



Temporary food service sanitation and food handling practices



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Purpose and Objective



- ❖ **Purpose** – This training is designed to familiarize Food Handlers, Family Readiness Groups and Non-Profit Organization when operating in a temporary food establishment with the basic principles of food safety that must be applied when conducting food operations on military installations.

- ❖ **Objective** – The objective for adhering to established food safety principles is to prevent the occurrence of foodborne illness.

- ❖ **Scope of Training** –
 - ❖ Understand factors that contribute to foodborne illness.
 - ❖ Understand controls that will minimize the risk of foodborne illness.
 - ❖ Understand foodborne illnesses are **PREVENTABLE!!!**



Foodborne Illness



- ❖ Just because you don't hear about it often, doesn't mean it doesn't happen... **Only a small percentage of actual foodborne illness cases ever get reported—**
 - ❖ An estimated 48 million people in the U.S. get sick **each year** from food. That's almost 1 in 6 people!
 - ❖ There are about 128,000 hospitalizations and 3,000 deaths each year because of diseases transmitted through food.
 - ❖ Foodborne Illness outbreaks do occur on military installations. One incident in 2012 resulted in 100 Soldiers getting sick.
- ❖ **Personnel who prepare and handle food play a key role in the prevention of foodborne illnesses by—**
 - ❖ **Adhering to prescribed food safety measures; and**
 - ❖ **Maintaining sanitary controls within food operations.**



Key Terms



- ❖ A **foodborne illness outbreak** - 2 or more cases of a similar illness resulting from the ingestion of a common food from the same source. (Ice and beverages are included as a “food”)
- ❖ **Clean** – Removing visible debris, encrusted food, or greasy feeling.
- ❖ **Sanitize** – Reducing the total number of micro-organisms (“germs”) on a surface to safe levels.
 - ❖ **This is NOT the same as “sterilization,”** which is a process used in hospitals to kill (remove) all micro-organisms that are on a surface.
- ❖ **Contaminated** – The presence of harmful substances in or on food.





Key Terms (continued)



❑ Cross-contamination: The transfer of a harmful substance to food through direct or indirect contact.



Examples:

- ❖ Spilled chemicals or detergents on food packages or surfaces where food comes into direct contact, such as plates, silverware, and food prep tables.
- ❖ Using unsanitized equipment or utensils to prepare, store, or serve food.
- ❖ Bare-hand contact with foods that are ready-to-eat (RTE) such as fresh fruits, sandwiches, salad vegetables, and deli meats & cheese.
- ❖ Bacteria from raw foods transferred to foods that are ready-to-eat. For example—
 - ❖ Blood from raw meat dripping onto RTE foods stored on a lower shelf in the refrigerator.
 - ❖ Cutting boards and knives used to prepare raw meat are not cleaned and sanitized and are then used to prepare RTE foods.





Key Terms (continued)



- ❑ **Potentially Hazardous Food (PHF)(Time/Temperature Control for Safety Food): A food that requires time or temperature control for safety to limit the growth of harmful micro-organisms.**
- *Examples:*
 - ❖ *Meat-- beef, poultry, seafood...*
 - ❖ *Heat-treated plant foods -- rice, pasta, baked potato, fried onions, cooked apples...*
 - ❖ *Cut plant foods -- tomatoes, leafy greens, melons, chopped garlic in oil...*
 - ❖ *Dairy and Dairy Products- Milk, Cheese, yogurt...*
 - ❖ *Eggs*
 - ❖ *Leftovers*
- ❖ **RTE – Ready to Eat. Food that are already prepared or ready to be consumed.**
 - ❖ *deli meats and cheese, breads, salads, baked goods, fruits...*





Types of Contamination



- ❖ Harmful substances that present a food safety hazard can be Chemical, Physical, or Biological in nature and may result in injury or illness when ingested. *Examples include—*



- ❖ Chemical: detergents, sanitizing agents, pesticides, fuel, etc...
 - ❖ Contamination of food or food contact surfaces occurs through direct contact with chemicals or chemical residues following improper use or storage.



- ❖ Physical: bone fragments, glass, toothpicks, etc...
 - ❖ When physical hazards such as dead insects or parts of the insects and hair come into contact with food, biological contaminants contained on their surfaces are transferred to the food.



- ❖ Biological: bacteria, viruses, parasites, yeast, & molds
 - ❖ Biological hazards contribute to almost two-thirds of all foodborne illness outbreaks. *Note: Live insects can transmit biological pathogens.*



Biological Hazards



- ❑ Bacteria are microscopic and cannot be seen by the naked eye.
 - ❖ Hundreds or thousands of bacteria may already exist on raw foods when purchased.
- ❑ The right temperature, moisture, and food are needed for bacteria to survive and multiply.
- ❑ Some bacteria produce toxins and/or spores.

Toxins—

- ✓ Poison or waste products produced by living bacteria.
- ✓ The longer bacteria are allowed to grow/multiply in food, the greater the amount of toxins deposited.
- ✓ Are NOT neutralized (destroyed) during cooking.

Spores—

- ✓ Dormant bacteria cells that become “alive” when environmental conditions are ideal.
- ✓ Can survive boiling temperatures for long periods of time; not destroyed during cooking or freezing.

- ❑ Bacteria in food can cause:
 - ❖ Infection - *illness caused by ingesting a sufficient amount of live bacteria.*
 - ❖ Intoxication – *illness caused by ingesting the toxic residues deposited in food when the bacteria was alive.*



Foodborne Illness Risk Factors



- ❑ *There are 5 major risk factors (or conditions) related to employee behaviors and food preparation practices that contribute to foodborne illness:*
- ❖ *Food from unapproved sources*— Food must be obtained from sanitary sources that conform to local, state, and federal statutes and regulations.
 - ❖ **Foods prepared in private homes are NOT authorized for sale or service at temporary food establishments. All Potentially Hazardous Food (PHF) must be prepared onsite. (Exception Bake Goods Only and Bake Goods must be individually wrapped.)**
- ❖ *Inadequate cooking* – food must be cooked to prescribed temperatures in order to kill any residual bacteria, viruses, or parasites that might be in or on the food.
- ❖ *Improper holding temperatures* – potentially hazardous foods must be held at proper cold or hot holding temperatures to prevent the growth of bacteria.
- ❖ *Contaminated equipment* – food contact surfaces must be cleaned and sanitized to prevent cross-contamination of food.
- ❖ *Poor personal hygiene* – food employees must adhere to standards of hygiene to prevent contamination of food contact surfaces and food.



Food Protected During Storage



- ❖ Do NOT store boxes or containers of food directly on the floor or ground. Food should be at least 6 inches off of floor to prevent contamination or pest access.
- ❖ Cover food (and containers of food) when held in hot or cold holding during serving periods.
- ❖ Always examine food & food containers for signs of contamination or spoilage before use.

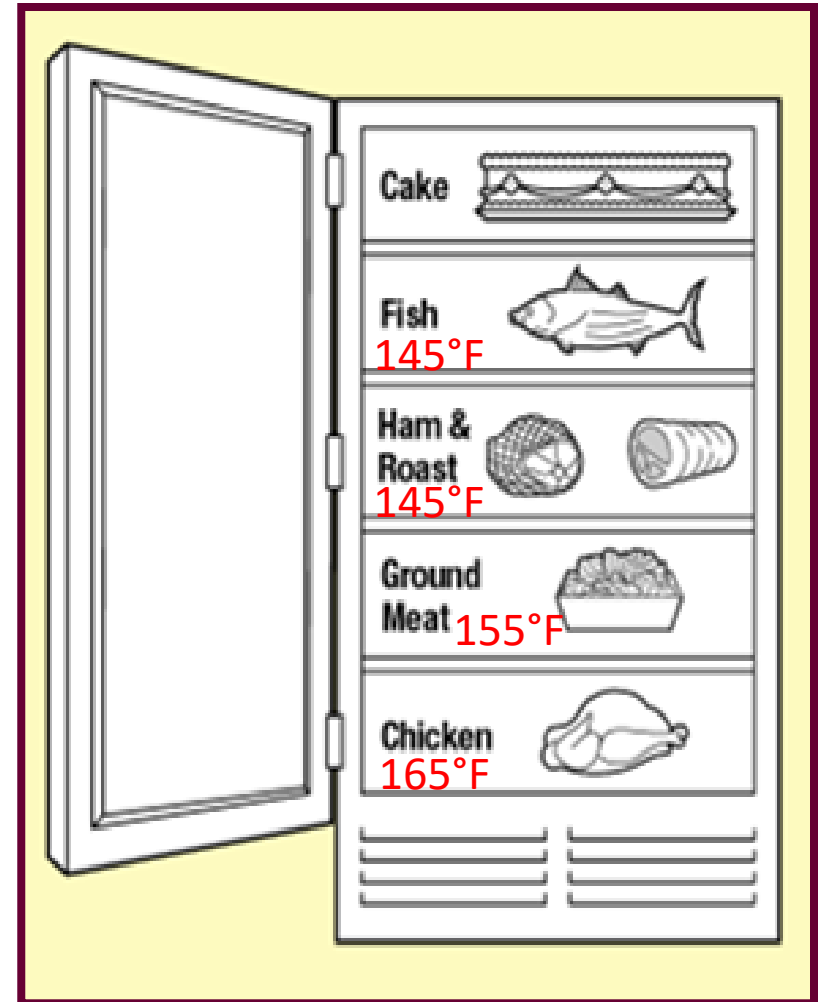




Food Protected During Storage



- ❖ Protect from contamination when stored in refrigerators/freezers & ice chests—
 - ❖ All food must be wrapped or held in a covered container.
 - ❖ Food packaging/containers should be closed/covered so that there is no exposed food.
 - ❖ Food containers or packaging must be impermeable to protect from melting ice when stored in ice chests.
- ❖ Store RTE foods above raw foods
- ❖ Store raw foods in order of their proper internal cooking temperature.
- ❖ Ice used to keep foods cold may NOT be used for consumption!

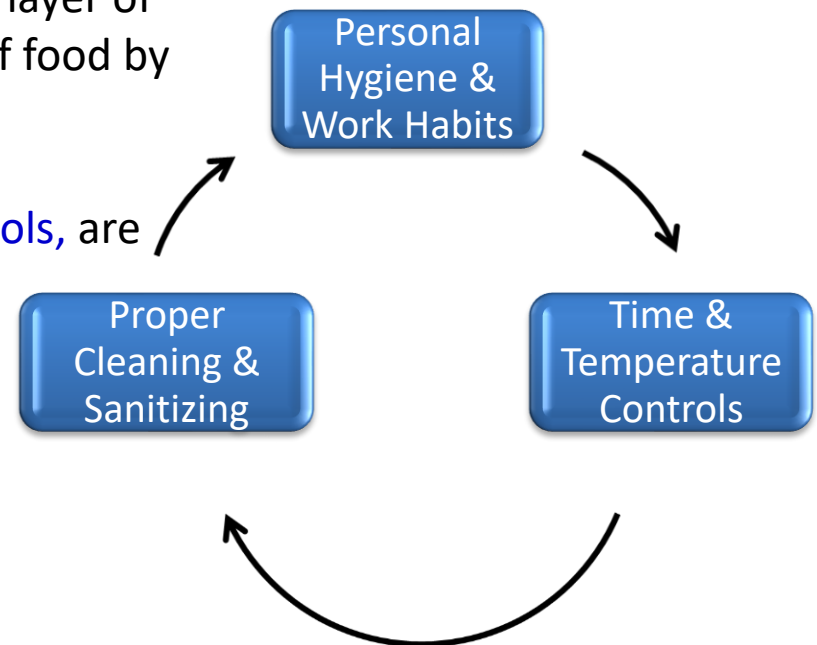




Layers of Protection



- ❑ Applying multiple levels of control called the *Layers of Protection* is the underlying principle for reducing the risk of foodborne illness from biological hazards.
- ❖ Good **Personal Hygiene and Work Habits** represent the first layer of protection to prevent transferring biological and physical contaminants to food and surfaces that generally come into contact with food.
- ❖ **Proper Cleaning and Sanitizing** is the second layer of control that prevents cross-contamination of food by removing harmful agents from surfaces.
- ❖ The third layer, **Time and Temperature Controls**, are employed to prevent the growth of harmful micro-organisms that may already exist in food.





Personal Hygiene



Hand-washing “...the single most important means of preventing the spread of infection.” –Centers for Disease Control and Prevention

- ❑ People are natural carriers of bacteria—
 - ❖ Staph bacteria is found on skin and hair, regardless of how often you bathe.
 - ❖ Bacteria such as *E.-coli* are found in our intestines. When you use the restroom your hands can become contaminated with bacteria, which can then transferred to everything you touch.

- ❑ People can also carry harmful viruses that are readily transmitted through food or contact with surfaces that are touched by others.
 - ❖ Norovirus is a primary example; it can live on surfaces such as door handles, dishes, chairs, etc., for several days.
 - ❖ Infection occurs when contaminated food is ingested or contaminated hands come into contact with mucous membranes (eyes, nose, mouth).

- ❖ **Proper and frequent hand washing and proper use of disposable gloves can reduce the risk of disease transmission.**



When Should You Wash Your Hands?



Personal Hygiene & Work Habits

- ❖ Before beginning work.
- ❖ After using toilet facilities.
- ❖ After smoking, eating, applying lip balm, or taking a break.
- ❖ Before putting on gloves **and** between glove changes.
 - ❖ Change gloves between food tasks and non-food tasks – *handling/ preparing food and handling money, or restocking supplies and food/ condiments.*
- ❖ Before handling cleaned and sanitized equipment & utensils.
- ❖ Performing custodial tasks - *handling soiled equipment & utensils, or trash;*
- ❖ Touching/adjusting hair, ear rings, or other jewelry.
- ❖ After you touch anything other than the food; before conducting any task involving food handling.





Hand Washing Sink



Personal Hygiene & Work Habits

- A hand washing unit must consist of:
 - Hot and cold running water
 - Soap
 - Paper Towels
 - Trash receptacle
 - Hand washing sign



- ❖ **A dedicated hand wash sink must be provided at the food concession for food employee use only.**
 - ❖ Sinks used for washing food equipment/utensils **may NOT** be used for hand washing.
- ❖ Hand wash sinks located near the latrines **may NOT** be substituted as the designated *food employee* hand wash sink.

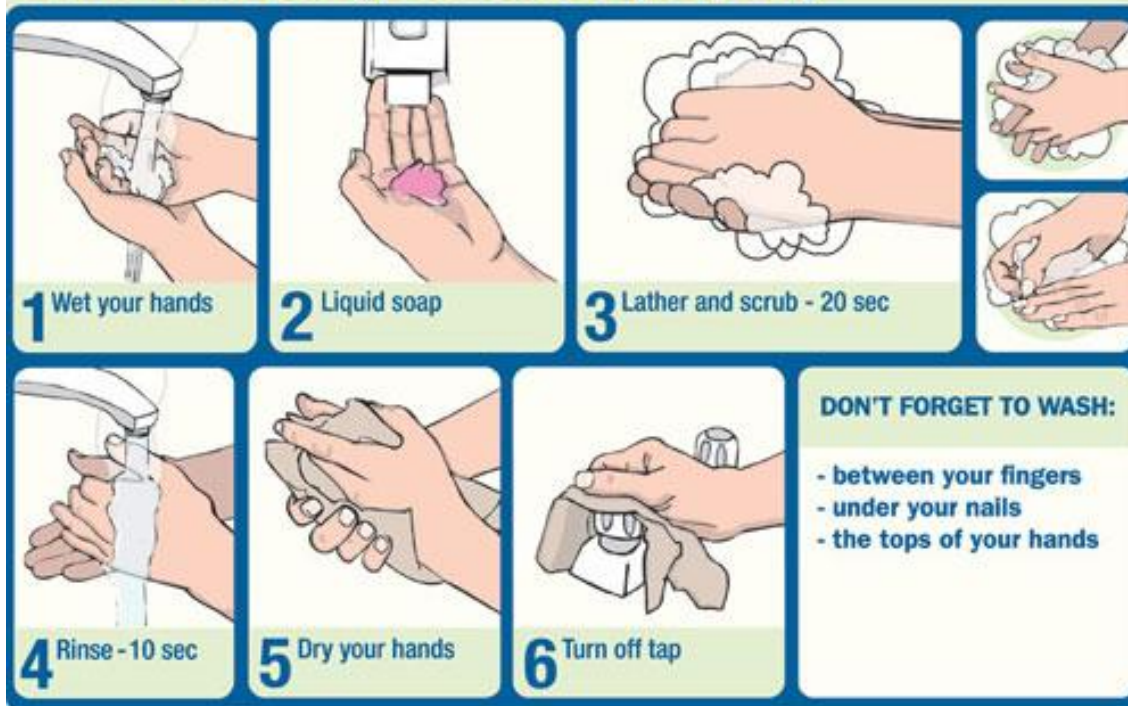


Handwashing Standards



Personal Hygiene & Work Habits

How to wash your hands properly



- ❖ Use of disposable gloves does **NOT** exempt food employees from washing their hands.
- ❖ **Use of sanitizing hand gels is NOT authorized as a substitute for proper handwashing!**



Health Requirements



Personal Hygiene & Work Habits

- ❖ Disclosure by Worker to the supervisor—
 - ❖ Diarrhea, Vomiting, Fever, Jaundice -- *personnel are restricted from performing any tasks associated with the food concession.*
 - ❖ Individuals with diarrhea must be cleared by a medical practitioner before they will be authorized to work at the food concession.

- ❖ At the beginning of each work shift, the Supervisor must inspect employees for signs of illness or injury—
 - ❖ Frequent coughing or sneezing;
 - ❖ Cuts or unhealed burns on hands and forearm;
 - ❖ Infected wounds (oozing boils, pimples, sores).

- ❖ **The Supervisor will—**
 - ❖ *Limit workers with persistent cough/sneezing or infected wounds to non-food or equipment handling duties (trash management, cash register).*
 - ❖ **Ensure all wounds/burns are covered with impermeable, tight-fitting bandage and disposable gloves are worn if wound is on hands.**
 - ❖ **Use workers without symptoms/injuries to perform: food preparation, equipment & utensil washing & sanitizing, and handling clean dishware or disposable eating utensils.**



Uniform/ Clothing Standards



- ❑ Outer clothing must be clean.
 - ❖ Wearing an apron is recommended & can readily be exchanged when it becomes soiled.

- ❑ Adequate hair restraints must be worn by all personnel preparing or handling food.
 - ❖ Hairnet – *Beard-net (snood) and arm-net/sleeve must be worn if hair exceeds ¼-inch on face or exposed arms.*
 - ❖ Individuals with long hair must pin or tie loose hair not contained by the hat/cap.

- ❑ Paper/disposable hat or clean cap may be worn instead of hairnet—
 - ❖ All males must wear a hat even if head is clean shaven – *hats prevent perspiration from falling on surfaces/food.*

- ❑ Personnel preparing food may not wear jewelry on hands or wrist (except)—
 - ❖ Plain/smooth wedding band;
 - ❖ Medical alert bracelet or necklace.





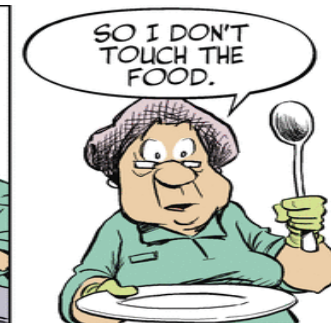
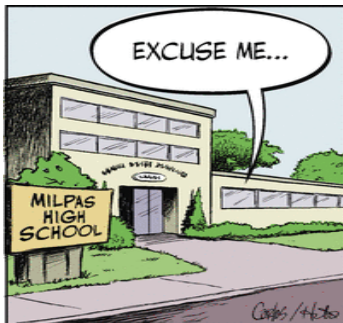
Hygiene Standards



- ❑ Fingernails
 - ❖ Neatly trimmed & smooth;
 - ❖ No false nails, polish, or nail jewelry/ornaments

- ❑ No eating or drinking in food preparation or serving areas.
 - ❖ Use only designated break areas away from food or utensil cleaning.

- ❑ When disposable, **NON LATEX** gloves are worn, change often and between tasks—
 - ❖ Between handling soiled and cleaned/sanitized equipment & utensils;
 - ❖ After handling trash;
 - ❖ After wiping tables/counters;
 - ❖ Before refilling condiment , napkin, and eating utensil dispensers;
 - ❖ Before handling money;
 - ❖ When gloves become torn.
 - ❖ **Wash your hands between each glove change!**





Proper Cleaning & Sanitizing



- ❑ There are many tasks that require application of proper cleaning and sanitizing procedures:
 - ❖ Washing pot/pan, equipment, and utensil used for food;
 - ❖ Wiping down tables and serving counters;
 - ❖ Cleaning dispensers and condiment containers.

- ❑ Food employees must adhere to proper procedures for—
 - ❖ Preparing and managing sanitizing solutions;
 - ❖ Managing wiping cloths;
 - ❖ Using a 3-compartment sink configuration for washing food equipment & utensils;
 - ❖ Handling cleaned and sanitized equipment & utensils.
 - ❖ When using a three-compartment sink, dishes are to be immersed for a minimum of — 30 seconds if using a chemical sanitizer or bleach.

The food operation supervisor should brief workers regarding specific procedures that will be used.



Methods for Sanitizing



- ❑ Hot water Method: Immerse dishes in water 171° F for 30 seconds.
 - ❑ Chlorine Bleach Method: 100ppm solution in 75° F water for 15 seconds.
 - ❑ Quats Method: 100ppm solution in 75° F water for 30 seconds.
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- ❖ Prepare fresh sanitizing solutions daily and as often as necessary to maintain proper concentration and to keep the solution free of visible debris when in use.
 - ❖ Verify the minimum required concentration was achieved and the maximum concentration was not exceeded each time a solution is prepared;
 - ❖ Monitor (spot check) concentration throughout the day or period of use and change when it becomes filmy/greasy.





Chlorine Sanitizing Solution Preparation



- ❑ Use only plain, liquid-type, household bleach.
 - ❖ *Scented bleaches are not allowed for food operations.*

- ❑ Minimum concentration must be 100 parts per million (ppm).

- ❑ Max concentration cannot exceed 200 ppm.

- ❑ Large volume preparation for equipment & utensil washing in a 3-compartment sink—
 - ❖ Add 2 tablespoons (1 ounce) bleach for every 4 gallons of water.

- ❑ Small volume preparation for spray bottles to apply directly onto surfaces such as food prep tables & serving counters— Prepare using a 1-gallon container;
 - ❖ Add ½ tablespoon bleach to 1 gallon of water;
 - ❖ Shake well, verify concentration, then fill individual spray bottles.
 - ❖ **Prepare fresh daily.**

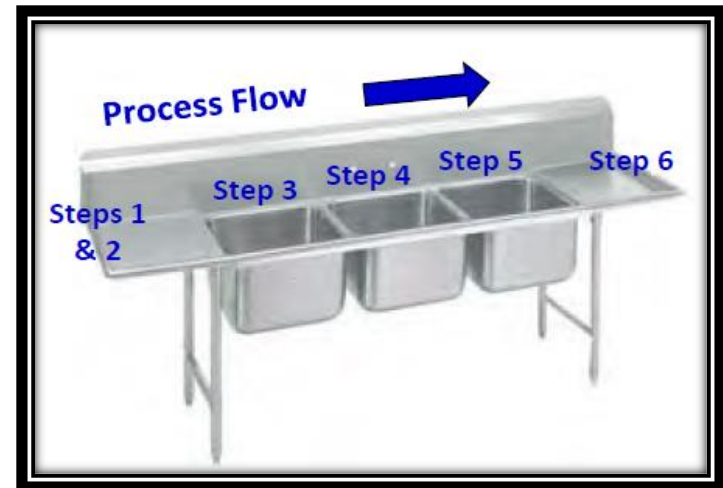


Cleaning Operations



❑ Use of hot water is optimum when available.

1. Scrape excess food from items;
2. Pre-soak if necessary;
3. Wash in hot, clean, soapy water (110°F);
 - ❖ Frequently change water when food debris begins to accumulate.
4. Rinse in hot, clean, clear water (120°F);
 - ❖ Change when soap suds accumulate or greasy film develops on surface of water.
5. Sanitize in clear water—
 - ❖ For hot water (171°F), completely immerse for 30 seconds.
 - ❖ For chemical sanitizer (water should be between 75-110°F), completely immerse for 15 seconds at prescribed sanitizer concentration.
6. Air dry Use clean drain board, table, or rack.





Time and Temperature Controls



- ❑ One of the other critical factors in controlling bacteria in food is controlling temperature.

Examples of temperature effect on growth—

- ❑ Ambient Temperatures:

- ❖ At 90°F the number of bacteria on food will double every ½-hour;
- ❖ PHFs that are held outside of safe temperatures can result in over 4 billion bacterial cells in only 4 hours.
- ❖ **4 hours** is the **LIMIT** that PHFs can be held outside of safe temperatures!!
- ❖ Illness can occur after ingesting anywhere between a couple hundred to a couple thousand bacterial cells.

- ❑ Refrigeration Temperatures:

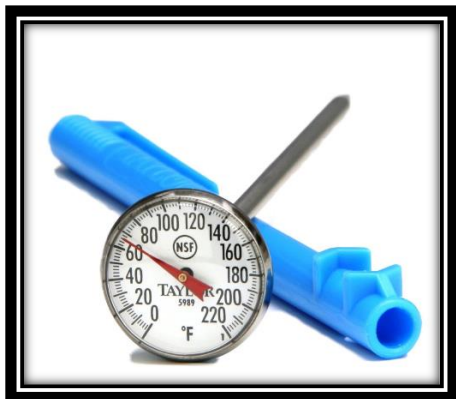
- ❖ At 26°F the number of bacteria double every 6 hours.

- ❑ **Bottom Line – Keep potentially hazardous foods at safe temperatures—**

- ❖ **Chilled at 41°F or below, or**
- ❖ **If cooked, hold hot at 135°F or above.**
- ❖ **If outside safe temperatures, PHFs can only be held for 4 hours max!**



Thermometer Requirements



❑ Bi-metallic stem-type or digital food thermometer required for spot checking internal food temperature.

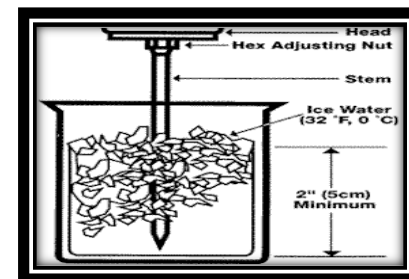
- ❖ Must be calibrated daily to ensure accuracy.
- ❖ Used to verify hot & cold holding and cooking.
- ❖ Sanitize between foods & prior to each use.

❑ Refrigerator, freezer, & ice chest must have an equipment (indicating) thermometer.

- ❖ Positioned inside at warmest part of unit.
- ❖ Glass thermometers prohibited.

Ice Point Calibration Method

- ❖ Fill cup with ice;
 - ❖ Add cold water to cover ice;
 - ❖ Immerse thermometer probe;
 - ❖ Wait 5 minutes to allow temperature to stabilize;
- ❖ Thermometer should indicate 32oF
- ❖ Follow manufacturer's instruction to adjust calibration.
 - ❖ For bi-metallic stem-type, adjust by turning the nut located under the dial.





Temperature Controlled Processes



Thawing Frozen Foods—

- ❖ Do NOT thaw at room temperature!
- ❖ Thaw in a refrigerator or ice chest that maintains foods cold at 41°F or below; or
- ❖ Thaw as part of cooking process (*e.g., frozen hamburgers on a grill*);
- ❖ Thaw in a pan or bowl under cool running water.

Cold holding potentially hazardous foods during storage, transport, & service.

Hot holding potentially hazardous foods after cooking and during transport & service.

Cooking—

- ❖ Destroys living bacterial cells.
- ❖ Does NOT destroy bacterial toxins or spores.

Cooling leftover hot foods.

- ❖ Leftovers are prohibited in temporary food operations!
- ❖ Discard all unconsumed hot & cold food prepared for service each day.



Cooking Temperatures



- ❑ Prescribed standards are based on targeted bacteria commonly found on specific foods.
- ❑ A calibrated Food Thermometer must be used to verify proper cooking temperature was achieved.
 - ❖ Measure at thickest part of food.

Food <i>(Refer to TB MED 530 for complete listing)</i>	Temp
<ul style="list-style-type: none">• Poultry & poultry products (<i>chicken/ turkey sausage</i>)• Stuffed meats• Stuffed vegetables containing meat	165°F
<ul style="list-style-type: none">• Pork• Ground beef• Fish (<i>Chopped</i>)• Bulk-prepared scrambled eggs	155°F
<ul style="list-style-type: none">• Whole muscle beef (<i>roast, steak, beef strips</i>)• Lamb • Whole Fish• Veal• Made-to-order eggs	145°F
<ul style="list-style-type: none">• Cooked plant food (vegetables & fruits) that do not contain meat, poultry, fish, or eggs	135°F



Maintaining Area Sanitation



- ❑ **Pests are readily controlled by maintaining the food operation area in a sanitary status.**
 - ❖ Immediately clean up spilled food/ liquids around food prep & serving area and around the trash cans.
 - ❖ Wipe serving counters & customer tables to prevent food debris from accumulating.
 - ❖ surfaces where food comes into direct contact, such as plates, silverware, and food prep tables carries bacteria on its body from human and animal waste.

- ❑ **Manage trash generated from the operation—**
 - ❖ Use plastic liners in all waste receptacles and **do NOT reuse liners;**
 - ❖ Cover garbage containers when not in use;
 - ❖ Empty garbage containers when 2/3 full and immediately take to the dumpster;
 - ❖ Trash bags must be tightly sealed (tied) before placement in dumpster;
 - ❖ Close dumpster doors;
 - ❖ Clean trash receptacles (and lids) with soapy water at the end of each day.

- ❑ **Food concessions operating in an enclosed structure—**
 - ❖ Must have screens on all windows to prevent entry of flying insects;
 - ❖ Must keep doors closed when not in use.
 - ❖ **Application of pesticides (e.g., Raid or insect foggers) is NOT authorized.**



Summary of Requirements



- Food from approved sources protected when stored

- Required equipment & supplies on hand Refrigerator/freezer/ice chests
 - ❖ equipment to keep hot foods hot and cold foods cold
 - ❖ Calibrated thermometers
 - ❖ Disposable gloves
 - ❖ Hand wash station with soap & paper towels
 - ❖ Hair restraints
 - ❖ Clean clothing (and plastic apron)
 - ❖ Extra utensils & food prep work tables
 - ❖ Dishwashing setup (3-sink)
 - ❖ Sanitizing solution
 - ❖ Trash receptacles & trash bags

- Good personal hygiene & work habits

- Proper cleaning & sanitizing

- Time & temperature control of potentially hazardous foods & Maintain area sanitation



QUESTIONS?