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Unit Field Sanitation Teams

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Headquarters, Department of the Army

Chapter 4
Food Service Sanitation

ROLE OF THE UNIT FIELD SANITATION TEAMS

•1. Unit field sanitation teams assist commanders and fellow Soldiers in preventing foodborne illnesses by inspecting—

- Unit-level food handling personnel and facilities to ensure a high level of personal hygiene, cleanliness, and sanitation.
- Procedures for food being transported to remote feeding sites.
- Unit feeding sites for safe recommended distances in relation to waste disposal sites and latrine facilities.
- Placement and maintenance of handwashing/sanitizing facilities.

•2. In 2011 the Centers for Disease Control and Prevention published estimates of foodborne illnesses that specifically identified eight foodborne pathogens that accounted for the majority of foodborne illnesses, hospitalizations, and deaths in the United States alone. The numbers provided in the Centers for Disease Control and Prevention estimates clearly demonstrate the necessity for strict adherence to established field hygiene and sanitation practices among Soldiers living in close proximity to each other in the field and when deployed. An outbreak of foodborne illness in the ranks can have a catastrophic effect on the ability of an organization to accomplish its mission. For additional information, refer to Army Regulation 30-22, Department of the Army Pamphlet 30-22, Army Techniques Publication 4-41, and Technical Bulletin Medical 530.

SECTION I — FOODBORNE PATHOGENS

MOST COMMON FOODBORNE PATHOGENS

4-3. Of the 31 known pathogens linked to foodborne diseases throughout the United States, eight known pathogens account for the majority of illnesses, hospitalizations, and deaths. They are as follows:

- *Campylobacter.*
- *Clostridium perfringens.*
- *Escherichia coli.*
- *Listeria monocytogenes.*
- *Toxoplasma gondii.*
- *Norovirus.*
- *Salmonella.*
- *Staphylococcus aureus.*

Note. Many of the pathogens that are found in improperly prepared and handled foods can also be found in water that is contaminated and not properly disinfected.

CAMPYLOBACTER

4-4. For more information regarding *Campylobacter* refer to paragraphs 3-28 through 3-30.

CLOSTRIDIUM PERFRINGENS

4-5. *Clostridium perfringens* is a spore-forming gram-positive bacterium that is found in many environmental sources, as well as in the intestines of humans and animals. *Clostridium perfringens* is commonly found on raw meat and poultry. It can survive in conditions with very little or no oxygen. Persons infected with *Clostridium perfringens* generally develop watery diarrhea and abdominal cramps within 6 to 24 hours (typically 8 to 12 hours) of exposure. The illness usually begins suddenly and lasts for less than 24 hours. Persons infected with *Clostridium perfringens* usually do not have fever or vomiting. The illness is not passed from one person to another.

ESCHERICHIA COLI (E. COLI)

4-6. For more information regarding the pathogen *E. coli* refer to paragraph 3-33.

LISTERIA MONOCYTOGENES (LISTERIA)

4-7. Listeriosis is a serious infection usually caused by eating food contaminated with the bacterium *listeria monocytogenes*. Typical outbreaks have shown the causative transmission agent to be contaminated milk, soft cheeses, raw fruits/vegetables, and ready-to-eat meats such as hot dogs and other delicatessen-type meats. Listerosis primarily affects older adults, pregnant women, newborns, and adults with weakened immune systems. Healthy adults can, on rare occasions, become infected with *listeria monocytogenes*. General recommendations to prevent infections with *listeria monocytogenes* include keeping the food service environment's food contact surfaces clean and sanitized. Cook raw food from animal sources thoroughly to a safe internal temperature. Train food service personnel on a continuous basis. Store all foods to protect them from contamination. Follow the Food and Drug Administration's advice for safety recommendation for handling of cantaloupe, watermelon, honeydew, and other melons.

TOXOPLASMA GONDII

4-8. *Toxoplasma gondii* is considered to be a leading cause of death attributed to foodborne illness in the United States. The definitive hosts are cats and other felines and the oocysts are transmitted through their feces into the soil. Infections happen from eating undercooked or raw meats (wild game, pork, and very rare beef), vegetables grown in contaminated soil, or contaminated water. It is estimated that there are more than 60 million Americans that carry the *toxoplasma gondii* parasite. Most personnel however, will never have symptoms because their immune system keeps the parasite from causing illness.

4-9. When illness does occur among healthy people, the symptoms are usually mild with flu-like symptoms such as tender lymph nodes, and muscle aches that may last for several weeks. However, the parasite remains in their body in an inactive state. It can become reactivated if the person becomes immune suppressed.

4-10. Generally, if a woman has been infected (usually from sand boxes, playgrounds, yards, or litter boxes that infected felines have defecated in) before becoming pregnant, the unborn child will be protected because the mother has developed immunity. If a woman is pregnant and becomes newly infected with toxoplasma during or just before pregnancy, she can pass the infection to her unborn baby (congenital transmission). The damage to the unborn child is often more severe the earlier the transmission occurs. Potential results can result in miscarriages and stillborn infants.

NOROVIRUS

4-11. For more information regarding the pathogen *Norovirus* refer to paragraph 3-50.

SALMONELLA

4-12. For more information regarding the pathogen *Salmonella* refer to paragraphs 3-37 through 3-38.

STAPHYLOCOCCUS AUREUS (STAPH)

4-13. Staphylococcal food poisoning is a gastrointestinal illness caused by eating foods contaminated with toxins produced by S*taphylococcus aureus*. The primary reservoirs are humans with animals rarely becoming carriers. The most common way for food to be contaminated with S*taphylococcus aureus* is through contact with food workers who carry the bacteria or through contaminated milk and cheeses. *Staphylococcus aureus* is salt-tolerant and can grow in salty foods like ham. As the germ multiplies in foods, it produces toxins that can cause illness. *Staphylococcal* toxins are resistant to heat and cannot be destroyed by cooking. Foods at highest risk of contamination with *Staphylococcus aureus* and subsequent toxin production are those that are made by hand and require no cooking. Some examples of foods that have caused staphylococcal food poisoning are sliced meat, puddings, some pastries, and sandwiches. *Staphylococcal aureus* toxins are fast acting, sometimes causing illness in as little as 30 minutes. Symptoms usually develop within 1 to 6 hours after eating contaminated food and generally include nausea, vomiting, stomach cramps, and diarrhea. The illness is usually mild and most people recover after one to three days. In a small minority of patients the illness may be more severe.

IMPORTANCE OF SANITARY PRACTICES IN FOOD HANDLING

4-14. To prevent foodborne illnesses all Soldiers who handle and prepare foods must not work when suffering from an illness (diarrhea, coughing) or injury (sores), and maintain high standards of personal hygiene and sanitation to prevent contamination of foods.

CONTRIBUTING FACTORS WHICH MOST OFTEN CAUSE FOODBORNE DISEASE OUTBREAKS

4-15. The unit field sanitation teams are the first line of defense for enforcing measures to prevent foodborne illness in the field.

4-16. Epidemiological outbreak data repeatedly identify five major risk factors related to food handler behaviors and preparation practices in food service facilities as contributing to foodborne illness—

- Improper holding temperatures.
- Inadequate cooking.
- Contaminated equipment.
- Foods from unsafe sources.
- Poor personal hygiene.

POTENTIALLY HAZARDOUS FOODS

4-17. Potentially hazardous foods are food products that generally have a history of association with illness in the absence of temperature control. Properly maintain potentially hazardous foods; hot foods at a product temperature of 135 degrees Fahrenheit (57 degrees Celsius) or above and cold foods at a product temperature of 41 degrees Fahrenheit (5 degrees Celsius) or below. The following are examples of potentially hazardous foods:

- Ground meat (beef, pork, and lamb).
- Chopped ham.
- Poultry (chicken, turkey, and duck).
- Fish, shellfish, and crustaceans.
- Eggs (except those treated to eliminate *Salmonella*).
- Milk and dairy products.
- Heat-treated plant food (cooked rice, beans, or vegetables).
- Potato salad.
- Cooked vegetables.
- Raw sprouts.
- Tofu and soy protein foods.

- Cut vegetables.
- Cut melons, including watermelon, cantaloupe, and honeydew.

HANDWASHING STATIONS

4-18. Hand hygiene is critically important and cannot be overemphasized in the prevention of foodborne disease. Thorough handwashing remains one of the most effective methods of preventing the spread of foodborne disease. To ensure that food handlers and detailed Soldiers routinely wash their hands, handwashing equipment must be placed at latrines, food preparation areas, and established dining areas. The unit field sanitation team members should be included in the planning process when establishing new bases of operations or occupying an existing base of operations to help determine the appropriate locations and number of handwashing facilities needed to support established troop strengths.

4-19. Effective handwashing facilities have the following components on station:

- Water (potable).
- Soap (soap is always the primary method to clean hands).
- Paper towels.
- Trash cans.
- Alcohol-based hand sanitizer (hand sanitizers must have a minimum one full minute of contact time to maximize effectiveness).

Note. Hand sanitizers are not a replacement for soap, when soap is available.

TRANSPORTING MEALS

4-20. When prepared meals must be transported to remote feeding areas, the unit field sanitation teams are responsible for inspecting the vehicles to ensure that the rations will not be contaminated during transport. The vehicles used to transport food to field feeding sites shall be clean, covered, and used exclusively for transporting food. Should the need arise to use multipurpose vehicles (normally used to transport personnel, equipment, supplies, and other items) to transport food, the vehicle must—

- Be completely washed with soapy water and rinsed to remove dirt, debris, and fuel, oil, or chemical residues.
- The vehicle shall be allowed to air dry prior to transporting food.
- Food containers, packages of single-use items, and utensils shall be placed on clean, dry pallets or other dunnage to prevent direct contact with the vehicle floor.
- Food may not be transported with bulk fuel or chemicals.

4-21. Transport of food with equipment and nonchemical supplies may be approved by preventive medicine personnel if required by the tactical situation and there is little or no risk of food contamination or adulteration.

4-22. Unit field sanitation team members must ensure that foods transported to that location arrive within prescribed time frames and temperatures ranges for hot and cold foods before they can be safely consumed.

REMOTE FEEDING USING INSULATED FOOD CONTAINERS

4-23. Insulated food containers are used to keep hot foods hot and cold foods cold. Each container has three inserts with tight-fitting covers. Each plastic insert may be filled to 5 ⅓ liters- (5 ⅔ quarts-) capacity. Hot and cold food should be stored in separate containers. The insulated food containers may also be used to transport tray packs. Food can be maintained above 140 degrees Fahrenheit (60 degrees Celsius) or below 40 degrees Fahrenheit (4.4 degrees Celsius) for up to 4 hours in harsh conditions while remaining in compliance with food safety standards.

4-24. Units may send hot meals forward to remote sites using insulated food containers. Providing hot food to Soldiers using this method requires intensive management by commanders, unit leaders, and unit food service specialists. It is essential that prepared food placed in insulated food containers not be served

after the annotated time limit (for up to 4 hours after preparation) to prevent foodborne illness. Mandatory labeling of all food containers will be accomplished by the food operations team. Labeling will include, at a minimum, the contents of each insulated food container and the time to discard the product. Serving potentially hazardous food products after the maximum of 5 hours is prohibited for obvious food safety reasons.

4-25. The 4-hour food safety time limit is the maximum amount of time that foods may be held in insulated food containers. The safety of the food deteriorates the longer it is held in insulated food containers. To ensure the freshest food is served to Soldiers, food service specialists should use batch preparation and progressive cookery to the maximum extent possible and only prepare and place foods in the insulated food container for the minimum time needed to meet mission requirements.

PREHEATING THE INSULATED FOOD CONTAINER

4-26. A properly heated container will keep food hot or cold for up to 4 hours. To help maintain safe temperatures for hot foods, preheat the insulated food container before the food is placed into the container by—

- Removing the inserts.
- Pouring two quarts (1.9 liters) of boiling water into the container.
- Replacing the inserts.
- Closing the container lid and securing the latches diagonally.
- Letting them stand for at least 30 minutes.
- Opening and removing the inserts.
- Pouring water from the container.
- Putting hot food in the inserts and replacing the insert covers (with gasket).
- Placing the filled inserts in the container.
- Closing and fastening the container lid by securing the latches diagonally.

Note. Polymeric tray packs become flexible when heated. Use divider bars provided with each insulated food container when placing tray packs onto shelves in the container.

CHILLING THE INSULATED FOOD CONTAINERS

4-27. If a container needs to be chilled before food is put into it, the following steps apply:

- Remove the inserts.
- Put crushed ice or 2 quarts of ice water in the container.
- Replace the inserts.
- Close the container lid and secure the latches.
- Let stand for 30 minutes.
- Open and remove the inserts.
- Pour ice or water from the container.
- Put food in the inserts and fasten the lids.
- Place the filled inserts in the container.
- Close and fasten the container lid by securing the latches diagonally.

LABELING INSULATED FOOD CONTAINERS

4-28. Label each food container after it is filled. A good label can be made by placing a strip of masking tape across the top of the container lid. Write the menu item, the number of servings, the date, the time the item was placed in the container, and consume by or discard (fill in the time, the entry should state the time 4 hours after the container was filled) on the tape.

4-29. If the food is transported to other sites, use a code letter or color to identify each site. Make sure that each site has a complete menu. Write the menu items, the number of servings, the date and time prepared,

consumed by or discard date and time, and the site code on each container label. For feeding small units, put a separate insert of meat, starch, and vegetable in each insulated food container.

CLEANING INSULATED FOOD CONTAINERS

4-30. Clean the insulated food container and the inserts before and after every use. Never immerse the container itself in water. Remove the inserts and gaskets and wash them in hot, hand- or dishwashing compound solution. Then rinse and sanitize the parts in water at 171 degrees Fahrenheit or greater. After Soldiers have washed the gaskets from the food container, put them back on the container with the flat sides down and let them dry that way. Place the gaskets from the insert covers back on the insert covers and let them dry. If taken care of properly the rubber gaskets will not warp or lose their shape.

CLEANING FOOD PREPARATION AND SERVICE EQUIPMENT

4-31. Cooking utensils are washed, rinsed, sanitized, and properly stored after each use.

SECTION II — HYGIENE STANDARDS FOR FOOD HANDLERS

FOOD SERVICE PERSONNEL AND DETAILED SERVERS

4-32. Food handlers can be a primary source of disease and food contamination if high standards of personal hygiene are not maintained. Properly supervised food service personnel are less likely to overlook these important steps in the preparation and service of foods.

4-33. Unit field sanitation teams help to ensure that established sanitation standards and personal hygiene practices are understood and practiced by all unit food handlers.

HANDWASHING AND SANITIZING

4-34. In addition to the handwashing and sanitizing standards outlined in Chapter 2 (paragraphs 2-16 through 2-19), Soldiers detailed as food handlers must thoroughly wash their hands and arms prior to beginning duty and again before preparing food.

4-35. Handwashing and sanitizing should also be performed after—

- Servicing burner units or handling fuel cans.
- Handling soiled or contaminated equipment or utensils.
- Using tobacco products.
- Completing preparation one type of food item, to begin preparing another.
- Performing custodial duties, including handling garbage or other refuse.
- Moving or unloading rations.

SUPERVISING AND INSPECTING FOOD HANDLERS

4-36. Soldiers detailed to be servers must brush off as much dirt and loose debris from their uniforms as is possible before and thoroughly wash their hands and arms. Single-use disposable plastic food service gloves (if available) should be provided to servers for use during meals. If the gloves become soiled with food or are otherwise contaminated during serving, the gloves must be changed.

4-37. Supervisors should monitor and inspect these Soldiers to ensure that they are—

- Wearing clean garments and maintaining high standards of personal cleanliness.
- Wearing headgear to keep hair away from foods and food contact surfaces.
- Not using tobacco products when preparing or serving food or while engaged in any activity in food preparation areas.
- Avoiding unnecessary hand contact with food.
- Preparing and serving food with clean utensils.

Note. Unauthorized personnel should never be allowed in food preparation, storage, or sanitation areas.

4-38. Leaders must inspect company and detailed food handlers prior to their assuming their duties. The inspection should be both visual and verbal to identify—

- Signs of injury or illness—
  - Cuts, sores, burns, boils, rashes, or other skin or wound infections.
  - Ask the Soldier if he has diarrhea. If so he cannot be used as a food handler and must be seen by unit medical personnel.
  - Signs of respiratory illness (coughing or sneezing).
  - If a Soldier has a sore throat with fever.

Note. Soldiers detailed as servers are responsible for reporting any symptoms of infection or disease they may be experiencing before they begin work or at the time a problem develops.

- Unclean hands and fingernails. Fingernails must not have nail polish or embedded jewelry, must be trimmed, and must not extend beyond the fleshy tip of the finger. False nails or nail extensions are prohibited. Cuticles must be cleaned and trimmed.
- Unauthorized jewelry. Plain wedding band and medical alert devices are the only jewelry allowed.
- Unclean or improper headgear.
- Unclean or improperly maintained clothing.

Note. Proper hygiene practices for food handlers are found in Technical Bulletin Medical 530.

4-39. Camouflage paint or other skin coatings are poisonous and toxic materials when consumed. Food service specialists preparing food or detailed Soldiers performing sanitation duties should not wear camouflage paint on their hands, arms, or face. At remote feeding sites, individuals serving food or performing basic site cleanup may wear camouflage paint but they must wear disposable single-use gloves.

SECTION III — PEST CONTROL

INSECTS

4-40. Garbage cans should be kept covered with tight-fitting lids and the contents disposed of promptly to prevent breeding. Subsistence should be stored on pallets away from walls to eliminate hiding places and to facilitate inspection and cleaning. If possible, subsistence should be on shelves or on top of dunnage that raises the items a minimum of six inches off the floor or ground and a minimum of four inches away from walls to permit cleanup of spills. In open storage, supplies should be covered with tarpaulins or clear plastic when practical. Broken containers of food should be cleaned up quickly and completely. If areas do become infested, pesticides may be used as a last resort in accordance with Integrated Pest Management.

RODENTS

4-41. The first step in rat and mouse control is to prevent their entry into the storage facility. Holes should be covered or filled in and doors should close tightly. The next step is to eliminate rodent hiding places by placing subsistence on pallets away from walls. Finally, their food sources should be eliminated by proper garbage disposal and good housekeeping. If areas become infested, traps and poison baits can be used for elimination. The use of poison baits must be approved by the medical authority. The approval decision is based on compliance with environmental stewardship principles. All environmental laws and regulations must be adhered to in the use of poisonous baits.