The Role of Sanitation and HACCP in Food Safety

September 24, 2013
Presented by
P&G Professional™
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Objectives

• Discover the importance of sanitation in food safety, and proper sanitation controls
• Learn how to apply HACCP principles in any foodservice operation
• Discover the benefits of HACCP in your establishment
• Find out best practices to establish a food safety culture
Our Experts

• Ramona Quintanilla, Ph.D.
  – Research and Development, P&G Professional
  – Certified in Professional Food Safety

• Roy Costa
  – President, Environ Health Associates, Inc.
  – Registered Sanitarian

• Roy Getz
  – CEO, Fry Cook and Cashier, RCO Limited – Raising Cane’s Ohio
  – P&G Professional Expert Advisory Council Member
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Ramona Quintanilla, Ph.D.
Research & Development
P&G Professional

[Image of Ramona Quintanilla]
Food Safety Risk Factors

- Poor Personal Hygiene
- Use of Contaminated Equipment
- Inadequate Cooking
- Improper Holding Temperatures
- Food From Unsafe Sources

Source: CDC Outbreak Study, 1993 to 1997
Microbiological Food Hazards

• 31 known microbiological hazards that cause illnesses, hospitalizations, and deaths\(^1\)

• Food hazards on the radar for environmental prevalence and persistence, Rank and Percent vs. all foodborne infections

<table>
<thead>
<tr>
<th>Agent</th>
<th>Illness</th>
<th>Hospitalization</th>
<th>Death</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noroviruses</td>
<td>1 (58%)</td>
<td>2 (26%)</td>
<td>4 (11%)</td>
</tr>
<tr>
<td><em>Salmonella</em> spp.</td>
<td>2 (11%)</td>
<td>1 (35%)</td>
<td>1 (28%)</td>
</tr>
<tr>
<td><em>Listeria mono</em></td>
<td>NA (0.02%)</td>
<td>NA (2.6%)</td>
<td>3 (19%)</td>
</tr>
</tbody>
</table>

Environmental Cleanliness Important

Hazards Come into Establishment

Patron Eats Contaminated Food and Gets Sick

Establishment represented by blue box
Sanitation Need for Environmental Control

*Listeria monocytogenes*
- Research Dr. Haley Oliver (Purdue) and Dr. Martin Wiedmann
- H. Oliver. 2012 presentation at IAFP
- Evidence of prevalence and persistence in retail delis

*Salmonella* spp.
- CDC epidemiology, June 2011 and July 2011

*Human noroviruses*
- NoroCore Food Virology Collaborative, Prof. LeeAnn Jaykus ($25 million grant from USDS)
- Investigating environmental prevalence in retail food establishments
**Listeria mono in Retail Delis**

- Monthly sampling - 28 sampling points in 30 stores over 6 months
- Sampling point surfaces and avg. base-line contamination rates:
  - Food Contact, 4.5%
  - Non-Food Contact, 14%
  - Transfer/High Touch, 3.3%
- Selected base high contamination rate surfaces
  - 7.8% - Interior of 3-Compartment Sink
  - 18% - Interior of Food Prep Sink
  - 28% - Floor/Wall under Food Prep Sink
  - 34% - Cold Room Drain
  - 27% - Floor Squeegee
  - 25% - Drains in Food Prep Areas
  - 12% - Floors in Food Prep Areas
- Found LM over time on same surfaces

*Source: Haley Oliver, 2012 IAFP*
Why Environmental Persistence?

- Food service environments are ideal for growth and proliferation of bacteria
  - Moisture, food sources, temperature, etc.
  - Many safe harbors for bacteria
- Studies have shown correlation between persistence and ability to form biofilms
- Pathogens in biofilms can be resistant to some conventional cleaning practices and compounds
  - Applying common sanitizers alone without a cleaning, and rinse step before

Sources:
Sanitation Performance Factors

- Soil
- Surface
- Chemical action
- Mechanical action
- Temperature
- Facility design

- Equipment design
- Time
- Water quality
- Sanitary Practices/Process
- Person
Sanitation Chemicals

Cleaners, sanitizers, and disinfectants

• Work with your sanitation supplier to identify most effective chemicals
• Consider more effective sanitation chemicals for “hot spot” cleaning
  − High moisture, food sources, temperature, etc.
• Consider more effective cleaning processes, even non-food contact surfaces like floors and drains
• Not all cleaners are the same
• Can compensate for poor cleaning practices
• Multipurpose can work across a broad class of soils and task areas
Chemical Performance

Time: 00:00:00

Time: 00:00:09

Time: 00:00:15

Time: 00:00:26

Time: 00:00:37

Time: 00:00:49
Facility Design

- Are food processing areas easy to clean?
  - Decluttered (less is more)
    - Underneath sinks
    - If something isn’t being used, get rid of it
  - Can you clean underneath equipment and storage areas?
    - Easy access for sinks, ice machines, etc.
  - Do you have easy access to clean drains?

- Effective maintenance programs
- Work closely with facility design and construction contractors
Equipment Design

• Purchase Cleanable Equipment/Materials
  – Easy to clean
  – Corrosion resistant
  – Durable to cleaning processes
  – Smooth surfaces
  – Movable
  – Don’t always rely on equipment certification stamps

• Cleanability criteria in purchasing considerations

• Maintenance programs for critical equipment
  – Cutting boards, slicers, floor cleaning tools, etc.

• Ease of Cleaning (difficulty and time)
  – Ice Machines, cold holding cases

• Broaden scope of focus to non-food contact equipment
Consider Increased Focus

- Surfaces that are often wet and get soiled with nutrients, hard to clean
  - Floor drains
  - Interior of sinks
  - Cutting boards
- Bodily fluid cleanup (vomitus and diarrheal events)
- High touch surfaces, especially in the bathroom
- Conduct risk assessment/needs analyses
- Work with cleaning/sanitation supplier
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Roy Costa
President
Environ Health Associates, Inc.
The Need for HACCP at Retail

- FDA baseline studies of foodborne illness risk factors at the retail level have shown that traditional food safety programs are not producing a significant improvement in reducing the risk of foodborne illness.

- FDA recommends retail facilities develop Standard Operating Procedures. These SOPs should detail procedures specific to the operation for time/temperature control of potentially hazardous food, personal hygiene, and measures to prevent food from being contaminated.
The Need for HACCP at Retail

• In addition, to gain Active Managerial Control over foodborne illness risk factors FDA recommends facilities develop HACCP based systems following the guide *Managing Food Safety: A HACCP Principles Guide for Operators of Food Establishments at the Retail Level*.  

• [http://www.fda.gov/Food/GuidanceRegulation/HACCP/ucm2006\810.htm](http://www.fda.gov/Food/GuidanceRegulation/HACCP/ucm2006\810.htm)
The Need for HACCP at Retail

• Food service establishments that have outbreaks of foodborne illness typically lack effective controls over basic sanitation as well as food production processes.

• HACCP is process control. In order for an operator to safely prepare foods, a basic sanitation program must be in place. We call these prerequisite programs, and they are typically composed of the Standard Operating Procedures along with Good Retail Practices.
The Need for HACCP at Retail

• While many of the major chain restaurants have some sort of oversight over sanitation and time and temperature controls, a systematic, science based approach to controlling specific harmful microorganisms is lacking.

• Over and over we see outbreaks occur due to time and temperature problems allowing the growth of bacteria.

• HACCP, because of the required standards for time and temperature control, along with monitoring, is the answer to this problem.
The Need for HACCP at Retail

- HACCP is currently voluntary at the food service level with the exception of operations that custom process meats, make sushi, vacuum pack, or employ sous vide, or sprouts.

- Health authorities may also require HACCP when they determine that an operator is employing risky processes other than those specified, such as par cooking in large quantities.
When a city inspector went to the Clover restaurant in East Cambridge last Friday, she found spoiled cauliflower in a refrigerator, hummus and various salads coming back from food trucks at improper temperatures, and the manager not satisfactorily supervising operations at the back of the facility. That inspection was sparked by an outbreak of food poisoning among some of Clover’s customers, which also led the city to shut the restaurant indefinitely, as well as the chain’s Harvard Square location and a food truck in Kendall Square, according to a report provided to the Globe.
Federico’s on 13132 W Camelback Rd. in Litchfield Park has closed during the investigation. Since 2010, the restaurant has been cited five times for temperature-related food safety violations. On May 29, 2013, for example, the restaurant was cited for holding “shredded cooked and raw pork, shredded cooked and raw beef, cooked shrimp, breaded cooked fish, breaded cooked chili (egg battered), cut deli ham held in reach in cooler at 50 F. Deli ham in walk in cooler held at 47 F.” These products, which were discarded, should have been stored at a maximum temperature of 40˚ F.
HACCP Basics

• HACCP is a scientific process of risk assessment that produces a plan to control the significant risks in a food production process.

• It begins by the creation of a HACCP team. Team members represent a wide variety of backgrounds including operations, culinary arts, human resources, quality assurance, and sanitation.

• The team must be knowledgeable about HACCP and receive training through an International HACCP Alliance approved course.
There are 5 preliminary steps and 7 HACCP Principles that must be developed by the HACCP team for all processes.

1. Create the HACCP Team
2. Describe the food and its distribution
3. Describe the end users of the food
4. Develop flow charts
5. Verify flow charts
HACCP Basics

• Once the preliminary steps are accomplished, the team can proceed to develop the 7 HACCP principles.

1. Conduct a HAZARD ANALYSIS
2. Determine CRITICAL CONTROL POINTS
3. Establish CRITICAL LIMITS
4. Develop a MONITORING PROGRAM
5. Establish CORRECTIVE ACTIONS
6. Establish a VERIFICATION PROGRAM
7. Establish a RECORDKEEPING SYSTEM
HACCP Basics

• The HAZARD ANALYSIS principle is probably the most scientific part of HACCP, requiring the team to analyze each step of production for each recipe on the menu for chemical, physical and biological hazards.

• Because restaurant food production systems are quite dynamic, this has been a barrier to application.

• The Process Approach to HACCP greatly streamlines the HAZARD ANALYSIS AND THE ESTABLISHING OF CRITICAL CONTROLS.
HACCP Basics

- Process category 1 - Recipes with no cooking
- Process category 2 - Recipes with cooking for same day service
- Process category 3 - Recipes with cooking and cooling
- There are 4 critical control points identified in this Process Approach method: Cooking (of potentially hazardous foods); Cooling; Reheating; Hot Holding.
HACCP Basics

- The USFDA Food Code provides the criteria for CRITICAL LIMITS:
- Cook beef, fish and pork and eggs for immediate service to 145 degrees (15 seconds to 3 minutes), ground beef to 155 degrees - 160 degrees for 15 seconds; poultry to 165 degrees for 15 seconds, etc.
- Cool foods from 135 to 70 degrees in 2 hours and to 41 degrees in 4 more hours
- Hold hot foods at 135 degrees
- Reheat foods to 165 degrees in 2 hours
HACCP Basics

- Train employees to MONITOR the CRITICAL LIMITS using accurate calibrated thermometers and keep records.
- Ensure that CORRECTIVE ACTIONS are noted whenever there is a problem, dispose of the food or make it safe and record the incident, do not allow it to repeat.
- VERIFY the policies and procedures so developed are in place and effective. This requires internal oversight as well as independent third party verification.
- Keep accurate records and update the program as necessary.
HACCP Benefits

- Avoid outbreaks, legal action, fines, closure and loss of business.
- Do what is right to protect the public.
- Improve the operation, efficiency.
- Reduce turn over and improve employee satisfaction.
- Improve standing with health officials, improve inspections scores.
- Reduce waste.
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Roy Getz
CEO, RCO Limited – Raising Cane’s Ohio
What is Raising Cane’s

• One of the fastest growing quick service concepts in the country.

• Highly focused menu based on ONLY fresh, never ever frozen premium chicken tenderloins.

• 159 locations nationally; 12 locations in Columbus, Ohio
Building Food Safety Culture

Awareness and training is critical but it is not enough…
Building Food Safety Culture

Your organization is still at risk without added ingredients.
Commitment

- Senior management must be fully committed to the premise of a food safety culture
- Leaders set the expectation and reinforce the culture.
- Examples of a real commitment include:
  - Construction and facility maintenance investments must be required
  - Every manager must be ServSafe® certified without exception.
  - Sanitation expectations are incorporated into restaurant evaluations.
    - Sanitation evaluation scores should impact compensation and future professional growth of front line management.
    - KiP Drills, training and testing of crew and managers.
Rewards

• Find enjoyable ways to engage your team in food safety culture

• Contests and prizes for participation in safety planning teams and for demonstrating proper food safety behaviors

Try This
Establish a monthly budget for contests and set activity expectation.
Consequences

• Setting clear expectations is easy.
• Walking the talk is hard.
  • If a manager cheats on their inventory management…
  • If a manager or crew member steals food…
  • If a manager or crew member steals cash…
  • If a manager or crew member miss treats a guest

YOU TAKE ACTION!

• Identify food safety expectations and non negotiables: Improper handling of highest priority item(s) needs to be at the same job threatening level as theft.
Summary

• A food safety culture can **ONLY** be created in your organization if Senior Management is truly committed.
  • In words and investment dollars.
Summary

• Create your food safety culture around the rewards, contests, games and consequences.
Summary

• Set clear expectations **AND** walk the talk.
  • Your team will only align when they see their leaders make the tough decisions.
Questions and Answers

P&G Professional™
P&G Cleaning, Sanitation & Food Safety Program

Designed to help build, support and sustain a strong Food Safety Culture for Food Service Operators
For more information visit [www.pgpro.com/foodservice](http://www.pgpro.com/foodservice) or call (800) 332-7787.