State of the Plate

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State of the Plate

- Peanut Butter (4 in 5 years) Salmonella
- Cantaloupe Listeria
- Cream filled pastry Salmonella
- Sprouts in Europe E. coli O104:H4
  - Cucumbers, tomatoes, lettuce blamed
- Ground beef E. coli 0157:H7
- Tomatoes, slicers Salmonella
- Salami, pepper Salmonella
The Food that Made You Ill Is Probably Not the Last Food that You Ate

**Incubation Period**

- **Norovirus**: 12-48 hours
- **Salmonella**: 6 to 72 hours
- **E. coli O157:H7**: 1 to 10 days
- **Listeria**: 3 to 70 days
Foodborne Illness in the U.S.

- One person in 6 ill each year
- 48 million illnesses each year
- 128,000 hospitalizations
- 3,000 deaths
Reported Foodborne Illness, Rhode Island, 1990-2012

Campylobacteriosis, Salmonellosis, Hepatitis A, E. coli 0157:H7, Listeriosis, Shigellosis

Number of Cases

Year

E. coli 0157:H7

- Severe abdominal pain, bloody diarrhea, HUS
- Undercooked or raw hamburger
- Sprouts
- Unpasteurized fruit juices
- Dry-cured salami
- Lettuce
- Raw milk
Population-based Case-control Studies

E. coli O157

✓ pink hamburger
✓ farm animals
✓ eating at a table-service restaurant

(Source: Art Liang CDC)
RATES of Shigatoxin-producing E. Coli (STEC) in New England States

Year

RATES (per 100,000)

United States
New England
Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont
E. coli 0157:H7 Controls

- Thorough Cooking of Ground Beef Especially for Kids under 5 Years Old
  - Changed national Food Code to require foods on children’s menus to be thoroughly cooked

- Only drink pasteurized milk and Cider

- Don’t Use Uncomposted Manure for Fertilizer (Organic) or contaminated water for irrigation
**Campylobacter**

- Foreign travel
- Undercooked poultry
- Turkey or chicken cooked outside the home
- Other meat cooked outside the home
- Raw milk
- Raw seafood
- Living on or visiting a farm
- Contact with farm animals
- Contact with puppies

Source: Art Liang CDC

* C. Friedman et al, Intl Conf Emerging Infect. Diseases, 2000
How to Avoid Campylobacteriosis

- Thoroughly cook poultry and eggs
  - Campy found in egg yolks in breeder hens
- Thoroughly wash hands, cutting boards, etc. after handling raw poultry.
- Avoid unpasteurized milk ("basket cheese")
- Avoid contact with the infected stool of an ill dog or cat.
Foods associated with *Salmonella* outbreaks*

- Poultry: 29%
- Eggs: 18%
- Pork: 12%
- Beef: 8%
- Vine vegetables, fruits, and nuts: 13%
- Other †: 20%
To avoid Salmonella infections:

- Don't drink unpasteurized milk.
- Don't eat undercooked poultry (including turkey) and poultry products such as eggs.
- Avoid contact with infected animals, including poultry, pigs, cattle, and pets such as turtles, iguanas, chicks.
Georgia tested slicers as a result of a Salmonella outbreak
Globe Slicer - Area under white plastic piece (secured with screw) tested + for Salmonella
RI Outbreak May 2010
Globe Slicer-Model 3600

Blade side view of slicer blade guard

Non-removable, non-cleanable white plastic on inside of blade guard was Salmonella + PFGE match to outbreak
Globe Slicer-Model 3600

Area between blade and guard could not be easily cleaned and sanitized.

Area under foot was also positive for RI outbreak strain of Salmonella.
Commercial Deli Slicer Inspection Tips for Food Safety Professionals

- Mechanical deli slicers commonly used in retail and foodservice establishments to slice meats, cheeses and produce may become difficult or impossible to adequately clean and sanitize after a period of use.
- Recent foodborne illness outbreaks have been associated with the accumulation of food soils and disease-causing microorganisms on areas of commercial deli slicers that are difficult to clean and sanitize.
- These outbreaks have resulted in serious illnesses and hospitalizations.

There are many seams created between the numerous adjoining parts and components of a typical deli slicer. Sealants and gaskets are often used to seal these seams. These seams can become worn, degraded or removed as a result of the heavy use and cleaning regimens to which deli slicers are subjected. As these seals and gaskets become degraded, spaces can be created that can trap debris and moisture, which can lead to areas that may not be adequately cleaned and sanitized under normal cleaning methods.

During routine inspections of retail and foodservice establishments:

- Pay special attention to commercial deli slicers.
- Examine the equipment for degraded, defective or worn parts.
- If there are any signs of cracks, chips, deep scratches or loss of adhesion or if any seam or part is found defective or damaged, have the food establishment remove the slicer from service until repaired or replaced.
- Stress that establishment managers need to contact the slicer manufacturer for repairs and maintenance; all repairs should be performed by the manufacturer’s authorized service representatives.
- Check that the retail or foodservice establishments are following the manufacturer’s instructions for cleaning and maintenance.

NSF/ANSI Standard 8, Commercial Powered Food Preparation Equipment

Most slicers used in food establishments are models that have been certified to the NSF/ANSI (American National Standards Institute) Standard 8, Commercial Powered Food Preparation Equipment by an ANSI accredited certification body. However, these certifications are issued for newly manufactured products only, and do not ensure that the slicer will be maintained in a cleanable condition after extended use. Once in the field, slicer seal and gasket life will be affected by a variety of factors such as conditions of use, type and frequency of cleaning protocols, and types of foods being sliced. Since slicers typically remain in use for a number of years, operators and regulators must be diligent in their inspection, evaluation and maintenance of this equipment.

If you are inspecting the facility as part of a foodborne illness outbreak investigation:

- If a slicer is suspected as a source of contamination, breaking down slicers (including the disassembly of components attached with fasteners) may be necessary to examine if any seal or seam degradation has occurred that may result in contamination of food.
- If collecting environmental samples, be sure to swab surfaces and niches on the slicer where cross contamination hazards may have been created, such as seals and seams in or near the food contact zones.

Examples of commercial deli slicer components inaccessible under normal cleaning conditions:

- Ring Guard Mount
- Blade Guard
- Slicer/Handle

Figure 1. Food soil accumulation at the ring guard mount.
Figure 2. Food soil accumulation on the inside of the blade guard at the white plastic piece.
Figure 3. Surfaces under the slicer handle can accumulate food soil and debris and require monitoring to prevent build-up.

For additional copies and more information visit: www.fda.gov/retailfoodprotection
Greatest Predictor for Listeriosis is Consuming Luncheon Meat Sliced at the Deli

- Role of slicers in question
- RI CDC EHS-Net study concerning Listeria hazards at the deli
- NSF national standards for slicers changed effective November 2012
- Take unsafe slicers out of service
RATES of Listeriosis in New England States

- United States
- New England
- Connecticut
- Maine
- Massachusetts
- New Hampshire
- Rhode Island
- Vermont

Year:
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- 2009
- 2010
- 2011
- 2012

RATES (per 100,000)
Norovirus

- The most common cause of foodborne illness
- Foodborne, airborne, and person to person spread
- Can shed for 2 weeks to 2 months after symptoms stop
- Can survive on surfaces not properly cleaned and sanitized for long periods of time
- First to become ill are often cleaning staff, nursing assistants in nursing homes
Norovirus Controls

- Exclude employees vomiting for a minimum of 24 hours after the cessation of symptoms (48 hours if positive for Norovirus or in a health care facility)
- Excellent handwashing
- No hand contact of ready-to-eat foods
- Mask, gloves and apron for cleanup of vomitus
- 5,000 ppm chlorine for cleanup (not possible on all surfaces, steam clean carpets)
Finding the Cause of Foodborne Outbreaks

- Production at the farm
  - Is there contamination from manure or animals?
  - Is the water used for irrigation and washing safe?
Finding the Cause of Foodborne Outbreaks

Restaurants and Markets

- Are foods cooked to safe temperatures?
- Are ready-to-eat ingredients safe?
- Was anyone ill preparing food?
- Are foods held (hot and cold) at safe temperatures?
- Are foods protected from contamination?
  - Was there bare hand contact of ready-to-eat foods such as salads?
RECOMMENDATIONS

- Establish monitoring procedures that focus on critical processes and practices
  - Exclude ill workers/No bare hand contact of ready-to-eat foods
  - Cooling
  - Hot Holding
  - Cooking
  - Cold Holding (check refrigeration temps twice daily)
  - Receiving/transportation
  - Sanitization
To Improve Food Safety

- Certified food safety manager for each shift
- Trained employees
- Written Food Safety Plan and Standard Operating Procedures
- Consultants assist industry in developing plans, identifying and correcting problems
Consumer Messages

- Don’t prepare someone else’s food when ill
- Thoroughly wash hands after the bathroom and before preparing food
- NEVER drink raw milk or eat undercooked hamburgers
- Thoroughly cook using a thermometer
Consumer Messages

- Keep refrigerator at 40°F or below
- Don’t leave meats and cooked foods out at room temperature
  - Including bag lunch at school
- Buy foods often and use quickly
- Don’t contaminate ready-to-eat foods (like salad) with juices from raw meat, poultry and eggs
www.Fightbac.org

- Check
- Clean
- Cook
- Separate
- Chill
- Throw away
The Future

- Food Safety Modernization Act Implementation
  - National Integrated Food Safety System
- Compliance with national standards
- More use of technology and direct notification of consumers of recalls using loyalty cards
- Address food safety on the farms
- Nutrition and obesity
Implementation of Food Allergy Legislation

- Food allergy poster required in employee area
- Add to menu “Before placing your order, please inform your server if a person in your party has a food allergy”
- Certified manager training includes food allergies
The Future

- Implementation of Grants to Improve Food Safety
  - Manufacturing Standards
  - Retail Standards
  - Rapid Response Team
  - Recall Grant
  - CDC EHS-Net Research

- Posting Inspector positions
For Further Information

- www.foodsafety.gov
- www.fightbac.org
- Rhode Island Food Inspections on the web (www.health.ri.gov)