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TOPIC 1.1
PERSONAL HYGIENE AND ENVIRONMENTAL HEALTH REQUIREMENTS
ENABLING OBJECTIVES

- 1.1 STATE the health requirements
- 1.2 IDENTIFY the proper personal hygiene practices
- 1.3 DESCRIBE proper handwashing procedures and practices
- 1.4 STATE eating, drinking, and tobacco use policies for food service spaces
- 1.5 EXPLAIN the types of inspections
HEALTH REQUIREMENTS

- Medical screening
  - Initially
  - After illness
- Who can conduct
  - Physicians
  - EHO, PMT, IDC, Nurse Corps Officer, Civilian Nurse or Environmental Health Tech
HEALTH REQUIREMENTS

- Exclusions and restrictions
  - Gastrointestinal illness symptoms
    - Diarrhea, fever, nausea/vomiting, jaundice, sore throat
  - A lesion containing pus such as a boil
  - Persistent sneezing, coughing, runny nose
  - Prohibited diseases:
    - *Salmonella typhi*, *Shigella* species, *E. coli* O157:H7, Hepatitis A, or Norovirus
REINSTATEMENT

- PIC may reinstate with written approval from local medical authority
- Must be written medical documentation
- Must be free from the infectious agent of concern
PERSONAL HYGIENE

- Eating, drinking, and tobacco
  - in designated areas only
- Closed beverage containers
  - allowed when protected from contamination
- Hair restraints
  - required for all except wait staff, hostesses, and counter staff serving only beverages and wrapped foods
HANDWASHING

WASH YOUR HANDS!
(often and correctly)
HANDWASHING: HOW?

- Clean hands and exposed portion of arms with soap
- Wash for at least 15 seconds
- Rinse with clean water
- Emphasize areas under nails and between fingers
HANDWASHING: WHEN?

- **After**
  - touching bare body parts other than clean hands
  - using the bathroom
  - coughing, sneezing, using a tissue
  - using tobacco, eating, drinking
  - handling soiled utensils or equipment

- **After**
  - engaging in other contaminating activities

- **Before**
  - working with food
  - switching food products

- **During**
  - food preparation
HANDWASHING FACILITIES

- Must clean in a hand washing lavatory
- Not in a food prep or service sink
- Not in a curbed sink for mops or liquid waste
- Signs requiring hand washing must be posted in food service areas and heads
FINGERNAILS/JEWELRY

- Trim nails short and filed

- Nail edges cleanable and not rough

- Jewelry on arms and hands is not authorized
  - Exception: plain wedding band
CLOTHING AND PERSONAL EFFECTS

- Clean uniforms required
- Change uniform when soiled or use clean outer garment
  - Change outer garment when moving from raw to ready-to-eat
- Personal belongings stored outside prep and serving areas
- No changing in prep and serving areas
INSPECTIONS

- Frequency
  - All food establishments will be inspected a minimum of once each month unless specifically exempted by the installation regulatory authority
  - When critical violations are exceeded, frequency will increase until significant improvement
  - Special requests should be honored
INSPECTIONS

Exemptions

– Facilities that have an excellent history may be waived from monthly requirement
– All Navy/Marine Corps food facilities must be inspected at least once each quarter
– Written exemption is not required
INSPECTIONS

- Circumstances
  - Unannounced except for
    - construction
    - pre-opening
    - HACCP study
    - follow-up inspections requiring presence of certain personnel
REPORTS

- Prepared by PMA at the conclusion of inspection and given to PIC
- Categorized as either critical/non-critical
- Repeat items are noted
- Section violation from P-5010-1 is included in report citation
INSPECTION TYPES

- Pre-operational
- Routine
- Follow-up
- HACCP
- Complaint
SUMMARY

- Health requirements
  - Medical screening
  - Exemption from work
  - Reinstatement
- Personal hygiene
  - Eating, drinking, tobacco
  - Hair restraints
  - Hand washing
SUMMARY

- Personal hygiene (cont.)
  - Fingernails
  - Jewelry
  - Clean clothing

- Inspections
  - Frequency, exemptions, circumstances
  - Reports
  - Types of inspections
WHAT’S THE MOST IMPORTANT THING A FOOD EMPLOYEE CAN DO TO PREVENT FOODBORNE ILLNESS?
WASH YOUR HANDS!
TOPIC 1.2

INSPECTION AND STORAGE OF FOOD
ENABLING OBJECTIVES

- 1.6 DEFINE Prime Vendor concept
- 1.7 LIST the types of food inspections
- 1.8 EXPLAIN criteria used to accept or reject perishable subsistence items
- 1.9 STATE criteria used to accept or reject semi-perishable items
- 1.10 DESCRIBE general storage requirements for subsistence items
WHAT IS PRIME VENDOR?

- A major reengineering effort within DoD to establish a single major distributor for one geographical region
- Serves numerous commands
- Subsistence is delivered directly to the customer, not via a warehouse (e.g., DSCP)
- PV selected based on best value criteria
PRIME VENDOR CONCEPTS

- PV relies on the following:
  - Approved sources
  - Vet inspection are randomly required in CONUS
  - Fitness for consumption still required if food is not from PV
APPROVED SOURCES

- All food will originate from approved sources listed in the U.S. Army Veterinary Services “DoD Directory of Sanitarily Approved Food Establishments for Armed Forces Procurement.”

- Website address:
  - [http://phc.amedd.army.mil/topics/foodwater/ca/Pages/DoDApprovedFoodSources.aspx](http://phc.amedd.army.mil/topics/foodwater/ca/Pages/DoDApprovedFoodSources.aspx)
In addition, approved sources may be found in the following publications:

- USDA Publications
- FDA Publications
- USDC Publications
- NAVSUPCOM Publications
- Miscellaneous sources
ACCEPTANCE AUTHORITY (AA)

- Performed at location chosen by activity
- Acceptance or rejection authority must be in writing
  - Receiving official has final acceptance/rejection authority
- PMA and AA liaison with local food personnel (e.g., U.S. Army Veterinary, USDA & USDC inspectors)
INSPECTION

- U.S. Army Veterinary Inspectors (AVI) perform 5 types of inspections:
  - Cursory
  - Routine
  - Special
  - Surveillance
  - Wholesomeness
- PIC must have delivery vehicle inspected
AVI RESPONSIBILITIES

- Must inspect food at Subsistence Prime Vendor (SPV) delivery points to make wholesomeness determinations.
- When quality is questionable, receiving individual (AA) may request inspection or guidance by PMA or AVI.
- If PMA or AVI are unavailable, apply common sense to situation. Contact them ASAP.
RECEIPT OF PERISHABLES MEAT AND POULTRY

- Role of USDA
  - NAVSUPPUB 486
- Fresh meat is firm and elastic to touch, reasonably dry, free of slime and abnormal odors/discholoration
- Signs of refreezing: blood in bottom of box, changes in box shape, discoloration of meat (green/brown), excessive ice
RECEIPT OF PERISHABLES FISH

- Approved source
- Fresh fish have bright red gills, clear eyes, firm elastic flesh
- Frozen fish must be frozen at receipt, check for refreezing
  - Soft, flabby flesh
  - Sour odor or off color
  - Slimy wrapping paper, ice crystals
RECEIPT OF PERISHABLES SHELLFISH

- Un-shucked: fresh only
  - Name of shipper, kind and quantity of stock, maintain certificate for 90 days
- Shucked: fresh or frozen
  - Non-returnable package, maintain certificate, shipper information
- Fresh crustaceans
  - Received alive
RECEIPT OF PERISHABLES FRUITS AND VEGETABLES

- USDA inspection standards
- Taste is best indicator over appearance, blemishes, size, etc.
RECEIPT OF PERISHABLES MILK AND DAIRY

- Only Grade A pasteurized fluid milk
- Delivery Temp 41°F or less
- Dry milk from pasteurized milk
- Served in original containers or from approved bulk dispensers
- Butter
- Shell eggs at least Grade B
RECEIPT OF SEMI-PERISHABLES CANNED PRODUCTS

- Labeling
- Can defects
  - Dents
  - Pin holes
  - Swellers
  - Springers
  - Flippers
- Exceptions (natural swellers)
  - Coffee
  - Syrup
  - Molasses
RECEIPT OF SEMI-PERISHABLES DRY FOODS

- Labeling
- Defects
  - Tears
  - Dampness
  - Infestation
- Rejection standards
FOOD STORAGE

- General requirements
  - food storage areas
  - disposition of decayed/spoiled foods
  - placement of food within storage areas
  - FIFO
  - Inspections for infestation, spoilage, damage
  - Cleaning
FOOD STORAGE

- Temperature
  - Frozen foods stored at 0°F or below
  - Fresh products stored at approximately 32°F - 40°F
  - Eggs/dairy received and maintained at 41°F or below
FOOD STORAGE

- Product compatibility
  - Grouping

- Proper air circulation
  - Place food items minimum 6” above deck (floor)
  - Minimum 4” away from bulkhead (wall)

- Refrigerated storage
  - Temperature and logs
  - Frost, glaze no more than 1/4 inch
  - Easily cleanable shelving
  - Internal back-up thermometer
FOOD STORAGE

- Semi-perishables
  - Controlled conditions
  - Routine inspection of package interiors
SUMMARY

- Prime Vendor concept and practices
- Inspection of food items
- Receipt of perishables
- Receipt of semi-perishables
- Storage of food items
TOPIC 1.3

FOOD
PREPARATION
AND SERVING
ENABLING OBJECTIVES

- 1.11 DESCRIBE the proper food preparation procedures for raw animal products, eggs, fruits and vegetables, and home cooked food
- 1.12 STATE the time and temperature requirements for advanced preparation foods, leftovers, and thawing
- 1.13 DESCRIBE the proper food serving requirements
MINIMUM FOOD PROTECTION MEASURES

- Apply good food sanitation practices
- Maintain high personal hygiene standards
- Keep potentially hazardous foods (PHFs) refrigerated or heated to temperatures that minimize the growth of pathogenic microorganisms
MINIMUM FOOD PROTECTION MEASURES

- Inspect food products for wholesomeness, temperature and sanitary condition prior to acceptance
- Cook PHFs appropriately to kill harmful microorganisms
- Provide adequate personnel, equipment and facilities to ensure sanitary operation
MINIMUM FOOD PROTECTION MEASURES

- Prevent rodent and insect infestation or contamination, as well as contamination of food with toxic chemicals

- Use properly designed, cleaned, and sanitized equipment for its intended use
MINIMUM COOKING TEMPS - POULTRY & FISH

- Poultry, stuffing and stuffed meats: 165°F for 15 seconds
- Poultry can be stuffed, but must reach 165°F for 15 seconds. Remove immediately and store at 135°F or higher until served
- Stuffing should be cooked separately!
MINIMUM COOKING TEMPS - PORK, BEEF & ROAST

- Pork and game animals: 145°F for 15 seconds
- Ground beef & ground meats: 155°F for 15 seconds
- Roast and corned beef: 145°F for 4 minutes
MICROWAVE COOKING

- Cover food to retain surface moisture
- Rotate or stir to distribute moisture
- Heated to internal temp of 165°F or higher.
- Let stand for 2 minutes to obtain temperature equilibrium.
EGGS

- Raw eggs (and food containing raw eggs) prohibited
- Recipes calling for uncooked eggs (e.g., ice cream, mayonnaise, eggnog, Caesar salad dressing, hollandaise sauce, etc.) will be prepared using only pasteurized frozen table eggs.
- Substitute pasteurized eggs for shell eggs when preparing food items intended for highly immunocompromised or otherwise susceptible population.
EGGS (cont.)

- Cook (made to order) shell eggs to 145°F for 15 seconds or until white is firm (not running), and the yolk is set.
- If scrambled eggs are made from fresh shell eggs, the following applies:
  - Cook no more than 3 quarts of scrambled eggs made from shell eggs at a time
  - Cook to 155°F for 15 seconds & no visible liquid
  - Steamtable Hold at 135°F or above
  - Don’t combine freshly cooked eggs with eggs on the steam table!
FRUITS AND VEGETABLES

- Fresh fruits & vegetables should only be procured from approved sources! To prepare:
  - Break apart vegetables to increase contact area
  - Thoroughly wash in potable water

- Those of unknown origin:
  - Break apart vegetables to increase contact area
  - Thoroughly wash in potable water
  - Chemically disinfect for 1-2 min. in 50 ppm FAC
  - Thoroughly rinse in clean potable water
HOME COOKED FOOD

- Not authorized in food establishments
- Requirement does not apply to:
  - Chapel suppers
  - Family child care
  - Neighborhood cookouts
  - Unit bake sales
- Home canned food is prohibited at all command functions.
SAFE HOLDING TEMPS

- Food which is not served immediately after cooking must be held at 135°F or above or rapidly cooled to 41°F or below
- PHFs held outside of range > 4 hours must be discarded!
- PHF ingredients which are consumed without further preparation (e.g., salads, sandwiches, filled pastry products, reconstituted foods, etc.) must be chilled to 41°F or below prior to preparation
ADVANCED PREPERATION FOOD

- Definition: Food prepared for future service beyond a specific meal.
- Follow HACCP principles
- If food product contains PHFs, may not be retained as a leftover.
- May not be placed in hot holding
- Must be cooled to 41°F within the following time constraints:
  - From required cooking temp. to 70°F within 2 hours
  - From 70°F to 41°F within 4 hours (6 hour total period)
ADVANCED PREPARATION RAPID COOLING TECHNIQUES

- Ice bath and agitation
- Portioning into 3” product depth or less in shallow pans
- Use pre-chilled pans
- Circulate cold water in steam jacket or kettles
- Rapid chill reefer prior to placement in standard reefer
- Immerse cooking dish in cold running water while agitating food product
ADVANCED PREPARATION RAPID COOLING TECHNIQUES

- Spread sliced items in shallow pans & then refrigerate
- Distribute product among several reefers
- Use metal, stainless steel, or aluminum containers
- Reduce content of water during cooking and add ice afterwards
- Utilize ice paddles
ADVANCED PREPERATION FOOD

- Protect food from contamination by:
  - Loosely cover hot foods during cooling
  - Tightly cover after food reaches 41°F
- PHF being transported must be held at or below 41°F
- Label
  - “Advance Preparation Food”, preparation and discard date/time
- May be held at or below 41°F for 72 hours
ADVANCED PREPARATION REHEATING

- Will take no longer than 2 hours to reach 165°F for 15 sec. Exceptions:
  - Whole beef roasts to 145°F
  - Commercially processed, hermetically sealed containers
- Held at 135°F for less than 5 hours
- PHFs for cold serving must be held at ≤41°F or served within 2 hours of removal from refrigeration
ADVANCED PREPARATION WAIVERS

- Waiver for freezing limited menu items (e.g., egg rolls) may be authorized by PMA under certain conditions
- May require HACCP plan as directed by PMA
LEFTOVERS

- Definition: Any un-served food remaining at end of meal period
- Serving line food is NOT a leftover and must be discarded
- Non-PHFs (e.g., individual, commercially packaged crackers/condiments, etc.) may be recovered from the serving line, but not individual trays
PHF LEFTOVERS

What may be saved?

– Food with commercially prepared chopped or ground meat ingredients
– Hot Holding PHF leftovers held at 135ºF. or above
– Cold holding PHF leftovers held at 41ºF. or below
– Food item was NOT placed on serving line
– Food item was NOT previously cooked, chilled, and reheated
CHILLING LEFTOVERS

- Hot items to be retained cold must be chilled to 70°F within 2 hours, and to 41°F or below within 4 hours (6 hours total)
- PHF leftovers must be labeled with “LEFTOVER - USE WITHIN 24 HOURS” with discard & preparation date/time
- May be retained for 24 hours chilled (41°F or below) or 5 hours heated (135°F or above)
- Freezing of leftovers is prohibited
- Follow Advance Preparation rules when reheating
PROHIBITED LEFTOVERS

- Foods composed of heavily handled (e.g., peeled, sliced or diced by hand) ingredients
- Anything recovered from serving line, except non-PHFs (e.g., individual, commercially packaged crackers/condiments, etc.)
- PHFs kept between 41°F - 135°F
- Foods not chilled to 41°F or below within 4 hours
COMMERCIAL MEAT, CHEESES, AND SALADS

- Meats and cheeses must be consumed within 7 days of opening and maintained at 41°F or below.
- Inspect visually before each use. Discard if deterioration is noticed.
- Use all salads within 72 hours of opening.
- Label package with opening & discard time and date.
THAWING PROCEDURES

- Ideally, under refrigeration at 36°F - 38°F in original containers or wrappers
- Do not thaw by excessive heat or warm air
- Frozen food may be thawed in a microwave oven as part of a continuous cooking process
THAWING PROCEDURES SHORE FACILITIES

- Food may be thawed under running water:
  - Water temp of 70°F or below
  - Have sufficient water velocity to dislodge loose particles in an overflow
  - No portion of ready-to-eat or raw animal food can be thawed above 41°F
  - Regarding raw animal food: thawing, preparation, cooking and cooling process may not exceed 4 hours total time
THAWING PROCEDURES FLEET

- During emergency situations:
  - All other options must be exhausted
  - Thawed in galley or meat prep space
  - Room temp not to exceed 80°F
  - PHFs kept in original container
  - Cook immediately
  - Notify PMA
SERVING LINES

- Must have functional sneeze shield
- Food must be maintained at proper temps (>135° F or ≤ 41° F)
- Temps must be checked frequently
SALAD BAR

- May be self service
- Must have sneeze shield
- All items pre-chilled to \( \leq 41^\circ F \)
- All items placed on ice or on refrigerated unit
- Vegetables may be kept until end of day with visual verification of wholesomeness
SALAD BAR PHFs

- Place in small quantities
- Replenish with new containers, DO NOT add to existing containers
- PHFs must be discarded at end of meal period
SALAD DRESSINGS

- Non-commercially prepared, placed in bowls, must be discarded at end of meal
- Commercially prepared dressings in small bottles, that are kept under refrigeration between meals, may be retained longer
- Some brands are exempt from refrigeration during meal periods:
  - Must be placed in container w/ NSF approved pump
  - Must be refrigerated between meals
  - Must discard after 48 hours
  - Pump must be cleaned & sanitized prior to placement on container
- Single serve salad dressings do not need refrigeration
UTENSILS

- Ensure you have adequate amount for meal period
- Utensils must be stored in food w/ handles extended, or in running water
SELF-SERVICE

- Authorized items:
  - Bread, butter, crackers, relishes, condiments, beverages
  - Individually portioned deserts
  - Individually wrapped ice cream treats
  - Cookies
  - Fruit (fresh, canned, stewed, frozen)
  - Soft ice cream from dispenser
FAMILY STYLE SERVICE

- Must be authorized by PMA
- 4 hour rule compliance
  - Small quantities of food
  - Adequate utensils supplied
  - Serving bowls are not refilled
  - Salad items pre-chilled (≤ 41º F)
  - PHFs discarded after meal
  - Bulk ice cream may not be served family style
SUMMARY

- Minimum Food Protection Measures
- Food Preparation
  - Cooking raw animal products
  - Eggs
  - Fruits and vegetables
  - Home cooked foods
SUMMARY

- Safe holding temperatures
  - General guidelines
  - Advanced preparation foods
  - Leftovers
  - Thawing procedures
- Food serving
  - Serving lines
  - Salad bars
  - Self service items
  - Family style service
TOPIC 1.4

GENERAL SAFETY IN FOOD SERVICE AREAS
ENABLING OBJECTIVES

1.14 LIST general safety precautions necessary to maintain a safe working environment
1.15 EXPLAIN specific safety precautions associated with food service operations and IDENTIFY specific safety precaution equipment
ENABLING OBJECTIVES

- 1.16 IDENTIFY specific safety precautions associated with sharp blades, mechanical, electrical, and physical hazards including heat and noise
- 1.17 DESCRIBE potential of fire hazards within the food service operation and methods of prevention and control
GENERAL SAFETY PRECAUTIONS

- Equipment operating and safety precautions
  - Follow operating precautions from Navy and manufacturer
  - Post instructions and precautions on or near equipment
  - Provide OJT in use and maintenance
  - If unfamiliar, do not use until trained
  - Only authorized personnel may operate
GENERAL SAFETY PRECAUTIONS

- Put all guards in place
- Do not wear loose items while operating equipment
- Safety interlocks maintained on vegetable chopper, meat tenderizer, bread slicer, dough mixing machine, food processor
- Do not bypass any safety mechanisms
GENERAL SAFETY PRECAUTIONS

- Only competent, authorized personnel may make repairs
- Do not leave hot equipment unattended
- Door latches of walk-in reefers and freezers have interior door release mechanisms with posted instructions
FACILITY SAFETY

- Keep decks dry and grease free
- Keep deck areas clear of obstructions
- Maintain appropriate work atmosphere, no horseplay, dangerous practices, etc.
SAFE LIFTING PROCEDURES

- If an object looks too large or heavy to move, get assistance
- Proper procedures
  - Bend knees, keep back straight
  - Keep load centered in front of you
  - Lift from knees/legs; do not bend at the waist and lift
BLADE AND EQUIPMENT SAFETY

- **Knife safety**
  - Hold knives firmly
  - Clean grip, do not use if wet or greasy
  - Do not store in drawers or on magnetic bars
  - Never carry a knife with something else
  - Only put in sink when ready to wash
  - Use a metal glove when deboning meat
  - Keep free hand away from cleaver’s arc
BLADE AND EQUIPMENT SAFETY

- Meat slicer, vegetable chopper, food processor, meat tenderizer
  - Install interlock switch
  - Install toggle switch guard
  - All guards and attachments properly assembled
  - Use a plunger or slide to feed material, not fingers!
  - Use caution when cleaning blade
  - Secure power, wait for all moving parts to stop before conducting maintenance or cleaning
  - After cleaning, replace blade guard immediately
BLADE AND EQUIPMENT SAFETY

- Dough mixing machine
  - Do not cut dough while agitator is moving
  - Do not knead or test dough consistency while machine is operating
  - Do not clean bowl in tilt position when agitator is revolving
  - Do not use a broken/damaged whisk
BLADE AND EQUIPMENT SAFETY

- Food mixing machine
  - Use proper machine speed
  - Never place hands into bowl while machine is operating
  - Do not let hook or whisk to contact bottom of bowl
BLADE AND EQUIPMENT SAFETY

- Steam jacketed kettle
  - Hydrostatic testing completed annually
  - Pressure gauge installed and operating with no more than 45 psi
  - Check steam safety relief valve prior to opening steam valve
    - Do not tamper with safety valve
    - 18 inch chain installed on relief valve
    - Relief valve tail pipe pointed down and away from operator
BLADE AND EQUIPMENT SAFETY

- Steam jacketed kettle cont.
  - No steam to an empty kettle
  - No liquids in a hot, dry kettle
  - When heating, release air and water manually by lifting relief valve
  - Do not stand inside copper pit when cooking
BLADE AND EQUIPMENT SAFETY

- Deep fat fryer
  - Perform high temperature thermostat cut out test using clean, fresh grease
  - Keep water away
  - Know where all fire suppression system activation points are located
    - Fusible link
    - Cylinder firing pin
    - Remote activator at exit from area
BLADE AND EQUIPMENT SAFETY

- Microwave ovens
  - Don’t operate empty
  - Don’t operate with large pieces of metal or aluminum foil
  - Clean interior and door seals
BLADE AND EQUIPMENT SAFETY

- Garbage grinder
  - Do not put hands in grinder when operating
  - Do not bypass safety interlocks
  - Turn on water before adding waste
  - Do not put in metal, wood, cloth, rubber, plastic, bones
  - If this happens, turn off grinder immediately, secure power, clear object
ELECTRICAL SAFETY

- De-energize and Lock-out/Tag-out
  - Equipment may have more than one power source
  - Ensure that power source(s) cannot be energized during cleaning
  - Follow manufacturer’s instructions
ELECTRICAL SAFETY

- General electrical safety precautions
  - Permanently mounted equipment must be hardwired, no extension cords
  - Rubber protective boots in place and intact on all switches
  - Do not operate equipment with wet hands or on a wet deck
  - Do not remove parts which expose electrical or mechanical components unless directed
HEAT HAZARDS

- Hot water (manual dishwashing)
  - Use dip basket or tongs to remove utensils
  - Use rubber gloves
  - Do not dive into sink with gloves
  - Use rubber apron
HEAT HAZARDS

- Heat stress
  - All galley and scullery spaces should be designated as heat stress monitoring areas
  - Thermometers hung in each work space
  - Record temperature every 4 hours
  - If above 100°F, contact MDR to conduct heat stress survey
  - Follow MDR recommendations
HEAT HAZARDS

- Heat stress prevention
  - Ensure supply and exhaust ventilation are operating properly
  - Hot water and steam pipe lagging is in place
HEAT HAZARDS

- Personal protection for heat stress conditions
  - Eat three meals a day
  - Drink plenty of water
  - Adequate rest
  - Do not increase salt intake
  - Do not wear starched clothes
  - Do not drink electrolyte supplements (Gatorade) instead of water
  - Do not drink alcohol
HEAT HAZARDS

- Systemic heat injury
  - Heat rash - “prickly heat”, inhibits body from releasing heat
  - Heat cramps - severe muscular cramps
  - Heat exhaustion – profuse sweating, moist and clammy skin, dilated pupils and fast/weak pulse; normal/sub-normal body temperature
  - Heat stroke – Hot and dry skin pupils constricted and strong/fast pulse; elevated body temperature
- Both exhaustion and stroke require immediate medical attention
FIRE HAZARDS

- Keep equipment that uses/produces grease clean
- Grease interceptor hood
  - Washdown system - operate daily
  - Fire damper - operate weekly
- Exhaust hoods and grease filters cleaned weekly
- Exhaust vent ducting cleaned at least semi-annually
FIRE HAZARDS

- Grease fires
  - If automatic extinguisher system fails, activate manual release
  - If total system failure, use PKP extinguisher
  - Do not smother or use water on grease fire
CHEMICAL HAZARDS

- Cleaning/Sanitizing compounds
  - Use in accordance with label
  - Do not allow concentrate to contact skin or eyes
  - When mixing, follow directions
  - Do not mix with anything but water
  - On ship, store oven cleaners and other aerosols in flammable liquid storeroom
Noise survey should be performed by Industrial Hygiene to determine if/when hearing protection is required

- If you cannot carry on a normal conversation at arms length, probably a noise hazard area

- Above 84 decibels, hearing protection is required
SUMMARY

- General safety precautions
  - Equipment
  - Facility
  - Safe lifting
- Blade and specific equipment
- Electrical
SUMMARY

- Heat hazards
- Fire hazards
- Chemical hazards
- Noise
TOPIC 1.5

FACILITY, EQUIPMENT, CLEANING AND SANITIZING
ENABLING OBJECTIVES

1.18 DESCRIBE the 6 steps of the warewashing process
1.19 IDENTIFY proper procedures to use when washing food service utensils and equipment by the manual warewashing process
1.20 EXPLAIN proper procedures to use when washing food service utensils and equipment by automatic warewashing machine process
ENABLING OBJECTIVES

- 1.21 DESCRIBE proper maintenance and cleaning procedures for automatic warewashing machines
- 1.22 IDENTIFY procedures required to clean and sanitize equipment that must be cleaned-in-place
- 1.23 EXPLAIN proper procedures to be employed in cleaning the general facility
- 1.24 DESCRIBE the proper methods to store cleaning supplies
WAREWASHING PROCESS

- Sorting
  - Separate dishware and utensils by type
  - Rack items to allow contact to all surfaces and to drain
  - Flatware placed in cylindrical containers, food contact surface up, no more than 15 items
  - Segregate broken or damaged items
WAREWASHING PROCESS

- **Scrape/Preflush**
  - Remove gross food particles from dishware
  - Prior to placing into machine
  - Steel wool is prohibited

- **Wash**
  - To remove remaining food residue
  - For manual washing, clean the least dirty items first
WAREWASHING PROCESS

- **Rinse**
  - To remove detergent solution and food loosened by washing

- **Sanitize**
  - Eliminates microorganisms
  - Hot water at 171°F for manual, 165°F for single tank stationary and 180°F for other machines
  - With chemical sanitizers, check concentration with test strips
WAREWASHING PROCESS

- Air Dry/Storage
  - Items must be thoroughly dry before stacking and storage
  - If cleaned at proper temperature, items will dry quickly
  - Do not towel dry
  - Store in a clean, dry area away from contamination
  - Do not store dishware in a space with a SOMAT grinder
THREE SINK METHOD EQUIPMENT

- 2 or 3 compartment sink
- Booster heater
- Thermometers/gauges
- Dip and drain baskets
- Approved brushes
- Approved hand warewashing compounds
- Arm length rubber gloves
- Rubber aprons
- Sanitizing agents
THREE SINK METHOD

- **Wash**
  - Temperature not less than 110°F
  - Change water frequently

- **Rinse**
  - Clear water to remove detergent and food
  - Change water frequently
THREE SINK METHOD

- Sanitize
  - Hot water 171°F for 30 seconds
  - Chemical: use test papers
    - Chlorine- 100ppm for 10 seconds
    - Iodine, minimum temperature 75°F, 12.5-25 mg/l for 30 seconds
    - Navy food service disinfectant
    - Quaternary ammonia- minimum temperature 75°F, concentration specified by manufacturer, contact for 30 seconds
THREE SINK METHOD

WASH

110°F

THERMOMETER

RINSE

CHANGE WATER FREQUENTLY

THERMOMETER

SANITIZE

EITHER CHEMICAL METHOD OR

171°F

THERMOMETER

BOOSTER HEATER
TWO SINK METHOD

- Must have all stages of cleaning process:
  - wash
  - rinse
  - sanitize
- Clean sinks prior to final sanitizing process
- Then, three sink method procedure followed
AUTOMATIC WAREWASHING EQUIPMENT

- Single tank stationary rack
  - Wardroom, CPO mess
  - Wash, follow manufacturer’s instructions, 165°F, cycle runs 1.5-2 minutes
  - Dwell cycle instead of rinse
  - Sanitizing rinse at 165-194°F, 15-25 psi
AUTOMATIC WAREWASHING EQUIPMENT

- Single tank conveyor
  - Wash 160°F
  - Dwell cycle
  - Sanitizing rinse 165-194°F for manufacturer specified time period
AUTOMATIC WAREWASHING EQUIPMENT

- Single tank chemical sanitizing
  - Wash at 120°F
  - Dwell cycle
  - Sanitizing rinse at 120°F with 100 ppm chlorine, replace as needed
AUTOMATIC WAREWASHING EQUIPMENT

- Multiple tank conveyor
  - Main scullery
  - Individual utensil racks can be used, or utensils placed directly on conveyor
  - May have prewash
  - Follow manufacturer’s instructions for wash conveyor speed, run at 150°F
  - Power rinse, 160-180°F
  - Sanitizing rinse, 180-194°F at 15-25 psi
AUTOMATIC WAREWASHING EQUIPMENT

- Cleaning procedures
  - Clean before use, throughout day, or at least every 24 hours
  - Disassemble upper and lower wash and rinse spray arms to clean
  - Remove and clean trays, strainers, and curtains
  - Clean interior and exterior
  - Descale as needed
AUTOMATIC WAREWASHING EQUIPMENT

- Maintenance procedures
  - Ensure spray patterns are complete
  - Verify thermometer temperatures monthly
CLEAN-IN-PLACE PROCEDURES

- Safety
  - Secure power, perform tag out procedures (Electrical Isolation)
  - Cleaning
  - Disassemble
  - Scrape/rough clean
  - Clean with detergent
  - Rinse with potable water
  - Sanitize with chemical solution
CLEAN-IN-PLACE PROCEDURES

- Refrigerated spaces
  - Daily spill clean up
  - Bi-weekly scrub and sanitize
  - For walk-ins, scrub surface with baking soda or borax solutions

- Steam-jacketed kettles
  - Scrub inside and outside after each use, rinse and sanitize
  - Clean strainer, draw off valve and tube
CLEAN-IN-PLACE PROCEDURES

- Meat slicer
  - Clean when switching product type or from raw to ready-to-eat, after substantial time passage, at regular intervals, at end of working day
  - Set index at zero, secure power
  - Clean blade with detergent/sanitizer
CLEAN-IN-PLACE PROCEDURES

- Soft-serve ice cream freezer
  - Drain freezer compartment and feed hopper after each use
  - Clean hopper, all internal food contact surfaces, and all exterior surfaces
  - Prior to use, sanitize surfaces
  - Use cleansers/sanitizers approved by manufacturer
CLEAN-IN-PLACE PROCEDURES

- Utensils and food-contact surfaces of equipment used in non-continuous food operations
  - Clean after each use
  - Clean prior to use if a substantial interruption has occurred
GENERAL FACILITY CLEANING

- Use dustless methods
- Use service sink to dispose of mop water
- All sponges and cleaning cloths must be washed and sanitized after each meal
GENERAL FACILITY CLEANING

- Dining tables
  - Clean using the two pan method
  - During meal: clean with mild detergent and rinse
  - After meal: Wash, rinse and sanitize with sponge or cloth

- Refuse containers
  - Empty during meal as needed and afterwards
  - Clean inside and out as needed
GENERAL FACILITY CLEANING

- Exhaust ventilation systems
  - Operate grease interceptor hoods daily
  - Clean grease hoods/filters weekly
  - Clean interior ducting semiannually

- Decks
  - Clean as necessary to remove debris and spills
  - When cleaning use warning signs to reduce potential for falls
GENERAL FACILITY CLEANING

- Proper storage of cleaning supplies
  - Store in an orderly manner
  - Store chemicals in original containers or with proper label
  - Store away from food, equipment, utensils or linens
  - Space should have adequate ventilation
SUMMARY

- General warewashing
- Manual warewashing
- Automatic machine warewashing
- Clean-in-place
  - Refrigerated spaces
  - Steam-jacketed kettles
  - Meat slicers/Soft serve ice cream freezer
- General facility cleaning
- Cleaning Gear Lockers