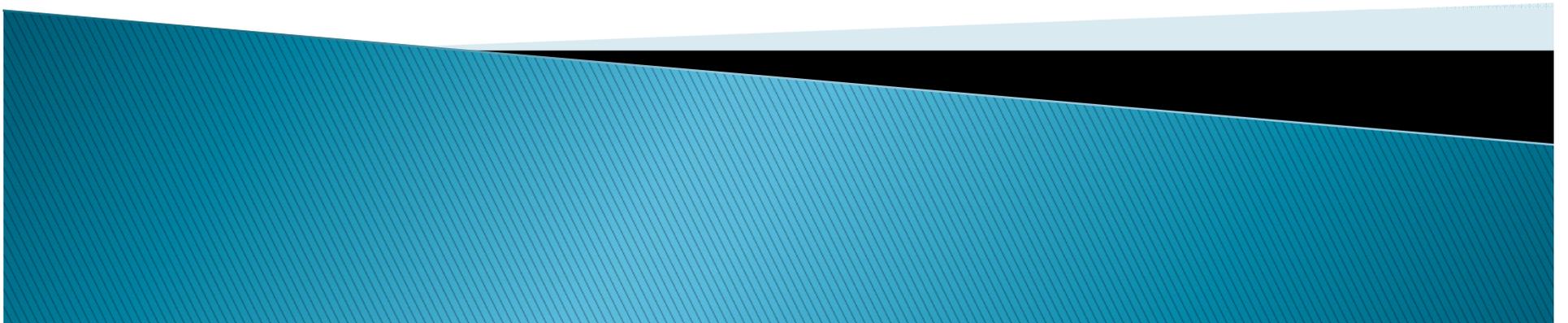


Food Safety

Prevention of Foodborne Illness



Foodborne Illness

- ▶ Every Year:
 - Roughly 1 in 6 Americans gets sick (or 48 million people)
 - 128,000 are hospitalized
 - 3,000 die of foodborne diseases



Foodborne Illness

- ▶ Foodborne Illness Costs the U.S. an estimated \$152 Billion Annually
- ▶ What would a foodborne outbreak involving your establishment mean for you?



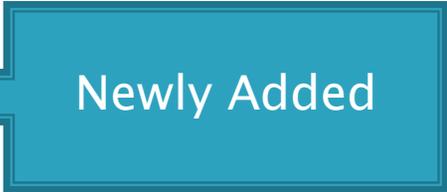
FOODBORNE ILLNESS RISK FACTORS

1. Improper hot/cold holding and cooling of Time/Temperature Control for Safety (TCS) foods
2. Improper cooking temperatures of TCS foods
3. Dirty and/or contaminated utensils and equipment
4. Poor employee health and hygiene
5. Food from unsafe sources



TIME/TEMPERATURE CONTROL FOR SAFETY FOODS

- Foods that promote the growth of harmful bacteria
 - Meat, Fish, Poultry, Seafood
 - Eggs, Dairy Products
 - Cooked Vegetables
 - Cooked rice, beans, pasta, and potatoes
 - Tofu
 - Sprouts (Alfalfa and Bean)
 - Cut melons
 - Garlic or herbs bottled in oil
 - Sliced Tomatoes
 - Cut Leafy Greens

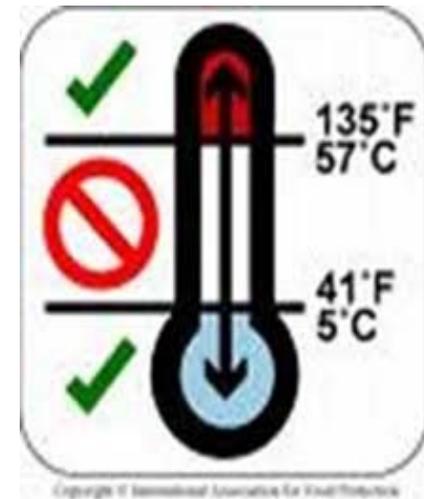


Newly Added



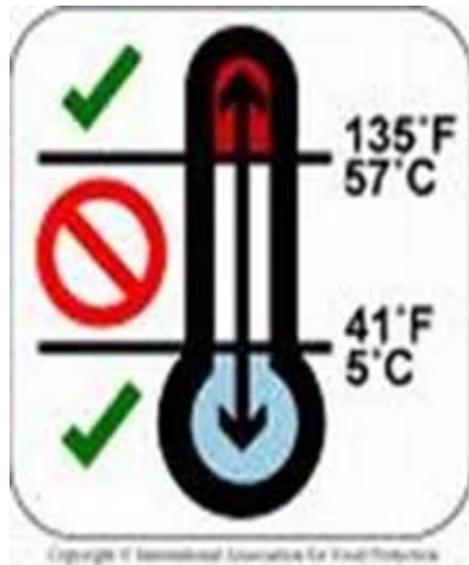
Risk Factor: Improper Holding & Cooling

- Hot foods must stay **HOT** at **135°F** or above*



*Unless using Time as a Public Health Control (TILT)

Risk Factor: Improper Holding & Cooling



- Cold foods must stay **COLD** at **41°F** or below*

*Unless using Time as a Public Health Control (TILT)

Time As A Public Health Control (TILT)

- ▶ Time (instead of temperature) may be used as a public health control IF:
 1. Written procedures prepared in advance that specify which foods are using TILT.
 2. Food is marked to indicate the time that food is taken out of temperature control.
 3. Food is served within four hours or DISCARDED after four hours.



Risk Factor: Improper Holding & Cooling

Test Your Knowledge:

- How long should it take to cool a large pan of chicken chili to 41 degrees or less?

• **Six hours or less**

Increased from four hours to six hours total cooling time



Risk Factor: Improper Holding & Cooling

- ▶ Rapid cooling is essential to prevent bacterial growth that could cause foodborne illness.
- ▶ Time/Temperature Control for Safety (TCS) food must be cooled to 41 degrees or less within six hours.



Risk Factor: Improper Holding & Cooling

Proper Cooling Method (two stages)

Stage 1

- ▶ Reduce the temperature to 70°F or less within two hours.

Stage 2

- ▶ Reduce the temperature from 70°F to 41°F or less within an additional four hour period.

Total cooling time must not exceed six hours



Risk Factor: Improper Holding & Cooling

- What are some strategies for safe cooling of large quantities of food, such as turkeys or five gallons of chili?
 - Reduce the volume using shallow pans
 - Type of container (metal vs. plastic)
 - Cut large portions of meat into smaller pieces
 - Ice baths, ice wands
 - Ice as an ingredient
(8.5 pounds of ice = 1 gallon water)



Cooling Methods



Ice bath

Cooling paddle



Safe Holding/Cooling Review

- ▶ What is the Danger Zone?

41°F – 135°F

- ▶ Why is Rapid Cooling important?

Reduces the potential for bacterial growth.

- ▶ What are some effective methods for cooling foods?

Shallow pans

Ice wand

Use of metal pans

Smaller portions

Ice bath



How Can You be Sure Foods are Cooled Within Six Hours?

Check the temperature of the food with a calibrated thermometer:

- After two hours of cooling (should be 70 degrees)
- And
- After six total hours of cooling (must be 41 degrees or less)

****Temperature Logs Recommended****

A decorative graphic at the bottom of the slide consisting of a blue triangle with a black diagonal line and a light blue gradient background.

How to Calibrate a Food Thermometer

CALIBRATE THERMOMETERS

Fill glass with finely crushed ice. Add clean tap water to top and stir well.

Immerse stem into glass, without touching sides or glass bottom.

Wait a minimum of 30 seconds. Check temp.

Thermometer should read 32° F. If not, it needs to be adjusted.

To adjust, hold the nut under the head of the thermometer with a suitable tool and turn the head so the pointer reads 32° F.



CALIBRE TERMÓMETROS

Risk Factor: Improper Cooking Temperatures

- ▶ Cooking is the only food preparation step that will actually kill bacteria
- ▶ Verify proper cook temp by using a calibrated thermometer

****Temperature Logs Recommended****



Risk Factor: Improper Cooking Temperatures

- ▶ Which Foods Must Be Cooked to 165 degrees for 15 seconds?
 - Poultry
 - Stuffed Foods or Stuffing
 - Casseroles
 - Raw animal foods cooked in a microwave
 - Reheated Time/Temperature Control for Safety Food (TCS)



Risk Factor: Improper Cooking Temperatures

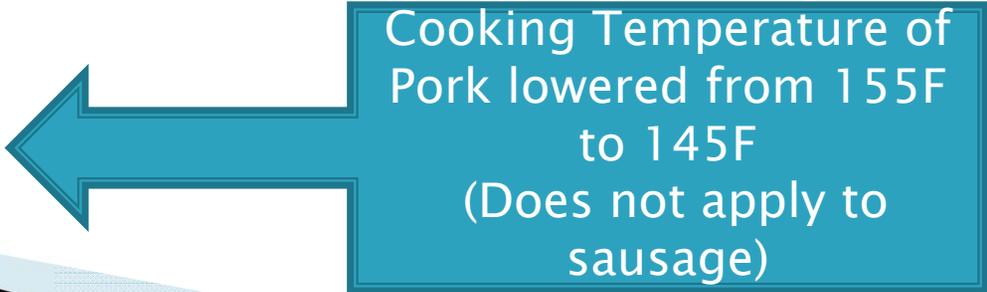
- Which Foods Must Be Cooked to 155 degrees for 15 seconds?
 - Hamburger
 - Sausage
 - Injected meats
 - Eggs (for hot holding)



Risk Factor: Improper Cooking Temperatures

▶ Which Foods Must Be Cooked to 145 degrees for 15 seconds?

- Eggs (for Immediate Service)
- Fish
- Shrimp
- **Pork**



Cooking Temperature of
Pork lowered from 155F
to 145F
(Does not apply to
sausage)

Risk Factor: Contaminated Utensils and Equipment

Prevention of Cross Contamination:

- Wash hands after handling raw meat
- Wash, Rinse, Sanitize ALL food contact surfaces that touch raw meat
- Prepare raw meat in an area away from other foods
- Use separate cutting board for raw meat
- Store raw meat below other foods in refrigerator
- Store meat with highest cooking temp (chicken) below meat with lower cook temp (fish)



Risk Factor: Contaminated Utensils and Equipment

Food Contact Surfaces must always be:

1. Washed,
2. Rinsed, and
3. Sanitized

Between raw and ready to eat foods, when dirty or contaminated, or at least every four hours if used continuously.



Risk Factor: Contaminated Utensils and Equipment

Sanitization

- ▶ Chemical
 - Chlorine Solution:
 - 50–200 ppm –immersion for at least 30 seconds
 - Quaternary Ammonia (QA) Solution
 - follow manufacturer instructions

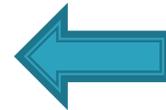
- ▶ Sanitizing by hot water
 - Temperature of the water 171°F
 - Temperature on the dish 160 °F
 - 30 second contact time



Chemical Test Kits

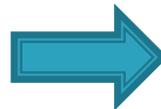


Risk Factor: Contaminated Utensils and Equipment



Hand sink being used to thaw raw meat

Cutting board and knife contaminated by raw chicken



Risk Factor: Contaminated Utensils and Equipment

- ▶ Proper refrigerated storage for RAW meats and Ready to Eat Foods to prevent Cross Contamination



Risk Factor: Cross Contamination

RTE foods contaminated by raw
chicken (cutting board & knife)



Raw food over veggies

Risk Factor: Poor Personal Health & Hygiene

- Proper Handwashing
- Employee Illness Policy
- No Bare Hand Contact with Ready to Eat Foods



Risk Factor: Poor Personal Health & Hygiene

- Food workers, even if they look and feel healthy, may spread **viruses and bacteria**
- **GOOD** Personal hygiene keeps harmful germs from getting on food
- **WASH** Hands Frequently
- Use a barrier (gloves or utensils) when handling ready to eat foods.



Handwashing

- Who?
- What?
- When?
- Where?
- How?



Risk Factor: Poor Personal Health & Hygiene

When to Wash:

- After using the toilet
- After handling raw meat, fish, or poultry
- After handling garbage or dirty dishes
- After taking a break, eating, or smoking



Risk Factor: Poor Personal Health & Hygiene

- ▶ Upon entering the kitchen
- ▶ After sneezing, coughing, or blowing nose
- ▶ After handling animals or using chemicals
- ▶ After touching clothing
- ▶ Before putting on new gloves
- ▶ When changing tasks



Is There Anything Wrong With This Scenario?

Mary works for a catering company. A food service employee is working a catered event. The manager notices that Mary made multiple trips to the bathroom. Mary didn't use gloves, but used utensils. That is OK.

The manager notices that Mary made multiple trips to the bathroom. The manager should have asked Mary if she was ill with vomiting or diarrhea. That is NOT OK.

The restroom had soap, separate hot and cold water, and a working hot water heater. The manager should have asked Mary if she was ill, she should have been asked if she was ill with vomiting or diarrhea. Poor handwashing and inadequate supplies is NOT OK.



Is There Anything Wrong With This Scenario?

- ▶ Phil works as a “Sandwich Artist” at a local sandwich shop. Before the store opens, he **OK** changes his attire area and sets up the prep line.

- ▶ The store opens and the first customer orders a toasted roast beef sandwich. **Gloves were not contaminated by touching oven door because it was clean.** Phil toasts the sandwich, he adds lettuce, tomatoes, and dressing per the customer’s request and cuts the sandwich in half.

- ▶ **This is OK, because Phil did not change jobs, he can continue working with the same pair of gloves.**



Risk Factor: Poor Personal Health & Hygiene

No Bare Hand Contact with Ready to Eat Foods

Violations involving bare hand contact with ready to eat foods will be taken beginning July 1, 2015.



What Kinds of Foods are Considered Ready-to-Eat?

- Washed fruits and vegetables served raw
- Sandwich meats and cheese
- Bread, toast, rolls and baked goods
- Garnishes such as lettuce, parsley, lemon wedges, pickles
- Ice for consumption
- Any food that has been thoroughly cooked and is ready to eat.



Bare Hand Contact with Ready to Eat Foods

- Should be minimized whenever possible with Ready to Eat Foods
- Will be marked as a violation beginning July 1, 2015
- Use Tongs, Deli Paper, or Gloves
- No BHC prevents the spread of *Hepatitis A* and *Norovirus*



Risk Factor: Poor Personal Health & Hygiene

- Proper GLOVE use:
 - Wash hands before putting on gloves
 - Change gloves that are damaged
 - Change gloves that might be contaminated (soiled)
 - Never wash or reuse gloves
 - Change gloves between working w/raw meat and ready to eat foods
 - Discard / Dispose gloves after use
 - Wash hands after taking gloves off



Risk Factor: Poor Personal Health & Hygiene

Employee Illness Policy

- ▶ Food Workers Must Report the following symptoms to the Person In Charge (PIC):
 - Diarrhea
 - Vomiting
 - Jaundice
 - Sore throat w/ fever
 - Infected lesion on hands or arms

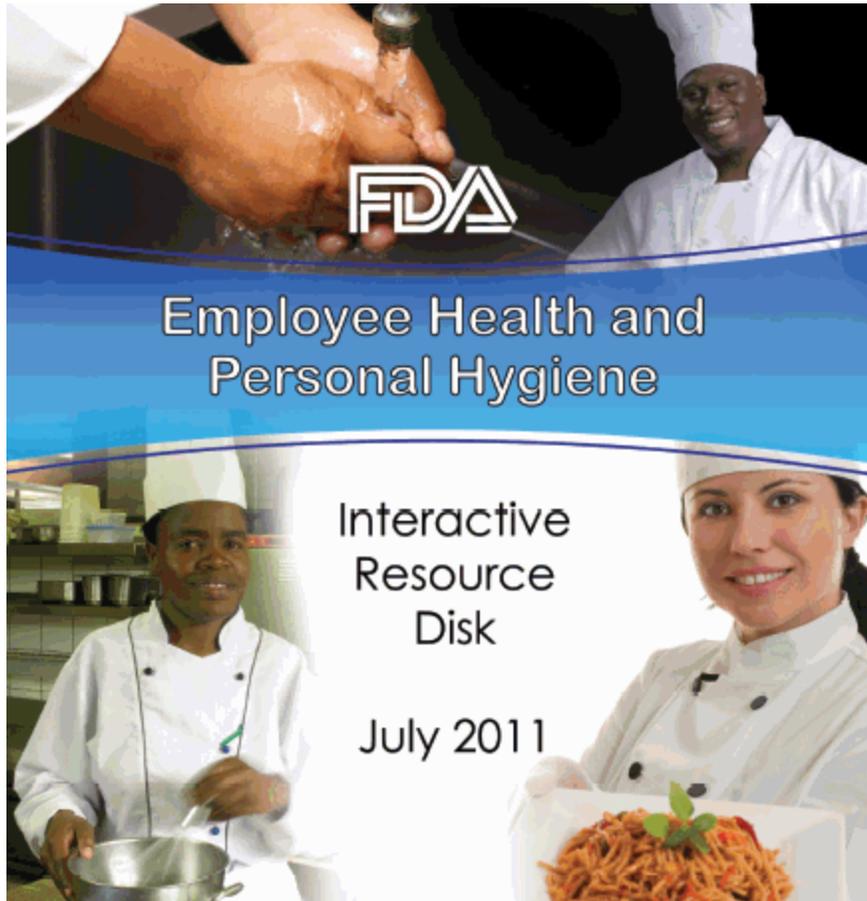


Risk Factor: Poor Personal Health & Hygiene

Food Workers MAY NOT work with food if diagnosed with infections that can spread through food:

- Salmonella
- Shigella
- E. Coli
- Hepatitis A
- Norovirus





FDA's guidance document for Employee Health.

Can be found at the webpage link below.

<http://www.fda.gov/Food/GuidanceRegulation/RetailFoodProtection/IndustryandRegulatoryAssistanceandTrainingResources/ucm113827.htm>

Risk Factor: Poor Personal Health & Hygiene

- Food workers MAY NOT eat, drink, or use any type of tobacco in Food Prep Areas
(approved drink cup, appropriately stored is allowed)
- Hair restrained
- Fingernails trimmed
- No Jewelry
(wedding band is allowed)



Risk Factor: Food From Unsafe Sources

- ▶ All food served to customers must come from sources that comply with LAW.



Food in Sound Condition

- ▶ When receiving food, check for the following:
 - Spoilage
 - Opened, rusty, or severely damaged packaged or canned foods
 - Proper Temp—Received frozen shall be frozen, cold foods shall be 41°F or below
 - Do NOT accept if any there is any evidence of temperature abuse

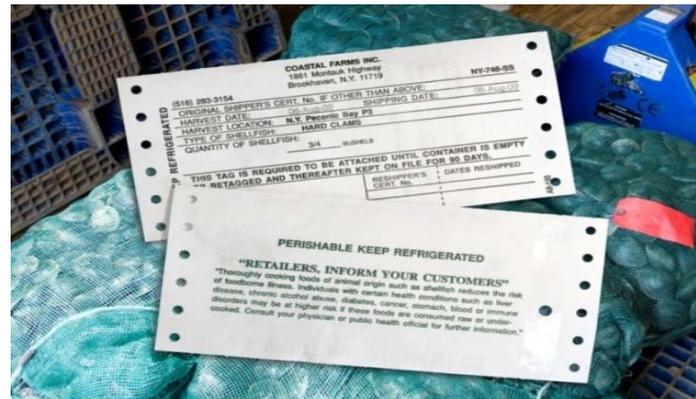




Risk Factor: Food From Unsafe Sources

Shellfish (oysters, clams, mussels)

- Must be from sources that are listed in the Interstate Certified Shellfish Shippers (ICSS) list.
- Identification tags attached to the container
- Must keep shellfish tags for 90 days



Shellfish Tags

1. **AMERICAN MUSSEL HARVESTERS INC.**
165 TIDAL DRIVE
NORTH KINGSTOWN, RI 02852
401-294-8999 401-294-0449 FAX

2. **RI234.SS**

3. **PERISHABLE
KEEP REFRIGERATED**

4. **ORIGINAL SHIPPER'S CERT. NO. IF OTHER THAN ABOVE:**

5. **HARVEST DATE:** _____ **WET STORAGE HARVEST DATE:** _____

6. **HARVEST LOCATION:** _____

7. **TYPE OF SHELLFISH:** _____

QUANTITY OF SHELLFISH: _____

**THIS TAG IS REQUIRED TO BE ATTACHED UNTIL CONTAINER IS EMPTY
AND THEREAFTER KEPT ON FILE FOR 90 DAYS.**

LOT #: _____	RESHIPPER'S CERT. No. _____	DATES RESHIPPED _____



OTHER FOOD SAFETY CONCERNS

Pest Control—

- Rodents, cockroaches, and flies must be kept out of food areas.
- Pesticides shall only be applied by a licensed pesticide applicator

Imminent Health Hazards

- Complete lack of water, hot water or electricity
- Sewage back up



REVIEW

1. Only work when you are healthy
2. Wash your hands often and well
3. Don't touch RTE food with bare hands
4. Keep food HOT or COLD, or use Time as a Public Health Control
5. Cook food to proper temperatures
6. Cool hot food within six hours
7. Keep raw meat away from ready to eat foods
8. Keep food preparation areas and utensils clean and sanitized
9. Wash, Rinse, Sanitize, Air Dry – all utensils, preparation areas, plates, pots, pans, etc.



Changes to the TN Food Rules

2009 FDA Food Code

- ▶ Implement on July 1, 2015

All of the following slides will discuss the changes in the rules. These will be implemented on July 1, 2015.



Manager Certification and Demonstration of Knowledge

The Person In Charge (PIC) will be required to demonstrate appropriate food safety knowledge by:

1. Manager Certification, or
2. Having an inspection with no priority item violations, or
3. Answering food safety questions.



Manager Certification

- ▶ <https://www.ansica.org/wwwversion2/outside/ALLdirectoryListing.asp?menuID=8&prgID=8&status=4>
- ▶ American National Standards Institute's website listing accredited personnel certification programs utilizing the Conference for Food Protection Standards:





Accreditation Services

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STANDARD

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ANSI-CFP Accreditation Program (Accredited)

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#	ORGANIZATION	ID
1	360training.com, Inc. Learn2Serve® Food Protection Manager Certification Program	0975
2	National Registry of Food Safety Professionals Food Protection Manager Certification Program International Certified Food Safety Manager	0656
3	National Restaurant Association ServSafe® Food Protection Manager Certification Program	0655
4	Prometric Inc. Food Protection Manager Certification Program	0659

Date-Marking

- ▶ **What is Date Marking and why is it important?**
 - Date marking is a means to control the growth of Listeria, a bacteria that grows at refrigeration temperatures.
 - Date marking is a system that identifies how old foods are and when those foods should be discarded before these bacteria can cause foodborne illness.



Date-Marking

- ▶ Refrigerated, ready to eat, TCS foods prepared and held in a food establishment more than 24 hours shall be date-marked to indicate when the food must be sold, consumed, or discarded.
- ▶ Maximum of seven (7) days.



Consumer Advisory

- ▶ Will be required if you serve or offer for sale raw or undercooked meat, such as:
 - Steak
 - Hamburgers
 - Sushi
 - Ceviche
 - Eggs
 - Pork



Consumer Advisory

If raw animal foods are served or offered for sale raw or undercooked a consumer advisory will be required.



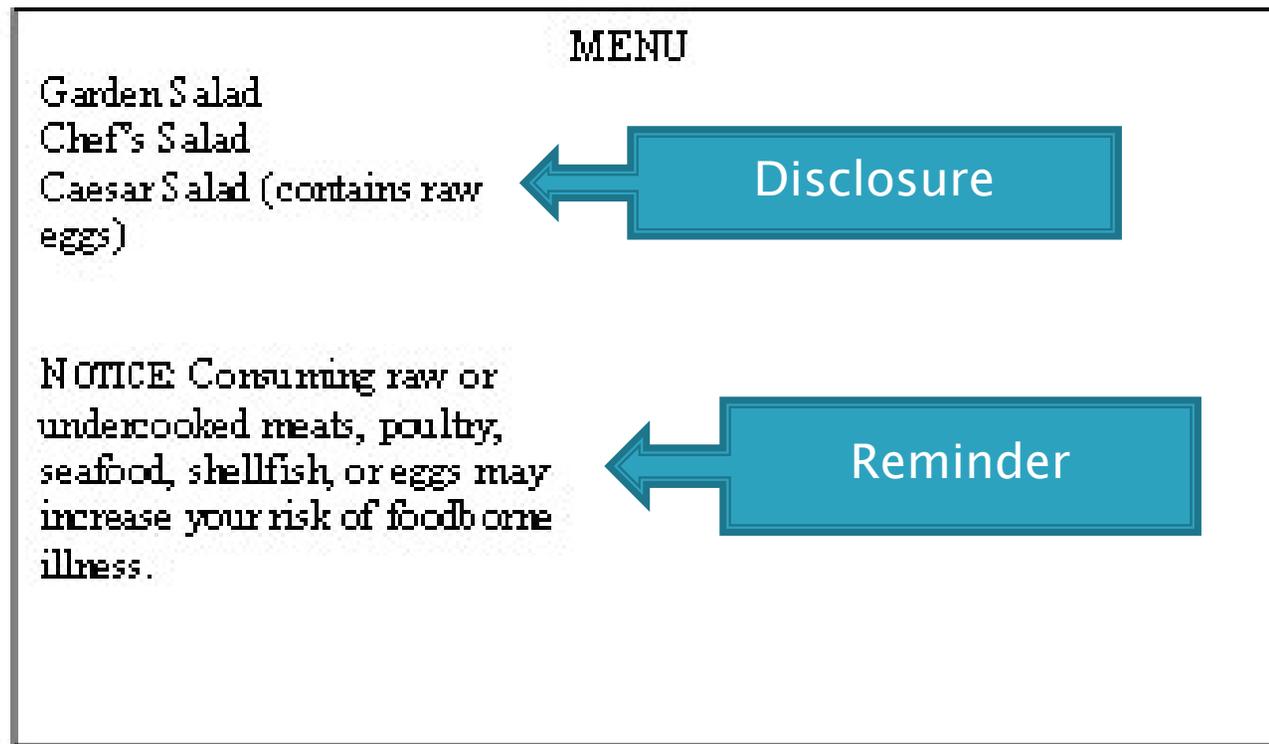
Consumer Advisory

A consumer advisory is written notification that foods are offered or served raw or undercooked and includes:

- **Disclosure**
 1. Description of food, example “Hamburger (can be cooked to order)
 2. Identifying such foods with an asterisk to a footnote that states that the items are served raw or undercooked.
- **Reminder**
 - The footnote states one of the following:
 1. Written information available upon request, or
 2. Consuming raw or undercooked meats may increase your risk of foodborne illness, especially if you have certain medical conditions.



Consumer Advisory



Consumer Advisory

- ▶ Consumer advisory can be accomplished by utilizing:
 - reminder statements on the menu
 - placard
 - table tent
 - a brochure or pamphlet. The statement would be placed in another location on the menu, but reference the asterisked items.



No Bare Hand Contact with RTE

Food service workers must use “suitable” utensils when handling ready to eat foods. Examples of suitable utensils include the following:

- Deli tissue
- Spatulas
- Tongs
- Forks
- Other serving utensils
- Single Use gloves



Parasite Destruction

- ▶ Raw or partially cooked fish* (sushi fish) shall be:
 - Frozen at -4°F for 7 days, or
 - Frozen and stored at -31°F for 15 hours

*Some species are exempt from this requirement:

1. Molluscan shellfish
2. Tuna of the species *allalunga*, *albacares*, *atlanticus*, *maccoyii*, *obesus*, or *thynnus*, or
3. Aqua cultured Fish, such as salmon if raised in open water and fed formulated pellet feed.



Specialized Processing Methods

Will Require a HACCP plan

1. Smoking for preservation,
2. Curing food,
3. Using food additives, such as vinegar for preservation or to render the food non TCS,
4. Reduced Oxygen Packaging,
5. Operating a molluscan shellfish life-support system display tank, or
6. Sprouting seeds or beans.



Changes to the Rules

- ▶ The changes that we have discussed:
 - Manager Certification/Demonstration of Knowledge
 - Date-Marking
 - Consumer Advisory
 - No Bare Hand Contact with RTE
 - Parasite Destruction
 - Specialized Processes
- ▶ Are part of the updated food service law that will take effect on July 1, 2015.



Questions?

- ▶ Please contact your local environmental health specialist if you have any questions.
 - Contact information:
- ▶ More information, training materials, and fact sheets will be available soon at the division's webpage:
- ▶ http://health.state.tn.us/GEH/food_service.htm

