SAFE FOOD HANDLING

"SERVING and OBSERVING"

Serving using proper food handling techniques
and
Observing nutritional/hydration issues

(One hour training)

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Foods and beverages can be contaminated by organisms such as bacteria, viruses, parasites or fungus. Chemical substances such as pesticides and cleaning supplies can also contaminate food. Physical objects such as metal shavings, plastic, and glass chips can also contaminate food and beverages.

Organisms

Bacteria

Bacteria are the most common cause of food poisoning or food-borne illness. Bacteria are microscopic and live in the air, water, soil, and all food products. Bacteria are so small that several million can fit on the head of a pin. They reproduce very quickly by splitting in half. Starting with only one bacterium, you could have over 64 million bacteria in just 6 hours.

Bacteria can adapt to it's environment and live in extremely inhospitable circumstances like natural hot springs with temperatures over 150° F or in the Antarctic (30° below zero). Some bacteria are preferred and actually eaten or used to make foods such as yogurt. These are not the bacteria that cause humans food borne illness. The bacteria that cause food borne illness in humans need four things to grow: moisture, food (preferably protein), warm temperature, and time. To control bacterial growth you must be able to control one or more of these variables. To that end, food handling is directed towards controlling moisture, temperature, and length of time for storage of food.

By controlling moisture (freeze drying) food products can be stored for much longer periods of time. Because adult living facilities do not utilize this method of bacterial control, further discussion will not be pursued.

Finally, we cannot control the forward movement of time, but we limit the length of storage of foods. Foods that have expiration dates and "shelf-lifes" should be discarded by or before the time indicated.

Prevention of Bacteria

Temperature

To control temperature, foods are stored below 41° F or above 140° F. Cooking which brings the internal temperature of food to 155° F- 165° F will destroy most bacteria. When food is being stored for serving (such as on a steam table) the internal temperature must be maintained at 140° F or higher to prevent new bacteria from growing. Temperature of food drops quickly and air borne bacteria begin to multiply; therefore, leaving food out for a long time (generally no longer than 2 hours) greatly increases the growth of bacteria and must be avoided.

All foods that require refrigeration must be stored at a temperature of 41°F or lower. Some bacteria can survive even at very low temperatures, but freezing will control their growth. The following is a list of potentially hazardous foods, if not cooked, held or served at proper temperatures.

- Milk
- Milk products- cottage cheese, yogurt
- Eggs meats poultry
- Shellfish
- Fish
- Foods containing any of these ingredients (i.e. any food with mayonnaise)

Cooling Foods

Potentially hazardous foods are foods which are to be served without further cooking, such as ham salad, chicken salad, egg salad, potato salad, and other mixed foods containing potentially hazardous ingredients or dressings. In order to retard the growth of bacteria, these foods must be cooled quickly to an internal temperature of 41°F or below. The cooling period shall not exceed four hours. Potentially hazardous foods in large volume or prepared in large quantities shall be rapidly cooled, utilizing one or more of the following methods base on the type of food being cooled: (note: only the usual methods will be listed)

- Placing the food in a shallow pan(s)
- Separating the food into smaller or thinner portions
- Adding ice as an ingredient (i.e. Jell-O®)
- Stirring the food in a container placed in an ice water bath

Defrosting

Defrosting foods such as meats that will require further cooking should be done in the refrigerator (in a shallow pan on the bottom shelf to contain any fluids from the meat). Another method that can be used is to place the meat under continuous running potable water that has enough velocity to float loose food particles into the overflow for a period of time that does not allow thawed portions of ready-to-eat food to rise above 41°F or for a period of time that does not allow thawed portions of a raw animal food requiring cooking to be above 41°F for more than 4 hours including the time the food is exposed to the running water and time needed for preparation for cooking. The ALF may also use a microwave oven for defrosting or as part of the conventional cooking process. Temperatures for microwaved food must increase 25 degrees over the oven temperatures that are recommended for cooking.

Food Preparation

All food handlers must work quickly and utilize a meal planning schedule that is mindful of defrost times, cook times, and preparation times. For example: the evening's meal is baked chicken, potatoes, and green beans. The cook should be organized and have excellent time management skills. If the chicken is frozen, time for defrosting and baking must be considered to assure that the time limit allowed is not exceeded.

When transporting, strong, preparing, or displaying food, the food handler must protect the food from dust, flies, vermin, toxic materials, unclean equipment and utensils, and unnecessary handling or other sources of contamination (example: plastic wrap is frequently used when taking a tray to a resident's room or storing refrigerated foods). Insects such as houseflies and roaches carry and spread many germs. Houseflies eat and walk in filth; they have hairy bodies and sticky pads on their feet which pick up millions of germs which can then be deposited on food.

Infection control must be observed when preparing or serving foods. Hand washing should also include exposed portions of the arms and should be performed:

- When coming on duty
- After touching bare human body parts other than clean hands and clean exposed portions of arms
- after using the toilet room
- after coughing, sneezing, using a handkerchief or disposable tissue

- using tobacco
- eating, or drinking
- before engaging in food preparation
- before working with equipment and utensils including unwrapped single-service and single-use article
- during food preparation as often as necessary to prevent cross contamination
- when changing tasks
- when switching between working with raw foods and working with ready-to-eat foods
- after engaging in any activity that contaminates hands

The following is the proper hand washing technique that should be used:

1. Turn on the water to a comfortable temperature.
2. obtain soap (liquid soap is preferred)
3. Wet hands and begin brisk friction for about 15 seconds (hint: hum the ABC's song to time yourself). The friction should include between the fingers and up the wrist approximately 3 inches.
4. Rinse wrists and hands and fingers with the fingertips in a downward position.
5. Leaving the water running, obtain paper towels to dry hands thoroughly and dispose of these used towels.
6. Obtain a clean, dry paper towel and turn off the water faucet. Dispose of this towel.

Keep Your Germs to Yourself

Bacteria are easily spread from people to food. Food can become contaminated with germs from human contact. Infected cuts, sore, pimples and body wastes can cause contamination when exposed to food. Millions of bacteria are spread by an unprotected cough or sneeze. Therefore, no employee who has open draining wounds, an upper respiratory infection or any form of communicable disease should be allowed to work with food or in the food prep area. Uniforms and clothing worn while cooking should be clean and aprons should be changed as they become soiled. Hair must be contained using hats, nets, caps or bands. If you are using disposable gloves to prepare food, use a new pair for each food handled. Use clean utensils, not your hands, to mix foods, whenever possible. Use a clean utensil every time food is tasted (i.e. during preparing, cooking, and serving). Cloths used for wiping kitchen counters should be dedicated only to that task and they should be disinfected and replaced at least daily. When setting tables, spoon, knives and forks shall be picked up and touched only by their handles. Cups, glasses and bowls shall be handled so that finger or thumbs do not contact inside surfaces or lip-contact surfaces. Wash your hands after picking up used plates before you serve the next resident.
All food preparation surfaces (including counter, shelved, walls, and floors) must be free of chips, cracks, cuts and other areas where food might collect and provide a place for bacteria to grow. All utensils and food preparation surfaces (such as spoons and bowls used for mixing) are to be sanitized immediately prior to use.

Viruses

Viruses are carried by humans and can, like bacteria, be spread by coughing, sneezing and not washing hands after using the bathroom. Some commonly caused diseases caused by viruses include the flu, colds, measles, and chicken pox.

Prevention of Viruses

Infectious hepatitis-A is the most common type of viral food-borne illness. Foods most likely to be contaminated are those that are handled frequently and require no heating such as sandwiches, salads and desserts. Shellfish and raw sewage are also commonly associated with the transmission of Hepatitis-A. This disease is transmitted between humans by the oral-fecal route. That is to say, inappropriate hand washing technique after using the toilet is a known cause of the spread of Hepatitis-A in day cares, adult living facilties, and restaurants.
To prevent viral contamination when assisting with food prep or serving, the staff member must follow the same food hygiene and hand washing techniques that were discussed in the control and prevention of bacteria.

Parasites

A microscopic animal, a parasite attaches itself to another animal and uses it as a host on which to feed. In our food system, the mostly likely sources of parasites are fish and wild hogs.

Prevention of Parasites

Trichinosis is the parasite that is found in domestic pigs and hogs. Most pig farms in the United States raise their stock on regulated pig food/chow, and we therefore do not see this parasitical disease frequently. Fish caught in the open can carry worms and other parasites.
These parasites thrive in the food temperature "danger zone" (41°F- 140°F) but they are destroyed by proper cooking. Cook and hold pork and fish at proper temperatures. Pork should be cooked to an internal temperature of 155°F, and fish should be cooked to 145°F.

Fungus

The most commonly identified type of fungus is molds which grow in all types of foods. They may appear fuzzy or slimy and have a distinct odor.

Prevention of Fungus

Never cook or serve foods which appear discolored (regardless of expiration date), have a wrong odor or a sticky/slimy surface. Any food which is to be stored (refrigerated) longer than 24 hours, must be dated. All such food must be consumed or disposed of within 10 days of the date placed on the container or by the manufacturer's "sell by" or "use by" date, whichever occurs first. The Best Practice for elders is to dispose of food within 7 rather than the 10 days of date on storage container.

Remember, when in doubt throw it out!

Chemicals

Cleaning chemicals, pesticides and other agricultural chemicals can contaminate food and cause serious illness.

Prevention of Chemicals

Proper use and storage of chemicals must be practiced. No chemicals shall be removed from their original labeled container except for immediate use. No chemicals shall be stored in with food, food preparation equipment or single-service food utensil (disposable service ware). Chemicals may leak or spill into food supplies. The food handler must also make sure that vegetables and fruits that will require no further processing (i.e. grapes, apples, plums, radishes) are washed thoroughly to remove remaining traces of pesticides. When moving from handling these unwashed fresh foods to other foods that will require no further preparation (i.e. breads), make sure that the food handler washes their hands. Finally, never store foods in the can that they came in. Galvanized cans will oxidize when left in contact with acid based foods such as pineapple, tomatoes and pickles. Fruit juice frequently comes in cans and must be repackaged for storage. The interaction of this type of metal with the acid in the foods may cause a dangerous chemical interaction.

Foreign Physical Objects

Metal shaving from the use of a dull can opener may contaminate food and cause illness or injury. A can opener that has dried food on it may also contaminate food during its' subsequent use. Paint chips and foreign matter can drop into food during prep or cooking.

Prevention of Foreign Objects

Inspect and clean can openers daily. Never use a glass for an ice scoop. Small glass chips can mix with ice and cause injury. Ice for consumer use shall be dispensed only with scoops, tongs, or other ice-dispensing utensils or through automatic self-service ice-dispensing equipment. Ice-dispensing utensils shall be stored on a clean surface or in the ice with the dispensing utensil's handle extended out of the ice (cannot use this method if the ice container automatically makes and stores ice where the scoop will be located). Never use a plastic glass as an ice scoop as it will contaminate the remaining ice with the area where the staff member handled the glass/cup. Ice used for cooling stored food and food containers shall not be used for human consumption.

Be cautious about small objects (earrings, hair, and pieces of paper or plastic wrappers) which may fall into food and be the source of contaminating germs or cause injury due to ingestion of a foreign body. If the staff member has the need to use band aids on their arms or hands, they should avoid any food prep that may result in the dislodging of the band aid. The use of gloves over band aids should be avoided if at all possible.

Sugar, condiments, seasonings or dressings intended for self-service use shall be provided only in individual packages or from dispensers that protect their contents. Condiments that utilize pitchers for their delivery to the resident shall have protected pour-type kinds or drawn from a refrigerated dispenser designed for such service.

Special Concerns

Eggs and Egg-Rich Foods

When storing and handling raw eggs make sure that all of the shells are intact and keep them refrigerated until used. Leftover egg yolks or whites should be refrigerated in a covered container. Do not "pool" eggs (place multiple eggs without their shells into a container). Refrigerate hard-cooked eggs after preparation. Hard-cooked eggs that are left out of the refrigerator longer than 2-3 hours should not be eaten. Always store foods made with eggs in the refrigerator (e.g. custard, cream fillings). Do not allow such foods to stand at room temperature. Cook eggs until both the yolk and whites are firm, not runny, to kill any bacteria that maybe present. The elderly are in a high risk group that should avoid eating raw eggs in any form because *Salmonella* bacteria could be present. Use only fresh, clean, unbroken, odor-free eggs in cooking.

Meat, Poultry, and Fish

Store fresh or thawed raw meat, poultry, and fish in the refrigerator. Store cooked meat or poultry products in the freezer if you want to keep them longer than a few days. Never thaw meat, poultry or fish on the counter as bacteria can multiply rapidly at room temperature. If possible, have several dedicated cutting boards: one for meat, one for fish, and one for vegetables. A hard non-porous cutting board such as acrylic is better than a wooden one for preventing the spread of bacteria as it can be thoroughly cleaned and sanitized. Thoroughly wash boards with hot, soapy water, rinse with warm water, and sanitize using a Florida State Department of Health approved solution and method. Remember to wash, rinse and sanitize knives or other utensils between raw meats, poultry, fish and vegetables. When cooking frozen meat, poultry, or fish without thawing first, allow more cooking time to ensure that the center of the food is fully cooked. Allow at least one and a half times as long to cook as required for unfrozen or thawed foods of the same with and shape. Undercooked foods may not be safe to eat. Do not partially cook meat or poultry one day and complete the cooking the next day (as is sometimes done with barbeque).

The following foods require special attention when cooking:

Ground Meats. Any ground meat requires special care because bacteria on the surface are spread throughout the meat during grinding; therefore, it spoils more rapidly than whole meats. Cook until it has an internal temperature of 155F.

Ham. Some types of ham need to be cooked; others are fully cooked and can be eaten as they come from the package or can be heated just before serving.

Stuffed Meats and Poultry. Stuffed meat or poultry should be stuffed just prior to cooking. Stuff lightly, without packing, to allow heat to penetrate quickly throughout the stuffing. Make sure the stuffing reaches at least 165F. To check the temperature, insert a meat thermometer in the stuffing at the center and read the temperature in about 5 minutes. Cook longer if needed.

Special diets

Special diets are referred to as "therapeutic diets". These are diets which modify the regular diet menu that you plan in order to meet special needs. They must be ordered or prescribed by a health care

provider. Staff should understand that special diets are an important part of a resident's care. Although special diets should be followed carefully, the adult living facility should not hesitate to contact the health care provider to discuss any problems you or the resident may have in maintaining the diet. Frequently, changes can be made that will help the resident and the facility to follow the orders more easily. If the resident refuses to adhere to a therapeutic diet, the adult living facility should document that refusal and contact the health care provider.
The following types of special diets are very common:

Low Salt. This diet is also known as "4 Gm Na" or "no added salt". In general, the resident may have regularly cooked food but no table salt and no high salt foods should be offered (i.e. cured meats, canned vegetables, and canned soups).

Diabetic. The more complex diabetic diets with food exchanges, and calorie counts are not usually offered in adult living facilities; therefore, "no added sugar" or "no concentrated sweets" (common names for the types of diets) are used in adult living facilities. These types of diets require no sugar to be used at the table or during cooking. That is to say, only naturally occurring sugars are allowed, and those only sparingly.
A "carbohydrate counting" or "constant carbohydrate" diet emphasizes that the total amount of carbohydrate consumed rather than the source. New research shows that sweets do not raise the blood sugar faster than starches or complex carbohydrates.

High Fiber. This diet is ordered for several reasons, but regulating bowel activity is the most common. This is a regular diet with additions or substitutions such as: whole wheat bread, raw fruits and vegetables, bran cereal, or 1 ounce of fiber at each meal with 8 ounces of water.

Low Fat. A low fat diet is designed to reduce fat consumption to 30% or fewer of the total daily calories consumed. Most American diets include about 35% fat. Use low fat or skimmed milk and cheeses. Turkey, chicken and fish are low fat alternatives to beef.

Bland or Soft. These diets are frequently prescribed because of digestive problems or oral problems. Soft diets may also be ordered for swallowing problems.

An Adult Living Facility that offers therapeutic diets must have a menu which identifies the food items which enable the resident to comply with the diet. Consult with the health care provider and a dietitian to get clarification of the orders, menu suggestions, and to have any questions answered.

Conclusion

The best way to prevent food poisoning and the spread of contagious diseases is by safely handling, preparing and storing food. Senior adults can be placed in life threatening illnesses related to improper handling and storage of food. A slight or mild case of food poisoning can make the average adult sick with nausea, vomiting, and diarrhea. The same case of food poisoning in an elderly person can send them in the hospital in serious condition.
Adequate nutrition and hydration is a common problem in the elderly. The adult living facility staff should be aware of the effects of aging on the body. All body systems slow as they age. The ability to smell begins to diminish at the age of 45. It is known that 80% of taste relies on smell. Taste buds that sense sweet and sugar also begin to diminish. The elder person will require more of these condiments to

obtain the same effect they received when they were younger. The effects of these two senses being reduced is the lack of desire to eat.

The digestive system is compromised by age as well. Because of slower motility (movement of the stomach and intestines that causes food to move through the digestive tract), constipation is frequently a problem for elder persons. Now, compound these issues with unfamiliar foods, a confusing and loud atmosphere, or disruptive/vulgar behaviors of others, side effects of medications, emotions, and disease processes and a resident of an adult living facility is at high risk of low nutrition and hydration intake. Staff should be constantly aware of the general dietary habits and daily intake of the resident. Any abnormalities should be documented and conveyed promptly to the health care provider. Our behavior on the dining room floor must not only utilize proper food handling techniques, but it must encourage proper nutrition and hydration.

SAFE FOOD HANDLING

POST TEST (ONE TRAINING HOUR)

Student Name:_____ Date: _____

Circle the Best Answer

T or F 1. The kitchen staff should check/clean the can opener daily.

T or F 2. Hard boiled eggs can be left out of refrigeration for only 3-4 hours.

T or F 3. Chemicals can be stored in the food storage area as long as they are kept in their original packages.

T or F 4. All foods are to be stored below 45 degrees to retard the growth of bacteria.

T or F 5. We can control the growth of bacteria by controlling moisture, temperature, and time length of storage.

T or F 6. Washing your hands before switching from raw meats such as chicken to vegetable preparation is not necessary.

T or F 7. Placing the food in a shallow pan is one of the ways to quickly cool foods prior to refrigeration in order to retard bacterial growth.

T or F 8. Defrosting foods on the counter at room temperature is acceptable only if the time does not exceed 6 hours.

T or F 9. Assisted living facilities must throw out any food that has been stored in the refrigerator longer than 5 days.

T or F 10. Foods cooked in the microwave oven should be cooked to an additional 25 degrees beyond conventional oven temperature requirements.

FILL OUT YOUR INFORMATION BELOW AND SEND YOUR COMPLETED ANSWER SHEET TO THE ADDRESS BELOW.

INCLUDE YOUR CHECK OR MONEY ORDER FOR $ 5.00 (PER TEST)

NAME:_____
ADDRESS: _____
PHONE:_____
EMAIL:_____
PRESCHOOL NAME: _____

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