Dietary In-Service

Facility:__________________________________________

Date:____________ Time:__________________

Topic: Food Safety — Preventing Food-Borne Illness

Method: Lecture, Discussion, Handout, Post Test

Given by:________________________________________

Attendance:

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RDs for Healthcare, Inc.
Inservice: Food Safety – Preventing Food-Borne Illness

Objectives:
Participants will be:
• Able to list the conditions which bacteria require to grow and multiply.
• Aware of the main harmful bacteria that cause food borne illnesses.
• Demonstrate an understanding of the importance of handling food at the proper temperatures.

Method:
• Lecture, discussion, handout, post-test

Introduction:
• Bacteria are microscopic single-celled microorganisms (microbes) that require nutrients, multiply, and produce wastes. Bacteria are present everywhere – in the air, in our food, on and in our bodies. Bacteria in food can multiply, produce toxins, and cause food-borne diseases, which can result in illness or death in the geriatric patient. Viruses, fungus and protozoans (such as Giardia or Amoeba) can also cause food-borne illness. Food spoilage occurs due to improper food handling, storage, or preparation. Humans also spread microbes through coughing, sneezing, and improper hand washing.

• Bacteria require the following to reproduce and produce toxins in food:
  1. Nutrients, specifically carbohydrates and proteins that are commonly found in foods such as meat, poultry, dairy products, and eggs.
  2. Proper Acidity: Low acidity allows microbes that cause food spoilage to thrive. Microbes that cause food spoilage do not grow in foods that are highly acidic, such as pickles, relish, etc.
3. Temperature: Most microbes that cause food spoilage grow in the range of 41°F to 140°F. This is known as the **temperature danger zone**.

4. Time: Microorganisms need sufficient time to grow. If contaminated food remains in the temperature danger zone for 4 hours or more, microorganisms can multiply or produce toxins to make someone ill.

5. Moisture: Microorganisms that cause food-borne illness grow well in moist foods such as potato salad, gravy, etc. Microorganisms do not grow well in high salt, high sugar or dried foods.

Most microorganisms that cause food-borne illnesses require oxygen to grow. Some, notably botulism, grow without the presence of oxygen.

- Bacteria that cause food-borne illness:
  - **Eschericia coli**
    - All types of *E. coli* can cause illness if food is contaminated. Food most commonly becomes contaminated from fecal material, usually due to improper hand washing. One particularly dangerous strain produces a toxin that causes potentially severe hemorrhagic diarrhea and kidney failure.
    - Sources: raw and under-cooked ground beef, unpasteurized milk or apple juice, lettuce, alfalfa sprouts, and unchlorinated water.
    - It is important to thoroughly cook ground beef and thoroughly wash all fruits and vegetables to help prevent infection.
  - **Salmonella**
    - *Salmonella* is found in shell eggs, egg products, poultry, meat, fish, shrimp, milk, and other protein foods.
    - *Salmonella* is transmitted by animals, humans, unclean utensils, and contaminated water.
- *Salmonella* grows best at body temperature, but will survive at higher or lower temperatures.
- It causes severe, watery diarrhea that can cause a serious loss of electrolytes.
- Properly cook poultry, cool foods properly and avoid cross-contamination of foods and pooling of eggs.

**Staphylococcus aureus**
- Commonly referred to as Staph, this is a microorganism that is commonly found on the skin, nose, throat, and mucus membranes.
- When Staph infects food, it secretes a toxin that causes the symptoms of “food poisoning” – severe vomiting shortly after eating the food.
- Once the toxin has been produced in food, **cooking or boiling cannot destroy it.**
- Staph toxin grows especially well in creams, custards, and ham, especially when they are left sitting out for long periods of time.
- To prevent Staph from infecting food, avoid contamination from bare hands, practice good personal hygiene and observe proper heating, reheating and refrigeration of food.

**Listeria**
- *Listeria monocytogenes* is an organism that is commonly found in unpasteurized milk and cheeses. It can also be found in damp environments, floors, sinks, drains, and the corners of refrigerators.
- *Listeria* grows best at body temperature, but it can tolerate and grow in the cold temperature of the refrigerator.
- It can cause diarrhea, miscarriage in pregnant women, and meningitis in compromised individuals. Pregnant women and the elderly are the most susceptible to infection by *Listeria*.
- Infection can be prevented by cooking to proper internal temperatures, avoiding cross-contamination, and sanitizing surfaces.
• How to prevent food-borne illness:
  o When cooking, bring foods to the proper temperature for 15 seconds to kill microorganisms. The information about what temperatures different foods must be cooked to is found on the handout “Critical Temperatures for Food Handling and Storage” and on page 7.2 in the Food Preparation Section of the Policy and Procedure Book. This information should be posted in a highly visible spot in the kitchen.
  o Keep Hot Foods Hot:
    ▪ Hot foods should be kept at 140°F or higher.
    ▪ Cook all foods to the internal temperature specified on the recipe. Check the temperature of food in two places.
    ▪ Batch cook foods to assure proper temperature.
    ▪ Place foods on the steam table no more than 30 minutes before serving.
    ▪ Place all pans inside the wells of the steam table. May need to use 1/3 pans or 1/6 pans for smaller quantities.
    ▪ Do not leave food on the stove or steamtable after meals.
    ▪ Never allow foods to remain at room temperature (41 – 140°F).
    ▪ Reheat all leftovers to internal temperatures of 165°F for at least 15 seconds.
  o Keep Cold Foods Cold:
    ▪ Cold foods should be kept at 41°F or below.
    ▪ If you cook ingredients for cold salads or sandwiches the day before, be sure to cool them properly (i.e., eggs, pasta, and potatoes).
    ▪ Chill all ingredients for salads and sandwiches before preparing food (i.e., mayonnaise or tuna).
    ▪ After dishing out desserts, salads, or sandwiches, put them in the refrigerator until serving time.
    ▪ Hold cold foods on ice during the tray line. Only take out one tray of sandwiches or desserts at a time during service.
    ▪ Foods may be placed in the freezer for a short time to lower the temperature quickly.
    ▪ Store cold food promptly in the refrigerator or freezer after delivery.
- Store hazardous foods (food containing meat, milk, eggs, or mayonnaise) in the refrigerator at all times, except during preparation or service.
- Thaw meats in the refrigerator on the bottom shelf. **Never** thaw meats at room temperature.
- Refrigerate all leftovers or hot foods uncovered in shallow pans until chilled thoroughly, using the Cool Down Log.

Post Test: Food Safety

1. What bacterium discussed produces toxins that cannot be destroyed by cooking?

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2. Cold food must be kept at _________ degrees F or below.

3. Reheat leftovers to an internal temperature of ____________.

4. True/False (circle one): Cool off food at room temperature before refrigerating.

5. True/False (circle one): The dangerous temperature zone is between 70° and 139°F.
Answers to Post Test: Food Safety

1. *Staphylococcus aureus* or Staph (*E. Coli* is present in some foods that are usually not cooked, such as lettuce, sprouts and unpasteurized milk and juices.)

2. 41°F

3. 165°F

4. False Food should be cooled down using proper cool down procedures and the Cool Down Log. It should never be left at room temperature.

5. False The temperature danger zone is 41°F to 140°F.
Critical Temperatures for Food Handling and Storage

212F (100C) Water Boils

165F (74C) Minimum for cooking poultry and stuffed food products including stuffed pasta, stuffed meats, stuffed poultry or fish and stuffing containing fish, meat or poultry. Minimum for reheating leftovers. Food must reach this temperature for 15 seconds.

155F (70C) Minimum for cooking pork, ham, game, chopped or ground meats, tenderized meats. Food must reach this temperature for 15 seconds.

145F (63C) Minimum for cooking beef, veal, lamb, eggs, fish, dairy, pasta, potatoes, tofu, legumes. Food must reach this temperature for 15 seconds. Beef roasts must reach this temperature for 4 minutes.

140F (60C) Cooking, storage, or display of potentially hazardous foods at or above this temperature.

Danger Zone for Food Safety
41F to 140F

41F (5C) Storage or display of potentially hazardous foods at or below this temperature.

32F (0C) Water Freezes

0F (-18C) Storage of frozen foods.

RDs for Healthcare, Inc.
Personal Hygiene

Food Handling:

- Avoid sneezing, coughing, or spitting around food.
- Avoid eating, drinking, or chewing gum in food production, service, or storage areas.
- Never smoke in food production, service, or storage areas.
- Avoid leaning or sitting on food preparation or storage surfaces.
- Use tongs, plastic gloves, or other utensils to pick up or serve food.
- When tasting food, ladle a small amount of food on to a dish and taste with a clean spoon. Do not taste over the range or serving unit.
- Avoid thumbing with saliva to pick up tray liners, napkins, etc.
- Never touch the food contact area of plates, bowls, glasses, or cups.
- Unauthorized staff should not be allowed in the kitchen.
Personal Hygiene

Proper Attire:

- Clean, odor free body.
- Clean clothes or uniform in good repair.
- Close-toed shoes with non-skid soles.
- Hair completely restrained and kept off of neck and collar.
- Change aprons when soiled.
- Remove aprons when leaving the kitchen for any reason.
- Avoid wearing jewelry.
- Artificial nails are not allowed in the dietary department unless approved by the facility.