Welcome!
Temperature Management In Foodservice
August 12th, 2014
1pm CST

5 Major Risk Factors

• Improper holding temperatures
• Inadequate cooking temperatures
• Contaminated utensils and equipment
• Food from unsafe sources
• Poor personal hygiene

Health Inspections
Why the concern?

“Bugs” Related to Temperature Control

- Clostridium perfringens
- Staphylococcus aureus
- Salmonella spp.
- Campylobacter jejuni
- Bacillus cereus
- Escherchia coli 0157:H7
- Yersinia enterocolitica
- Clostridium botulinum

2013 FDA Model Food Code

- Presentation based on 2013 FDA Food Code
- Follow the temperature guidelines for your state or jurisdiction

Key Temperatures

Temperature Danger Zone

- Keep hot food hot
- Keep cold food cold
Flow of Food

Temperature is critical at each step!

Receiving
Storing
Cooking
Holding
Cooling
Reheating

Receiving Temperatures

Do you check the temps?

- Cold food at 41 °F or below
- Eggs in refrigerated equipment that maintains 45 °F or below ambient temperature
- Hot food at 135 °F or above
- Frozen food should be frozen
- No sign of temperature abuse
Storing Foods

- Store TCS food at 41 °F or below
- Store eggs at 45 °F or below
- Monitor ambient air temperatures
  - Thermometers that are easy to read
  - Accurate within ± 3 °F
  - Document temperatures

Cooking

- Cooking kills microorganisms—referred to as the “kill step”
- Temperature recommendation based on the temperature that kills microorganism that might be found in a specific food

Cooking Temperatures

- 145 °F or above for 15 seconds—Raw eggs, fish, meat
- 155 °F for 15 seconds—Mechanically tenderized and injected meats, ground meats
- 165 °F for 15 seconds—Poultry, stuffed fish or meat, stuffed pasta, stuffed poultry, stuffing containing raw meat

Special considerations:
- Highly susceptible population
- Ground meat on a children's menu
- Variance based on an approved HACCP plan

Time and Temperature must be considered!
Microwave Cooking

Raw animal food cooked in microwave must be:
• Rotated or stirred midway
• Covered
• Heated to 165°F throughout
• Allowed to stand for 2 minutes

Holding Food

• Hold hot foods at 135°F or above
• Hold cold foods at 41°F or below

Cooling
Cooling Guidelines

- Cool from 135°F to 70°F in 2 hrs and from 70°F to 41°F in 4 hrs—6 hrs total
- Cool to 41°F within 4 hrs

Cooling Tip: Focus on getting to 70°F as quickly as possible.

Cooling Methods

Food Code Guidelines

- Place in shallow pans
- Separate into smaller or thinner portions
- Use rapid cooling equipment
- Use ice water baths
- Use containers that facilitate heat transfer
- Add ice as an ingredient

Cooling is more difficult than it sounds!

Placement in Cooling Equipment

- Arrange in equipment to provide maximum heat transfer
- Loosely cover or uncovered if protected from contamination

Cooling Research

- Study to determine efficacy of various cooling methods
- Foods: chili, tomato/Marinara sauce, beef taco meat, rice
- Methods: refrigerator (2” and 3” depth), freezer (2” and 3” depth), ice water baths, chill stick
Conclusions on Cooling

- Freezer effective for products at 2" depths
- Freezer NOT effective for products at 3" depths
- Refrigerator NOT effective at either 2" or 3" depths for any food product
- Ice water bath effective for rice

Conclusions on Cooling, cont.

- Blast chillers will cool foods quickly
- Active cooling methods are needed
- Each operation needs to validate cooling effectiveness for their operation

Reheating

- Reheat foods to 165°F for 15 seconds
- Reheat foods in the microwave to 165°F with a stand time of 2 minutes
- Reheat commercially processed ready-to-eat foods to 135°F or above
- Reheat cold foods (41°F or below) in 2 hours or less
Thermometer Needs

• Storage locations
  – Dry storage
  – Refrigerators
  – Freezers
• Food thermometers
  – Receiving
  – Cooking
  – Cooling
  – Reheating

Thermometer Use

• Food thermometers must be provided and readily accessible
• Must be able to measure thin masses such as meat patties and fish fillets
• Must be calibrated
• Temperature must be documented
• Employees must be trained
• Supervisors must follow up

Documenting Temperatures

Food Temperature Charts
Daily Temperature Chart
Instructions
1. Hot/Cold Food Temperature Monitoring
2. Cooler Refrigeration Temperature
3. Time/Temperature Food Preparation Log
4. Receiving: Temperature/Quality Log
5. HACCP Safe Cooling Chart

Questions?

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foodhandler.com/downloads.cfm