

A graphic with a red-to-blue gradient background. A black circle is centered, with four black lines extending from its top, bottom, left, and right edges. Inside the circle, the words "Focus on Food Safety" are written in a bold, yellow, sans-serif font, stacked vertically.

**Focus  
on  
Food  
Safety**

Saint Croix County  
Public Health  
Licensing and Inspections



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# INTRODUCTION

The food service industry has changed significantly over the past few years, and with that change comes many challenges. Today's informed consumer spends more dollars dining outside the home than ever before. With this emphasis on dining out, more pressure is placed on the food service industry to cater to the public's demand for greater variety of high quality food that has been prepared and cooked safely.

The challenge of preparing quality safe food begins with well trained and knowledgeable food service workers. This educational material is designed to help meet the challenge by focusing on those items that are critical to the safe preparation, cooking, holding and storage of food based on Wisconsin's Food Code. It clearly and concisely identifies and discusses the basics that will help prevent foodborne illnesses.

Food safety and sanitation is not a part time job. It is the daily responsibility of those who prepare and cook the food. However to truly meet this challenge, it is imperative that a cooperative partnership between industry and health officials be maintained with the common goal of preventing foodborne illnesses.

Together, we must continue to *Focus on Food Safety!*

For more information and training materials visit:

<http://www.co.saint-croix.wi.us>

Or call (715) 246-8361 or (651) 442-8835

# BE ON THE LOOKOUT FOR FBI (FOODBORNE ILLNESS)

Is "Looking Clean" Enough to Prevent Foodborne Illness?

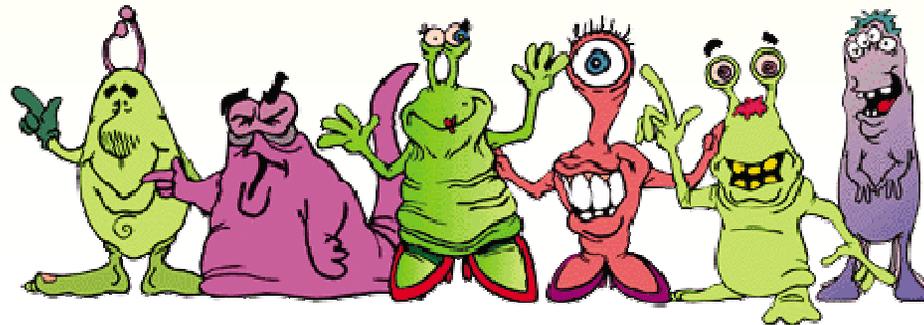


## FBI Statistics:

- 76 Million Cases of FBI a Year in the U.S.
- 325,000 Hospitalizations a Year in the U.S. Caused by FBI
- 5200 Deaths a Year in the U.S. Caused by FBI
- \$7.7 - \$23 Billion Annual Cost
- \$77,000 Average Cost Per Incident

## FBI Agents:

- Biological Hazards: Bacteria, Viruses, Parasites, Yeast, Molds
- Physical Hazards: Glass, Toothpicks, Fingernails, Jewelry
- Chemical Hazards: Cleaners & Sanitizers, Pesticides, Medications
- Naturally Occurring Chemical Hazards: Fish Toxins, Plant Toxins



# BE ON THE LOOKOUT FOR FBI (FOODBORNE ILLNESS)

Is "Looking Clean" Enough to Prevent Foodborne Illness?

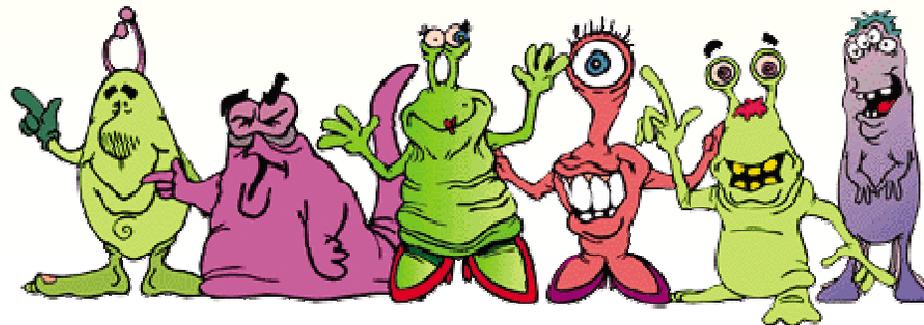


## FBI Sources:

- Humans/Foodworkers: Contaminated Hands, Illness
- Foods: Contaminated Food, Time & Temp Abuse

## FBI Symptoms:

- Common Symptoms: Diarrhea, Cramping, Nausea, Vomiting, Low-Grade Fever, Body Aches
- Rare Symptoms: System Shutdown, Coma, Death



# IDENTIFYING COMMON FOODBORNE ILLNESSES

Causative Pathogen	Incubation Time	Length of Illness	Common Symptoms	Foods Involved/Sources	Prevention
Bacillus Cerus	1-16 hours	6-24 hours	nausea, vomiting, cramping, diarrhea	rice & rice dishes, vegetables, sauces	Cook to proper temp. Reheat quickly. Cool foods rapidly.
Campylobacter	2-5 days	1-4 days	cramping, fever, diarrhea, nausea, headache, vomiting	unpasteurized dairy, poultry & meats, infected food handler	Thoroughly cook all foods. Use only pasteurized dairy products. Proper hand washing.
Clostridium perfringens	8-24 hours	24-36 hours	abdominal cramping, diarrhea, nausea	meats, poultry, gravy, beans, stews, foods cooked slowly	Cook & reheat foods to proper temp. Cook in small batches. Cool foods rapidly.
Shiga Toxin-Producing E. coli	12-72 hours	1-4 days	diarrhea-often bloody, severe cramping, nausea, vomiting, fever	raw & undercooked ground meats (esp. ground beef)	Thoroughly cook ground meats. Avoid cross-contamination.
Hepatitis A	10-50 days	1-2 weeks; Severe cases may last several months	mild or no symptoms, then sudden onset of fever, general discomfort, fatigue, headache, nausea, loss of appetite, vomiting, abdominal pain, & jaundice after several days	water, ice, shellfish, salads, cold cuts, sandwiches, fruits, fruit juices, milk, milk products, vegetables, any food that will not receive a further heat treatment	Obtain shellfish from approved sources. Prevent cross-contamination from hands. Ensure food handlers practice good hand washing and no bare hand contact.
Listeria Monocytogenes	1 day-3 weeks	Indefinite, depends on treatment, severe	nausea, vomiting, fever, chills, headache, meningitis, miscarriages	unpasteurized dairy, cheese, vegetables, seafood, poultry	Use only pasteurized dairy products. Cook properly. Hold refrigerated for limited time.
Norwalk-like Virus	24-48 hours	1-2 days	cramping, diarrhea, nausea, vomiting, headache, fever	raw fruit, raw vegetables, prepared salads, raw shellfish	Thoroughly cook foods. Wash hands. Use certified shellfish. No bare hand contact.
(Staph) Staphylococcus aureus	1-7 hours	1-2 days	onset abrupt and often severe, nausea, vomiting, cramping, sometimes diarrhea	ready-to-eat foods, i.e. sandwiches, salads, ham & other meats, potato salads, custards, warmed-over foods; often from infected foodhandlers-cuts, throat, nose & acne	Practice good hand washing & hygiene. Avoid contamination. Reduce bare hand contact with foods. Exclude foodhandlers with cuts & lesions. Rapidly cool foods.
Salmonella	6-72 hours	1-3 days	abdominal cramping, headache, nausea, diarrhea, fever, sometimes vomiting	undercooked or raw meats, poultry & shell eggs, poultry & egg salads, egg custards & sauces, protein foods, pets & infected handlers	Avoid cross-contamination. Cool & refrigerate foods immediately. Cook meats/poultry thoroughly. Practice good hand washing.
Shigella	12 hours-7 days	4-7 days, depends on treatment	diarrhea-often bloody, cramping, fever, nausea, sometimes vomiting	ready-to-eat foods associated with bare hand contact (salads, sandwiches, etc.) Source: humans (feces) & flies	Practice good hand washing after using toilet. Use approved water & foods. Control flies. No bare hand contact.

# POTENTIALLY HAZARDOUS FOODS

WHAT ARE POTENTIALLY HAZARDOUS FOODS (PHF) or TIME/TEMPERATURE CONTROLLED FOR SAFETY(TCS)?

PHF or TCS are any foods or food ingredients (natural or synthetic) capable of supporting rapid growth of micro-organisms



# FOOD SAFETY RISK FACTORS

Based on the top causes of foodborne illness Wisconsin's Food Code categorizes its requirements into "Risk Factors" and "Non-Risk Factors". The Risk Factors are placed into the following six categories:

## 1. FOOD SOURCE:

- Food from unapproved or uninspected source
- Unsound condition of food, adulterated food
- Shellfish records not maintained properly



## 2. INADEQUATE COOKING:

- Improper cooking temperatures
- Improper reheating temperatures

# FOOD SAFETY RISK FACTORS

## 3. IMPROPER HOLDING:

- Unsafe cooking
- Lack of date marking
- Improper cold/hot holding temperatures

## 4. CROSS CONTAMINATION:

- Raw meats not separated from ready-to-eat foods
- Species not separated
- Equipment not properly cleaned and sanitized



# FOOD SAFETY RISK FACTORS

## 5. POOR PERSONAL HYGIENE

- Lack of appropriate hand washing
- Bare hand contact with ready-to-eat foods
- Ill food workers
- Employees eating, drinking or using tobacco outside of designated areas
- Inadequate or not easily accessible hand sink
- Lack of soap or paper towels



## 6. REQUIRED PUBLIC HEALTH INTERVENTIONS:

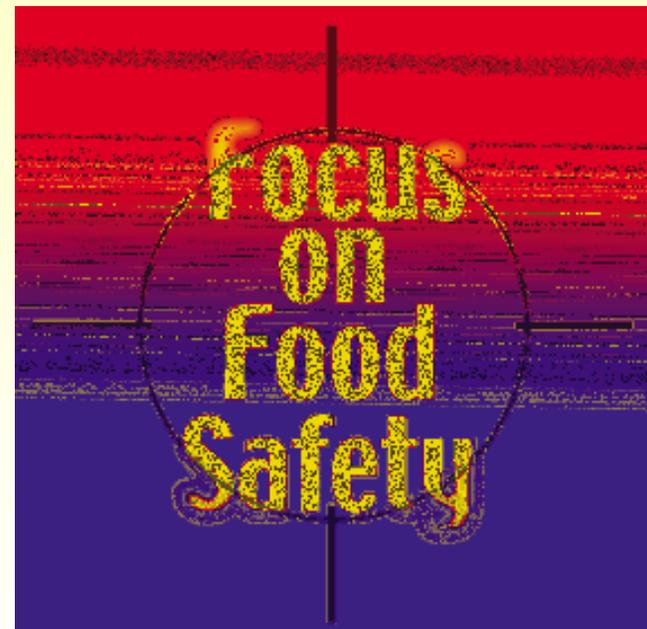
- Employee health policies based on foodborne illness transmission
- Implementation of Consumer Advisory for raw or undercooked eggs, meat, or fish
- Following the special requirements for serving highly susceptible populations
- Proper use and storage of chemicals

# FOOD SAFETY NON-RISK FACTORS

Non-risk factors/good retail practices are items that are less directly associated with the leading causes of food borne illness but are still requirements of the Food Code.

Examples include:

- cleaning and repair of floors, walls , and ceiling
- adequate lighting
- toilet room repair and maintenance
- premise maintained free of litter or unnecessary articles
- hair restraints



# REQUIRED EMPLOYEE HEALTH POLICY/TRAINING

## Part 1:

20% of all food borne outbreaks reveal the first person sick was a food handler in the kitchen!

Food Handlers are required to report to the person in charge any of the following conditions or symptom before starting their work shift.

- Diarrhea
- Vomiting
- Fever
- Jaundice
- Sore Throat w/Fever
- Cuts or wounds on hands or lower arms
- Contact with confirmed or suspect FBI



***Foodborne Illness Is Not a Menu Item!***



# REQUIRED EMPLOYEE HEALTH POLICY/TRAINING

## Part 2:

Persons in charge receiving such notice from a food handler are then required to make an informed decision.

With a band aid and a tight fitting glove a food handler with a cut or wound can resume their normal food handler job duties.

Food handlers with undiagnosed diarrhea or vomiting, must be symptom free for 24 hours before returning to the kitchen.

Food handlers with diagnosed illness will follow the doctors recommendations regarding their return to kitchen, the length of time is based on illness type.



***Foodborne Illness Is Not a Menu Item!***

# CONSUMER ADVISORY

If a restaurant serves meat, eggs, or fish *raw* or *undercooked* either as a standard way of preparation or would serve to a customer if they specially requested:

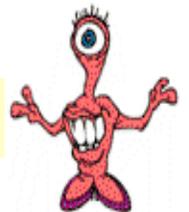
The restaurant is required to have a consumer advisory at the point of ordering. Such foods that are served uncooked or raw as a standard way of preparation should have an (\*) linked to the health statement.

*An example of a health statement:*

*When eating at home or dining out consuming fully cooked eggs, meat, or fish reduces the risk of food borne illness (intact muscles are except from the consumer advisory)*



*Food Safety is YOUR Responsibility!*



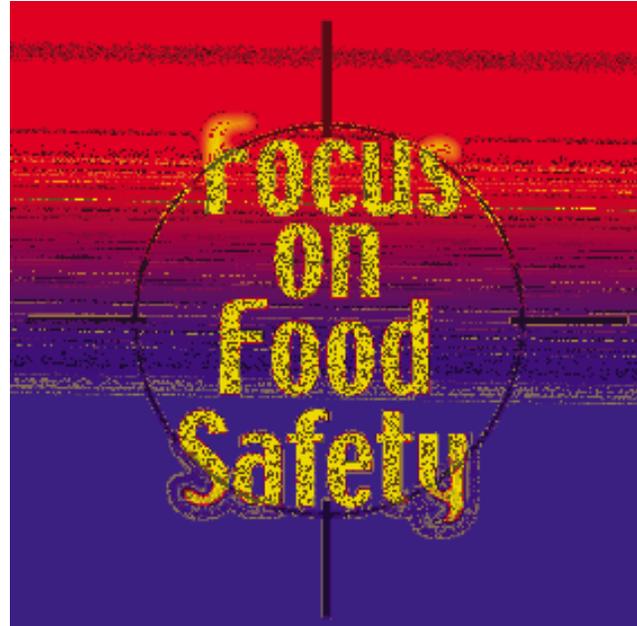
# DEMONSTRATION OF KNOWLEDGE

AS PART OF THE REQUIRED PUBLIC HEALTH INTERVENTIONS

RESTAURANTS ARE REQUIRED TO:

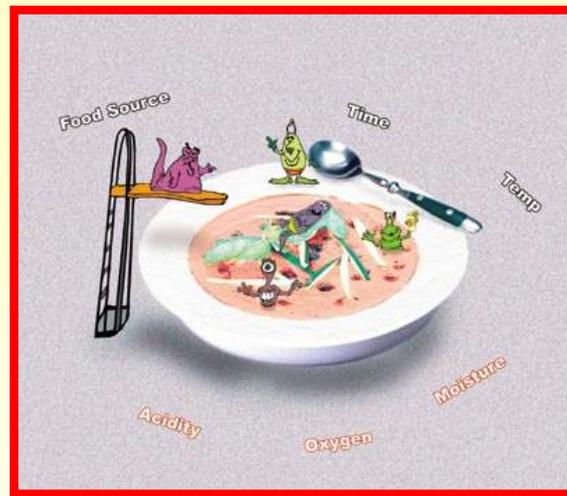
Have at least one person that is a State of Wisconsin licensed Food Handler

Ensure that all food handlers are trained in food safety



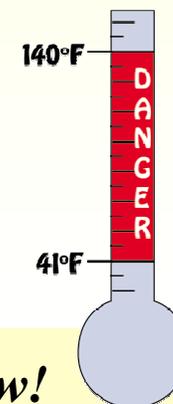
# IS THERE A MICROBE IN YOUR SOUP?

## Necessary Conditions for Microbial Growth



### Time & Temperature Principal:

- Holding time & temperature is critical
- Temperature **DANGER ZONE** is from 41°F to 135°F Range in which rapid growth occurs
- PHF should not be exposed to danger zone for more than 4 hours total, including time spent in preparation, cooling & reheating



*Micro-organisms Need Favorable Conditions to Grow!*

# MONITORING POTENTIALLY HAZARDOUS FOODS' TEMPERATURES

## Use & Care of Temperature Taking Devices

### Cleaning:

- Use a clean and sanitized thermometer
- Single use alcohol wipe or other approved sanitizer may be used



*Thermocouple*



*Infrared*  
(reads surface temperature only)



*Digital Thermometer*

### Taking Temperatures:

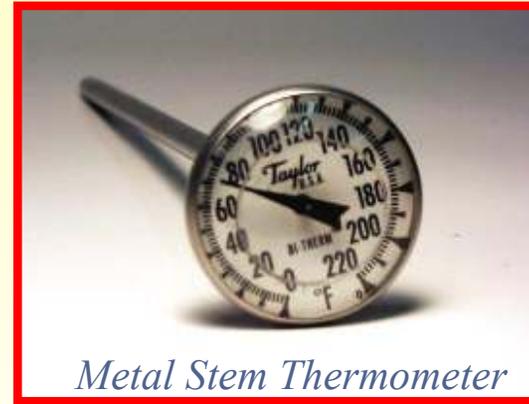
- Use a metal stem thermometer, digital thermometer, or thermocouple unit
- Place the probe in the center or thickest part of the food, between the fold of the flexible packaged food or between packages of food
- Allow time for the thermometer to register and record the temperature
- Thermometers should be used often.

# MONITORING POTENTIALLY HAZARDOUS FOODS' TEMPERATURES

## Use & Care of Temperature Taking Devices

### Calibrating Metal Stem Thermometers:

- Calibrate thermometers frequently
- Insert sensing area into a cup of ice slush
- Allow indicator to stabilize
- Adjust calibration nut to 32°F while in ice
- Digital thermometer and thermocouple units can be checked for accuracy using this method



*Metal Stem Thermometer*



*Ice Slush Calibration*



# OBSERVE GOOD HYGIENIC PRACTICES



*Does Mr. Yucky  
work in your kitchen?*

- Wash hands only in the hand sink-- not in the dishwashing, food preparation or mop sinks
- Ill employees can cause FBI. Enforce sick leave policy or reassign duties
- Eat, drink or use any form of tobacco only in designated non-food production areas
- Do not use a common cloth towel or apron for hand wiping

***Good Hygienic Practices are the Responsibility of Both the Foodworker & the Management!***



# OBSERVE GOOD HYGIENIC PRACTICES

- No bare hand contact with ready-to-eat food!
- Wear nails short, clean and unpolished. Restrict rings to plain bands
- Cover open cuts and burns with finger cots, bandages or single-use gloves
- Follow single-use glove guidelines



***Good Hygienic Practices are the Responsibility of Both the Foodworker & the Management!***

# FOOD SAFETY IS IN YOUR HANDS



## Handwashing is Important in Preventing FBI Food Workers & Management

- Wash Hands FREQUENTLY and EFFECTIVELY 20 second friction wash; adequate soap; warm water; use paper towel to dry
- Keep Hand Sinks Accessible AT ALL TIMES
- Wash Hands at APPROPRIATE TIMES

### Wash Hands After:

Smoking, Eating or Drinking



Handling Raw Food



Cleaning or Handling Garbage



Using a Tissue



Going to the Restroom



*Improper or Lack of Handwashing Causes 30% of All FBI*

# NO BARE HAND CONTACT

Bare hand contact with ready-to-eat (RTE) food is prohibited. When handling RTE foods, food service workers may use utensils such as:

- Deli Tissue
- Spatulas
- Tongs
- Forks
- Dispensing Equipment
- Single-Use Gloves



*A Ready-To-Eat (RTE) Food is Any Food that Can be Consumed Without Further Preparation*

# NO BARE HAND CONTACT

## Single-Use Glove Guidelines

- Glove usage does not replace the need for good hand washing practices
- Wash hands before putting on gloves
- Change gloves after touching raw meat, raw egg, the face, hair, or any unclean surface.
- If interrupted during food preparation, remove gloves?
- Use clean gloves when you resume food preparation
- Fabric or re-usable gloves may not be used with RTE food



*A Ready-To-Eat (RTE) Food is Any Food that Can be Consumed Without Further Preparation*



# CROSS-CONTAMINATION

## Avoid the Risk

No bare hand contact with ready-to-eat food or ice

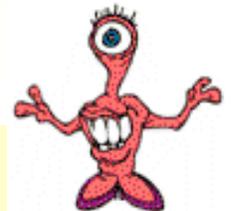
Use proper utensils or single-use gloves

Practice good handwashing and hygienic habits

Store raw meat, raw poultry, and raw shell eggs below cooked or ready-to-eat foods in the cooler

Clean and sanitize all utensils and surfaces that touch food:

- after each use
- when changing product
- between meat species
- frequently when preparing large amounts
- between raw meats and cooked or ready-to-eat foods



*Use Separate Cutting Boards for Raw Meats & Cooked or Ready-to-Eat Foods*

# CROSS-CONTAMINATION

Avoid the Risk

Incorrect



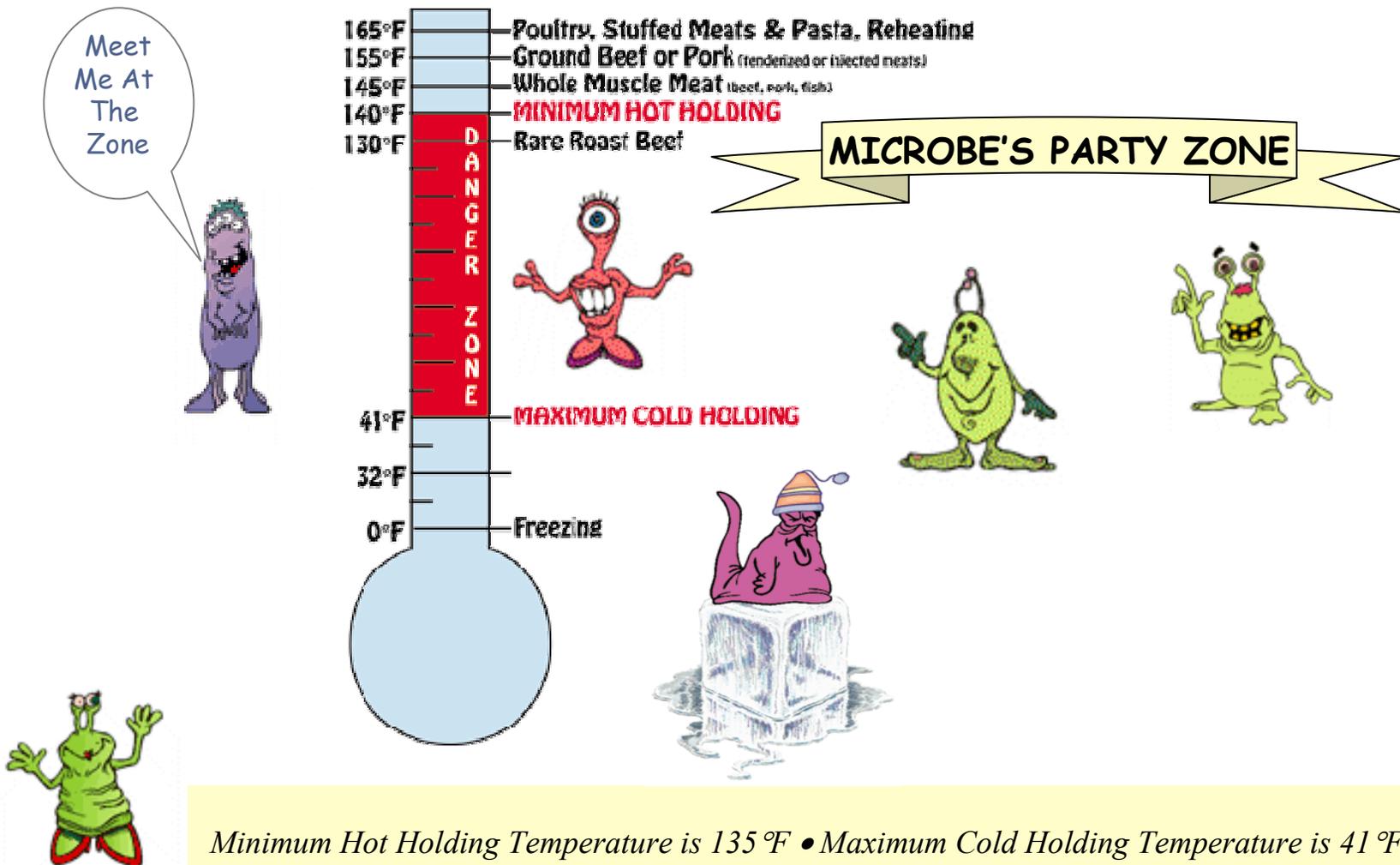
Correct



*Use Separate Cutting Boards for Raw Meats & Cooked or Ready-to-Eat Foods*



# FOOD PREPARATION CRITICAL TEMPERATURE



# 4 WAYS TO THAW FOOD SAFELY



In a Cooler or Refrigerator at 41°F or Less



In Cold Running Water



During the Cooking Process, Continuous Cooking with No Interruption

By Microwaving as the First Step in a Continuous Cooking Process



*NEVER THAW FOODS AT ROOM TEMPERATURE*

*The thawed portions on the outside will support bacterial growth and can result in an unsafe product!*



# MAINTAIN A SAFE FOOD BAR

**Hold all PHF at proper temperatures**

**Hot Foods 135°F or above**

**Cold Foods 41°F or below**

- Take food temperatures every 2-3 hours.
  - Stir foods frequently to distribute temperature.
  - Do not add fresh food to old. “First In, First Out”
  - Require customers to use clean plates and bowls for return trips to the food bar
- Protect food from contamination
  - Provide proper serving utensils and sneeze guards



*Hot Holding*



*Cold Holding*

# SAFELY HOLD HOT & COLD FOODS

Cold Foods Must be Maintained at an Internal Temperature of 41°F or Below

- Date mark foods appropriately
- Cover foods after completely cooled
- Store raw meats & eggs below or away from cooked or ready to eat products regardless of the container type or condition.



Hot Foods Must be Maintained at an Internal Temperature of 135°F or Higher

- Use proper equipment for hot holding
- Stir frequently to distribute the temperature
- Covered foods maintain temperature longer

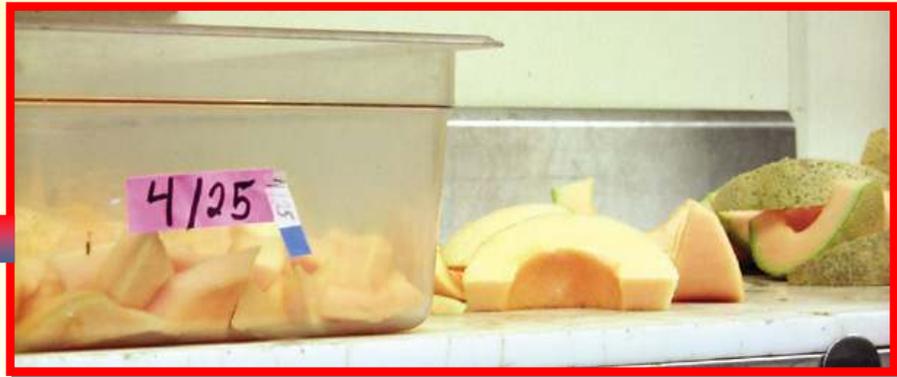
*Proper Holding Temperatures Must be Maintained During Transportation*



# DATE MARKING

## Food Must Be Date Marked If It Is:

- Prepared on-site and refrigerated, or commercially processed after the original container is opened
- Potentially hazardous
- Ready-to-eat
- Held for more than 24 hours



## Mark With the Date To Be Consumed By or Discarded:

- maximum number of days at refrigeration is seven days.

*When in Doubt, Throw it Out!*



# DATE MARKING

If Potentially Hazardous,  
Ready-To-Eat Food is Frozen:



- When thawed, unless date marked, should be used within 24 hours
- If a Potentially Hazardous ready to eat food was held at refrigeration before being frozen, this length of time at refrigeration should be subtracted from the seven days allowed in refrigeration once it is thawed



*When in Doubt, Throw it Out!*



# COOL FOODS QUICKLY & SAFELY

## 2 Stage Cooling is Required

Cooked potentially hazardous foods need to move quickly through the temperature danger zone to limit microbial growth:

- **Stage 1** : 135°F - 70°F in 2 hours
- **Stage 2**: 70°F - 41°F in next 4 hours

*Improper Cooling is the Leading Cause of FBI!*



# COOL FOODS QUICKLY & SAFELY

## Cooling Methods

### Shallow metal pans - 2" - 4" deep

- Leave pan partially uncovered
- Once hot food is down to 135 first stage of cooling begins
- DO NOT stack hot pans - allow for air flow



### Ice Bath



- Fill a clean sink or large pan with ice and fill spaces with cold water
- Immerse product pan into ice. Ice should be banked around product to the same level as the food in the container.
- Agitate/stir about every 10 minutes
- Drain water and replenish ice as it melts
- Use a clean thermometer to monitor the temperature of the food to ensure that time/temperature are being met for proper 2 stage cooling

*Improper Cooling is the Leading Cause of FBI!*



# COOL FOODS QUICKLY & SAFELY

## Cooling Methods

### Small Portions - reduce the mass/volume

- Divide food into smaller pans
- Separate food into smaller or thinner portions (2" depth for thick foods/ 4" for thick liquids)
- Cut or slice portions of meat no larger than 4 inches or 4 pounds

Add ice directly to the product as an ingredient

Use rapid chill refrigeration equipment that encourages quick cooling

Plastic is an insulator so foods will take significantly longer to cool in plastic

Never allow foods to cool at room temperature

Cool wands or ice sticks are good tools for cooling

Remember to place cooling foods in well ventilated areas of refrigerator

Keep cooling foods uncovered until cool and then cover

### Hints:



*Improper Cooling is the Leading Cause of FBI!*

# RE-HEAT FOODS QUICKLY & SAFELY

## Key Elements:

- Reheat previously cooled foods to an internal temperature of 165°F or above
- Rapid reheating is required (1 hours or less)
- Stir foods frequently to distribute the heat
- Measure the internal temperature with a thermometer
- After reaching 165°F, the food must be held hot at 135°F or above



## Reheating Methods:

- Direct heat (stove top) is best... may also use steam cookers, ovens and microwave if reheating achieves 165°F within 1 hour
- Reheating in steam tables and crock pots is unsafe and discouraged

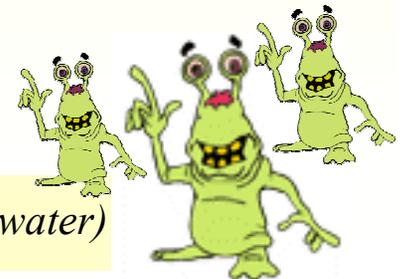


*Do Not Mix New/Fresh Food with Leftover Items*

# CLEANING & SANITIZING

## Manual Warewashing Steps:

1. **Wash:**
  - Clean and sanitize sinks and drain boards
  - Pre-soak/pre-rinse all eating utensils and equipment
  - Use hot soapy water
2. **Rinse:**
  - Use clean hot water
3. **Sanitize:**
  - Use 100 ppm chlorine; mix with cool water or
  - 200 ppm quaternary ammonia; mix with 75°F water
  - Immersion time is 60 seconds
  - Air dry utensils and equipment
  - Use appropriate test strips to check concentration
4. **Air Dry (do not towel dry)**



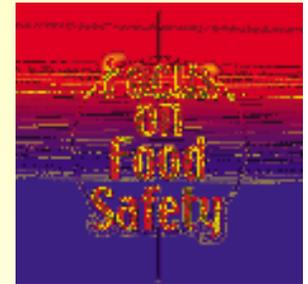
*Making 100PPM Chlorine Solution is as Easy as 1-2-3 (1 ounce bleach to 3 gallons water)*

# CLEANING & SANITIZING

## Mechanical Dishmachines: *(Pre-rinse before loading any machine)*

### HIGH TEMPERATURE:

1. Wash Temperature:
  - Minimum of 120F but most soaps work best at 140F to 160F
2. Hot Water Sanitization:
  - 180°F at manifold
  - 160°F at surface of utensils/dishes being washed, (use thermolabels to verify)



### LOW TEMPERATURE:

1. Chemical Sanitization Required
2. Water Temperatures According to Manufacturer
3. Chemicals Must Be Auto dispensed into Final Rinse Water; Check Daily
4. Use chemical test strips of surface of dish/utensil to verify proper sanitizer levels

## Cloth Towel Baths

1. Cloth towels between uses should be stored in a sanitizer solution between uses
2. Don't add soap to sanitizer bath, soap reduces the sanitizer's efficacy



*Making 100PPM Chlorine Solution is as Easy as 1-2-3 (1 ounce bleach to 3 gallons water)*

# A SAFE & CLEAN FACILITY

## Insect & Rodent Control (cockroaches, flies, mice, rats, etc.)

Insects and rodents carry diseases and can contaminate food and food-contact surfaces. Utilize measures to minimize their presence



- Protect outer openings by keeping outer doors closed, repair screens, maintain tight fitting doors & openings, use air curtains
- Eliminate harborage conditions
- Exterminate regularly

# A SAFE & CLEAN FACILITY

## TOXIC MATERIALS

### These Items Can Be Poisonous Or Toxic If Ingested

- Detergents
- Sanitizers
- Polishes & Cleaners
- Insecticides
- Rodenticides
- First Aid Supplies & Personal Medication

### Storage, Labeling & Use

- Store separately from foods & food-contact surfaces
- Never store above foods or food surfaces
- Label all toxins
- Use only approved chemical in food areas



*Incorrect*



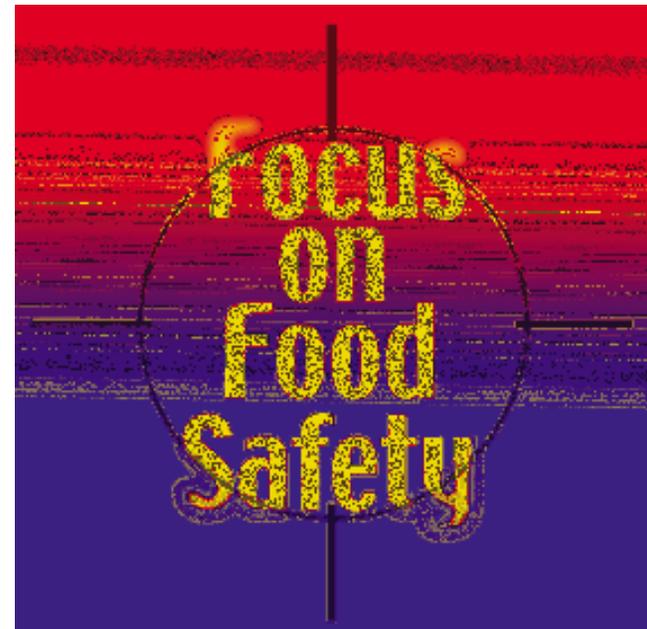
*Correct*

*NEVER store chemicals ABOVE sinks. ALWAYS store BELOW.*

# WHEN TO CALL

## CALL THE HEALTH DEPARTMENT IF ANY OF THE FOLLOWING:

- Plan review prior to construction or remodeling
- Change of ownership
- Licensing/inspections requests
- Natural disasters involving food
- Power outages of 2 hours or more
- Transportation accident involving food
- Foodservice establishment complaint
- Foodborne illness outbreak
- Training/educational material requests



# WHO TO CALL



SAINT CROIX COUNTY PUBLIC HEALTH  
LICENSING AND INSPECTIONS  
1445 NORTH 4TH STREET  
NEW RICHMOND, WI 54017



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