipment

❒ Range/oven   ❒ Grill   ❒ Other (list)
❒ Microwave oven   ❒ Crock pot
❒ Electric fry pan   ❒ Other (list)   _____
                                                       _____

Small Wares

❒ Knives   ❒ Serving utensiles

Refrigeration

❒ Refrigerator and freezer ❒ Ice machine, Ice storage bin, Ice dispenser
❒ Milk dispensers   ❒ Other (list)_____
❒ Beverage dispenser   _____

Other

❒ Dishasher   ❒ Garbage disposal
❒ Trash compactor   ❒ Trash barrels
and can crusher

Menu

❒ Week/Month Cycle with recipes/instructions in notebook in manager's office

A

B

SOPs for Specific Hazards

C

SOPs for General Nonspecific Hazards Facility Wide

D

Responsibilities of Foodservice Manager and Foodservice Workers

Standard Operating Procedure Checklist

(Check all that currently apply)

Standard Operating Procedure (SOP)	Policy is in Place	Policy is not in Place	Don't Know
1. General Food Safety Practices			
a. Personal Hygiene e.g. Washing Hands			
b. Calibrating a Thermometer (check for accuracy)			
c. Operating Without Power			
d. Operating Without Hot Water			
e. Storing and Using Chemicals			
f. Implementing an Employee Health Policy			
g. Practicing first-in-first-out (FIFO) Product Rotation			
h. Preventing Cross-Contamination			
2. The Flow of Food			
a. Purchasing Food from Reputable Vendors			
b. Receiving Deliveries			
c. Storing Food in Appropriate Storage Containers and Keeping Food Covered At All Times during Storage			
d. Washing Fresh Fruits and Vegetables			
e. Thawing Food Properly			
f. Cooking Potentially Hazardous Foods (TCS Foods)			
g. Cooling Potentially Hazardous Foods (TCS Foods)			
h. Labeling and Date Marking Ready-to-Eat, Potentially Hazardous Foods (TCS Foods)			
i. Holding Cold and Hot Potentially Hazardous Foods (TCS Foods)			
j. Reheating Potentially Hazardous Foods (TCS Foods)			
k. Handling Ready-to-Eat Foods e.g. Preventing Bare Hand Contact with Ready-to-Eat Foods			
l. Transporting Food			

**Standard Operating Procedures
for Specific Hazards**

Cooking Potentially Hazardous Food (TCS Food)

Purpose: To prevent foodborne illness by ensuring that all foods are cooked to the appropriate internal temperature

Instructions
1. Train foodservice employees who prepare or serve food on how to use a food thermometer and cook foods using this procedure.
2. If a recipe contains a combination of meat products, cook the product to the highest required temperature.
3. Follow State or local health department requirements regarding internal cooking temperatures.
4. If State or local health department requirements are based on the current FDA Model Food Code, cook products to the following temperatures:
5. 145° F for 15 seconds
    a. Seafood, beef, and pork
    b. Eggs cooked to order that are placed onto a plate and immediately served
6. 155° F for 15 seconds
    a. Ground products containing beef, pork, or fish
    b. Fish nuggets or sticks
    c. Cubed or Salisbury steaks
7. 165° F for 15 seconds
    a. Poultry
    b. Stuffed fish, pork, or beef
    c. Pasta stuffed with eggs, fish, pork, or beef (like lasagna or manicotti)
8. 135° F for 15 seconds
    a. Fresh, frozen, or canned fruits and vegetables that are going to be held on a steam table or in a hot box

Monitoring
1. Use a clean, sanitized, and calibrated probe thermometer (preferably a thermocouple).
2. Avoid inserting the thermometer into pockets of fat or near bones when taking internal cooking temperatures.
3. Take at least two (2) internal temperatures from each batch of food by inserting the thermometer into the thickest part of the product (usually the center).
4. Take at least two (2) internal temperatures of each large food item, like a turkey, to ensure that all parts of the product reach the required cooking temperature.

Corrective Action
Continue cooking food until the internal temperature reaches the required temperature.

Verification and Record Keeping
Foodservice employees will record product name, time, the two (2) temperatures/times, and any corrective action taken on the Cooking/Reheating Temperature Log (the Food Temperature Log can be modified to be used for this purpose). Foodservice employees will take the required cooking temperatures of foods and record them on the Food Temperature Logs. The foodservice manager will verify that temperatures have been taken and are recorded on the Food Temperature Logs. The logs are kept on file.*

Date Implemented	By
Date Reviewed	By
Date Revised	By
	Signature

*Unless mandated by regulations, the length of time records should be kept on file would be at the discretion of the facility director. However, since records provide a history of food safety controls, a 90-day cycle for record retention would be recommended.

Cooling Potentially Hazardous Food (TCS Food)

Purpose: To prevent foodborne illness by ensuring that all potentially hazardous foods (TCS foods) are cooled properly

Instructions
1. Train foodservice employees who prepare or serve food on how to use a food thermometer and how to cool foods using this procedure.
2. Modify menus, production schedules, and staff work hours to allow for implementation of proper cooling procedures.
3. Prepare and cool food in small batches.
4. Chill food rapidly using an appropriate cooling method:
   • Place food in shallow containers (no more than 4 inches deep) and uncovered on the top shelf in the refrigerator
   • Stir the food in a container placed in an ice water bath
   • Add ice as an ingredient
   • Separate food into smaller or thinner portions
   • Pre-chill ingredients and containers used for making bulk items like salads
5. Follow State or local health department requirements regarding required cooling parameters.
6. If State or local requirements are based on the current FDA Model Food Code, chill cooked hot food from:
   Step 1: 135° F to 70° F within 2 hours. Take the corrective action listed below immediately if food is not chilled from 135° F to 70° F within 2 hours.
   Step 2: 70° F to 41° F or below in 4 hours or in the remaining time. The total cooling process from 135° F to 41° F may not exceed 6 hours. Take corrective action immediately if food is not chilled from 135° F to 41° F within the 6 hour cooling process.
   Note: If Step 1 takes less then 2 hours, the complete cooling process still can be completed in 6 hours
7. Chill prepared, ready-to-eat foods such as tuna salad and cut melons from 70° F to 41° F or below within 4 hours. Take corrective action immediately if ready-to-eat food is not chilled from 70° F to 41° F within 4 hours.

Monitoring
1. Use a clean, sanitized, and calibrated probe thermometer to measure the internal temperature of the food during the cooling process.
2. Monitor temperatures of products every hour throughout the cooling process by inserting a thermometer into the center of the food and at various locations in the product.

Corrective Action
1. Reheat cooked hot food to 165 ^{o}F for 15 seconds and start the cooling process again using a different cooling method when the food is
   • Above 70° F and 2 hours or less into the cooling process; and
   • Above 41° F and 6 hours or less into the cooling process.
2. Discard cooked hot food immediately when the food is
   • Above 70° F and more than 2 hours into the cooling process; or
   • Above 41° F and more than 6 hours into the cooling process.
3. Use a different cooling method for prepared ready-to-eat foods when the food is above 41° F and less than 4 hours into the cooling process.
4. Discard prepared ready-to-eat foods when the food is above 41° F and more than 4 hours into the cooling process.

Verification and Record Keeping
Foodservice employees will record temperatures and corrective actions taken on the Food Temperature Log. Foodservice manager will verify that foodservice employees are cooling food properly by visually monitoring foodservice employees during the shift and reviewing, initialing, and dating the temperature log each working day. The logs are kept on file.*

Date Implemented	By
Date Reviewed	By
Date Revised	By
	Signature

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Holding Hot and Cold Potentially Hazardous Food (TCS Food)

Purpose: To prevent foodborne illness by ensuring that all potentially hazardous foods are held at the proper temperature

Instructions
1. Train foodservice employees who prepare or serve food about proper hot and cold holding procedures. Include in the training a discussion of the temperature danger zone.
2. Follow State or local health department requirements regarding required hot and cold holding temperatures. If State or local health department requirements are based on the current FDA Model Food Code:
   • Hold hot foods at 135º F or above; and
   • Cold foods at 41º F or below.
3. Preheat hot holding equipment.

Monitoring
1. Use a clean, sanitized, and calibrated probe thermometer to measure the temperature of the food.
2. Take temperatures of foods by inserting the thermometer at the thickest part, and at other various locations.
3. Take temperatures of holding units by placing a calibrated thermometer in the coolest part of a hot holding unit or warmest part of a cold holding unit, if applicable.
4. For hot-held foods:
   • Verify that the air/water temperature of any unit is at 135 ºF or above before use.
   • Reheat foods in accordance with the Reheating for Hot Holding SOP.
   • All hot potentially hazardous foods should be 135 ºF or above before placing the food out for display or service.
   • Take the internal temperature of food before placing it on a steam table or in a hot holding unit and at least every 2 hours thereafter.
5. For cold foods held for service:
   • Verify that the air/water temperature of any unit is at 41º F or below before use.
   • Chill foods, if applicable, in accordance with the Cooling SOP.
   • All cold potentially hazardous foods should be 41º F or below before placing the food out for display or service.
   • Take the internal temperature of the food before placing it onto any salad bar, display cooler, or cold serving line and at least every 2 hours thereafter.
6. For cold foods in storage:
   • Take the internal temperature of the food before placing it into any walk-in cooler or reach-in cold holding unit.
   • Chill food in accordance with the Cooling SOP if the food is not 41º F or below.
   • Verify that the air temperature of any cold holding unit is at 41º F or below before use and at least every 4 hours thereafter during all hours of operation.

Corrective Action
For hot foods:
   • Reheat the food to 165º F for 15 seconds if the temperature of the food is below 135º F.
   • Discard the food if it cannot be determined how long the food temperature was below 135º F.
For cold foods:
   • Rapidly chill the food using an appropriate cooling method if the temperature is found to be above 41º F and the last temperature measurement was 41º F or below and taken within the last 2 hours:
   • Place food in shallow containers (no more than 4 inches deep), uncovered and place on the top shelf in walk-in or reach-in refrigerator.
   • Stir the food in a container placed in an ice water bath
   • Add ice as an ingredient
   • Separate food into smaller or thinner portions
   • Repair or reset holding equipment before returning the food to the unit, if applicable.
   • Discard the food if it cannot be determined how long the food temperature was above 41º F.

Standard Operating Procedures
for Specific Hazards

Verification and Record Keeping

Foodservice employees will record temperatures of food items and document corrective actions taken on the Food Temperature Log. Foodservice employees will record air temperatures of coolers and cold holding units on the Refrigeration Logs. Foodservice manager will verify that foodservice employees have taken the required holding temperatures by reviewing the temperature logs at the close of each day. The logs are kept on file.*

Date Implemented	By
Date Reviewed	By
Date Revised	By
	Signature

*Unless mandated by regulations, the length of time records should be kept on file would be at the discretion of the facility director. However, since records provide a history of food safety controls, a 90-day cycle for record retention would be recommended.

Reheating Potentially Hazardous Food (TCS Food) (Leftovers)

Purpose: To prevent foodborne illness by ensuring that all foods are reheated to the appropriate internal temperature

Instructions
1. Train foodservice employees who prepare or serve food on using a food thermometer and how to reheat foods using this procedure.
2. Follow State or local health department requirements regarding reheating temperatures.
3. If State or local requirements are based on the current FDA Model Food Code, commercially prepared, ready-to-eat foods, such as canned green beans, fully cooked chicken nuggets or prepackaged fully cooked breakfast burritos, to a minimum internal temperature of at least 135º F for 15 seconds for serving or hot holding.
4. Reheat the following products to 165º F for 15 seconds:
   • Any food that is cooked, and cooled on-site.
   • Leftovers reheated for hot holding
   • Products made from leftovers, such as soup
   • Precooked, processed foods that have been previously cooled
5. Reheat food for hot holding in the following manner if using a microwave oven:
   • Commercially prepared, ready-to-eat foods from a package or can to at least 135º F for 15 seconds
   • Heat leftovers to 165º F for 15 seconds
   • Rotate (or stir) and cover foods while heating
   • Allow to sit for 2 minutes after heating
6. Reheat all foods rapidly. Any reheated food needs to get to the proper temperature within 2 hours.
7. Serve reheated food immediately or transfer to an appropriate hot holding unit.

Monitoring
1. Use a clean, sanitized, and calibrated probe thermometer.
2. Take at least two internal temperatures from each pan of food.

Corrective Action
Continue reheating/heating food if the internal temperature does not reach the required temperature.

Verification and Record Keeping
Foodservice employees will record product name, time, the two temperatures/times, and any corrective action taken on the Food Temperature Log. Foodservice manager will verify that foodservice employees have taken the required reheating temperatures by reviewing, initialing, and dating the Food Temperature log at the close of each day. The Logs are kept on file.*

Date Implemented	By
Date Reviewed	By
Date Revised	By
	Signature

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Date Marking Ready-to-Eat Potentially Hazardous Food (TCS Food)

Purpose: To ensure appropriate rotation of ready-to-eat food to prevent or reduce foodborne illness from Listeria monocytogenes

Instructions
1. Establish a date marking system and train employees accordingly. The best practice for a date marking system would be to include a label with the product name, the day or date, and time it is prepared or opened. Examples of how to indicate when the food is prepared or opened include:
   • Labeling food with a calendar date, i.e. cut cantaloupe, 5/26/09, 8:00 a.m.,
   • Identifying the day of the week, i.e. cut cantaloupe, Monday, 8:00 a.m.,
   • Using color-coded marks or tags to identify a day of the week, i.e. cut cantaloupe, blue dot, 8:00 a.m. means "cut on Monday at 8:00 a.m."
2. Label ready-to-eat, potentially hazardous foods that are prepared on-site and held for more than 24 hours.
3. Label any processed, ready-to-eat, potentially hazardous foods when opened, if they are to be held for more than 24 hours.
4. Refrigerate all ready-to-eat, potentially hazardous foods at 41º F or below.
5. Serve or discard refrigerated, ready-to-eat, potentially hazardous foods within 7 days.
6. Indicate with a separate label the date prepared, the date frozen, and the date thawed of any refrigerated, ready-to-eat, potentially hazardous foods.
7. Calculate the 7-day time period by counting only the days that the food is under refrigeration. For example:
   • On Monday, 8/1/05, lasagna is cooked, properly cooled, and refrigerated with a label that reads, "Lasagna – Cooked – 8/1/09."
   • On Tuesday, 8/2/09, the lasagna is frozen with a second label that reads, "Frozen – 8/2/09." Two labels now appear on the lasagna. Since the lasagna was held under refrigeration from Monday, 8/1/09 – Tuesday, 8/2/09, only 1 day is counted towards the 7-day time period.
   • On Tuesday, 8/16/09, the lasagna is pulled out of the freezer. A third label is placed on the lasagna that reads, "Thawed – 8/16/09." All three labels now appear on the lasagna. The lasagna must be served or discarded within 6 days.
8. Follow State and local public health requirements.

Monitoring
A designated employee will check refrigerators daily to verify that foods are date marked and that foods exceeding the 7-day time period are not being used or stored.

Corrective Measure
Foods that are not date marked or that exceed the 7-day time period will be discarded.

Verification and Record Keeping
Foodservice manager will complete the Monthly Audit Checklist. The logs are kept on file.*

Date Implemented	By
Date Reviewed	By
Date Revised	By
	Signature

*Unless mandated by regulations, the length of time records should be kept on file would be at the discretion of the facility director. However, since records provide a history of food safety controls, a 90-day cycle for record retention would be recommended.

**Standard Operating Procedures
for General Nonspecific Hazards
Facility Wide**

Personal Hygiene

Purpose: To prevent contamination of food by foodservice employees

Instructions
1. Train foodservice employees on the employee health policy (Develop SOP for Implementing an Employee Health Policy) and on practicing good personal hygiene.
2. Follow the employee health policy.
3. Report to work in good health, clean, and dressed in clean attire.
4. Change apron when it becomes soiled.
5. Wash hands properly, frequently, and at the appropriate times.
6. Keep fingernails trimmed, filed, and maintained so that the edges are cleanable and not rough.
7. Avoid wearing artificial fingernails and fingernail polish.
8. Wear single-use gloves if artificial fingernails or fingernail polish are worn.
9. Do not wear any jewelry except for a plain ring such as a wedding band.
10. Treat and bandage wounds and sores immediately. When hands are bandaged, single use gloves must be worn.
11. Cover a lesion containing pus with a bandage. If the lesion is on a hand or wrist, cover with an impermeable cover such as a finger cot and a single-use glove.
12. Eat, drink, use tobacco, or chew gum only in designated break areas where food or food contact surfaces may not become contaminated.
13. Taste food the correct way:
    • Place a small amount of food into a separate container.
    • Step away from exposed food and food contact surfaces.
    • Use a teaspoon to taste the food. Remove the used teaspoon and container to the dish room. Never reuse a spoon that has already been used for tasting.
    • Wash hands immediately.
14. Wear suitable and effective hair restraints while in the kitchen.
15. Follow State and local public health requirements.

Monitoring
A designated foodservice employee will inspect employees when they report to work to be sure that each employee is following this SOP. The designated foodservice employee will monitor that all foodservice employees are adhering to the personal hygiene policy during all hours of operation.

Corrective Action
Any foodservice employee found not following this procedure will be retrained at the time of the incident. Affected food will be discarded.

Verification and Record Keeping
The foodservice manager will verify that foodservice employees are following this policy by visually observing the employees during all hours of operation. The foodservice manager will complete the Audit Monthly Checklist. The logs are kept on file.*

Date Implemented	By
Date Reviewed	By
Date Revised	By
	Signature

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**Standard Operating Procedures
for General Nonspecific Hazards
Facility Wide**

Washing Hands

Purpose: To prevent foodborne illness caused by contaminated hands

Instructions
1. Train individuals who prepare or serve food on proper handwashing procedures. Training may include viewing a handwashing video and/or demonstrating the proper handwashing procedure.
2. Post handwashing signs or posters, this may require posters in multiple languages, near all handwashing sinks, in food preparation areas, and restrooms.
3. Use designated handwashing sinks for handwashing only. Do not use food preparation, utility, and dishwashing sinks for handwashing.
4. Provide warm running water, soap, and acceptable means to dry hands, such as single use paper towels or warm air dryers. Provide a waste container at each handwashing sink or near the door in restrooms.
5. Keep handwashing sinks accessible anytime employees are present.
6. Wash hands:
   • Before starting work   • During food preparation   • When moving from one food preparation area to another
   • Before putting on or changing gloves   • After using the toilet
   • After sneezing, coughing, or using a handkerchief or tissue
   • After touching hair, face, or body   • After smoking, eating, drinking, or chewing gum or tobacco
   • After handling raw meats, poultry, or fish
   • After any clean up activity such as sweeping, mopping, or wiping counters
   • After touching dirty dishes, equipment, or utensils
   • After handling trash   • After handling money   • After any time the hands may become contaminated
7. Follow proper handwashing procedures as indicated below:
   • Wet hands and forearms with warm, running water (at least 100º F) and apply soap.
   • Wash hands for a minimum of 20 seconds. This includes scrubbing soap lathered hands and forearms, under fingernails, between fingers and rinse thoroughly under warm running water.
   • Dry hands and forearms thoroughly with single-use paper towels or dry hands for at least 30 seconds if using a warm air hand dryer.
   • Turn off water using paper towels.   • Use paper towel to open door when exiting the restroom.
8. Follow FDA recommendations when using hand sanitizers. These recommendations are as follows:
   • Use hand sanitizers only after hands have been properly washed and dried.
   • Use only hand sanitizers that comply with the current FDA Model Food Code. Confirm with the manufacturers that the hand sanitizers used meet these requirements. Use hand sanitizers in the manner specified by the manufacturer.

Monitoring
A designated employee will visually observe the handwashing practices of the foodservice staff during all hours of operation. In addition, foodservice employees will visually observe that handwashing sinks are properly supplied during all hours of operation.

Corrective Action
Employees that are observed not washing their hands at the appropriate times or using the proper procedure will be asked to wash their hands immediately. Employee will be re-trained to ensure proper handwashing procedure.

Verification and Record Keeping
The foodservice manager will verify that foodservice employees are following this policy by visually observing the employees during all hours of operation. The foodservice manager will complete the Audit Monthly Checklist. The logs are kept on file.*

Date Implemented	By
Date Reviewed	By
Date Revised	By
	Signature

*Unless mandated by regulations, the length of time records should be kept on file would be at the discretion of the facility director. However, since records provide a history of food safety controls, a 90-day cycle for record retention would be recommended.

**Standard Operating Procedures
for General Nonspecific Hazards
Facility Wide**

Employee Food Safety Training

Purpose: All new foodservice employees will receive training on basic food safety procedures prior to or during the first day of employment. All employees periodically will receive food safety training.

Instructions
All new foodservice employees must:
1. Meet with foodservice manager or unit supervisor to receive training on basic food safety procedures.
2. Review each point in the Monthly Audit Checklist with supervisor. Each procedure will be discussed thoroughly with implications for food safety described.
3. Ask questions to supervisor if policy or procedure is not clear.
4. Read, sign, and date the statement at the end of the checklist, indicating understanding and agreement with stated procedures.
5. Receive a signed copy of the document.

The foodservice supervisor will:
1. Schedule 20–30 minutes for the orientation/training session.
2. Inform all employees of the purpose and time of the session.
3. Explain the purpose of the checklist to employees.
4. Discuss each policy and procedure on the checklist. Refer to the facility Food Safety Plan and Standard Operating Procedures as necessary. Check off each procedure as it is discussed. If employees have questions, note and follow up, if appropriate.
5. After reviewing all procedures, supervisor should request employees to read, sign, and date the statement at the end of the form, indicating understanding and agreement. The supervisor also should sign and date the form.
6. Provide a copy of this form to each employee. Inform employees that a copy will be placed in their personnel file.
7. Remind employees of the location of a copy of the facility's food safety plan and Standard Operating Procedures.

This manual can be used as a reference, if questions or concerns occur later.

Monitoring
The foodservice supervisor will be sure all new employees are trained on basic food safety procedures prior to the first day of employment. All employees will receive periodic review of basic food safety procedures.

Corrective Action
Any foodservice employee found not to have been trained on basic food safety procedures prior to first day of employment will be trained immediately or removed from location until trained.

Verification and Record Keeping
The foodservice manager will verify that all new employees have been trained prior to the first day of employment. Also, the foodservice manager will verify that all employees will receive periodic food safety training. Training sessions will be documented on the Employee Food Safety Training record. The training records are kept on file.*

Date Implemented	By
Date Reviewed	By
Date Revised	By
	Signature

*Unless mandated by regulations, the length of time records should be kept on file would be at the discretion of the facility director. However, since records provide a history of food safety controls, a 90-day cycle for record retention would be recommended.

DATE _____

LOCATION _____

INSTRUCTOR _____

Instructions: Use this form to record food safety training provided to employees.

EMPLOYEE NAME	LENGTH OF TRAINING	TRAINING AND MATERIALS PROVIDED

Employee Food Safety Training Record

**Standard Operating Procedures
for General Nonspecific Hazards
Facility Wide**

Receiving Deliveries

Purpose: To ensure that all food is received fresh and safe when it enters the foodservice operation, and stored properly as quickly as possible

Instructions
1. Train foodservice employees who accept deliveries on proper receiving procedures.
2. Schedule deliveries to arrive at designated times during operational hours.
3. Post the delivery schedule including the names of vendors, days and times of deliveries, and drivers' names.
4. Establish a rejection policy to ensure accurate, timely, consistent, and effective refusal and return of rejected goods.
5. Organize freezer and refrigeration space, and other storage areas before deliveries.
6. Gather product specification lists and purchase orders, temperature logs, calibrated thermometers, pens, flashlights, and clean loading carts before deliveries.
7. Keep receiving area clean and well lighted.
8. Do not touch ready-to-eat foods with bare hands.
9. Determine whether foods will be marked with the date of arrival or the "use-by" date and mark accordingly upon receipt.
10. Compare delivery invoice against products ordered and products delivered.
11. Transfer foods to their appropriate locations as quickly as possible.

Monitoring
1. Inspect the delivery truck when it arrives to ensure that it is clean, free of odors associated with spoilage (i.e. putrid, rancid, moldy), and organized to prevent cross-contamination. Be sure refrigerated foods are delivered on a refrigerated truck.
2. Check the interior temperature of refrigerated trucks.
3. Confirm vendor name, day and time of delivery, as well as driver's identification before accepting delivery. If driver's name is different than what is indicated on the delivery schedule, contact the vendor immediately.
4. Check frozen foods to ensure they are all frozen solid and show no signs of thawing and refreezing, such as the presence of large ice crystals or liquids on the bottom of cartons.
5. Check the temperature of refrigerated foods.
   a. For fresh meat, fish, and poultry products, insert a clean and sanitized thermometer into the center of the product to ensure a temperature of 41ºF or below. The temperature of milk and other dairy products should be 41ºF or below.
   b. For packaged products, insert a food thermometer between two packages being careful not to puncture the wrapper. If the temperature exceeds 41ºF, it may be necessary to take the internal temperature before accepting the product.
   c. For eggs, the interior temperature of the truck should be 45ºF or below.
6. Check dates of milk, eggs, and other perishable goods to ensure safety and quality.
7. Check the integrity of food packaging.
8. Check cleanliness of crates and other shipping containers before accepting products. Reject foods shipped in dirty crates.
9. Log receiving temperatures of food items as applicable. This can include temperature of the food and/or temperature of the refrigerated delivery truck.

Corrective Action
1. Reject the following: a. Frozen foods with signs of thawing and refreezing; b. Cans that have signs of deterioration— swollen sides or ends, flawed seals or seams, dents, or rust; c. Punctured packages; d. Expired foods; e. Foods that are not received at the correct temperature.

Verification and Record Keeping
Foodservice staff should record temperatures and corrective actions on the delivery invoice or on the Receiving Log. Foodservice manager will verify that foodservice employees are receiving products using the proper procedure by reviewing and initialing the Receiving Log at the close of each day. The logs are kept on file.*

Date Implemented	By
Date Reviewed	By
Date Revised	By
	Signature

*Unless mandated by regulations, the length of time records should be kept on file would be at the discretion of the facility director. However, since records provide a history of food safety controls, a 90-day cycle for record retention would be recommended.

Instructions: Use this Log for deliveries or receiving foods from a centralized kitchen. Record any temperatures and corrective action taken on the Receiving Log. The foodservice manager will verify food-service employees are receiving products using the proper procedure by visually monitoring foodservice employees and receiving practices during the shift and reviewing the log daily.

DATE	TIME	VENDOR	PRODUCT	TEMP	CORRECTIVE ACTION TAKEN	INITIALS/DATE	MANAGER INITIALS/DATE

**Standard Operating Procedures
for General Nonspecific Hazards
Facility Wide**

Labeling, Storing and Using Poisonous or Toxic Chemicals

Purpose: To prevent foodborne illness by chemical contamination

Instructions

1. Train foodservice employees on the proper use, storage, and first aid of chemicals and on the proper use of chemical test kits as specified in this procedure.
2. Designate a location for storing the Material Safety Data Sheets (MSDS).
3. Label and date all poisonous or toxic chemicals upon receipt and after opening and label with the common name of the substance if it is transferred to another, appropriate container.
4. Store all chemicals in a designated secured area away from food and food contact surfaces using spacing or partitioning.
5. Limit access to chemicals by use of locks, seals, or key cards.
6. Maintain an inventory of chemicals.
7. Store only chemicals that are necessary to the operation and maintenance of the kitchen.
8. Mix, test, and use sanitizing solutions as recommended by the manufacturer, State, or local health department.
9. Use the appropriate chemical test kit to measure the concentration of sanitizer each time a new batch of sanitizer is mixed.
10. Follow manufacturer's directions for specific mixing, storing, and first aid instructions on chemicals.
11. Do not use chemical containers for storing food or water.
12. Use only hand sanitizers that comply with the current FDA Food Code. Confirm with the manufacturers that the hand sanitizers used meet the requirements of the current FDA Model Food Code.
13. Label and store first aid supplies in a container that is located away from food or food contact surfaces.
14. Label and store medicines for employee use in a designated area and away from food contact surfaces. Do not store medicines in food storage areas.
15. Store refrigerated medicines in a covered, leak proof container, where they can not come in contact with food.
16. Follow State and local public health requirements, pertaining to the storage, use, and disposal of chemicals.

Monitoring
Foodservice employees and foodservice manager will visually observe that chemicals are being stored, labeled, and used properly during all hours of operation.

Corrective Action
Discard any food contaminated by chemicals. Label and/or properly store any unlabeled or misplaced chemicals.

Verification and Record Keeping
Foodservice employees will keep records of the name of the contaminated food, date, time, and the reason why the food was discarded. The foodservice manager will verify that appropriate corrective actions are being taken. The records are kept on file.*

Date Implemented	By
Date Reviewed	By
Date Revised	By
	Signature

*Unless mandated by regulations, the length of time records should be kept on file would be at the discretion of the facility director. However, since records provide a history of food safety controls, a 90-day cycle for record retention would be recommended.

**Standard Operating Procedures
for General Nonspecific Hazards
Facility Wide**

Limited Bare Hand Contact for Ready-to-Eat Foods

Purpose: To prevent foodborne illness due to hand-to-food cross-contamination

Instructions
1. Use proper hand washing procedures to wash hands and exposed arms prior to preparing or handling food or anytime the hands may have become contaminated.
2. Do not use bare hands to handle ready-to-eat foods at any time unless washing fruits and vegetables.
3. Use suitable utensils when working with ready-to-eat food. Suitable utensils may include:
   • Single-use gloves
   • Deli tissue
   • Foil wrap
   • Tongs, spoons, and spatulas
4. Wash hands and change gloves:
   • Before beginning food preparation or prior to putting on single use gloves
   • Before beginning a new task
   • After touching equipment (such as refrigerator doors) or utensils that have not been cleaned and sanitized
   • After contact with chemicals
   • When interruptions in food preparation occur, such as when answering the telephone or checking in a delivery
   • Handling money
   • Anytime a glove is torn, damaged, or soiled
   • Anytime contamination of a glove might have occurred
5. Follow State and local public health requirements.

Monitoring
A designated foodservice employee will visually observe that gloves or suitable utensils are used and changed at the appropriate times during all hours of operation.

Corrective Action
Employees observed touching ready-to-eat food with bare hands will be retrained at the time of the incident. Ready-to-eat food touched with bare hands will be discarded.

Verification and Record Keeping
The foodservice manager will verify that foodservice workers are using suitable utensils by visually monitoring food-service employees during all hours of operation. The foodservice manager will complete the Audit Monthly Checklist. The logs are kept on file.*

Date Implemented	By
Date Reviewed	By
Date Revised	By
	Signature

*Unless mandated by regulations, the length of time records should be kept on file would be at the discretion of the facility director. However, since records provide a history of food safety controls, a 90-day cycle for record retention would be recommended.

**Standard Operating Procedures
for General Nonspecific Hazards
Facility Wide**

Washing Fruits and Vegetables

Purpose: To prevent or reduce risk of foodborne illness or injury by contaminated fruits and vegetables

Instructions
1. Train foodservice employees who prepare or serve food how to properly wash and store fresh fruits and vegetables.
2. Wash hands using the proper procedure.
3. Wash, rinse, sanitize, and air-dry all food-contact surfaces, equipment, and utensils that will be in contact with produce, such as cutting boards, knives, and sinks.
4. Wash all raw fruits and vegetables thoroughly before combining with other ingredients, including:
   • Unpeeled fresh fruit and vegetables that are served whole or cut into pieces.
   • Fruits and vegetables that are peeled and cut to use in cooking or served ready-to-eat.
5. Wash fresh produce vigorously under cool running water. Packaged fruits and vegetables labeled as being previously washed and ready-to-eat do not need to be washed. (Note: If fresh produce has not yet been refrigerated and will be used immediately, the temperature of the wash water should be similar to the temperature of the produce.)
6. Scrub the surface of firm fruits or vegetables such as apples, potatoes, or cantalope using a clean and sanitized brush designated for this purpose.
7. Remove any damaged or bruised areas.
8. Label, date, and refrigerate fresh-cut items.
9. Serve cut melons within 7 days if held at 41°F or below (see SOP for Date Marking, Ready-to-Eat, Potentially Hazardous Food-TCS Food).
10. Do not serve raw seed sprouts to highly susceptible populations such as preschool-age children.
11. Follow State and local public health requirements.

Monitoring
Foodservice manager will visually monitor that fruits and vegetables are being properly washed, labeled, and dated during all hours of operation. In addition, foodservice employees will check the quality of the produce in storage daily.

Corrective Action
Unwashed fruits and vegetables will be removed from service and washed immediately before being served. Fresh cut items will be labeled and dated. Discard cut melons held after 7 days.

Verification and Record Keeping
Foodservice manager will complete the Audit Monthly Checklist to indicate that monitoring is being conducted as specified in this procedure. The logs are kept on file.*

Date Implemented	By
Date Reviewed	By
Date Revised	By
	Signature

*Unless mandated by regulations, the length of time records should be kept on file would be at the discretion of the facility director. However, since records provide a history of food safety controls, a 90-day cycle for record retention would be recommended.

**Standard Operating Procedures
for General Nonspecific Hazards
Facility Wide**

Cleaning and Sanitizing

Purpose: To prevent foodborne illness by ensuring that all food contact surfaces are properly cleaned and sanitized

Instructions
1. Train foodservice employees on Cleaning and Sanitizing Food Contact Surfaces.
2. Follow State or local health department requirements.
3. Follow manufacturer's instructions regarding the use and maintenance of equipment and use of chemicals for cleaning and sanitizing food contact surfaces. Refer to Storing and Using Poisonous or Toxic Chemicals SOP.
4. If State or local requirements are based on the current FDA Model Food Code, wash, rinse, and sanitize food con
tact surfaces of sinks, tables, equipment, utensils, thermometers, carts, and equipment:
   • Before each use.
   • Between uses when preparing different types of raw animal foods, such as eggs, fish, meat, and poultry.
   • Between uses when preparing ready-to-eat foods and raw animal foods, such as eggs, fish, meat, and poultry.
   • Any time contamination occurs or is suspected.
5. Wash, rinse, and sanitize food contact surfaces of sinks, tables, equipment, utensils, thermometers, carts, and equipment using the following procedure:
   • Wash surface with detergent solution.
   • Rinse surface with clean water.
   • Sanitize surface using a sanitizing solution mixed at a concentration specified on the manufacturer's label.
   • Place wet items in a manner to allow air drying.
6. If a 3-compartment sink is used, setup and use the sink in the following manner:
   • In the first compartment, wash with a clean detergent solution at or above 110°F or at the temperature specified by the detergent manufacturer.
   • In the second compartment, rinse with clean water.
   • In the third compartment, sanitize with a sanitizing solution mixed at a concentration specified on the manufacturer's label. Test the chemical sanitizer concentration by using an appropriate test kit. Hot water at a temperature 171°F may also be used in the third compartment. The items should be immersed in the hot water for at least for 30 seconds.
7. If a commercial dishmachine is used:
   • Check with the dishmachine manufacturer to verify that the information on the data plate is correct.
   • Refer to the information on the data plate to determine wash, rinse, and sanitization (final) rinse temperatures; sanitizing solution concentrations; and water pressures, if applicable.
   • Follow manufacturer's instructions for use.
   • The water temperature used is indicated in the current FDA Model Food Code. This will vary depending on the type of commercial dishmachine being used.
8. If a household dishwasher is used:
   Research has shown that, in general, household dishwashers do an adequate job of cleaning dishes, glassware and utensils, etc. The majority of household dishwashers have temperature booster units which increase the water temperature in the wash and rinse cycles. However, it is recommended that if the household dishwasher is being replaced, a commercial dishmachine should be purchased where temperature control would be more consistent and easily monitored. Since household dishwashers usually run for longer times than commercial units, the water temperature required for cleaning/ sanitizing is not known. However, a range of 150°F –165°F, found in the Food Code for commercial washers, can be used as a guide.
   • Follow manufacturer's instructions for use.
   • Be sure that dishes, utensils, etc are rinsed and/or free of large food particles.
9. Log results on the food contact surface cleaning and sanitizing log.

Monitoring
During all hours of operation, foodservice employees will visually and physically inspect food contact surfaces of equipment and utensils to ensure that the surfaces are clean. Log results on the food cleaning/sanitizing log.
In a 3-compartment sink, on a daily basis:

**Standard Operating Procedures
for General Nonspecific Hazards
Facility Wide**

Cleaning and Sanitizing, continued

  • Visually monitor that the water in each compartment is clean.
  • Test the sanitizer concentration by using the appropriate test kit for the chemical sanitizer being used.

In a commercial dishmachine, on a daily basis:
  • Visually monitor that the water and the interior parts of the machine are clean and free of debris.
  • Continually monitor the temperature and pressure gauges, if applicable, to ensure that the machine is operating according to the data plate.
  • For hot water sanitizing dishmachine, ensure that food contact surfaces are reaching the appropriate tempera ture by placing a piece of heat sensitive tape on a smallware item or a maximum registering thermometer on a rack and running the item or rack through the dishmachine.
  • For chemical sanitizing dishmachine, check the sanitizer concentration on a recently washed food-contact sur- face using an appropriate test kit.

In a household dishwasher:
  • Visually monitor that the water and the interior parts of the machine are clean and free of debris.
  • At least monthly, check the water temperature by placing a piece of heat sensitive tape on a smallware item and running the dishwasher.

Corrective Action
1. Retrain any foodservice employee found not following the procedures in this SOP.
2. Wash, rinse, and sanitize dirty food contact surfaces. Sanitize food contact surfaces if it is discovered that the sur- faces were not properly sanitized. Discard food that comes in contact with food contact surfaces that have not been sanitized properly.
3. In a 3-compartment sink:
  • Drain and refill compartments periodically and as needed to keep the water clean.
  • Adjust the water temperature by adding hot water until the desired temperature is reached.
  • Add more sanitizer or water, as appropriate, until the proper concentration is achieved.
4. In a dish machine:
  • Drain and refill the machine periodically and as needed to keep the water clean.
  • Contact the appropriate individual(s) to have the machine repaired if the machine is not reaching the proper wash temperature indicated on the data plate.
  • For a hot water sanitizing dishmachine, retest by running the machine again. If the appropriate water temperature is still not achieved on the second run, contact the appropriate individual(s) to have the machine repaired. Wash, rinse, and sanitize in the 3-compartment sink until the machine is repaired or use disposable single service/ single-use items if a 3-compartment sink is not available.
5. In a household dishwasher:
  • Contact the appropriate individual(s) to have the machine repaired if the machine is not reaching an adequate wash temperature

Verification and Record Keeping
Foodservice employees will record monitoring activities and any corrective action taken on the Food Contact Surfaces Cleaning and Sanitizing Log. The foodservice manager will verify that foodservice employees have taken the required temperatures and tested the sanitizer concentration by visually monitoring foodservice employees during the shift and reviewing, initialing, and dating the Food Contact Surfaces Cleaning and Sanitizing Log. The foodservice manager will complete the Audit Monthly Checklist. The logs are kept on file.*

Date Implemented	By
Date Reviewed	By
Date Revised	By
	Signature

*Unless mandated by regulations, the length of time records should be kept on file would be at the discretion of the facility director. However, since records provide a history of food safety controls, a 90-day cycle for record retention would be recommended.

Instructions: Record sanitizer concentration and any corrective action taken on this form. The foodservice manager will verify that food workers have taken the required information by visually monitoring foodservice employees and preparation procedures during the shift and by reviewing, initialing, and dating this log daily. Maintain this log for a minimum of 90 days.

DATE AND TIME	SANITIZER CONCENTRATION (IN PPM)	CORRECTIVE ACTION TAKEN	INITIAL	VERIFIED BY/ DATE

**Standard Operating Procedures
for General Nonspecific Hazards
Facility Wide**

Using, Calibrating, and Checking the Accuracy of Thermometers

Purpose: To prevent foodborne illness by ensuring that the appropriate type of thermometer is used to measure internal product temperatures and that thermometers used are correctly calibrated for accuracy

Instructions
1. Train foodservice employees on using and calibrating and checking the accuracy of t thermometers.
2. Follow State or local health department requirements
3. Check digital thermometers for accuracy or calibrate dial thermometers by using the Ice-Point method or the Boiling-Point Method. Use a food thermometer that measures temperatures from 0 ^{o}F (-18 ^{o}C) to 220 ^{o}F (104 ^{o}C) and is appropriate for the temperature being taken. For example:
   - Temperatures of thin products, such as hamburgers, chicken breasts, pizza, filets, nuggets, hot dogs, and sausage paties, should be taken using a thermistor or thermocouple with a thin probe.
   - Bimetallic, dial-faced stem or digital thermometers are accurate only when measuring temperatures of thick foods. They may not be used to measure temperatures of thin foods. A dimple mark located on the stem of the thermometer indicates the maximum food thickness that can be accurately measured.
   - Use only oven-safe, bimetallic thermometers when measuring temperatures of food while cooking in an oven.
4. Have food thermometers easily-accessible to foodservice employees during all hours of operation.
5. Clean and sanitize food thermometers before each use. Refer to the Cleaning and Sanitizing Food Contact Surfaces SOP for the proper procedure to follow.
6. Store food thermometers in an area that is clean and where they are not subject to contamination.

Monitoring
1. Foodservice employees will use either the ice-point method or boiling-point method to verify accuracy of food thermometers.
2. To use ice-point method:
   - Insert the thermometer probe into a cup of crushed ice.
   - Add enough cold water to remove any air pockets that might remain.
   - Allow the temperature reading to stabilize before reading temperature.
   - Temperature measurement should be 32°F (+ 2°F) or 0°C (+1°C). If not, adjust according to manufacturer's instructions.
   - If exactly 32°F cannot be achieved, when taking food temperatures, add or subtract the necessary degrees to compensate for not starting with 32°F.
3. To use boiling-point method:
   - Immerse at least the first two inches of the probe into boiling water.
   - Allow the temperature reading to stabilize before reading temperature.
   - Reading should be 212°F (+ 2°F) or 100°C (+ 1°C). This reading may vary at higher altitudes. If adjustment is required, follow manufacturer's instructions.
   - If exactly 212°F cannot be achieved, when taking food temperatures, add or subtract the necessary degrees to compensate for not starting with 212°F.
   - Foodservice employees will check the accuracy of the food thermometers:
   - At regular intervals (at least once per week).
   - If dropped.
   - If used to measure extreme temperatures, such as in an oven.
   - Whenever accuracy is in question.

Corrective Action
1. Retrain any foodservice employee found not following the procedures in this SOP.
2. For an inaccurate, bimetallic, dial-faced thermometer, adjust the temperature by turning the dial while securing the calibration nut (located just under or below the dial) with pliers or a wrench.
3. For an inaccurate, digital thermometer with a reset button, adjust the thermometer according to manufacturer's instructions. If there is no calibration button and the thermometer is inaccurate only for a few degrees, add or subtract the necessary degrees to the required food temperature to compensate. For example, water boils at 212°F. If the food thermometer reads 214°F in boiling water, it is reading 2 degrees too high. Therefore 2 degrees must be subtracted from the temperature displayed when taking a reading in food to find out the true temperature.

Using, Calibrating, and Checking the Accuracy of Thermometers, continued

4. If an inaccurate thermometer cannot be adjusted on site and is more then a few degrees out of specifications, discontinue using it.
5. Retrain employees who are using or calibrating food thermometers improperly.

Verification and Record Keeping

Foodservice employees will record the calibration/accuracy temperature and any corrective action taken, if applicable, on the Thermometer Accuracy/Calibration Log.

Each time a thermometer is calibrated or checked for accuracy, the foodservice manager will verify that foodservice employees are using and calibrating or checking thermometers for accuracy properly by making visual observations of the employees during the calibration process and all operating hours. The foodservice manager will review and initial the Thermometer Accuracy/Calibration Log daily. The foodservice manager will complete the monthly Audit Checklist. The logs are kept on file.*

Date Implemented	By
Date Reviewed	By
Date Revised	By
	Signature

*Unless mandated by regulations, the length of time records should be kept on file would be at the discretion of the facility director. However, since records provide a history of food safety controls, a 90-day cycle for record retention would be recommended.

Instructions: Record sanitizer concentration and any corrective action taken on this form. The foodservice manager will verify that food workers have taken the required information by visually monitoring foodservice employees and preparation procedures during the shift and by reviewing, initialing, and dating this log daily. Maintain this log for a minimum of 90 days.

DATE	CALIBRATION STANDARD ICE SLUSH 32° F	CALIBRATION STANDARD BOILING WATER 212° F	RECORDED TEMPERATURE READING	TEMPERATURE ACCURATE? YES	TEMPERATURE ACCURATE? NO	CORRECTIVE ACTION TAKEN	INITIALS

**Standard Operating Procedures
for General Nonspecific Hazards
Facility Wide**

Pest Control

Purpose: To control pests in the foodservice operation, including the use of a licensed pest control operator (PCO)

Instructions
Employees will use an integrated pest management program (IPM) using the following steps:

Denying access to pests:
1. Use reputable suppliers for all deliveries.
2. Check all deliveries before they enter the foodservice operation.
3. Refuse shipments that have signs of pest infestation.
4. Keep all exterior openings closed tightly. Check doors for proper fit as part of the regular cleaning schedule.
5. Report any signs of pests to the Food Service Manager.
6. Report any openings, cracks, broken seals, or other opportunities for pest infestation to the director of the childcare facility.

Deny pests food, water, and a hiding or nesting place:
1. Dispose of garbage quickly and correctly. Keep garbage containers clean, in good condition, and tightly covered in all areas (indoor and outdoor). Clean up spills around garbage containers immediately. Wash, rinse, and sanitize containers regularly.
2. Store recyclables in clean, pest-proof containers away from the building.
3. Store all food and supplies as quickly as possible.
   • Keep all food and supplies at least six inches off the floor and six inches away from walls.
   • Refrigerate foods such as powdered milk, cocoa, and nuts after opening. These foods attract insects, but most insects become inactive at temperatures below 41°F.
   • Use FIFO (First In First Out) inventory rotation, so pests do not have time to settle into these products and breed.
4. Clean and sanitize the facility thoroughly. Careful cleaning eliminates the food supply, destroys insect eggs, and reduces the number of places pests can safely take shelter.

Monitoring
Food Service manager will check to be sure food service workers have maintained a clean environment free from pests. Food service employees will communicate signs of pests to the Food Service Manager being specific as to area and type of pest if known.

Corrective Action
The Food Service manager will record the areas of concern in the Pest Control Log for treatment on the next Pest Control visit.

Verification and Record Keeping
The foodservice manager will verify that accurate records are kept of the PCO's visits and treatments applied during those visits. The logs are kept on file.*

Date Implemented	By
Date Reviewed	By
Date Revised	By
	Signature

*Unless mandated by regulations, the length of time records should be kept on file would be at the discretion of the facility director. However, since records provide a history of food safety controls, a 90-day cycle for record retention would be recommended.

DATE REPORTED	AREA OF CONCERN PEST	REPORTED BY	DATE TREATED	TREATED BY	COMMENTS

**Standard Operating Procedures
for General Nonspecific Hazards
Facility Wide**

Preventing Cross-Contamination During Storage and Preparation

Purpose: To reduce foodborne illness by preventing unintentional contamination of food

Instructions
1. Train foodservice employees on using the procedures in this SOP.
2. Follow State or local health department requirements.
3. Wash hands properly. Refer to the Washing Hands SOP.
4. Avoid touching ready-to-eat food with bare hands. Refer to Limited Bare hand Contact for Ready-to-Eat Foods SOP.
5. Separate raw animal foods, such as eggs, fish, meat, and poultry, from ready-to-eat foods, such as lettuce, cut melons and lunch meats, during receiving, storage, and preparation.
6. Separate different types of raw animal foods, such as eggs, fish, meat, and poultry, from each other, except when combined in recipes.
7. Store raw animal foods in refrigerators or walk-in coolers by placing the raw animal foods on shelves in order of cooking temperatures with the raw animal food requiring the highest cooking temperature, such as chicken, on the lowest shelf.
8. Separate unwashed fruits and vegetables from washed fruits and vegetables and other ready-to-eat foods.
9. Use only dry, cleaned, and sanitized equipment and utensils. Refer to Cleaning and Sanitizing Food Contact Sur faces SOP for proper cleaning and sanitizing procedure.
10. Touch only those surfaces of equipment and utensils that will not come in direct contact with food.
11. Place food in covered containers or packages, except during cooling, and store in the walk-in refrigerator or cooler.
12. Designate an upper shelf of a refrigerator or walk-in cooler as the "cooling" shelf. Uncover containers of food dur ing the initial quick cool-down phase to facilitate cooling.
13. Clean the exterior surfaces of food containers, such as cans and jars, of visible soil before opening.

Monitoring
A designated foodservice employee will continually monitor food storage and preparation to ensure that food is not cross-contaminated.

Corrective Action
• Retrain any foodservice employee found not following the procedures in this SOP
• Separate foods found improperly stored.
• Discard ready-to-eat foods that are contaminated by raw eggs, raw fish, raw meat, or raw poultry.

Verification and Record Keeping
The foodservice manager will visually observe that employees are following these procedures and taking all necessary corrective actions during all hours of operation. The foodservice manager will periodically check the storage of foods during hours of operation and complete the Audit Monthly Checklist. The logs are kept on file.*

Date Implemented	By
Date Reviewed	By
Date Revised	By
	Signature

*Unless mandated by regulations, the length of time records should be kept on file would be at the discretion of the facility director. However, since records provide a history of food safety controls, a 90-day cycle for record retention would be recommended.

**Standard Operating Procedures
for General Nonspecific Hazards
Facility Wide**

Section 2

Transporting Food to Remote Sites (Satellite Kitchens)

Purpose: To prevent foodborne illness by ensuring food temperatures are maintained during transportation and contamination is prevented

Instructions
1. Train foodservice employees on using the procedures in this SOP.
2. Follow State or local health department requirements.
3. If State or local health department requirements are based on the FDA Model Food Code:
   • Keep frozen foods frozen during transportation.
   • Maintain the temperature of refrigerated, potentially hazardous foods at 41°F or below and cooked foods that are transported hot at 135°F or above.
4. Use only food carriers for transporting food approved by the National Sanitation Foundation International or that have otherwise been approved by the state or local health department.
5. Prepare the food carrier before use:
   • Ensure that all surfaces of the food carrier are clean.
   • Wash, rinse, and sanitize the interior surfaces.
   • Ensure that the food carrier is designed to maintain cold food temperatures at 41°F or below and hot food temperatures at 135°F or above.
   • Place a calibrated stem thermometer in the warmest part of the carrier if used for transporting cold food, or the coolest part of the carrier if used for transporting hot food. Refer to the Using and Calibrating Thermometers SOP.
   • Pre-heat or pre-chill the food carrier according to the manufacturer's recommendations.
6. Store food in containers suitable for transportation. Containers should be:
   • Rigid and sectioned so that foods do not mix.
   • Tightly closed to retain the proper food temperature.
   • Nonporous to avoid leakage.
   • Easy-to-clean or disposable.
   • Approved to hold food.
7. Place food containers in food carriers and transport food in clean trucks, if applicable, to remote sites as quickly as possible.
8. Follow Receiving Deliveries SOP when food arrives at remote site.
9. Check the internal temperatures of food using a calibrated thermometer upon arrival at remote site and before serving

Monitoring
1. Check the air temperature of the food carrier to ensure the temperature suggested by the manufacturer is reached prior to placing food into it.
2. Check the internal temperatures of food using a calibrated thermometer before placing it into the food carrier. Refer to the Holding Hot and Cold Potentially Hazardous Foods (TCS Foods) SOP for the proper procedures to follow when taking holding temperatures.

Corrective Action
1. Retrain foodservice employees found not following the procedures in this SOP.
2. Continue heating or chilling food carrier if the proper air temperature is not reached.
3. Reheat food to 165°F for 15 seconds if the internal temperature of hot food is less than 135°F. Refer to the Reheating Potentially Hazardous Foods (TCS Foods) SOP.
4. Cool food to 41°F or below using a proper cooling procedure if the internal temperature of cold food is greater than 41°F. Refer to the Cooling Potentially Hazardous Foods (TCS Foods) SOP for the proper procedures to follow when cooling food.
5. Discard foods held in the temperature danger zone for more than 4 hours.

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**Standard Operating Procedures
for General Nonspecific Hazards
Facility Wide**

Transporting Food to Remote Sites (Satellite Kitchens), continued

Verification and Record Keeping

Before transporting food to remote sites, foodservice employees will record food carrier temperature, food product name, time, internal temperatures, and any corrective action taken on the Food Temperature Log(s). Upon receipt of food at remote sites, foodservice employees will record receiving temperatures and corrective action taken on the Receiving Log(s). The foodservice manager at the central kitchen will verify that foodservice employees are following this SOP by visually observing employees and reviewing and initialing the Food Temperature Log(s). The foodservice manager at the remote site(s) will verify that foodservice employees are receiving foods at the proper temperature and following the proper receiving procedures by visually observing receiving practices and reviewing and initialing the Receiving Log. The foodservice manager will complete the Monthly Audit Checklist. The logs are kept on file.*

Date Implemented	By
Date Reviewed	By
Date Revised	By
	Signature

*Unless mandated by regulations, the length of time records should be kept on file would be at the discretion of the facility director. However, since records provide a history of food safety controls, a 90-day cycle for record retention would be recommended.

Responsibilities of Foodservice Manager and Foodservice Worker

Summary Table for Monitoring and Reveiving HCCP-Based SOP Record

Instructions: Indentify the foodservice employee who will be responsible for monitoring and verifying records.

Standard Operating Procedure	Record	Monitored by Whom	Received by Whom
Cleaning and sanitizing food contact surfaces	Monthly food safety audit Food Contact Surfaces Cleaning and Sanitizing Log		
Controlling time and temperature during food preparation	Monthly food safety audit Temperature Log		
Cooking	Cooking and Reheating Temperature Log		
Cooling	Cooling Temperature Log		
Date marking	Monthly food safety audit		
Employee training	Employee Training Log		
Holding foods	Hot and Cold Holding Temperature Log Refrigeration Log		
Personal hygiene	Monthly food safety audit Damaged or Discarded Product Log		
Preventing cross-contamination during storage and preparation	Monthly food safety audit Damaged or Discarded Product Log		
Receiving deliveries	Receiving Log		
Reheating potentially hazardous foods	Cooking and Reheating Temperature Log		
Serving food	Monthly food safety audit		
Storing and using toxic chemicals	Monthly food safety audit Damaged or Discarded Product Log		
Transporting foods to remote sites	Monthly food safety audit Hot and Cold Holding Temperature Log Receiving Log		
Using and calibrating a food thermometer	Monthly food safety audit Thermometer Calibration Log		
Using suitable utensiles when handling ready-to-eat foods	Monthly food safety audit		
Washing fruits and vegetables	Monthly food safety audit		
Washing hands	Monthly food safety audit		

Food Safety Plan

Introduction

The menu should be posted where it is easily accessible to all who are responsible for purchasing, preparing, and serving food. All menu items should be included in the food safety plan. When new menu items are added, the list should be updated; also any new recipes should be added to the food safety plan. Ones no longer in use should be removed from the plan, but kept for a period of time.

Each menu item is evaluated to determine which of the three processes is applicable and also to identify the appropriate control measures and critical control points (CCPs) using the Process Approach. Once the determination is made for each menu item, the food service manager will inform the rest of the food service staff of the menu items and applicable process and control measures. In addition, the menu cycle, menus, recipes, product directions and charts are kept in a notebook in the manager's office.

Staff

• All foodservice personnel will be provided an overview of the Process Approach to HACCP after being hired and before handling food.

• Any substitute food service staff will be given instructions on the Process Approach and a list of necessary procedures relevant to the tasks they will be performing and the corresponding records to be kept.

• Periodic refresher training for employees will be provided.

Categorizing Menu Items and Identifying Control Measures and Critical Control Points (CCPs)

Documenting CCPs and Critical Limits

The CCPs and critical limits must be documented in writing for each Process Approach category in the food safety program and in each site plan. Each of the three processes in the Process Approach has specific CCPs, such as, cooking, cooling, hot holding, cold holding, and reheating. The CCPs for each of the processes will remain the same regardless of the menu item. However, the critical limits will vary depending upon the menu item and the recipe used to prepare each item. Having the recipes on file and following the recipes exactly will fulfill the requirement for documenting CCPs and critical limits within the Process Approach specifically for these recipes.

Although CCPs are identified in each recipe, it is important to consider the complete process used at each site. Considering the complete process will help determine the need for CCPs when modifying recipes and in the absence of recipes. For instance, a particular site may cool leftover chicken, although cooling may not be identified as an operational step in the recipe. Therefore, a CCP must be determined and documented for the cooling step.

Using SOPs to Complement the Process Approach by Bridging Gaps

SOPs are also control measures and should not be forgotten when using the Process Approach. In addition to the established CCPs for each of the three processes, applicable SOPs should be followed for the preparation and service of all menu items. As previously mentioned, SOPs serve as general control measures for nonspecific hazards. Therefore, SOPs complement the Process Approach by providing a general safety net. Whereas, the CCPs determined for each of the three processes safeguard against specific hazards.

Establish Monitoring Procedures

Monitoring is an important step for an effective food safety program. Control measures, including CCPs and SOPs, must be monitored, controlled, and documented in writing. Monitoring involves making direct observations or taking measurements to see that the food safety program is being followed. For example, the CCPs are managed by adhering to the established critical limits. Monitoring will identify when there is a loss of control so that corrective action can be taken. In establishing monitoring procedures, consider the following questions:
• How will CCPs and SOPs be monitored?
• When and how often will CCPs and SOPs be monitored?
• Who will be responsible for monitoring?

What menu items are to be monitored depends on the critical limits associated with each CCP for a menu item. Final temperature and time measurements are very important the critical limits must be effectively monitored.

Determining the appropriate means for monitoring is an important factor. If equipment is selected to monitor a specific CCP it must be accurate. The equipment chosen should also be appropriate for the monitoring function.

When deciding how often to monitor, ensure that the monitoring interval will be reliable enough to ensure hazards are being controlled. The procedure for monitoring should be simple and easy to follow.
Individuals chosen to be responsible for a monitoring activity may be a manager, line supervisor, or other reliable employee. Employees should be given the training and equipment necessary to properly perform the monitoring activities.

Monitoring examples
• The CCP for cold foods is cold holding. The critical limit is holding at 41ºF or below. Therefore, the temperature of the refrigerator must be recorded on a refrigeration temperature monitoring chart at least three times daily to make sure the temperature is 41ºF or below.
• A CCP for chicken is cooking. The critical limit is cooking at 165 ºF for 15 seconds. Therefore, the internal temperature of the chicken must be monitored and recorded to make sure it is at or above 165 ºF for 15 seconds.

Monitoring

Manager Responsibilities
- The foodservice manager at each site will be responsible for ensuring assigned foodservice staff are properly monitoring control measures and CCPs at the required frequency and are documenting required records.
- The manager will also be responsible for monitoring the overall performance of the Standard Operating Procedures. (Specific details regarding monitoring are addressed in each SOP.)
- Monitoring will be a constant consideration. However, the manager will use the Monthly Audit Checklist to formally monitor foodservice staff. (The checklist form has been included in Appendix IV.)

Foodservice Staff Responsibilities
- Monitoring individual critical control points (CCPs) in the handling and preparation of food.
- Monitoring control points as defined in the standard operating procedures (SOPs).

Establish Corrective Actions
Whenever a critical limit is not met, a corrective action must be carried out immediately. A corrective action may be simply continuing to heat food to the required temperature. Other corrective actions may be more complicated, such as rejecting food items that were not delivered at the right temperature, or discarding food that has been held without temperature control too long.

A food safety program must include corrective actions. Employees must know what these corrective actions are, and be trained in making the right decisions. This preventive approach is the heart of HACCP. Problems will arise, but you need to find them and correct them before they cause illness or injury. It is also important to document corrective actions when they are taken.

Corrective Action Examples
SOP: If the temperature in the refrigerator is above 41°F, the equipment should be checked to see if it is working properly. Also, the thermometer that is used to record the food temperature must be calibrated regularly and checked to see if it is working properly. Question: Can this thermometer be calibrated?

CCP: When cooking raw poultry, corrective action must be taken if the internal temperature does not reach 165°F for 15 seconds at the end of the designated cooking period. The corrective action would be to continue cooking the chicken until the internal temperature reaches 165°F for at least 15 seconds.

Corrective actions should be determined for all SOPs and CCPs. A list of appropriate corrective actions must be included in the food safety plan.

Corrective Actions

Documenting Corrective Actions
- The foodservice director or manager will be responsible for developing predetermined corrective actions for the most common deviations from control measures including critical control points (CCPs) and standard operating procedures (SOPs).
- The foodservice director or manager will review and update corrective actions at least annually. Corrective actions for all SOPs are outlined in the written SOPs.
- Foodservice staff will be responsible for documenting any corrective actions taken while handling and preparing food as well as any actions taken while performing SOPs.
- In addition to the corrective actions outlined in the SOPs, foodservice staff should be trained on a continuous basis to take corrective actions when necessary.
- Guidance on most common specific corrective actions will be listed in this food safety plan and will be posted in an accessible location in the kitchen.

Corrective Actions

Event	Corrective Action
Receiving temperature for refrigerated product is at 47°F	Reject product.
Temperature of hamburger patties after standard cooking time is 150°F.	Continue cooking to 165 °F for 15 seconds.
Food service staff handles raw poultry and then begins to cut up raw fruit.	Instruct staff to wash hands immediately, discard fruit that has been cut up.
Leftover chili placed in refrigerator is at 80° F after 1.5 hours.	Immediately reheat chili to 165°F for 15 seconds, divide and place in shallow pans in refrigerator, uncovered. Cool to 70°F within 2 hours or less, and to 41°F or less in an additional 4 hours. If these times and temperatures are not met, discard. Cover when temperature of chili reached 41°F.

Weekly/Monthly Menu

Keep Records

There are certain written records or types of documentation that are needed to verify that the food safety program is working. These records normally include the food safety plan and any monitoring, corrective action, or calibration records produced in the operation of the food safety program. Recordkeeping also provides a basis for periodic reviews of the overall food safety program. In the event the operation is implicated in a foodborne illness, documentation of activities related to monitoring and corrective actions can provide proof that reasonable care was exercised in the operation of the facility.

Recordkeeping: Documentation/Record Schedule

Food Production Record Logs
End Point Cooking Temperature	Each product
Time and Temperature for Holding	Each product

Equipment Temperature Record Logs
Receiving	Each delivery for pertinent food products
Freezer	3X daily
Refrigeration	3X daily
Thermometer Calibration/Accuracy	Weekly (Minimum)

Review Records
Monthly Audit Checklist	Monthly

Training Logs	On-going

Corrective Action Record Logs	As necessary

Staff Responsibility

All foodservice staff are responsible for recordkeeping duties as assigned. Overall, the foodservice manager is responsible for making sure that records are being kept and for filing records in the proper place.

Recordkeeping Procedure

• All pertinent information on critical control points, time, temperature, and corrective actions will be kept on clip boards in the kitchen for ease of use.
• All applicable forms for daily records will be replaced on a weekly basis or sooner, if necessary.
• For weekly records, replacement of forms will be on a monthly basis.
• All completed forms will be filed in the filing cabinet in the manager's office.
• The foodservice manager is responsible for making sure that all forms are updated, available for use, and filed properly after completion.
• The foodservice manager is also responsible for educating all foodservice personnel on the use and importance of recording critical information.

Maintain records of cooking, cooling, and reheating temperatures and other CCPs in the food preparation process. Keep documentation as simple as possible to make recordkeeping easy for employees. New record/log forms do not necessarily need to be developed. Existing paperwork may be used as records, for example, delivery invoices may be used for documenting product temperature upon receipt. Employees are an important source for developing simple and effective recordkeeping procedures. Determine what records must be kept, where to keep them, and which staff member(s) will be responsible for maintaining them.

Some of the types of records that should be maintained include:
• Records documenting the SOPs
• Time and temperature monitoring records

- Corrective action records
- Verification or review records
- Calibration records
- Training logs
- Receiving logs

Review and Revise Overall Food Safety Program Periodically

There should be an ongoing as well as a periodic review of the activities described in your food safety program. This step ensures that the food safety program is operating according to what is specified in the food safety plan. Designated individuals such as the manager should periodically make observations of employees' monitoring activities, calibrate equipment and temperature measuring devices, review records/actions, and discuss procedures with employees. All of these activities should take place regularly to verify that the program is addressing the food safety concerns and, if not, checking to see if it needs to be modified or improved.

Review and revise the food safety program annually or as often as necessary to reflect any changes in your facility. These may include new equipment, new menu items, reports of illness or comments on health inspections, or other factors that indicate how well your food safety program is working. Determine who will review the current plan, when it will be done, and how it will be documented

Menu Items/ Recipes by Process – Copy of Weekly/Monthly Menus

Example

Process 1 (No cook)	Process 2 (Cook and serve same day)	Process 3 (Complex food preparation
Milk	Green beans in cheese sauce	Bean burrito
Juice	Chili	Bean soup
Tuna salad sandwich	Macaroni and cheese	Potato salad
Cole slaw	Scrambled eggs	Baked pasta
Fresh fruit	Sloppy joe on roll	Hot turkey sandwich from leftovers
Egg salad sandwich	Fried chicken	
Broccoli salad	Scalloped potatoes	
	Chicken taco	

Food Safety Plan

Menu Items/ Recipes by Process

Process 1 (No cook)	Process 2 (Cook and serve same day)	Process 3 (Complex food preparation

Date:

Process 1: NO COOK

Example: Fruit Salad

RECEIVE
Control Measures: Known Source, Receiving Temperatures

STORE
Control Measures: Proper Storage Temperatures, Prevent Cross Contamination,
Store away from chemicals

PREPARE
Control Measures: Personal Hygiene, Restrict Ill Employees,
Prevent Cross
Contamination

CCP: COLD HOLDING
Critical Limit: Hold at 41°F or Below.*
Check and record temperatures.

SERVE
Control Measures: No Bare Hand Contact with Ready to Eat
Food, Personal
Hygiene, Restrict Ill Employees

Thermometer icon means that taking a temperature is necessary.

Clipboard icon means recording data is necessary.

Sample Process Chart – Process 1

Process 1. No Cook – Keep food below 41°F

Menu Item
Milk
Juice
Tuna salad sandwich
Cole slaw
Fresh fruit
Egg salad sandwich
Broccoli salad

Control measures

CCP
• Cold holding – Critical limit is 41°F or below

SOP
• Personal hygiene
• Washing fresh fruits and vegetables
• Limiting time in the danger zone to inhibit bacterial growth and toxin production
  (e.g., holding at room temperature for 4 hours and then discarding)
• Verifying receiving temperatures of food
• Date marking of ready-to-eat food

Food Safety Plan

Process Chart – Process 2. Cook and Same Day Serve

Cook to correct temperature. Serve at 135°F or above.

Menu Item	Cooking Temperature
	.

Control measures

CCP:

SOP:

Records Kept:

Recipe Name:

Food Safety Plan

Process   1   2   3   (circle process)

Ingredients

Preparation Steps   **CCP**   **CL**   **Monitor**

1. _____

2. _____

3. _____

Corrective Action
_____

Records kept
_____

Recipe name
_____

Process   1   2   3   (circle process)
_____

Process 1 2 3   (circle process)

Ingredients

Preparation Steps	CCP	CL	Monitor

1. _____

2. _____

3. _____

Corrective Action
_____

Records kept
_____

Recipe name
_____

Process 1 2 3   (circle process)
_____

Process 2: SAME DAY SERVICE

Example: Baked Chicken

RECEIVE
Control Measures: Known Source, Receiving Temperatures

STORE
Control Measures: Proper Storage Temperatures, Prevent Cross Contamination, Store away from chemicals

PREPARE
Control Measures: Personal Hygiene, Restrict Ill Employees, Prevent Cross Contamination

CCP: COOK
Critical Limit: Internal Temperature of 165°F for 15 seconds.*
Check and record temperatures.

CCP: HOT HOLD
Critical Limit: Hold at no less than 135°F.*
Check and record temperatures.

SERVE
Control Measures: No Bare Hand Contact with Ready to Eat Food, Personal Hygiene, Restrict Ill Employees

Thermometer icon means that taking a temperature is necessary.

Clipboard icon means recording data is necessary.

*From the 2001 FDA Food Code (as amended August 29, 2993 in the Supplement to the 2001 Food Code).

Process 2. Cook and Same Day Serve

Cook to correct temperature. Serve at 135°F or above.

Menu Item	Cooking Temperature
Green beans in cheese sauce	140°F 15 s
Chili	165°F 15 s
Macaroni and cheese	165°F 15 s
Scrambled eggs	155°F 15 s
Sloppyjoe on roll	155°F 15 s
Fried chicken	165°F 15 s
Scalloped potatoes	140°F 15 s
Chicken taco	165°F 15 s

Control measures

CCP
• Cooking to destroy bacteria and other pathogens (CCPs with corresponding critical limits are noted above)

SOP
• Hot holding or limiting time in the danger zone to prevent the growth of spore-forming bacteria

Food Safety Plan

Process Chart—Process 2. Cook and Same Day Serve

Cook to correct temperature. Serve at 135°F or above.

Menu Item	Cooking Temperature

Control measures

CCP:

SOP:

Records Kept:

Recipe Name:

Food Safety Plan

Process   1   2   3   (circle process)

Recipe _____

Ingredients

Preparation Steps   **CCP**   **CL**   **Monitor**

1. _____

2. _____

3. _____

Corrective Action _____

Records kept _____

Recipe name _____

Process   1   2   3   (circle process) _____

Process   1   2   3   (circle process)

Recipe _____

Ingredients

Preparation Steps   **CCP**   **CL**   **Monitor**

1. _____

2. _____

3. _____

Corrective Action

Records kept _____

Recipe name _____

Process   1   2   3   (circle process)

Process 3: Complex Food Preparation

Example: Beef and Bean Tamale Pie

RECEIVE
Control Measures: Known Source, Receiving Temperatures

STORE
Control Measures: Proper Storage Temperatures, Prevent Cross Contamination, Store away from chemicals

PREPARE
Control Measures: Personal Hygiene, Restrict Ill Employees, Prevent Cross Contamination

CCP: COOK
Critical Limit: Cook to
165°F for at least 15 seconds.*
Check and record temperatures.

CCP: COOL
Critical Limit: Cool to 70°F within 2 hours and from 70°F to 41°F or lower within an additional 4 hours.*
Check and record temperatures.

CCP: REHEAT
Critical Limit: Heat to 165°F for at least 15 seconds.*
Check and record temperatures.

CCP: HOT HOLD
Critical Limit: Hold for hot service at 135°F or higher.*
Check and record temperatures.

SERVE
Control Measures: No Bare Hand Contact with Ready to Eat Food, Personal Hygiene, Restrict Ill Employees

Thermometer icon means that taking a temperature is necessary.

Clipboard icon means recording data is necessary.

*From the 2001 FDA Food Code (as amended August 29, 2993 in the Supplement to the 2001 Food Code).

Process 3. Cook, Cool, Reheat, Serve

Limit Time in the Danger Zone (41° F – 135° F)

Menu Item	Cooking Temperature	Cooling Temperature	Reheating Temperature
Bean burrito	At or above 135°F for at least 15 seconds	Cool to 70°F in 2 hours or less and then to 41°F in 4 hours or less.	At or above 165°F for at least 15 seconds
Bean soup (prepared on site)	At or above 165°F for at least 15 seconds	Cool to 70°F in 2 hours or less and then to 41°F in 4 hours or less.	At or above 165°F for at least 15 seconds
Potato salad	At or above 135°F for at least 15 seconds	Cool to 70°F in 2 hours or less and then to 41°F in 4 hours or less.	
Baked pasta	At or above 165°F for at least 15 seconds	Cool to 70°F in 2 hours or less and then to 41°F in 4 hours or less.	At or above 165°F for at least 15 seconds
Hot turkey sandwich (from leftovers)	At or above 165°F for at least 15 seconds	Cool to 70°F in 2 hours or less and then to 41°F in 4 hours or less.	At or above 165°F for at least 15 seconds

Control measures

CCP
• Cooking to destroy bacteria and other pathogens (CCPs and critical limits are outlined above)
• Reheating for hot holding, if applicable

SOP
• Cooking to prevent the outgrowth of spore-forming bacteria (SOP)
• Hot and cold holding or limiting time in the danger zone to inhibit bacterial growth and toxin formation (SOP)

Food Safety Plan

Process 3. Cook, Cool, Reheat, Serve

Limit Time in the Danger Zone (41° F – 135° F)

Menu Item	Cooking Temperature	Cooling Temperature	Reheating Temperature
			.

Control measures

CCP:

SOP:

Food Safety Plan

Process   1   2   3   (circle process)

Recipe _____

Ingredients

Preparation Steps	**CCP**	**CL**	**Monitor**

1. _____

2. _____

3. _____

Corrective Action _____

Records kept _____

Recipe name _____

Process   1   2   3   (circle process) _____

Process 1 2 3   (circle process)

Recipe _____

Ingredients

Preparation Steps   **CCP**   **CL**   **Monitor**

1. _____

2. _____

3. _____

Corrective Action
_____

Records kept
_____

Recipe name
_____

Process   1   2   3   (circle process)
_____

Food Safety File
Record Keeping

A
Process Related Records/Logs

B
Facility Related Records

C
Audit Monthly Checklist

DATE _____

TIME	FOOD PRODUCT	INTERNAL TEMP	ACTION TAKEN	INITIAL

CALIBRATION STANDARD USED

DATE	ICE SLUSH 32° F	BOILING 212° F		CORRECTIVE ACTION TAKEN	INITIAL

Instructions: Record sanitizer concentration and any corrective action taken on this form. The foodservice manager will verify that food workers have taken the required information by visually monitoring foodservice employees and preparation procedures during the shift and by reviewing, initialing, and dating this log daily. Maintain this log for a minimum of 90 days.

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

D E P A R T M E N T   O F   H E A L T H

Safe and Healthy Lives in Safe and Healthy Communities

TIME / TEMPERATURE COOLING GRAPH

Date:	
Product:	
Container:	
Method of Cooling:	

Temp

Temperature axis values (top to bottom): 170, 165, 160, 155, 150, 145, 140, **135**, 130, 125, 120, 115, 110, 105, 100, 95, 90, 85, 80, 75, **70**, 65, 60, 55, 50, 45, **41**

Must cool from 135F-70F within 2 hrs.

Total Time from 135F-41F in less than 6hrs.

Start Time (135F)	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	10.5	End Time (41F)
									(Hours)													

Time from 135F to 70F (<2hrs) _____ + Time from 70F to 41F _____ = Total Time (<6hrs) _____

USE A SEPARATE FORM TO EVALUATE COOLING METHODS FOR EACH POTENTIALLY HAZARDOUS FOOD COOKED ONE OR MORE DAYS IN ADVANCE.

COOLING METHOD APPROVED BY: _____

Notes: _____

_____

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Refrigeration Temperature Log

DATE	AM time	AM temp	PM time	PM temp	ACTION TAKEN	INITIAL

IF AIR TEMPERATURE IS ABOVE 41°F, NOTIFY MANAGER IMMEDIATELY

Instructions: Use this log when accepting deliveries or receiving foods from a centralized kitchen. Record temperatures and any corrective action taken on the Receiving Log. The food service manager will verify that food service employees are receiving products using proper procedure by visually monitoring food service employees and receiving practices during the shift and reviewing the daily log. Maintain this log for a minimum of one year.

DATE	TIME	VENDOR	PRODUCT	TEMP	CORRECTIVE ACTION TAKEN	INITIALS/DATE	MANAGER INITIALS/DATE

Instructions: Use this log when accepting deliveries or receiving foods from a centralized kitchen. Record temperatures and any corrective action taken on the Receiving Log. The foodservice manager will verify that foodservice employees are receiving products using proper procedure by visually monitoring foodservice employees and receiving practices during the shift and reviewing the daily log.

DATE	TIME	VENDOR	PRODUCT	TEMP	CORRECTIVE ACTION TAKEN	INITIALS/DATE	MANAGER INITIALS/DATE

Instructions: Record sanitizer concentration and any corrective action taken on this form. The foodservice manager will verify that food workers have taken the required information by visually monitoring foodservice employees and preparation procedures during the shift and by reviewing, initialing, and dating this log daily. Maintain this log for a minimum of 90 days.

DATE AND TIME	SANITIZER CONCENTRATION (IN PPM)	CORRECTIVE ACTION TAKEN	INITIAL	VERIFIED BY/ DATE

DATE REPORTED	AREA OF CONCERN PEST	REPORTED BY	DATE TREATED	TREATED BY	COMMENTS

DATE _____

LOCATION _____

INSTRUCTOR _____

EMPLOYEE NAME	LENGTH OF TRAINING	TRAINING AND MATERIALS PROVIDED

Employee Food Safety Training Record

	YES	NO	NOT OBSERVED	COMMENTS
I. Food Safety Plan				
There is a food safety plan in place				
Documentation is collected as required by the food safety plan				
II. Personal Hygiene/Employee Health				
SOPs relating to personal hygiene and employee health are in place and adhered to				
Staff/residents wear clean clothing when preparing and serving food				
Hair is covered/restrained				
Fingernails are trimmed with no polish				
Jewelry is limited to plain ring, watch				
Hands are washed properly, frequently and at appropriate times				
Chewing gum, smoking, eating or drinking while preparing and serving food is not allowed				
Cuts and other wounds are properly bandaged and covered with a waterproof bandage				
Sinks used for handwashing are stocked with single-use paper towels, and soap				
Water used for handwashing is at least 100°F				
People who are sick are not allowed in the kitchen to prepare and/or serve food				
III . Food Preparation				
SOPs relating to all aspects of food preparation are in place and adhered to				
There is no bare-hand contact with ready-to-eat foods				
Single-use gloves properly are used				
Frozen food is properly thawed				
Fresh fruits and vegetables are washed before preparing and/or severing				
Food is tasted using the proper procedure				
Food is cooked to the required internal temperature and is tested with a calibrated food thermometer and final cooking temperature is recorded in food temperature logs				
Leftovers and food prepared for reheating are properly cooled				
Leftovers and other foods are reheated to the proper temperature and final reheat temperature is recorded in food temperature logs				

	YES	NO	NOT OBSERVED	COMMENTS
IV. Food Storage–Cold				
SOPs relating to all aspects of storage of cold food are in place and adhered to				
Raw meat, fish and poultry is stored below ready-to-eat foods				
All food is wrapped and dated				
Refrigerator/freezer thermometers are used and temperatures are recorded twice a day in the early morning and midafternoon				
All units are kept clean and orderly				
There is some method of inventory control (FIFO)				
V. Food Storage–Dry				
SOPs relating to all aspects of dry storage are in place and adhered to				
All foods and paper supplies are stored 6 inches off the floor and can be easily cleaned under and around				
Open bags are stored in containers with tight-fitting lids and labeled				
There are no bulging or leaking canned goods				
Cleaning supplies are clearly labeled and stored away from food and food-related supplies				
The storage area is kept clean and orderly				
There is some method of inventory control (FIFO)				
VI. Cleaning and Sanitizing				
SOPs relating to all aspects of cleaning and sanitizing are in place and adhered to				
MSDS are readily available for all cleaning and sanitizing supplies				
Water temperature is correct for wash and rinse cycles				
Food preparation equipment including cooking pans and utensils are properly sanitized				
If using a chemical sanitizer, it is mixed properly and test strips are used to test the concentration				
Cutting boards and other food preparation equipment are properly washed and sanitized				
All areas where food is prepared and served are kept clean				
VII. Pest Control				
Food preparation areas are kept free of pests				
Openings to the outside are tight fitting to prevent pasts from entering				
There is a pest control program in place				
VIII. Physical Facilities				
Physical facility is maintained and clean				
There is adequate ventilation and lighting				
Refuse is properly stored and disposed of				

References and Resources

References

1. Dietary Guidelines www.healthierus.gov/dietaryguidelines

2. FDA Food Code http://www.cfsan.fda.gov/~dms/fc01-sup.html

3. USDA Temperature Rules www.fsis.usda.gov/thermy

4. National Food Service Institute www.nfsmi.org

Resources

1. USDA Recipes http://www.nfsmi.org/Information/schoolrecipeindexalpha.html

2. Healthy School Meals Food Safety Resources http://schoolmeals.nal.usda.gov/Safety/index.html

3. For more information about this document contact: Foodsafety@fns.usda.gov

Identifying Control Measures, Critical Control Points, Corrective Actions, and Record Keeping

Instructions

1. Using your current menu, list the menu items by process (1, 2,or 3).

2. List all food items for wach process on the "Menu Items by Process" charts.

3. Use one Recipr Sheet for each food item.
   A. List all the ingredients.
   B. List the preparation steps and indicate whether they are a Critical Control Point (CCP), Critical Limit (CL), or a Monitoring Step.

4. List any Corrective Actions.

> NOTE: The exercise includeds sample recipes for each process to use if you don't have your facilities menu/recipe with you.

Food Safety Plan

Process   1   2   3   (circle process)

Recipe _____

Ingredients

Preparation Steps   **CCP**   **CL**   **Monitor**

1. _____

2. _____

3. _____

Corrective Action _____

Records kept _____

Recipe name _____

Process   1   2   3   (circle process) _____

Menu Items/ Recipes by Process

Process 1 (No cook)	Process 2 (Cook and serve same day)	Process 3 (Complex food preparation

Date:

**Identifying Control Measures,
Critical Control Points, Corrective
Actions, and Record Keeping**

**Example Recipe
Name: Tuna Salad
Process 1   2   3**   (circle process)

Ingredients
1 can tuna, drained
3 T mayonaise
2 T finely chopped celery

Preparation Steps	CCP	CL	Monitor
1. Drain and flake tuna			
2. Combine tuna, celery, and mayonaise			
3. Mix lightly until all ingredients are well blended			
4. Cover and refrigerate until ready to use			

Corrective Action

Records Kept

Identifying Control Measures, Critical Control Points, Corrective Actions, and Record Keeping

Example Recipe
Name: Baked Chicken
Process   1   2   3   (circle process)

Ingredients

4 chicken breasts

Coating mixture: 1 cup flour, 1 t onion powder, 1/4 t black pepper, 1 t paprika

Large plastic bag

Preparation Steps	**CCP**	**CL**	**Monitor**
1. Preheat oven to 375°F			
2. Combine dry ingredients in large plastic bag and shake			
3. Use tongs or other cooking utensiles to place chicken pieces in bag			
4. Shake until all the chicken pieces are coated			
5. Use tongs or other cooking utensiles to remove the coated chicken pieces and place in a 13" x 9" baking dish			
6. Bake 20–30 minutes			

Corrective Action

Records Kept

Identifying Control Measures, Critical Control Points, Corrective Actions, and Record Keeping

Example Recipe
Name: Meat Lasagna
Process 1   2   3   (circle process)

Ingredients

8 oz lean ground beef
9 dried lasagna noodles
1 cup chopped onion
1, 12 oz carton low fat cottage cheese
2 cloves garlic, minced
1-1/2 cups shredded low fat mozzarella cheese
1, 14-1/2 oz can low-sodium tomatoes, undrained, cut up
1/4 cup parmesan cheese
1, 6 oz can tomato paste
1 egg
1-1/2 t dried basil
2 T parsley
1-1/2 t dried oregano
1/4 t pepper
1/4 t salt

Preparation Steps	CCP	CL	Monitor

1. Brown ground beef. Drain. Add onions and garlic. Cook for 5 minutes.

2. Stir in undrained tomatoes, tomato paste, basil, oregano, and salt.

3. Bring to boil; reduce heat. Simmer, covered for 15 minutes; stir occasionally.

4. Cook lasagna noodles according to package directions.

5. Combine cottage cheese, 1 cup mozzarella cheese, parmesan cheese, egg, parsley, and pepper.

6. Layer 1/3 of the cooked noodles in a 13" x 9" baking dish. Spread with half of the filling. Top with 1/3 of the sauce. Repeat layers. Top with remaining noodles and sauce. Sprinkle with remaining 1/2 cup mozzarella cheese.

7. Tightly cover pan with foil.

8. Bake at 350°F for 1 hour.

9. Remove pan from oven. Uncover. Let stand for 15 minutes.

10. Serve

Corrective Action

Records Kept

Food Safety Workshop Evaluation – Module 3

Please take a moment to complete this evaluation.
We are interested in your thoughts on today's presentation.

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
As a result of this training, I...					
1. understand how to write my SOPs.					
2. understand how to write my HACCP-based plan.					
3. understand what records I need to complete.					
4. am familiar with the format needed for SOPs.					
5. understand how to group menu items as to "process."					
6. know how to integrate CCPs and Critical Limits into my recipes.					
7. understand both the importance of and use for records.					
8. understand the daily requirements of my food safety plan.					
9. feel I can complete the USDA requirements for a food safety plan at my facility.					
10. feel I can carry out the daily requirements of my food safety plan.					
11. understand the daily requirements of my facility's SOP (example: hygiene, cleaning / sanitation).					
12. feel comfortable with implementing this program.					
13. feel I still need help with implementing this program.					
14. think the hand-outs and materials are relevant to the information presented.					
15. think the handouts are relevant to the operation of the facility.					
16. think that important points were reviewed and emphasized.					
17. think group participation and questions were encouraged.					
18. think questions were answered sufficiently.					
19. think handouts will be useful.					

20. What did you like most and/or least about today's sessions?

_____

_____

21. What new information did you learn today?

_____

_____

22. Do you plan to change any practices as a result of this training?

_____

_____

Additional Comments:
Please offer any comments you feel would assist us in evaluating how successful we were in accomplishing the objectives of the workshop.
Please indicate what specific help can be given you in the next month to help you successfully implement this food safety program at your facility

_____

Appendices

Food Safety Education for RCCI Residents
Using Food Safety Smart Video

Introduction

The food safety principles presented in Module 1: Food Safety Basics are based on the four *FIGHT BAC!/Be Food Safe* principles: Clean, Separate, Cook and Chill. FIGHT BAC is a food safety initiative designed to educate consumers of all ages about steps they can take to reduce the risk of foodborne illness.

The 15 minute Food Safety Smart video features four students preparing a simple meal during which the *FIGHT BAC!/Be Food Safe* principles are addressed. The video is divided into seven chapters: Planning, Proper Storage, Preparation, Cooking, Serving, Refrigerate and Cleaning. Each chapter of the video is divided into two sections. The first showing incorrect food safety behaviors and the second demonstrating correct food safety behaviors. Following the incorrect behaviors there is an opportunity to pause the video for discussion.

The video can be found at http://www.uri.edu/ce/ceec/food/educ.html. Scroll down to *Food Safety Education for Residential Child Care Institutions.*

Food Safety Education Activities using the Food Safety Smart Video

Asking these 3 questions for each topic portrayed in the video would take about 10 minutes. The video can be found at www.uri.edu/ce/ceec/foodsafety.shtml. Click on *Food Safety Education for Residential Child Care Institutions.*
1. Play the first part of each chapter of the video.
2. Ask residents to list what food safety behaviors need to be changed and why.
3. Continue the video showing the correct food safety behaviors and discuss why they are correct.

Resident Food Safety Activity

Below is a series of multiple choice questions pertaining to the food safety concepts presented in the video. The correct answer is highlighted. Also at the end of each question, the part of the video which explains the concept is listed.

A listing of these questions as an interactive power point can be found at: http://www.uri.edu/ce/ceec/food/educ.html Scroll down to *Food Safety Education for Residential Child Care Institutions.*

Interactive Power Point

The food safety concepts presented in this Interactive Power Point Presentation include *FIGHT BAC!/Be Food Safe* principles: Cook, Chill, Clean, and Separate. The correct answer is highlighted.

Following each question is location in the video (minutes) of the food safety concept.

1. You can tell when food is unsafe to eat by using:
   a. your sight
   b. your smell
   c. your taste
   d. **none of your senses**

2. Bacteria and viruses that can get into food and make you sick can come from:
   a. only animals
   b. only people
   c. only equipment
   d. **everywhere**

   (Video – 5:38)

3. Harmful bacteria can spread throughout your kitchen by:
   a. only dirty hands
   b. only dirty utensiles (knives, forks, spoons)
   c. only dirty countertops
   d. only uncooked food
   e. **all of the above**

   (Video – 5:38)

4. For bacteria to grow quickly, it needs:
   a. food, water and very hot temperatures
   b. food, no water and warm temperatures
   c. **food, wate, warm temperatures and time**
   d. water, warm temperatures, time and no food

5. The Temperature "Danger Zone" is:
   a. the temperature range where bacteria are killed
   b. **the temperature range where bacteria like to grow**
   c. the temperature range where bacteria cannot live
   d. the temperature range that food should be cooked

   (Video – 9:08, 9:45)

6. The temperature range for the "Danger Zone" is:

Resident Food Safety Activity 1, continued

    a. 70°F – 140°F
    b. **40°F – 140°F**
    c. 72°F – 165°F
    d. 100°F – 140°

7. Microorganisms can grow rapidly in the:
    a. **in the Temperature Danger Zone**
    b. refrigerator
    c. hot oven
    d. freezer

8. Your hands should be washed using:
    a. **warm water and soap, rubbing your hands together for 10 seconds**
    b. warm water only
    c. cold water only
    d. cold water only

    (Video – 4:30)

9. You should always wash your hands before preparing food.
    a. **Yes**
    b. No

    (Video –4:21)

10. You should clean pots and pans, utensiles and dishes that were used to prepare food by:
    a. washing with cold water and soap and rinsing in cold water
    b. **washing with hot water and soap and rinsing in hot water**
    c. washing with cold water and wiping with a dishcloth or towel
    d. wiping with a clean dishcloth or towel

    (Video –16:00)

11. The **most important** reason to thoroughly cook chicken or beef is to:
    a. Make sure it is warm enough for you to eat
    b. **destroy harmful microorganisms that can make you sick**
    c. make sure it is the right color
    d. make sure it tastes good

    (Video – 9:45)

12. You know a food is cooked correctly:
    a. **when it reaches the correct internal temperature using a food thermometer**
    b. after it has been cooked for a certain amount of time using a timer
    c. after it has been cooked at a certain oven temperature
    d. after you taste it

    (Video – 9:08)

13. The temperature of you refrigerator should be no higher than:
    a. 0°F
    b. **40°F**
    c. 50°F
    d. 60°F

    (Video – 14:07)

Resident Food Safety Activity 1, continued

14. Storing foods in the refrigerator is important to food safety because cold temperature:
    a. will kill bacteria
    b. will make food taste better
    c. **will prevent or slow the growth of bacteria**
    d. will make the food look better

    (Video – 13:45)

15. After cooking chicken or meat, where should you place a food thermometer to check the temperature to see if it is thoroughly cooked?
    a. all the way through to the other side
    b. at the edge of the food
    c. in the middle of the food
    d. **in the thickest part of the food**

    (Video – 9:27)

16. After cooking a casserole, where should you place a food thermometer to check the temperature to see if it is thoroughly cooked?
    a. all the way through to the other side
    b. at the edge of the food
    c. **in the middle of the food**
    d. in the thickest part of the food

17. If cooked chicken is left out on the table overnight, the best thing to do so you don't get sick is to:
    a. reheat it so it is very hot
    b. put it in the refrigerator right away
    c. **throw it out**
    d. put it in the freezer

18. It is okay to put a large amount of hot cooked soup in one big container in the refrigerator soo all the soup can be in one place and take up less room.
    a. true
    c. **false**

    (Video – 13:53)

19. It is safe to thaw frozen meat, chicken or fish:
    a. only in the refrigerator
    b. only under cold running water
    c. only in the microwave oven
    d. **all of the above**

20. If juices from uncooked (raw) chicken or beef drop on fresh fruit that will be served for a dessert, you should:
    a. rinse with cool water and store in refrigerator
    b. wipe it off with a clean paper towel and serve
    c. **throw the fruit away**
    d. the fruit should be served right away

    (Video – 2:43))

21. Cutting boards should be thoroughly cleaned after cutting raw chicken and before cutting veretables that you will be using in a salad.
    a. **true**
    b. false

    (Video – 4:58, 7:00)

22. When you go shopping, put raw mwat and chicken:

    a. in your shopping cart anyplace there is room
    b. with all other foods that need to be kept cold
    c. **away from all ready to eat foods in your cart or in a seperate bag**
    d. with your fruits and vegetables

23. Keeping yourself clean will help keep food safe when you prepare a meal.
    a. **true**
    b. false

    (Video – 4:11, covers wearing clean clothes)

24. Keeping food safe is simple if you know the following:
    a. only cooking thoroughly
    b. only chilling quickly
    c. only practicing good hygiene and cleaning
    d. only separating uncooked, raw food that is ready to eat
    e. **all of the above**

Resident Food Safety Activity

If allowed, residents could assist in the planning, preparing, serving, and cleaning-up of a meal. During the various preparing, serving, and cleaning-up activities, the following questions could be discussed and answered by the residents:

1. Which steps in the recipes being prepared are important to the food safety of he recipe?

2. What food safety steps are needed at each point in the recipe directions where food safety steps are important to the safety of the final recipe? (Have residents think about food safety principles that apply to the cooking and chilling steps in the recipe.

3. Review all the activities and the food safety principles that applied to each food purchase, storage, preparation, serving, and clean-up activity.

**Food Safety Education for RCCI Residents
Fact Sheets**

1. Food Allergens

2. Food Safety Fact Sheet: Calibrating a Thermometer

3. Food Safety Facts for Workers

4. How to Sanitize With Chemical Sanitizers

5. Microbiological Foodborne Illness Chart

6. Potentially Hazardous Foods (Time Temperature Control for Safety Foods (TSC Foods)

7. Recommended Storage Times Cold and Dry Refrigerated and Frozen Foods

8. What Happens When Flies Eat

THE
UNIVERSITY
OF RHODE ISLAND
COLLEGE OF
THE ENVIRONMENT
AND LIFE SCIENCES

COOPERATIVE EXTENSION FOOD SAFETY EDUCATION PROGRAM

Food Allergens

A food allergy is the negative reaction to an otherwise harmless food protein (food allergen). FDA believes there is scientific consensus that the following foods can cause serious allergic reactions in some individuals and account for more than 90 percent of all food allergies:

- Peanuts
- Soy and soy products
- Milk and dairy products
- Eggs and egg products
- Fish
- Shellfish
- Tree nuts
- Wheat

One third of all adults believe they have some sort of a food allergy. True food allergies affect less than two percent of the population. Only five percent of young children are diagnosed with food allergies and many of those outgrow them by the time they reach adulthood. However, to this small percentage of the population, food allergies can be fatal. People have died because they have disregarded food allergy-related symptoms.

Typically, an allergic reaction begins within minutes to a few hours after the food. However, in very sensitive individuals, just touching or smelling the food can result in an allergic reaction. Most often, but not always, the symptoms of an allergic reaction begin with: a sensation that the lips and tongue are swelling; itching or tingling in the mouth; sensation of warmth; redness to the skin or hives; tightness in the throat; itchy, watery or swollen eyes; nausea, vomiting, cramping, or diarrhea. Anaphylaxis occurs when several parts of the body have food-allergic reactions at the same time. This condition is rare, but can be fatal.

Symptoms of food allergy vary among individuals as to the severity, when they begin, and the amount of food that is eaten. The same food can produce different reactions in different people and different foods can cause the same reaction in one person. Individuals with asthma appear to be at greater risk of food allergies.

Diagnosing and managing a food allergy requires medical treatment. People with known food allergies and those that have been diagnosed with food allergies through an examination including a complete medical history and a series of specialized tests should avoid the foods.

To eliminate the offending food from the diet it is necessary to read and understand food ingredient labels. By law, a list of ingredients in each food product should be listed on the label. Labels should be re-checked regularly as the ingredients in products change. Specific information about the ingredients is available from the company producing or processing the food product.

The August 2004 *Food Allergen Labeling and Consumer Protection Act* (Public Law 108-282, Title II) defines the term "major food allergen." This definition is included in the current FDA Model Food Code. The Food Allergen and Consumer Protection Act includes the following requirements for foods labeled on or after January 1, 2006:

- Food manufacturers must identify in plain language on the label of the food any major food allergen used as an ingredient in the food, including a coloring, flavoring, or incidental additive.
- FDA is to conduct inspections to ensure that food facilities comply with practices to reduce or eliminate cross-contact of a food with any major food allergens that are not intentional ingredients of the food. Within 18 months of the date of enactment of the new law (i.e., by February 2, 2006).
- FDA must submit a report to Congress that analyzes the results of its food inspection findings and addresses a number of specific issues related to the production, labeling, and recall of foods that contain an undeclared major food allergen.
- Within two years of the date of enactment of the new law (i.e., by August 2, 2006), FDA must issue a proposed rule, and within four years of the date of enactment of the new law (i.e., by August 2, 2008), FDA must issue a final rule to define and permit the use of the term "gluten-free" on food labeling. (2005 FDA Model Food Code, Annex 4, p 483).

Food service establishments have a responsibility to provide correct and up to date information about food items on the menu. "Secret" ingredients which are considered allergens such as peanuts, nuts, eggs, milk, shellfish, and fish should not be used in any food items.

Wait staff should take customer inquires about allergies seriously. They should be familiar with all the ingredients in the food items on the menu and how they are prepared. For example, waitstaff should know the ingredients in a batter used to bread meats or fish. If the ingredients change, they should be advised of the change.

Avoid cross contact during food preparation. Cross contact is the transfer of a food allergen from one food or surface to another (i.e. human hands, cooking utensils, frying different foods in the same oil). An individual had an allergic reaction when he ate a sandwich that had been made with a knife that had been used to make a peanut butter sandwich.

If a patron has an allergic reaction, respond quickly. Ask if there is a history of food allergies and check for a medical bracelet or necklace. Call 911 for immediate medical assistance. The sooner the reaction is treated, the less severe it will be.

Persons sensitive to these specific allergens should avoid the following foods/ingredients:

Eggs
Albumin
Egg (including whites and yolk)
Eggnog
Mayonnaise and other dressings
Ovalvumin
Ovomucoid
Simplesse
Egg-based glaze on baked goods

Fish
Anchovy (including anchovy paste)
Caviar
Fish byproducts
Imitation crab (surimi)
Roe
Oil used to fry fish would cause a reaction

Milk
Cream
Curds
Dry milk solids
Lactalbumin, lactalbumin phosphate
Lactose
Milk (derivative, protein, solids)
Artificial butter flavor
Butter, butter fat
Buttermilk
Casein, rennet casein
Cheese
Sour cream or milk solids
Caseinates (ammonium, calcium, magnesium, potassium, sodium)
Whey (delactosed, demineralized, protein concentrate)
Yogurt

Peanuts
Cold pressed peanut oil
Mixed nuts
Nu-nutsâ flavored nuts
Peanut butter
Peanut flour
Foods containing peanut protein including:
  Chinese and Thai dishes: egg rolls
  Baked goods: pastries, cookies, danish
  Candy
  Chili
  Marzipan
  Soups

Tree nuts
Almonds//Almond paste
Brazil nuts
Cashews
Chestnuts
Filberts/Hazelnuts
Hickory nuts
Giandiju (chocolate nut mix)
Macadamia nuts

Food Safety Fact Sheet

2009

Calibrating Thermometers

Introduction

Food temperatures must be checked throughout the food preparation process, and the thermometers used must be accurate. Child nutrition employees are responsible for checking the accuracy of thermometers and calibrating them if they are not accurate.

Here Are the Facts

Thermometers that are not accurate will give misleading information. For example, if you use a thermometer that registers 10 °F higher than the actual temperature, you would cook ground beef to 145 °F rather than 155 °F. That would be inadequate cooking to make sure the ground beef is safe to serve. If the thermometer registers too low, you could easily overcook food.

Application

It is important for child nutrition employees to know when and how to calibrate bimetallic stemmed and digital (that can be calibrated) thermometers. Follow state or local health department requirements.

How to Take Temperatures

When?
Thermometers are sensitive and can lose calibration. It is important to calibrate them:
- Weekly,
- When they are dropped,
- More often if specified by local policy.

How?
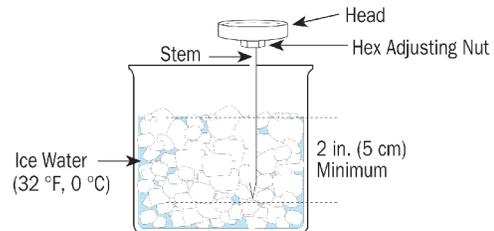There are two methods that can be used to calibrate thermometers.

National Food Service Management Institute • The University of Mississippi

1

Food Safety Fact Sheet

Calibrating Thermometer, continued
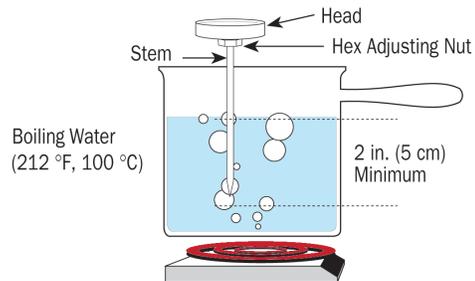
Ice Water Method
1. Fill a 2-quart measure with ice.
2. Add water to within 1 inch of top of container.
3. Stir mixture well.
4. Let sit for one minute.
5. Place thermometer in container so that the sensing area of stem or probe is completely submerged over the dimple.
6. Keep the thermometer from touching sides or bottom of container.
7. Let thermometer stay in ice water for 30 seconds or until the dial stops moving.
8. Place the calibration tool on the hex adjusting nut and rotate until the dial reads 32 °F, while in ice water.
9. Some digital stemmed thermometers (thermistors) and thermocouples have a reset button that should be pushed.
10. Repeat process with each thermometer.

Head
Stem
Hex Adjusting Nut
Ice Water
(32 °F, 0 °C)
2 in. (5 cm)
Minimum

Thermometer Information Resource (2005).

Boiling Water Method
1. Fill a saucepan or stockpot with water.
2. Bring water to a rolling boil.
3. Place thermometer in the container so that the sensing area of the stem or probe is completely submerged over the dimple.
4. Do NOT let the thermometer stem/probe touch sides or bottom of container.
5. Let thermometer stay in the boiling water for 30 seconds or until the dial stops moving.
6. Place the calibration tool on the hex adjusting nut and rotate until the thermometer dial reads 212 °F, while in boiling water.
7. Some digital thermometers (thermistors) and thermocouples have a reset button that should be pushed.
8. Repeat process with each thermometer.

Head
Stem
Hex Adjusting Nut
Boiling Water
(212 °F, 100 °C)
2 in. (5 cm)
Minimum

Thermometer Information Resource (2005).

Note: The boiling point of water is about 1 °F lower for every 550 feet above sea level. If you are in high altitude areas, the temperature for calibration should be adjusted. For example, if you were at 1100 feet above sea level, the boiling point of water would be 210 °F.

2

Food Safety Fact Sheet

Calibrating Thermometer, continued

Documenting Calibration
Each time thermometers are calibrated, the process should be documented. The food safety program should include a form for documenting the calibration process of each thermometer.

HACCP-Based Standard Operating Procedures: Thermometer Calibration Log (2005).

Remember, follow state or local health department requirements.

References

U.S. Department of Agriculture, Food and Nutrition Service, & National Food Service Management Institute. (2005). *HACCP-based standard operating procedure: Thermometer calibration log.* Retrieved January 8, 2009, from http://www.nfsmi.org/documentLibraryFiles/PDF/20080213013307.pdf

U.S. Department of Agriculture, Food and Nutrition Service, & National Food Service Management Institute. (2005). *HACCP-based standard operating procedure: Using and calibrating thermometers.* University, MS: Author.

U.S. Department of Agriculture, Food and Nutrition Service, & National Food Service Management Institute. (2005). *Thermometer information resource.* University, MS: Author.

For more information, contact NFSMI at 800-321-3054 or www.nfsmi.org.
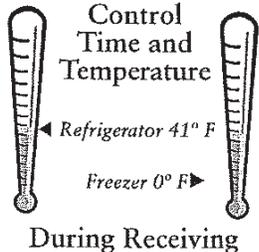
3

Food Safety Facts for Food Workers

Most foodborne illness can be avoided by handling food properly. Foods from animal sources and cooked beans, rice and pasta are especially risky. These foods are "Potentially Hazardous Foods" (PHFs) now called Time/Temperature Control for Safety Foods (TCS Foods). Follow these basic food safety principles and practices to keep the food you prepare and serve safe to eat. These recommendations are consistent with the current FDA Model Food Code.
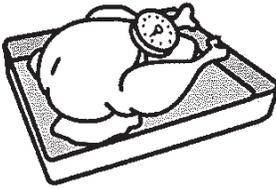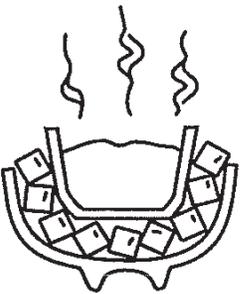
STAY HEALTHY

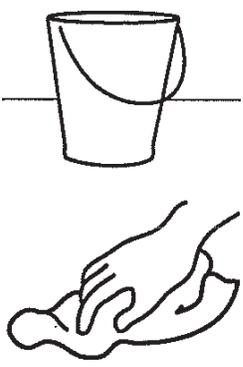| Key Principle	Hazard	Food Safety Message
Be in Good Health	Microbiological Contamination	• Don't prepare food when you are ill or have an open cut or sore on your hands or arms. • Report illnesses to the manager. • Avoid coughing and sneezing in food areas.
Practice Good Personal Hygiene	Microbiological Contamination	Always wash your hands after you: • use the restroom. • cough, sneeze, or use a handkerchief or tissue. • work with raw foods. • handle dirty equipment or utensils. • take out the garbage.
	Cross-contamination	• Use a designated hand sink.
	Physical Contamination	• Wear clean clothing on the job.
	Microbiological and Physical Contamination	• Wear effective hair restraint while working in a food preparation area. • Don't eat, drink or smoke while preparing food. • Keep nails trimmed.

CONTROL TIME AND TEMPERATURE

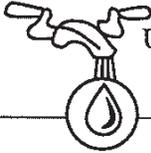| Key Principle	Hazard	Food Safety Message
Control Time and Temperature ◄ Refrigerator 41° F Freezer 0° F► During Receiving	Bacterial Growth, Toxin Production	Keep foods out of the "Danger Zone": 41°F - 135°F • Use a calibrated food thermometer to check food temperatures. Receive and store food at proper temperatures • Refrigerated foods at 41°F or below. • Frozen foods at 0°F or below.
During Preparation	Bacterial Growth, Toxin Production	Thaw frozen foods in: • Refrigerator. • Potable cold running water below 70°F for 2 hours or less. • Microwave oven followed by cooking or as part of the cooking process.

CONTROL TIME AND TEMPERATURE		
Key Principle	**Hazard**	**Food Safety Message**
Control Time & Temperature During Cooking	Bacterial Survival, Toxin Production	Cook each food to proper internal temperature: • 165°F for 15 seconds: poultry, stuffed meat, fish, pasta and stuffing containing meat, poultry or fish. • 155°F for 15 seconds: ground poultry, turkey. • 155°F for 15 seconds: for ground beef • 145°F for 15 seconds: pork and game animals • 145°F for 15 seconds: fish and raw shell eggs that are intended for immediate service. • 140°F for 12 minutes: whole roast beefs • 130°F for 112 minutes: whole roast beefs Microwaved Food Temperatures: heating to an internal temperature of 165°F
During Holding	Bacterial Growth, Toxin Production	• Hold hot Potentially Hazardous Foods (TCS Foods) at 135°F and above. • Hold cold PHFs at 41°F or below.

During Cooling	Bacterial Growth, Toxin Production	Cool cooked Potentially Hazardous Foods (TCF Foods):
		
		Two step process-total 6 hours:
		Step 1-
		   135°F to 70°F in 2 hours.
		Step 2 -
		   70°F to 41°F in 4 hours
		
		Note: If Step 1 takes less than 2 hours, the complete process can be completed in 6 hours.

During Reheating	Bacterial Survival and Growth, Toxin Production	• Rapidly reheat PHFs (TFS Foods) to 165°F (2 hours or less) and hold at 135°F.

PREVENT CONTAMINATION

Key Principle	Hazard	Food Safety Message
Protect Food from Contamination	Microbiological and Physical Contamination	• Prevent bare-hand contact with ready-to-eat foods by using utensils like disposable gloves, deli tissue, spatulas, tongs or dispensing utensils. • Minimize bare-hand contact with exposed foods that are not in ready-to-eat form. • Store food in covered containers or original packaging. • Do not store packaged food in absorbent packaging in direct contact with ice or water. • Do not store unpackaged food in direct contact with undrained ice. • Wash fruits and vegetables before cooking or serving. • Store foods in a clean, dry location that is not subject to splash, dust or other contaminants and is 6 inches above the floor.
Prevent Cross-contamination	Cross-contamination	• Separate raw animal foods from ready-to-eat animal foods and other ready-to-eat foods (sushi, molluscan shellfish, fruits and vegetables) during storage, preparation, holding and serving.
	Microbiological Contamination	• Clean and sanitize food thermometers before and after each temperature check of raw and ready-to-eat foods.
	Cross-contamination	• Do not mix raw animal foods with cooked food.
Keep Food Contact Surfaces Clean	Microbiological Contamination	Clean and sanitize food contact equipment and utensils: • Before you use a different type of raw animal food (beef, fish, lamb, pork and poultry). • When you change from working with raw foods to working with ready-to-eat foods. • Between preparing raw fruits and vegetables and Potentially Hazardous Foods (TCS Foods). • At any time during the operation when contamination may have occurred. • Every 4 hours if used with Potentially Hazardous Foods (TCS Foods) at room temperature greater than 55°F. • Clean and sanitize food thermometers before using and storing.

KEEP YOUR FOOD SUPPLY HEALTHY

Key Principle	Hazard	Food Safety Message
Consider the Source and the Condition of the Food	Microbiological, Physical and Chemical Contamination	• Use foods from approved suppliers. • Do not use food prepared in a private home. • Do not use food from bulging or dented cans or from damaged packaging.
Use Safe Water	Microbiological and Chemical Contamination	• Use only safe, potable water. • Ice for food use must be made from potable water.
Use Safe Transportation/ Travel	Microbiological and Chemical Contamination	• Protect food from contamination during transportation. • Transport in clean vehicles and equipment. • Keep refrigerated foods cold (41°F or below). • Keep hot foods hot (135°F or above).
Use and Store Chemicals and Pesticides Safely	Chemical Contamination	• Store and use only chemicals that are absolutely necessary. • Use chemicals in accordance with manufacturers' instructions. • Do not store chemicals where they can contaminate food equipment, utensils, linens and single service/single use articles. • Only licensed Pest Control Operators (PCO's) should apply pesticides.

UMassAmherst Outreach UMass
Extension

How to Sanitize by Hand with Chemical Sanitizers

There are three common types of chemical sanitizers that are approved for use with food contact surfaces:
1. Chlorine (institutional bleach)   2. Quaternary ammonium compounds (quats)   3. Iodine
When you use these chemicals correctly they will reduce the number of germs to a safe level.

FOLLOW THESE 4 STEPS

1. MAKE A SANITIZING SOLUTION.
  - Read the container label
  - Be sure it has instructions for use on food equipment and utensils
  - Mix according to the manufacturer's directions

2. CHECK THE CONCENTRATION WITH A TEST KIT.
  This way you will know if it is too weak or too strong.

3. USE WITH FOOD CONTACT SURFACES SUCH AS:

a. pots, pans, dishes, cutting boards and utensils

1. **WASH** with hot detergent solution.   2. **RINSE** in clean water   3. **SANITIZE**   4. **AIR DRY**
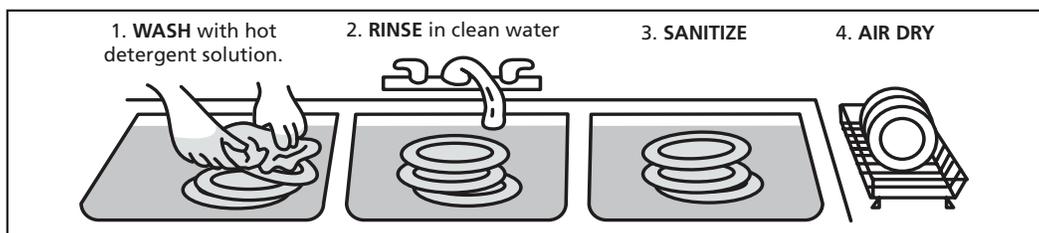
b. countertops, tables or other stationary equipment

1. **WASH** with hot detergent solution.   2. **RINSE** in clean water   3. **SANITIZE** with spray or wiping cloth   4. **AIR DRY**
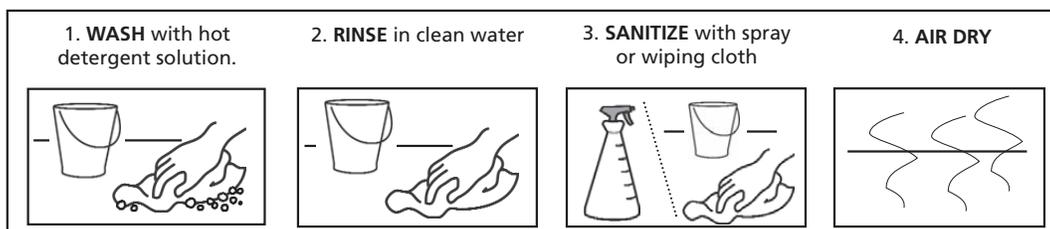
4. Monitor with a test kit to check concentration.
  Any sanitizing solution can lose strength over time. To be effective it must be clean and at proper strength.

For the person in charge. When ordering and receiving sanitizers, look for EPA approval for food contact surfaces. Make sure that the recommended water temperature, contact time and concentration of the solution are followed to ensure that the sanitizing solution will be effective. Make sure that the correct test kit is available for the type of sanitizer used.

Microbiological Foodborne Illnesses

UMass Extension Nutrition Education Program

ILLNESSES/MICROORGANISMS	SOURCE	ONSET/DURATION OF ILLNESS (without complications)		SYMPTOMS (other than nausea, vomiting, diarrhea & cramps)	COMMON FOODS INVOLVED	PREVENTION
INFECTIONS						
SALMONELLOSIS (*Salmonella species*)	Intestinal tract of animals and humans	onset: lasts:	5–36 hours 2–7 days	"Flu," headache, fever, dehydration; may trigger arthritis	Raw and undercooked eggs, poultry, meat, fish, dressings, meat, pies, cream desserts, dairy products	• Cook animal foods thoroughly • Prevent cross contamination
CAMPYLOBACTERIOSIS (*Campylobacter jejuni*)	Intestinal tract of animals, soil and water	onset: lasts:	2–5 days 2–7 days	"Flu," fever, bloody stools; complications: meningitis, arthritis	Undercooked meat, poultry, fish, raw dairy products	
LISTERIOSIS (*Listeria monocytogenes*)	Soil, intestinal tract of animals	onset: lasts:	24 hours to 3 weeks 2–7 days	Headache, fever; in immunocompromised possible meningitis, blood poisoning, abortion, death	Raw milk, cheeses made from raw milk, cabbage, undercooked meat and poultry, hot dogs, cold smoked fish (grows @ 34°–113° F)	• Good Sanitation • Use only pasteurized milk & milk products, • Cook meat & poultry thoroughly • Prevent cross-contamination • Limit refrigerator storage – watch "use-by" dates
YERSINIOSIS (*Yersinia enterocolitica*)	Intestinal tract of animals, esp. pork, raw milk, water	onset: lasts:	3–7 days 2–3 weeks	Fever; bloody stools, pseudoappendicitis Complications: blood poisoning, arthritis, meningitis, liver disease	Meat, esp. pork, poultry, shellfish, raw milk and vegetables (grows @ 32°–113° F)	
VIBRIOSIS (*Vibrio species*)	Seawater (esp. warm months)	onset: lasts:	2–76 hours 3–8 days	Chills, fever; dehydration, weakness, blood poisoning	Undercooked seafood: oysters, shrimp, crabs and clams	• Cook all seafood thoroughly • Prevent cross-contamination • Keep cold foods cold (below 40° F)
HEMORRHAGIC COLITIS (*E.coli O157-H7*)	Intestinal tract of animals and humans	onset: lasts:	3–8 days 2–10 days	Bloody stools, urinary infection & kidney failure, strokes, seizures, coma & death	Undercooked meats and poultry, ground beef, raw milk & cheeses, unpasteurized apple juice and cider	• Cook meats thoroughly • Prevent cross-contamination • Keep cold foods cold (below 40° F)
SHIGELLOSIS *Bacillary dysentery* (*Shigella species*)	Intestinal tract of humans and primates	onset: lasts:	1–57 days 3–14 days to months	Fever, pus or blood in stools, asymptomatic carrier state in convalescence lasting days to months, secondary infection frequent	Salads, seafoods, milk, dairy products, poultry, potato salad, parsley	• Good Sanitation • Minimize contact of hands with food • Keep cold foods cold (below 40° F)

*Adapted from **S.A.F.E.**, Colorado State University Cooperative Extension, by UMass Extension, June, 1999.*

* Toxin heat resistant

Microbiological Foodborne Illnesses
UMass Extension Nutrition Education Program

ILLNESSES/ MICROORGANISMS	SOURCE	ONSET/DURATION OF ILLNESS (without complications)		SYMPTOMS (other than nausea, vomiting, diarrhea & cramps)	COMMON FOODS INVOLVED	PREVENTION
INTOXICATIONS						
STAPHYLOCOCCAL INTOXICATION (*Staphylococcus aureus*)	Skin, nose, throat, hands (coughs & sneezes), hair, sores, pimples, raw milk; and sewage	onset: lasts:	1–6 hours 1–2 days	Usually no fever	Ham, processed meat, tuna, poultry, red meat, sandwich fillings, potato and meat salads, dairy products, imitation dairy products, raw milk	• Minimize hand contact with food • Keep foods hot (>140º F) or cold (< 40º F) • Cool leftovers quickly * Toxin heat resistant*
BOTULISM (*Clostridium botulinum*)	Soil	onset: lasts:	12–72 hours to 14 days days to months/years 10% death rate	Headache, dizziness, tired, double vision, muscle weakness and difficulty speaking, swallowing and breathing, death without antitoxin	Smoked and home canned meat and vegetables, low-acid cooked foods held at room temperature in low-oxygen environment	• Can foods properly • Prepare and store foods properly • Boil home canned vegetables and meats 15–20 minutes before tasting
C. PERFRINGENS FOOD POISONING (*Clostridium perfringens*)	Intestinal tract of humans and animals, soil, dust, water	onset: lasts:	8–24 hours 1–2 days	Acute abdominal pain, fever	Improperly held, cooled and/or reheated meat and poultry, stews, meat pies, casseroles and gravies	• Keep foods hot (>140º F) or cold (< 40º F) • Cool quickly in small portions • Reheat to 165º F
B. CEREUS FOOD POISONING (*Bacillus cereus*)	Soil, dust, water	onset: lasts:	1–5 hours 1–2 days	*Two types of illness:* *Mild:* abdominal pain and diarrhea *Severe:* nausea and vomiting	Cereal and rice dishes, macaroni and cheese, spices, dairy products, puddings, soups, sauces, mashed potatoes, meat	• Good Sanitation • Keep foods hot (>140º F) or cold (< 40º F) • Cool leftovers quickly • Reheat to 165º F * Spores very heat resistant*
VIRAL INFECTIONS						
INFECTIOUS HEPATITIS (*Hepatitis A virus*)	Infected workers, contaminated water, shellfish from contaminated water	onset: lasts:	15–30 days weeks/months	Fever; loss of appetitie, fatigue, jaundice, darkened urine, enlarged liver	Raw oysters and clams, foods handled and not cooked after handling such as bakery products, luncheon meats, salads, sandwiches, fruits, raw milk or water	• Good personal hygiene • Minimize hand contact with food • Separate infected persons from food preparation • Cook all foods properly, esp. seafood
VIRAL GASTROENTERITIS (*norovirus*)	Infected workers, contaminated water, shellfish from contaminated water	onset: lasts:	1–2 days 1–2 days	Mild fever, headache, pains	Raw or undercooked shellfish, sandwiches, salads, etc.	• Good personal hygiene • Minimize hand contact with food • Cook shellfish well
PARASITIC INFECTIONS						
TRICHINOSIS (*Trichinella spirella*)	Muscle of meat-eating animals, esp. pigs and bears	onset: lasts:	3–30 days weeks/months	*3 stages: Intestinal:* flu-like; *Muscle invasion:* fever, puffy eyes, sweating, weakness, muscle pain; *Convalescence:* toxemia, myocarditis	Raw and undercooked pork, bear and game	• Cook all pork products to 160º F • Prevent cross-contamination

Fact Sheet 5, Part 3
Microbiological Foodborne Illnesses

ILLNESSES/ MICROORGANISMS	SOURCE	ONSET/DURATION OF ILLNESS (without complications)		SYMPTOMS (other than nausea, vomiting, diarrhea & cramps)	COMMON FOODS INVOLVED	PREVENTION
INTOXICATIONS						
STAPHYLOCOCCAL INTOXICATION (*Staphylococcus aureus*)	Skin, nose, throat, hands (coughs & sneezes), hair, sores, pimples, raw milk; and sewage	onset: lasts:	1–6 hours 1–2 days	Usually no fever	Ham, processed meat, tuna, poultry, red meat, sandwich fillings, potato and meat salads, dairy products, imitation dairy products, raw milk	• Minimize hand contact with food • Keep foods hot (>140º F) or cold (< 40º F) • Cool leftovers quickly ** Toxin heat resistant*
BOTULISM (*Clostridium botulinum*)	Soil	onset: lasts:	12–72 hours to 14 days days to months/years 10% death rate	Headache, dizziness, tired, double vision, muscle weakness and difficulty speaking, swallowing and breathing, death without antitoxin	Smoked and home canned meat and vegetables, low-acid cooked foods held at room temperature in low-oxygen environment	• Can foods properly • Prepare and store foods properly • Boil home canned vegetables and meats 15–20 minutes before tasting
C. PERFRINGENS FOOD POISONING (*Clostridium perfringens*)	Intestinal tract of humans and animals, soil, dust, water	onset: lasts:	8–24 hours 1–2 days	Acute abdominal pain, fever	Improperly held, cooled and/or reheated meat and poultry, stews, meat pies, casseroles and gravies	• Keep foods hot (>140º F) or cold (< 40º F) • Cool quickly in small portions • Reheat to 165º F
B. CEREUS FOOD POISONING (*Bacillus cereus*)	Soil, dust, water	onset: lasts:	1–5 hours 1–2 days	***Two types of illness: Mild:*** abdominal pain and diarrhea ***Severe:*** nausea and vomiting	Cereal and rice dishes, macaroni and cheese, spices, dairy products, puddings, soups, sauces, mashed potatoes, meat	• Good Sanitation • Keep foods hot (>140º F) or cold (< 40º F) • Cool leftovers quickly • Reheat to 165º F ** Spores very heat resistant*
VIRAL INFECTIONS						
INFECTIOUS HEPATITIS (*Hepatitis A virus*)	Infected workers, contaminated water, shellfish from contaminated water	onset: lasts:	15–30 days weeks/months	Fever; loss of appetite, fatigue, jaundice, darkened urine, enlarged liver	Raw oysters and clams, foods handled and not cooked after handling such as bakery products, luncheon meats, salads, sandwiches, fruits, raw milk or water	• Good personal hygiene • Minimize hand contact with food • Separate infected persons from food preparation • Cook all foods properly, esp. seafood
VIRAL GASTROENTERITIS (*norovirus*)	Infected workers, contaminated water, shellfish from contaminated water	onset: lasts:	1–2 days 1–2 days	Mild fever, headache, pains	Raw or undercooked shellfish, sandwiches, salads, etc.	• Good personal hygiene • Minimize hand contact with food • Cook shellfish well
PARASITIC INFECTIONS						
TRICHINOSIS (*Trichinella spirella*)	Muscle of meat-eating animals, esp. pigs and bears	onset: lasts:	3–30 days weeks/months	***3 stages: Intestinal:*** flu-like; ***Muscle invasion:*** fever, puffy eyes, sweating, weakness, muscle pain; ***Convalescence:*** toxemia, myocarditis	Raw and undercooked pork, bear and game	• Cook all pork products to 160º F • Prevent cross-contamination

THE
UNIVERSITY
OF RHODE ISLAND
COLLEGE OF
THE ENVIRONMENT
AND LIFE SCIENCES

COOPERATIVE EXTENSION FOOD SAFETY EDUCATION PROGRAM

POTENTIALLY HAZARDOUS FOODS
(TIME/TEMPERATURE CONTROL FOR SAFETY FOODS)

Potentially hazardous food (time/temperature control for safety) is any food that requires time/temperature control for safety (TCS) to limit the growth of pathogenic microorganisms or the production of toxins.

Potentially hazardous foods (time/temperature control for safety) are:
• of animal origin, e.g., meat, poultry, milk, fish, shellfish, crabs, and lobster
• of plant origin and has been heat treated
• raw seed sprouts
• cut melons
• garlic-in-oil mixtures

There is an additional approach used in the 2005 RI Food Code to determine if a food should be treated as a potentially hazardous food (time/temperature control for safety food). This approach takes into consideration the interaction and level of pH and water activity. If time and temperature controls are not going to be used, then the Tables A and B apply (below). These tables are from Chapter 1- Purpose and Definitions of the 2007 RI Food Code.

These tables are the result of a study undertaken at the request of FDA, by International Food Technologists (IFT). IFT-member food scientists developed a framework that could be used to determine whether a food is a PHF (TCS food) or not. This framework includes the two tables that consider the interaction of pH and water activity in a food, whether the food is heat treated, and whether it is packaged. These tables also provide guidance as to when a food must undergo microbiological challenge studies.

Table A. Interaction of pH and A_w for control of spores in FOOD heat-treated to destroy vegetative cells and subsequently PACKAGED

A_w values	pH values		
	4.6 or less	> 4.6 - 5.6	> 5.6
≤0.92	non-PHF*/non-TCS FOOD**	non-PHF/non-TCS FOOD	non-PHF/non-TCS FOOD
> 0.92 - .95	non-PHF/non-TCS FOOD	non-PHF/non-TCS FOOD	PA***
> 0.95	non-PHF/non-TCS FOOD	PA	PA

* PHF means POTENTIALLY HAZARDOUS FOOD
** TCS FOOD means TIME/TEMPERATURE CONTROL FOR SAFETY food
*** PA means Product Assessment required

Fact Sheet 6, Part 2
Potentially Hazardous Foods

Table B. Interaction of PH and A_W for control of vegetative cells and spores in FOOD not heat-treated or heat-treated but not PACKAGED				
A_W values	PH values			
	< 4.2	4.2 - 4.6	> 4.6 - 5.0	> 5.0
< 0.88	non-PHF*/ non-TCS food**	non-PHF/ non-TCS food	non-PHF/ non-TCS food	non-PHF/ non-TCS food
0.88 – 0.90	non-PHF/ non-TCS food	non-PHF/ non-TCS food	non-PHF/ non-TCS food	PA***
> 0.90 – 0.92	non-PHF/ non-TCS food	non-PHF/ non-TCS food	PA	PA
> 0.92	non-PHF/ non-TCS food	PA	PA	PA
* PHF means POTENTIALLY HAZARDOUS FOOD ** TCS FOOD means TIME/TEMPERATURE CONTROL FOR SAFETY FOOD *** PA means Product Assessment required				

Often Overlooked Time/Temperature Control for Safety Foods

- Bacon - if not fully cooked.
- Mayonnaise or other acidified salad dressings - if pH is above 4.5 and/or combined with other food products.
- Onions - cooked or reconstituted dehydrated onions.
- Beans - all types of cooked beans.
- Eggs - fresh egg shells, fresh eggs with outer shell removed, and hard-boiled eggs.
- Whipped butter - whipping introduces bacteria.
- Cheese - soft unripened cheese such as cottage, ricotta, Brie, and cream cheese are more hazardous than hard cheese. All cheeses should be refrigerated.
- Coffee creaming agents - all non-dairy coffee creaming agents in liquid form, except those approved by food safety authorities (labeled UHT only).
- Pasta – cooked.
- Pastries - meat, cheese, and cream filled
- Pies - meat, fish, poultry, natural cream, synthetic cream, custard, pumpkin, and pies covered with toppings that support microbial growth
- Garlic - garlic in oil products.
- Potatoes - baked, boiled, or fried.
- Refried beans - all varieties.
- Rice - boiled, steamed, fried, Spanish, and cooked rice used in sushi.
- Sauces - Hollandaise and other sauces that contain potentially hazardous ingredients.
- Sour cream - if the pH is above 4.6 and/or combined with other food products.
- Soy protein - tofu and other moist soy protein products.
- Seed sprouts - all types

FN-SSB.085

U̇K COOPERATIVE EXTENSION SERVICE
U N I V E R S I T Y   O F   K E N T U C K Y — C O L L E G E   O F   A G R I C U L T U R E

Recommended Food Storage Times Cold and Dry Refrigerated and Frozen Foods

Americans lose money every day because of improper storage of food. The recommended storage time of food depends on what kind of food it is and the length of time and temperature the food is stored, before and after you purchase it. Properly storing food results in improved nutritional quality, reduced waste from spoilage, decreased risk in foodborne illness when eaten, and fresher, better tasting food. Food that is held past the recommended storage time may still be safe, but the quality may have begun to deteriorate. The tables below give the recommended storage times for maintaining good quality. Always start with high quality food. Refrigerator temperature should be kept below 40°F and freezer temperature below 0°F. Some food may not freeze well, resulting in changes in appearance, texture, color, or moisture, but they may still be safely frozen. Remember to rotate your foods using the FIRST IN, FIRST OUT rule.

Dairy Products

Food Product	Refrigerator Storage	Freezer Storage
Butter or margarine	1-3 months	6-9 months
Buttermilk	1-2 weeks	Freezes poorly
Cheese spread, opened	2 weeks	Freezes poorly
Condensed milk, opened	3-5 days	1 month
Cottage or farmer's cheese	1 week	Freezes poorly
Cream, half and half	3-4 days	4 months
Cream cheese	2 weeks	Freezes poorly
Evaporated milk, opened	3-5 days	Freezes poorly
Fluid milk	5-7 days after sell-by date	1-3 months
Hard cheese	6 months(unopened), 3-4 weeks (opened)	6 months
Ice cream and sherbet	Do not refrigerate	2 months
Nonfat Dry Milk (NFDM)	5-6 months	10-12 months
Processed cheese	3-4 weeks	4 months
Pudding	2 days after opening	Freezes poorly
Reconstituted NFDM	3-5 days	Freezes poorly
Sour cream	7-21 days	Freezes poorly
Whipped cream	2-3 hours	1 month
Whipping cream	10 days	2 months
Yogurt	1 week after sell-by date	1-2 months

Fact Sheet 7, Part 2
Recommended Food Storage Times
Cold and Dry Refrigerated and Frozen Foods

Some foods may have open dates on the package to assist the consumer in proper storage. The most commonly used open dates are the sell-by date, use-by date, expiration date, or pack date. The sell-by date is the last recommended day of sale, but it allows for home storage and use. Breads and baked goods commonly have sell-by dates. Use-by dates recommend how long the food will retain top quality after you buy it. Packaged foods often have use-by dates. An expiration date indicates the last day the food should be eaten, commonly found on egg cartons. Canned or packaged foods may have pack dates that indicate the date of processing or the food may have a coded date that only the manufacturer understands. These dates offer no safety or quality information.

Eggs

Food Product	Refrigerator Storage	Freezer Storage
Fresh in shell	3-5 weeks	Freeze poorly
Raw yolks, whites	2-4 days	1 year
Liquid pasteurized eggs, egg substitutes	10 days (unopened) 3 days (opened)	1 year (unopened) Freeze poorly
Hard cooked	1 week	Freeze poorly

Meat Products

Food Product	Refrigerator Storage	Freezer Storage
Roasts and steaks	3-5 days	6-12 months
Chops	3-5 days	4-6 months
Ground and stew meats	1-2 days	3-4 months
Bacon	1 week	1 month
Canned ham	6-9 months (unopened) 3-5 months (opened)	Freezes poorly 1-2 months
Corned beef, in pouch	5-7 days	1 month, drained
Ham, slices (fully cooked)	3-4 days	1-2 months
Ham, half (fully cooked)	3-5 days	1-2 months
Ham, whole (fully cooked)	1 week	1-2 months
Hotdogs	2 weeks (unopened) 1 week (opened)	1-2 months 1-2 months
Sausage	1-2 days	1-2 months
Smoked breakfast links, patties	7 days	1-2 months
Organ meats	1-2 days	3-4 months
Lunch meats	2 weeks (unopened) 3-5 days (opened)	1-2 months 1-2 months
Vacuum-packed dinners with USDA seal	2 weeks (unopened)	Do not freeze
Cooked meats, casseroles, soups, stews	3-4 days	2-3 months
Gravy and meat broth	1-2 days	2-3 months

Fact Sheet 7, Part 3
Recommended Food Storage Times
Cold and Dry Refrigerated and Frozen Foods

Poultry Products

Food Product	Refrigerator Storage	Freezer Storage
Chicken or turkey, whole	1-2 days	1 year
Chicken or turkey, pieces	1-2 days	9 months
Ground poultry and giblets	1-2 days	3-4 months
Duck, goose, game birds	1-2 days	9 months
Fried or boiled chicken	3-4 days	4 months
Cooked poultry casseroles	3-4 days	4-6 months
Cooked poultry with broth or gravy	1-2 days	6 months
Nuggets or patties	1-2 days	1-3 months

Fish and Shellfish

Food Product	Refrigerator Storage	Freezer Storage
Lean Fish – cod, flounder, haddock, halibut, pollack, ocean perch, rock fish, sea trout, sole	1-2 days	6 months
Fatty fish – bluefish, mackerel, mullet, salmon, smelt, swordfish, tuna	1-2 days	2-3 months
Cooked fish	3-4 days	4-6 months
Smoked fish, vacuum packaged	14 days or date on package	2 months
Surimi	2 weeks	9 months
Breaded fish	Do not refrigerate	3 months
Shrimp	1-2 days	3-6 months
Scallops	1-2 days	3-6 months
Crayfish	1-2 days	3-6 months
Squid	1-2 days	3-6 months
Clams	1-2 days (shucked) 2-3 days (live)	3-6 months 2-3 months
Mussels	1-2 days (shucked) 2-3 days (live)	3-6 months 2-3 months
Oysters	1-2 days (shucked) 2-3 days (live)	3-6 months 2-3 months
Lobster	1-2 days (live)	2-3 months
Crab	1-2 days (in shell)	2-3 months
Cooked shellfish	3-4 days	3 months

Fact Sheet 7, Part 4
Recommended Food Storage Times
Cold and Dry Refrigerated and Frozen Foods

🍎 Fruits 🍐

Food Product	Refrigerator Storage	Freezer Storage
Apples	1 month	8-12 months
Apricots	3-5 days	8-12 months
Avocados	5 days	8-12 months
Bananas	5 days at room temperature	Freeze poorly
Berries	2-3 days	8-12 months
Cherries	2-3 days	8-12 months
Cranberries	1 week	8-12 months
Grapes	5 days	10-12 months
Guavas	1-2 days	8-12 months
Kiwis	6-8 days	4-6 months
Lemons, limes, oranges, grapefruit	2 weeks	4-6 months
Mangos	Ripen at room temperature	8-12 months
Melons	1 week	8-12 months
Nectarines	5 days	8-12 months
Papayas	Ripen at room temperature	8-12 months
Peaches	2-3 days	8-12 months
Pears	5 days	8-12 months
Pineapples	5-7 days	4-6 months
Plantains	Ripen at room temperature	8-12 months
Plums	5 days	8-12 months
Rhubarb	1 week	8-12 months
Canned fruits	2-4 days (opened)	2-3 months
Frozen juice concentrate	Do not refrigerate	2 years
Frozen juice reconstituted	6 days	6-12 months

Power Outages
- Without power a full upright chest freezer or refrigerator freezer, will keep food frozen about two days, if you do not open the lid. If the freezer is only half-full, it will keep for one day. If the power will be off for an extended period, transport food to freezers where there is electricity or use block or dry ice. Handle dry ice according to instructions. Do not touch or breathe fumes.
- Without power, a refrigerator will keep food cool for four to six hours, depending on the kitchen temperature. Use block or dry ice to keep food cold for long periods.
- When the electricity returns, if ice crystals are present in food or the food feels refrigerator-cold, it can be refrozen, but there may be a loss of quality in color, texture, flavor, and nutrient content. Any thawed food that has risen above room temperature and remained there for two hours or more should be discarded. Foods with a strange color or odors should be discarded.
- **IF IN DOUBT, THROW IT OUT!**

Fact Sheet 7, Part 5
Recommended Food Storage Times
Cold and Dry Refrigerated and Frozen Foods

Vegetables

Food Product	Refrigerator Storage	Freezer Storage
Artichokes	2-3 days	Freeze poorly
Asparagus	2-3 days	8-12 months
Beets	2 weeks	8-12 months
Broccoli	3-5 days	8-12 months
Brussels sprouts	3-5 days	8-12 months
Cabbage	1 week	8-12 months
Carrots	2 weeks	8-12 months
Cauliflower	1 week	8-12 months
Celery	1 week	8-12 months
Corn, in husks	1-2 days	8-12 months
Cucumbers	1 week	8-12 months
Eggplant	2-3 days	8-12 months
Green beans	1-2 weeks	8-12 months
Greens	3-5 days	8-12 months
Jicama	2-3 weeks	8-12 months
Kohlrabi	1 week	8-12 months
Lettuce and salad greens	3-5 days	Freeze poorly
Lima beans	3-5 days	8-12 months
Mushrooms	1-2 days	8-12 months
Okra	3-5 days	8-12 months
Onions, green	3-5 days	Freeze poorly
Parsley	2-3 days	3-4 months
Peas	3-5 days	8-12 months
Peppers	1 week	8-12 months
Radishes	2 weeks	Freeze poorly
Squash, winter	Store in a dry place	8-12 months
Squash, summer	3-5 days	8-12 months
Tomatillos	1 week	8-12 months
Tomatoes	1 week	8-12 months
Yuca	1-2 days	8-12 months
Zucchini	3-5 days	8-12 months
Frozen vegetables	Do not refrigerate	8 months
Canned vegetables	1-4 days (opened)	2-3 months

Fact Sheet 7, Part 6
Recommended Food Storage Times
Cold and Dry Refrigerated and Frozen Foods

Baked Products

Refrigerated storage of breads promotes staleness. Store breads at room temperature for 3 to 7 days unless otherwise indicated.

Food Product	Refrigerator Storage	Freezer Storage
Bread, yeast	Room temperature	4-6 months
Biscuits	Room temperature	2-3 months
Muffins	Room temperature	2-3 months
Quick breads	Room temperature	2-3 months
Pancakes and waffles	Room temperature	1-2 months
Rolls, yeast	Room temperature	2-3 months
Refrigerated biscuits	Use-by date	Do not freeze

Cakes and Cookies

Food Product	Refrigerator Storage	Freezer Storage
Angel	1-3 days at room temperature	2 months
Chiffon and sponge	1-3 days at room temperature	2 months
Cheesecake	3-7 days	2-3 months
Fruitcake	6-8 months	1 year
Pound	3-5 days at room temperature	6 months
Iced layer cake	1-3 days at room temperature	6 months
Baked cookies	5-7 days at room temperature	4-6 months
Unbaked cookie dough	Use-by date	2 months

Pastries and Pies

Food Product	Refrigerator Storage	Freezer Storage
Danish and doughnuts	1-3 days at room temperature	3 months
Chiffon pie	2-3 days	1 month
Fruit pie	2-3 days	1 year
Mincemeat pie	2-3 days	4-8 months
Pumpkin pie	2-3 days	1 month
Unbaked fruit pie	Do not refrigerate	8 months

Baby Food

Food Product	Refrigerator Storage	Freezer Storage
Expressed breast milk	3-5 days	3 months
Formula mixed with water	2 days	DO NOT FREEZE
Strained fruits and vegetables	2-3 days	6-8 months
Strained meat and eggs	1 day	1-2 months
Strained meat and vegetable combination	1-2 days	1-2 months
Homemade baby foods	1-2 days	1-2 months

Miscellaneous

Food Product	Refrigerator Storage	Freezer Storage
Fresh Pasta	1 week	1 month
Mayonnaise	2 months	Freeze poorly
Nuts	6 months	1 year
Sandwiches	1-2 days	1 week
Tofu	1 week	1 month
Coffee and tea	4-6 weeks	1 year
Peanut butter	6-8 months	6-8 months
Catsup, chili, cocktail sauce	6 months (opened)	Freeze poorly
Mustard	6-8 months	8-12 months
Coconut, shredded, opened	8 months	1 year
Honey, jams, jellies, syrup	6-8 months (opened)	Freeze poorly
Bottled salad dressing	3 months	Freeze poorly
Vegetable shortening	6-9 months	Freeze poorly

Canned Goods

Food Product	Shelf Life
High acid canned foods and juices including tomatoes, grapefruit, apple products, mixed fruit, berries, pickles, sauerkraut, and vinegar-based products	1 year
Low acid canned foods including meat and poultry products, vegetable soups (not tomato), all vegetables	2-5 years
Home-canned products – all types	1 year

Fact Sheet 7, Part 8
Recommended Food Storage Times
Cold and Dry Refrigerated and Frozen Foods

Dry Good Shelf Storage

Staples	Shelf Life
Baking powder and soda	18 months
Barley	2 years
Bread crumbs	6 months
Bulgar	5-6 months
Cereal, ready-to-eat	2-3 months (opened) 6-12 months (unopened)
Cereal, ready-to-cook	6 months
Chocolate, baking	6-12 months
Cornstarch	18 months
Flour, bleached	6-8 months
Flour, whole wheat	6-8 months
Honey and syrup	1 year
Noodles, egg	6 months
Noodles, plain	1-2 years
Olive oil	6 months
Pasta	2 years
Rice	2 years
Rice, brown or wild	6 months
Sugar, brown	4 months
Sugar, granulated	2 years +
Sugar, powdered	18 months
Pasta	2 years
Wheat germ	8-12 months (unopened)
Yeast, dry	Expiration date

References
-Arizona Department of Health Services (2005), *Safe Food Storage Times and Temperatures*.
-National Restaurant Association Educational Foundation (2002), *Be Cool-Chill Out! Refrigerate Promptly*.
-United States Department of Agriculture (2001), *Cold Storage Chart.*

Clip art Microsoft® 2007.

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Extension Food and Nutrition Specialist

May 1998; Revised July 2007

THIS IS WHAT HAPPENS WHEN A FLY LANDS ON YOUR FOOD:

Flies can't eat solid food, so to soften it up they vomit on it.

....

Then they stamp the vomit in until it's a liquid, usually stamping in a few germs for good measure.

....

Then when it's good and runny, they suck it all back up again, probably dropping some excrement at the same time.

....

And then when they've finished eating, it's your turn.

From Prize Winning Poster Health Education Council

UMASS EXTENSION

Monthly Audit Checklist

Log Sheets

1. Food contact surfaces cleaning and sanitizing log

2. Food temperature log

3. Refrigerator Log

4. Thermometer Accuracy/Calibration Log

5. Time/Temperature Graph

	YES	NO	NOT OBSERVED	COMMENTS
I. Food Safety Plan				
There is a food safety plan in place				
Documentation is collected as required by the food safety plan				
II. Personal Hygiene/Employee Health				
SOPs relating to personal hygiene and employee health are in place and adhered to				
Staff/residents wear clean clothing when preparing and serving food				
Hair is covered/restrained				
Fingernails are trimmed with no polish				
Jewelry is limited to plain ring, watch				
Hands are washed properly, frequently and at appropriate times				
Chewing gum, smoking, eating or drinking while preparing and serving food is not allowed				
Sinks used for handwashing are stocked with single-use paper towels, and soap				
Water used for handwashing is at least 100°F				
People who are sick are not allowed in the kitchen to prepare and/or serve food				
Cuts and other wounds are properly bandaged and covered with a waterproof bandage				
III . Food Preparation				
SOPs relating to all aspects of food preparation are in place and adhered to				
There is no bare-hand contact with ready-to-eat foods				
Single-use gloves properly are used				
Frozen food is properly thawed				
Fresh fruits and vegetables are washed before preparing and/or severing				
Food is tasted using the proper procedure				
Food is cooked to the required internal temperature and is tested with a calibrated food thermometer and final cooking temperature is recorded in food temperature logs				
Leftovers and food prepared for reheating are properly cooled				
Leftovers and other foods are reheated to the proper temperature and final reheat temperature is recorded in food temperature logs				

	YES	NO	NOT OBSERVED	COMMENTS
I. Food Safety Plan				
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MSP/2/09

Instructions: Record sanitizer concentration and any corrective action taken on this form. The foodservice manager will verify that food workers have taken the required information by visually monitoring foodservice employees and preparation procedures during the shift and by reviewing, initialing, and dating this log daily. Maintain this log for a minimum of 90 days.

DATE AND TIME	SANITIZER CONCENTRATION (IN PPM)	CORRECTIVE ACTION TAKEN	INITIAL	VERIFIED BY/ DATE

Hot Holding Food Temperature Log

Product must be held at a minimum temperature of 135° F. If below 135° F, product may be reheated to 165° F for 16 seconds. If product is below 135° F for 4 hours or more, dispose of product and record in the corrective action column above.

DATE	TIME	PRODUCT	INITIAL TEMP	INITIALS	2 HR TEMP	INITIALS	4 HR TEMP	INITIALS	6 HR TEMP	INITIALS	CORRECTIVE ACTION TAKEN

Reviewed by: Date:

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DATE

TIME	FOOD PRODUCT	INTERNAL TEMP	ACTION TAKEN	INITIAL

DATE	AM		PM		ACTION TAKEN	INITIAL
	time	temp	time	temp		

IF AIR TEMPERATURE IS ABOVE 41° F, NOTIFY MANAGER IMMEDIATELY

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CALIBRATION STANDARD USED

DATE	ICE SLUSH 32° F	BOILING 212° F		CORRECTIVE ACTION TAKEN	INITIAL

Instructions: Record sanitizer concentration and any corrective action taken on this form. The foodservice manager will verify that food workers have taken the required information by visually monitoring foodservice employees and preparation procedures during the shift and by reviewing, initialing, and dating this log daily. Maintain this log for a minimum of 90 days.

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STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

D E P A R T M E N T   O F   H E A L T H

Safe and Healthy Lives in Safe and Healthy Communities

TIME / TEMPERATURE COOLING GRAPH

Date:	
Product:	
Container:	
Method of Cooling:	

Temp

Graph axis temperatures (top to bottom): 170, 165, 160, 155, 150, 145, 140, *135*, 130, 125, 120, 115, 110, 105, 100, 95, 90, 85, 80, 75, *70*, 65, 60, 55, 50, 45, *41*

Must cool from 135F-70F within 2 hrs.

Total Time from 135F-41F in less than 6hrs.

Start Time (135F)	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	10.5	End Time (41F)
											(Hours)											

Time from 135F to 70F (<2hrs) _____ + Time from 70F to 41F _____ = Total Time (<6hrs)_____

USE A SEPARATE FORM TO EVALUATE COOLING METHODS FOR EACH POTENTIALLY HAZARDOUS FOOD COOKED ONE OR MORE DAYS IN ADVANCE.

COOLING METHOD APPROVED BY: _____

Notes: _____

_____

_____

T.N. 02/2007

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References

Developing a School Food Safety Program Participant's Workbook, The National Food Service Management Institute, University of Mississippi, 2006.

FDA, *Managing Food Safety: A Manual for the Voluntary Use of HACCP Principles for Operators of Food Service and Retail Establishments.* www.fda.gov/Food/FoodSafety/RetailFoodProtection/ManagingFoodSafety/HACCPPrinciples/Operators/default.htm

Massachusetts Partnership for Food Safety Education. www.mafoodsafetyeducation.info

National Registry of Food Safety Professionals, *Essentials of Food Safety & Sanitation*, 2004.

Partnership for Food Safety Education, *Be Food Safe.* www.befoodsafe.gov

Rhode Island Cooperative Extension Food Safety Education Program. www.uri.edu/ce/ceec/foodsafety.shtml

USDA Food and Nutrition Service, *Guidance for School Food Authorities: Developing a Food Safety*, Program Based on the Process Approach to HACCP. www.fns.usda.gov/cnd/Lunch/Downloadable/HACCPGuidance.pdf