LAUSD
Food Services Division

Study Guide for ServSafe Certification

Great Food, Great Body, Great Mind

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SECTION 1

FOOD SAFETY CHALLENGE

A foodborne illness is a disease transmitted to people by food. A foodborne illness outbreak is when **two** or more people get the same illness after eating the same food.

Cost of foodborne illnesses: Foodborne illnesses cost the United States billions of dollars each year. One foodborne illness outbreak can cost an operation thousands of dollars and:

1. Loss of customers and sales
2. Loss of reputation
3. Negative media exposure
4. Lowered staff morale
5. Lawsuits and legal fees
6. Staff missing work
7. Increased insurance premiums
8. Staff retraining

Populations at High Risk for foodborne illnesses

1. Elderly people: People's immune system weaken with age
2. Infants and preschool-age children: very young children have not built up strong immune systems
3. Other Populations: people with cancer, HIV/AID, and Transplant recipients

Food contaminants

1. Biological: Pathogens are the greatest threat to food safety. They include viruses, parasites, fungi, and bacteria
2. Chemical: Foodservice chemicals can contaminate food if they are used incorrectly. This group includes cleaners, sanitizers, polishes, machine lubricants and toxic metals
3. Physical: Foreign objects like hair, finger nail, dirt, bandages, metal staples, and jewelry

How food becomes unsafe

Time-temperature abuse: Food stayed out too long at room temperature

Cross-contamination: Pathogens can be transferred from o0ne surface of food to another

Poor personal hygiene: Food handlers can cause a foodborne illness if they fail to wash their hands after using the restroom, come to work sick, cough or sneeze on food and touch or scratch wound, and then touch the food

SECTION 2

THE MICROWORLD

Microorganisms are small, living organisms that can be seen only through a microscope. Harmful microorganisms are called pathogens. Some pathogens make you sick when you eat them; others produce poisons (toxins) that make you sick as well.

What pathogens need to grow?

F.ATTOM

1. Food - that is high in protein such as milk, meat, poultry, fish, and eggs.
2. Acidity - pH 4.6-7.5.
3. Temperature that is higher 41°F (cold food), or below 135°F (hot food).
4. Time – time to produce (if food left more than 4 hours at the TDZ).
5. Oxygen- aerobic (require oxygen), anaerobic (does not require oxygen).
6. Moisture – Food with plenty of water activity.

Biological Hazards: Viruses, Bacteria, Parasites, Fungi

Viruses:

Viruses are the leading causes of foodborne illness and can survive cooler and freezer temperatures

1. Viruses can't grow in food but once eaten, they grow inside a person's intestines.
2. Viruses can contaminate both food and water.
3. Viruses can be transferred from person to person and from people to food-contact surfaces.

Bacteria:

1. Bacterial foodborne illnesses account for more than 90% of all foodborne related illness.
2. Bacteria are present especially on our hands.
3. Bacteria, viruses, and parasites usually come from people who improperly handle food.
4. Bacteria will multiply in great numbers if food left in the **danger zone 41°F-135°F.**
5. Bacteria will double every 20 minutes:
    a. Toxins, when bacteria are multiplying, it consumes the nutrients in food and then produces waste called toxins that cannot be killed with heat or cold.
    b. Intoxication, caused by ingested toxins.
    c. Spores, some bacteria have the ability to change into forms that are very resistant to heat and dry condition and form outer thick shell for protection.

Parasites:

1. Parasites are organisms than live within or feed off another organism or host.
2. Parasites can transfer from human to human and from animal to human.
3. Roundworm found in pork that produces trichinosis.

Fungi:

Fungi mostly spoil food and found in air, plant, water.
Molds can grow in the refrigerator, spoil food and cause illness.
Yeast can spoil food, fruit juices and jellies.

TYPES OF foodborne infections:

Foodborne Infections: Person eats food with pathogens. Pathogens grow in the intestines and make you sick. Slow onset of symptoms.

1. Salmonellosis – eggs and poultry are primary sources.
2. E. Coli – found in ground beef, raw fruits, vegetables, and unpasteurized juice.
3. Listeriosis – unpasteurized dairy products (especially soft cheeses); primarily affects the elderly and the very young.
4. Hepatitis A – jaundice (yellowing of skin) is the characteristic symptom; shellfish.
5. Norovirus –ready to eat sandwiches/salads.
6. Trichinosis – (Parasite) pork and wild game are primary sources.
7. Anisakiasis – (parasite), sushi/sashimi are primary sources, use the 'Sushi/Saki' correlation to remember; coughing up worms and tickling sensation in throat.
8. Giardiasis – (Parasite) contaminated water (stream water).
9. Campylobacteriosis – severe diarrhea; poultry and unpasteurized milk.
10. Vibrio Vulnificus – raw oysters.
11. Rotavirus Gastroenteritis.
12. Intestinal Cryptosporidiosis – water run-off from farms.
13. Cyclosporiasis – parasite, from contaminated water.

Foodborne Intoxications: Person eats food with toxins (poisons). The poisons make you sick. The poison may be made by a pathogen in the food, or may be from chemical contamination, or may be from a plant or animal eaten by the person.

14. Staphylococcus Gastroenteritis – all over food handler's skin, in nose and throat; best way to prevent this is good hand washing and personal hygiene.
15. Botulism – anaerobic (grows in the absence of oxygen); canned food, garlic & oil mixtures, baked potatoes wrapped in foil.
16. Bacillus Cereus – cereal/grain/rice products – "cereal/cereus" connection..

The following three are **Seafood poisons**/intoxications:

17. Ciguatera Poisoning – causes itching, hot & cold flashes, temporary blindness, hallucinations; from large predatory fish that eat smaller fish that feed on toxic algae as,Amberjack, barracuda, grouper, and snapper.
18. Scombroid Poisoning (histamine is the toxin) – causes flushing & sweating, and a burning, peppery taste in mouth; swordfish, mahi-mahi, mackerel, tuna, bluefish, skipjack, and bonito
19. Shellfish Poisoning – toxins vary.

Foodborne Toxin-Mediated Infections: Person eats food with pathogens. Pathogens produce illness-causing toxins in the intestines.

20. Clostridium Perfringens – usually no vomiting, only intestinal upset; meat and bean dishes
21. Hemorrhagic Colitis (produced by E. coli) – watery/bloody diarrhea, raw or undercooked ground beef, unpasteurized milk, and juice.
22. Shigellosis – can cause bloody diarrhea; ready to eat salads.

SECTION 3

FOOD CONTAMINATION

Chemicals and physical Objects

Food can become contaminated when objects get into it. It can also happen when natural objects are left in food. Biological contaminants are the leading cause of foodborne illness. But there are other contaminants to watch out for too as chemicals and physical objects. You also have to take steps to prevent people from deliberately contaminating food.

1. Toxic metals as lead found in pewter, copper is sometimes found in cookware like pots and pans and zinc found in galvanized items, which are coated with zinc as buckets, and tubs.
2. Food service chemicals such as cleaners, sanitizers, polish. Store all chemicals away from food.
3. Physical Contaminants are- metal shaving from cans, staples from cartons, jewelry, fruit pits.

Common food allergens

1. Tofu and tofu products
2. Milk and dairy products, eggs and egg products.
3. Fish and shellfish, and wheat.
4. Soy and soy products, peanuts, pecans, and walnuts.

SECTION 4

THE SAFE FOODHANDLER

How foodhandlers can contaminate food

1. When they do not wash their hands.
2. When they have a foodborne illness.
3. When they have wounds that contain a pathogen.
4. When they have contact with a person who is ill.
5. When they have diarrhea, vomiting or jaundice.

A Good personal hygiene and daily safe practices

1. Hand washing (for at least 20 seconds).
2. Clean clothing, hair restraints and jewelry limited to a plain wedding band.
3. Short, clean fingernails, no nail polish, wear a bandage over wounds.
4. Use single–use gloves to handle food and change it at least every four hours; and as soon as it become soiled or torn.
5. No bare hand contact with ready to eat food.

Policies for reporting health issues

1. Restrict the foodhandler form working with or around food if they have a sore throat with a fever.
2. Exclude the foodhandler form operation if he or she has vomiting, diarrhea and jaundice.
3. Exclude the foodhandler from operation and notify the local regulatory authority if he or she had Salmonella Typhi, shigella,sigha toxin- producing E. Coli, Hepatitis A, Norovirus.

SECTION 5

THE FLOW OF FOOD

MONITORING TIME AND TEMPERATURE

The flow of food is the path that food takes through the operation. It begins when you buy the food and ends when you serve it. To keep food safe, you must control the amount of time it spends in the temperature danger zone (41°F-135°F).

The most important tool you have to monitor temperature is the thermometer. Thermometers should be calibrated daily or when they are dropped.

Never use glass or mercury-filled thermometers to check food temperature. If they break, they can be physical and chemical hazards.

Common Thermometers

Bimetallic stemmed thermometers:

1. Can check temperature form 0°F to 220°F, must be accurate within +/-2°F.
2. A Bimetallic stemmed thermometer measures temperature through its metal stem.
3. When checking temperatures, insert the thermometer stem into the food up to the dimple.

Thermocouples:

1. They measure temperature through a metal probe. Temperatures are displayed digitally.

Infrared:

Infrared thermometers measure the temperature of food and equipment surfaces.

Thermometers Calibration:

Boiling water method

1. Bring tap water to a boil in a deep pan.
2. Put the thermometer stem into the boiling water; wait for 30 seconds until the indicator stop.
3. Adjust the thermometer so it reads 212°F.

Ice-point method

1. Wash, rinse, and sanitize bimetallic thermometer.
2. Fill a large container with 50% crushed ice and 50% tap water.
3. Put the thermometer stem into the ice water, wait 30 seconds until the indicator stop.
4. Adjust the thermometer so it reads 32°F.

Checking food temperature

When checking the temperature of food, insert the probe into the thickest part of the food. This is usually in the center. Also take another reading in a different spot. The temperature may vary in different areas.

SECTIONS6 and 7

Purchasing, Receiving, and Storage

Purchasing:

Purchasing food from approved, reputable suppliers. An approved food supplier is one that has been inspected and meets all applicable local, state and federal laws.

Receiving:

1. Reject poor quality food during receiving. Use thermometer to check food temperature of food.
2. Receive cold food at 41°F or lower. Receive hot food at 135°F or higher.
3. Look for texture, color, and odor.
4. The packaging of food and nonfood items should be intact and clean.
5. Eggs must be clean and unbroken.
6. Receive live shellfish with shell stock identification tags. Keep tags on file for 90 days. Reject shellfish if they are muddy, have broken shells.

Storing:

1. Label and date all TCS **(time and temperature control for safety)**throw it out after 7days.
2. Rotate food using first-in-first-out.
3. Store items with the earliest use-by or expiration date.
4. Store food in containers intended for food.
5. Containers should be durable, leak proof, and able to be sealed or covered.
6. Keep all storage areas clean and dry. Store food 6" of the floor.
7. Keep temperature of the dry-storage area between 50°F and 70°F.
8. Do not overload coolers of freezers. Storing too many food items prevents good airflow.
9. Use open shelving. Lining shelves with aluminum foil, sheet pans, or paper restricts circulation of cold air in the unit.
10. Store food in ways that prevent cross-contamination, top-to-bottom order: ready-to-eat food, seafood, whole cuts of beef and pork, ground meat and ground fish, last on the bottom are whole and ground poultry.

SECTION 8

FOOD PREPARATION

To protect food during preparation, you must handle it safely. The keys are time and temperature control and the prevention of cross-contamination.

General Preparation Practice:

1. Make sure workstations, cutting boards, and utensils are washed, rinsed, and sanitized.
2. Cook potentially hazardous food to the required minimum internal temperature.
3. Reheat potentially hazardous food to an internal temperature of 165°F.
4. Remove from the cooler only as much food as you can prep in a short period of time. (Patch cooking)
5. Returns prepped food to the cooler, or cook it as quickly as possible.
6. **Never thaw food at room temperature**, thaw food in a cooler at 41°F or lower, or submerge food under running water at 70 °F or lower or thaw food in a microwave oven if it will be cooked just after thawing, or thaw food as part of the cooking process.
7. Cool food from 135°F to 70°F within 2 hours and then from 70°F to 41°F or lower in an additional 4 hours.
8. Safe methods for cooling food include: reducing the size of the food, using ice-water baths or using a blast chiller.
9. Make sure fruit and vegetables do not touch surfaces exposed to raw meat or poultry.
10. Wash fruit and vegetable thoroughly under running water (before cutting, cooking or combining it with other ingredients).
11. Refrigerate and hold sliced melons and cut tomatoes at 41°F or lower.
12. Store chicken, tuna, egg, pasta, and potato salads at 41°F or lower.
13. Do not serve raw seed sprouts to high-risk population.
14. Discard any unused batters made with eggs or milk.
15. Pooled eggs that are cracked open must store at 41°F or lower.
16. Use pasteurizes eggs if you mainly serve high-risk populations.
17. Use clean, sanitized containers and ice scoops to transfer ice form ice machine to other containers.
18. Store ice scoops outside of the ice machine in a clean, protected location.

Variance is required if you are:

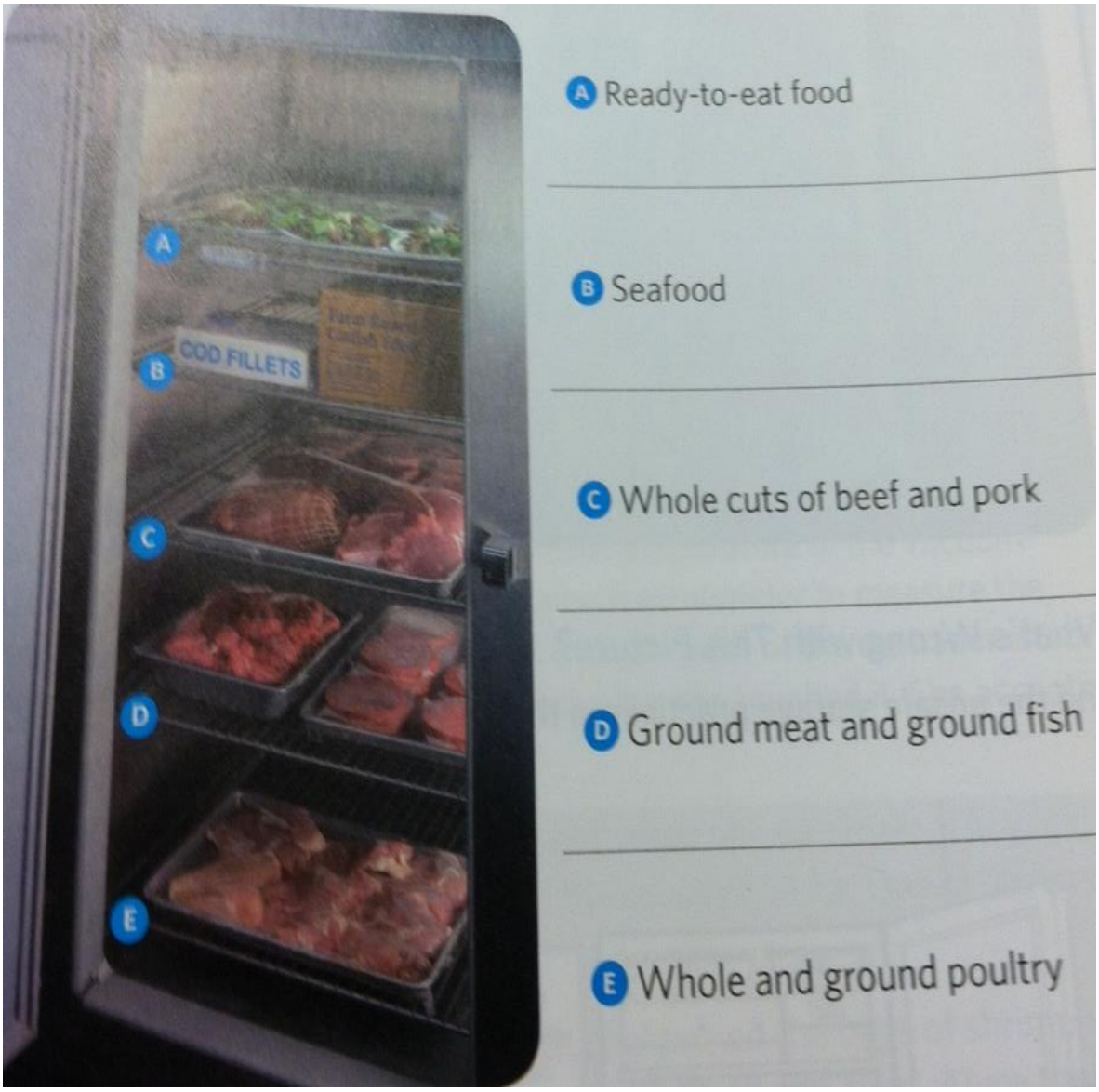
For curing food, packaging food using a reduced-oxygen packaging, sprouting seeds or beans, and or offering live, molluscan shellfish from a display tank.

COOKING REQUIRMENTS FOR SPECIFIC FOOD

Minimum Internal Temperature	Type of food
165°F for 15 Seconds	Poultry -including whole or ground chicken, turkey, or duck Stuffing made with TCS Stuffed meat, seafood, poultry, or pasta Dishes that include **previously cooked** potentially hazardous ingredients
165°F	Microwave cooking- meat, seafood, poultry and eggs Stir food halfway through the cooking process Let the food stand for at least **two minutes** to let the temperature even out
155°F for 15 Seconds	**Ground meat** - include beef, pork, and other meat Injected meat- including brined ham and flavor injected roasts **Ground seafood-including chopped or minced seafood** Eggs that will be hot-held for **later service**
145°F for 15 Seconds	Seafood- including fish, shellfish, and crustaceans (**whole**) **Steak**, chops of pork, beef, veal, and lamb Eggs that will be **served immediately**
145°F for 4 Minutes	**Roasts** of pork, beef, veal and lamb
135°F for 15 Seconds	**Fruit, vegetables**, grains (rice, pasta), and bean, refried beans that will be hot-held for service Commercially processed, ready-to-eat-food that will be hot-held for service (cheese sticks, deep-fried vegetables)

Cold Storage

Store ready-to-eat food, seafood, whole cuts of beef, pork, ground meat and ground fish, whole and ground poultry inside the coolers in the following top-to-bottom order



SECTION 9

SERVING FOOD SAFLY

Safe food handling does not stop once food is properly prepared and cooked. To make sure the food you serve is safe, you must continue to protect it from time-temperature abuse and contamination until it is eaten.

When holding hot potentially hazardous food:

1. Hold hot food at an internal temperature of 135°F or higher.
2. Use only equipment that can maintain this temperature.
3. Never use hot-holding equipment to re-heat food.
4. Check internal temperature using a calibrated thermometer.
5. **Check temperature at least every four hours. As an alternative, check the temperature every two hours to leave time for corrective action**.
6. Protect food from contaminants with covers/sneeze guards.
7. Prepare food in small batches so it will be used faster.

When holding cold potentially hazardous food:

1. Hold cold food at an internal temperature of 41°F or lower.
2. Do not store food directly on ice.
3. Use only equipment that can maintain this temperature.
4. Check internal temperature using a calibrated thermometer.

Minimizing Contamination during Service:

1. Use clean and sanitized utensils for serving
2. Store serving utensils handle up
3. Minimize bare-hand contact with food that is cooked or ready-to-eat (use gloves)
4. Practice good personal hygiene

Handling Good, Glassware, Dishes and Utensils:

1. Food contact areas of plates, bowls, glasses, and cups should not be touched.
2. Dishes should be held by the bottom or the edge.
3. Cups should be held by their handles, and glassware should be held by the middle or bottom.
4. Do not stack glassware or dishes when serving. The rim of surface of one can be contaminated by the one above it.
5. Flatware and utensils should be held at the handle.

Self-Service Areas (Buffets and Food Bars):

1. Install sneeze guards (14 inches high)
2. Label all food items, separate raw meat, fish, and poultry form cooked and ready-to-eat food.
3. Hand out fresh plates to customers and do not let them use soiled plates.
4. Maintain proper food temperatures.41°F-135°F.
5. Replenish food on a timely basis. (FIFO)

Re-Serving Food Safely:

1. Menu items returned by one customer cannot be re-served to another.
2. Never re-serve plate garnishes, such as fruit or pickles to another customer.
3. Never re-serve uncovered condiments.
4. Do not re-serve uneaten bread or rolls to another customer.

When Delivering Food to Off-Site:

1. Use insulated containers capable of maintaining proper temperature (41°F -135°F).
2. Store raw food and ready-to-eat food items separately.
3. Check internal food temperature regularly.
4. Clean the inside of delivery vehicles regularly.
5. Provide food safety guidelines for consumers.

To Protect Food in Vending Machines:

1. Keep potentially hazardous food at 41°F or lower and 135°For higher.
2. Dispense potentially hazardous food in their original container.
3. Check product shelf life and discard food within seven days of preparation.
4. Fresh fruit with edible peels should be washed and wrapped before being put in a machine.

SECTION 10

FOOD SAFETY MANAGEMENT SYSTEM

A food safety management system will help you prevent food borne illness by controlling hazards throughout the flow of food. Active managerial control focuses on establishing policies and procedures to control five common risk factors responsible for food borne illness: Purchasing food from unsafe sources, failing to cook food adequately, holding food at improper temperatures, using contaminated equipment, and poor personal hygiene.

Food Safety System built on the following:

1. Good personal hygiene.
2. Facility design.
3. Supplier selection and specification.
4. Cleaning and sanitation.
5. Equipment maintenance.
6. Manager and employee food safety training.

HACCP Philosophy: If significant biological, chemical, or physical hazards are identified at specific points with a product's flow through the operation, they can be- prevented, eliminated and or reduced to safe levels.
HACCP system must be based on a written plan that is specific to each facility's menu, customers, equipment, processes, and operation.

The Seven HACCP Principles

Principle 1: Conducting a Hazard Analysis

1. **During this step, you will be identifying and assessing potential hazards in the food you serve by taking a look at how it is processed,** or flows through the establishment.
2. Preparing, cooking, holding, and serving. (Cooking chicken)
3. Poor personal hygiene and or improper cooking and hot holding temperature.

Principle 2: Determine Critical Control Points

Find the points **in the process were the identified hazard can be prevented, eliminated, or reduced to safe levels.**

Proper cooking is the only step that will prevent, eliminate or reduce bacteria to safe levels.

Principle 3: Establish Critical Limits

1. **Establish minimum and maximum limits for each CCP that must be met to prevent, reduce and or eliminate the hazard to a safe level.**
2. Cook the chicken to a minimum internal temperature of 165°F for fifteen seconds. (cooking chicken to 165°F prevent hazard)

Principle 4: Establish Monitoring Procedures

1. **Identify who will monitor the procedures and how often.**
2. In this case inserting a clean, calibrated, and sanitized thermometer into the thickest part of the chicken (breast) and make sure it has reached a minimum internal temperature of 165°F.

Principle 5: Identify Corrective Actions

1. **Identify steps that must be taken when a critical limit is not met and determine these steps in advance.**
2. For example, if the chicken has not reached 165°F during cooking, employees must continue to cook it until it does and record this corrective action in the temperature log.

Principle 6: Verify that the System Works

1. **Determine if the plan is working as intended. Evaluate on a regular basis the cooking charts, temperature logs, and records.**
2. Flow diagram: A systematic representation of the sequence of steps or operations used in the production of a particular food item.
3. Determine if the plan adequately prevents, reduces, and or eliminate identified hazards.

Principle 7: Establish Procedures for Record Keeping

Keep time and temperature logs and receiving invoices on files

Keep records obtained:

1. Whenever a corrective action is taken
2. When equipment is validated
3. When working with suppliers

A HACCP Plans is required if an establishment:

1. Smokes, cures, or used food additives to preserve food.
2. Packages food using a reduced-oxygen packaging method.
3. Offer live, molluscan shellfish from a display tank.
4. Customer-processes animals for personal use.
5. Packages unpasteurized juice for sale to customer without a warning label.

Crisis Management

A food safety system is designed to help you take steps to ensure that the food you serve is safe. Despite your best efforts, however, a food borne-illness outbreak can occur in you establishment.

The time to prepare for a crisis is before one occurs. The basis of a successful crisis management program is written a plan that identifies the resources required and list/explains the procedures that must be followed.

Crisis management plan should include: basic objectives, checklists with step-by-step procedure, specific tasks, roles, and resources.

In a large corporation, the crisis management team might be cross-functional, consisting of the heads of the major departments. In a smaller operation, the team might consist of the owner, general manager, and chef.

It is helpful to appoint a single spokesperson to handle all media queries and communication. Designating spokesperson results in a more consistent message.

SECTION 11

SANITARY FACILITY

An establishment that is difficult to clean will not be cleaned well. Sanitation efforts will be more effective if a facility is designed and equipped with ease of cleaning in mind.

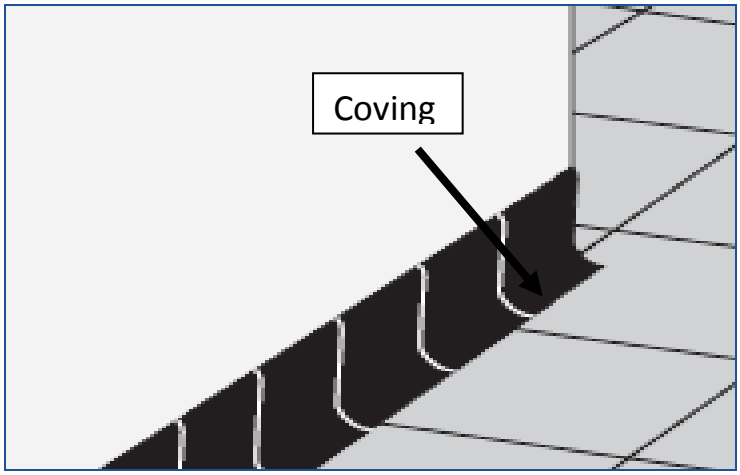
When designing or remodeling a facility:

1. Arrange equipment/fixtures to comply with sanitary standard.
2. Select materials that will be easy to clean.
3. Have plans reviewed by the local regulatory agency.
4. Make sure the building meets ADA (The Americans with Disabilities Act).

Flooring:

Non-absorbent flooring should be used in:

1. Food preparation areas.
2. Ware washing Areas.
3. Restrooms.
4. Other areas subject to moisture, flushing, or spray cleaning.
5. Carpeting is **popular** in dining rooms because it absorbs sound, beverage station, waitstaff, and major traffic aisles.
6. **Coving** is a curved, sealed edge placed between the floor and the wall to eliminate sharp corners or gaps that would be difficult to clean.



Hand Washing Stations required in:

1. Food preparation areas.
2. Service areas.
3. Restrooms.

Hand washing stations must be equipped with:

1. Hot and cold running water (hand washing 100 °F)
2. Liquid, powdered soap.
3. A means to dry hands (single use towel or s warm air dryer).
4. A waste container.
5. Signage indicating employees must wash their hands.

Purchasing Equipment with food-contact Surface that is:

1. Safe and durable.
2. Corrosion-resistant.
3. Nonabsorbent.
4. Smooth and easy to clean.
5. Resistant to pitting, chipping, scratching, and decomposition.

Nonfood-contact surface equipment

1. Smooth and nonabsorbent.
2. Corrosion-resistant, easy to clean, and maintain.
3. Free of unnecessary edges and crevices.

Purchasing equipment

NSF International mark: Equipment has been evaluated, tested.
Underwriters Laboratory (UL) mark: equipment is in compliance with NSF standard.

Installing Ware washing machines:

1. Keep water pipes short to prevent heat loss.
2. Place the machine 6 inches of the floor to permit cleaning underneath.
3. Post water temperature, conveyor speed, and chemical concentration information near the machines.

Installing stationary floor equipment

1. Mounted 6 Inches of the floor OR
2. Sealed to a masonry base with a food-grade sealant.

Installing stationary tabletop equipment

1. Mounted on legs with a 4 inches clearance between equipment base and tabletop OR
2. Sealed to a masonry base with a food -grade sealant.

Maintaining equipment

1. It must receive regular maintenance.
2. It must be maintained by qualified personnel.
3. Follow the manufacturer's recommendation.

Acceptable sources of potable water include:

Potable water must be used for dirking, cooking, cleaning, hand washing, thawing, and cooling

1. Public water mains.
2. Regularly tested private sources.
3. Bottled water.
4. Water in on-premise storage tanks.
5. Water transport vehicles that are properly maintained.
6. Private water well must be tested annually.

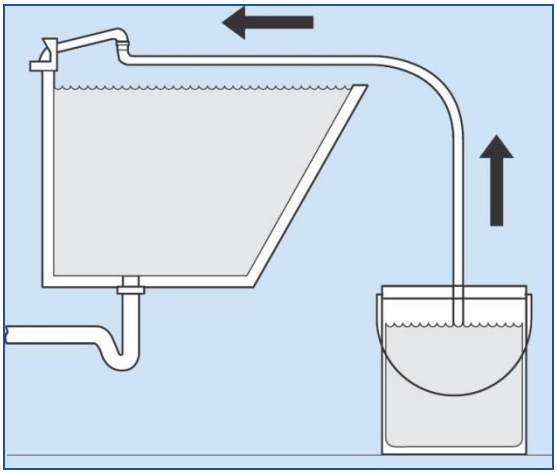
Plumbing:

1. Only licensed plumbers should install and maintain grease traps.
2. Repair leaks from overhead pipes.
3. Install plumbing to prevent the mixing of potable and non-potable water. (cross-connection)

Cross connection is a **physical link between safe water and dirty water**, which can come from drains, sewer or running hose in a mop bucket

Backflow is a reverse flow of contaminants through a cross-connection into the potable water supply. Connecting water hose to faucet then inserting the end of the hose into dirty water in inside bucket (When the pressure in the potable water supply drops below the pressure of the contaminated supply)

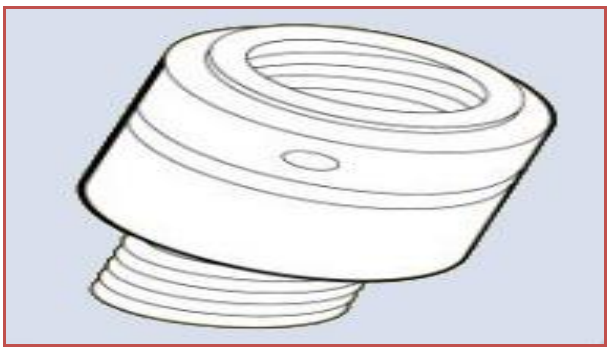
Cross connection and Backflow



Backflow prevention methods:

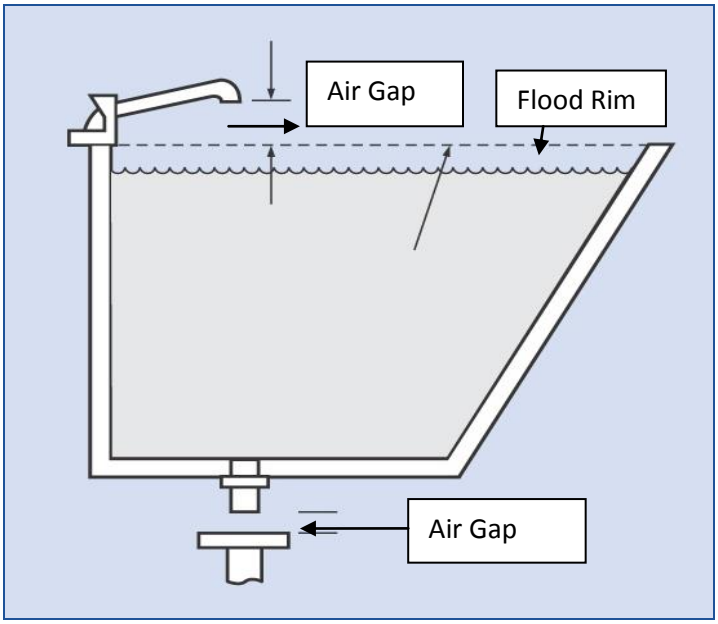
Vacuum Breaker: A vacuum breaker is an attachment that is installed between two piping systems to prevent water from being siphoned backward into the public drinking water system. This prevents contamination should the public drinking water system's pressure drop.

Vacuum Breaker



Air Gap: a properly designed and installed sink typically has two air gaps to prevent backflow. One between the faucet and the flood rim, and the second one is between the drainpipe of the sink and the floor drain.

Air Gap



The only completely reliable method for preventing backflow is creating an air gap.
An air gap is an air space used to separate a water supply outlet from any potentially contaminated source.

Sewage:

A backup of raw sewage is cause for immediate closure.
The Problem must be correct as well as thorough cleaning and the county inspection must be completed before you re-open for business.

Lighting intensity:

1. Minimum intensity: 50 foot candles, food preparation areas.
2. Minimum intensity: 20foot candles, hand washing, buffets and salad bar, wait stations, restrooms.
3. Minimum intensity: 10foot candles, inside walk-in refrigerators and freezers, dry storage areas, dining rooms.

Prevent lighting from contaminating food, use:

1. Shatter resistant light bulbs.
2. Protective covers made of metal, mesh, or plastic.
3. Shields for heat lamps.

Garbage containers must be:

1. Leak proof, waterproof, and pest proof.
2. Lined with plastic bags.
3. Easy to clean.
4. Covered at all times with tight fitting lids.
5. Cleaned frequently inside and out.

SECTION 12
CLEANING and SANITIZING

Cleaning is the process of removing food and other types of soil from a surface. Sanitizing is the process of reducing the number of harmful microorganisms on a clean surface to safe level.

Food-contact surfaces must be washed, rinsed, and sanitized:

1. After each use.
2. Anytime you begin working with another type of food.
3. After a task has been interrupted.
4. At 4-hour intervals if items are in constant use.

Sanitizing methods

Heat: Hot water

The most common way to heat-sanitize tableware, utensils, and equipment is to immerse or spray them with hot water. The higher the heat, the shorter the time required to kill microorganisms.

1. Chemicals: Chlorine, Iodine, and Quats.
2. Chemical sanitizers are regulated by state and federal Environment protection Agency (EPA). Follow the manufactories recommended.

The concentration of the sanitizer influences it effectiveness:

1. Low concentration: May fail to sanitize objects.
2. High concentrations" May be unsafe, leave odor/bad taste, corrode metals.
3. Concentration is measured using a sanitizer test kits that are available from the suppliers.

The temperature of the sanitizing solution influences it effectiveness:

1. Sanitizers work best from 55°F to 120°F.
2. At 55°F or lower, sanitizers may not be effective.
3. At 120°F or higher, sanitizers may corrode metals or evaporate.
4. Chemical sanitizers become more corrosive at temperatures greater than 130°F.
5. The presence of organic matter will reduces the effectiveness of sanitizers.
6. **Quaternary Ammonium Compounds – provide 200 ppm and Iodine Compounds – provide at 12.5 to 25 ppm. Sanitizer strength is measured in parts per million (ppm).**

When using ware washing machines:

1. Check them for cleanliness.
2. Clear foreign objects from trays/spray nozzles.
3. Check detergent and sanitizer levels.
4. Scrape, rinse, or soak items before washing them.
5. Load racks correctly.
6. Check machine temperature/pressures.
7. Air-dry all items and keep machine in good repair.

High temperature ware washing machines:

1. Rely on hot water to clean and sanitize.
2. **The temperature of the final sanitizing rinse must be at least 180°F.**

Chemical sanitizing machines:

1. Use chemicals to sanitize and often wash at much lower temperature than high temperature ware washing machines, but not lower than 120°F.
2. Rinse water temperature in these machines should be between 75°F and 120°F for sanitizer t be effective.

Three compartments sinks:

Before cleaning and sanitizing items in a three-compartment sink, each sink and all work surfaces must be cleaned and sanitized.

1. Rinse, scrape or soak all items before washing.
2. Wash items in the first sink in a detergent solution at least 110°F.
3. Immerse or spray-rinse items in the second sink and remove all traces of food and detergent.
4. Immerse items in the third sink in hot water or chemical-sanitizing solution.
5. If using the hot-water immersion methods, the water must be at least 171°F and the items must be immersed for thirty seconds.
6. Air-dry all items.

Cleaners:

Cleaners are chemicals that remove food, dirt, rust, stains, minerals and other deposits. Cleaners must be stable, noncorrosive, and safe to use. Follow manufacturer's instructions carefully and never combine cleaners.

Types of Cleaners:

Detergents: Is used in general-purpose to remove fresh dirt from floors, walls, ceilings, prep surfaces, equipment, dishes and utensils.

Degreasers: have ingredients for dissolving grease. They work well on burned grease, backsplashes, oven doors and range hoods.

Abrasive cleaners: Abrasive cleaners have a scouring agent that helps scrub hard-to-remove dirt. They used to remove baked-on food. Be aware that they can scratch surfaces.

Cleaning nonfood-contact surfaces;

Floors: Sweep first. Use a scrub brush and full strength detergent on extra soiled areas to remove grease and dirt. Mop or pressures spray the area. Remove excess water with a damp mop. Rinse thoroughly.

Walls: Clean tile and stainless steel surfaces by spraying or sponging with a detergent solution. Use a nylon scrub brush to clean dried on soil or grease. Rinse with clean water.

Ceilings: Wipe and rinse ceilings and light fixtures with a sponge or clothe.

Equipment: Clean daily or as often as recommended by the manufacturer.

Restrooms: Clean daily and or as often as needed.

When storing clean and sanitized tableware and equipment:

1. Store it 6 inches off the floor.
2. Clean and sanitize drawers/shelves before items are stored.
3. Store glasses/cups upside down.
4. Store flatware/utensils with handles up.

When storing cleaning tools and supplies:

1. Clean and sanitize tools before storage.
2. Place tools in a locked areas away from food and food preparation areas.
3. Air-dry mops, buckets, rooms, and brushes on hooks.
4. Do not use hand washing, food preparation, and ware washing sinks to clean mops.

When handling chemicals:

1. Only purchase those approved for restaurant use
2. Follow manufacturer's instruction/local regulation when discarding.
3. Label containers with;
    a. Chemical's name
    b. Manufacturer's name and address
    c. Description of potential hazards
4. Keep Material Safety Data Sheet (MSDS) for each chemical.
5. MSDS must be kept in a location accessible to all employees while on the job.

Develop a Cleaning program:

1. Identify all surfaces, tools, and equipment in the facility that needs cleaning.
2. Look at the way cleaning is done currently.
3. Estimate the time and skills needed for each task.

Creating a master cleaning schedule:

1. What should be cleaned.
2. Who should clean it.
3. When it should be cleaned.
4. How it should be cleaned.

SECTION 13

INTEGRATED PEST MANAGEMENT

Pests are a threat to establishment because they can carry and spread a variety of diseases. Once they have infested a facility, it can be very difficult to eliminate them. Developing and implementing an integrated pest management (IPM) program is the key. An IPM program uses prevention measures to keep pests from entering the establishment and control measures to eliminate any pests that do get inside.

Integrated pest management program:

1. Uses prevention measure to keep pests from entering the establishment
2. Uses control measures to eliminate any pests that do infest it.
3. Pest management program will be successful if you work closely with a licensed pest control operator (PCO).

The three rules of IPM:

1. Deny pests access to the establishment.
2. Deny pests food, water, and shelter.
3. Work with a licensed PCO to eliminate pests.

To keep pests **out** of the establishment:

1. Inspect deliveries for pests/pest infestation.
2. Screen windows and vents.
3. Seal cracks in floors and walls.
4. Keep exterior openings closed tightly.
5. Fill holes around pipes.
6. Install door sweeps/self closing doors.
7. Denying pests food and shelter.

Denying pests food and shelter

1. Dispose of garbage quickly.
2. Keep garbage containers clean/tightly covered.
3. Store recyclables away from buildings.
4. Store food/suppliers away from walls and 6 inches off the floor.
5. Clean the establishment thoroughly.

Signs of a cockroach infestation:

1. A strong, oily odor.
2. Droppings similar to grains of pepper.
3. Capsule-shaped egg cases.

Signs of a rodent infestation:

1. Shiny, black droppings
2. Evidence of gnawing
3. Tracks and rock piles
4. Nesting material (scraps of paper, clothe, hair)
5. Burrows in dirt or along foundation

Flies:

Flies can transmit food borne illness because they are drawn to and feed on garbage and animal waste.

Birds:

Bird dropping carries fungi and bacteria that can make people sick. Remove leftover food from outside dining areas as soon as customers leave their dining tables.

Pesticide use:

1. Before your PCO applies pesticides:
2. Remove all food and food-contact surfaces.
3. Cover immovable equipment and food-food contact surfaces.
4. After pesticides have been applied:
5. Wash, rinse, and sanitize food-contact surfaces
6. Keep corresponding MSDS on the premises.

Storing pesticides:

1. Keep them in original containers.
2. Lock them in cabinets away from food-storage and food-preparation areas.
3. Dispose of them as per local regulations.
4. Keep corresponding MSDS on the premises.

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SECTION 14

FOOD SAFETY REGULATIONS AND STANDARDS

Government control regarding food safety in the United States is exercised at three levels: federal, state, and local. Regulations are written at the federal level by the Food and Drug Administration (FDA) in the form of the Food Code. Regulations are written at the state level, are enforced at the city, county and local levels. Some agencies at the federal level, such as FDA and United State Department of Agriculture (USDA) are directly involved in the inspection process.

Food safety regulations and standards:

1. Helps you evaluate whether you are meeting minimum sanitation and food safety standards. Regulations protect the public by requiring establishments to provide food that is safe, uncontaminated, and presented properly. Convey new food safety information to establishments.

U.S. regulatory food system:

Federal Level: FDA writes Food Code.
State Level: Food Service regulations are written based on the Food Code or some modified form of it.
Local Level: State regulations are enforced by city, county or state health departments.

Preparing for a health inspection:

1. Know your local and state sanitation regulations. Perform continuous self-inspections to keep food safe. Ensure that your staff knows what to do in your absence

During a health inspection:

1. Ask for identification. Cooperate and take notes. Keep the relationship professional. Be prepared to provide records. Discuss violations and time frames for correction with the inspector. Follow up by determining why each violation occurred. Establish new procedures or revise existing ones to correct the problem permanently.

Closure:

Hazards requiring the closure of an establishment:

1. Significant lack of refrigeration. Backup of sewage. Serious pest infestation or pest activities. Fire, flood, long interruption of electrical, and water services.

SECTION 15

EMPLOYEE FOOD SAFETY TRAINING

Employee food safety training

Food safety training provides employees with the knowledge and skills needed to handle food safely in your establishment. It is the manager's responsibility to provide food safety training to all employees as it relates to their assigned job duties.

Benefits of food safety training:

1. Avoiding the costs associated with food born-illness.
2. Preventing the loss of revenue/reputation due to closure.
3. Improving employee morale.
4. Increasing customer satisfaction.

Manager should:

1. Provide initial and ongoing training for employees.
2. Make food safety training specific to job duties.
3. Use different tools to assess employee knowledge.
4. Keep records documenting training.

To develop and deliver an effective training program:

1. Assess training needs.
2. Establish learning objectives.
3. Choose training-delivery methods.
4. Select training material, session, and area.
5. Prepare the trainer .

How to identify training needs:

1. Test employees' food safety knowledge
2. Observe employees' job performance
3. Question or survey employees to find their weaknesses

Methods for delivering training:

1. Demonstrations, Lectures
2. Role plays, Job aids
3. One-on-one training
4. Technology-based training.

Key elements of successful training:

Presentation is the delivery of content to the learner. It can be accomplished through a variety of methods. Once the content is presented, the learner must have the opportunity to practice, apply, or respond to the content in order to retain it.

No single delivery method is fest for training all levels. Using several delivery methods will result in more effective learning. As a general rule, one-third of the training time should be devoted to the presentation of content, while the remaining two-thirds should be devoted to activities that allow trainees to apply what they have learned and to receive feedback.

Select an instructor who:

1. Is knowledgeable of food safety practices.
2. Understands the operation's food safety challenges.
3. Has demonstrated skill teaching others.
4. Has a good communication skill.

Other individual who may conduct training:

1. Immediate supervisors.
2. Staff trainers.
3. Representatives of the local health department.
4. Professional or educational organization.

Training sessions should be:

1. No longer than 20 to 30 minutes.
2. Conducted during slow times.
3. Conducted on-site to allow for demonstrations.
4. Documented.

When evaluating training:

1. Measure performance against the objectives.
2. Use both written and performance based tests.

Reasons why training might be ineffective:

1. The employee was improperly trained.
2. The employee has the knowledge, but he or she is not applying it.
3. The equipment used during training differs from equipment on the job.
4. There are negative consequences for doing what was taught.

Food Safety Certification:

1. Required for managers and supervisors.
2. Demonstrate comprehension of basic food safety principles.
3. Demonstrates you commitment to food safety.

ServSafe Practice Test #1

1. **1 hour**	a foodhandler who spends an entire shift deboning chicken should change gloves after
2. **6 inches**	Store tableware and utensils at least___off the floor.
3. **16 mesh per square inch screening**	screen all windows and vents with at least
4. **24 hours**	you should label all ready to eat TCS food that is prepped in house and held longer than
5. **41 or lower**	cold TCS food must be received at what internal temperature
6. **41 or lower**	at what internal temperature should raw meat, poultry, and seafood be stored?
7. **41 to 135**	what is the temperature range for the danger zone?(to _, just put the #
8. **90 days after the container has been emptied or the last shellfish was served from the container**	how long must shell stock tags be kept on file?
9. **100**	what temperature does the water have to be for washing hands
10. **135**	commercially processed food that will be hot held
11. **135**	fruit, vegetables, grains like rice, and legumes or beans that will be hot held for service
12. **145 for 4 minutes**	roasts of pork, beef
13. **145 for 15 seconds**	seafood, steaks, pork chop, and eggs that will be served immediately
14. **165**	what is the minimum internal cooking temperature for TCS food cooked in a microwave?
15. **155 for 15 seconds**	minimum internal temperature for ground meat or seafood, injected meat, and eggs for hot held service
16. **165**	TCS food must be reheated to what temperature for 15 seconds within 2 hours
17. **165**	what is the minimum internal cooking temperature for poultry?
18. **165 for 15 seconds**	minimum internal temperature for poultry, stuffing, stuffed meat or seafood or pasta, dishes that include previously cooked, TCS ingredients
19. **180**	in a heat-sanitizing dishwashing machine, what is the minimum temperature for the final rinse?(just put the #)

20. **abrasive cleaner**	removes bits of baked cheese from a pot
21. **acids in the food can leach zinc into the food**	why should food NOT be stored in a galvanized container
22. **at room temperature**	what is one way that food should NEVER be thawed?
23. **become ill themselves**	people who are carriers are able to carry pathogens in their systems and infect others, yet they never
24. **bimetallic stemmed thermometer**	useful for checking large or thick food
25. **botulism**	food commonly linked with the bacteria are dented cans, baked potatoes
26. **chemicals**	occupational safety and health administration(OSHA) has requirements for using___
27. **clean, rinse, and sanitize**	what are the steps in a three compartment sink
28. **cleaned, rinsed, and sanitized**	if a food contact surface has been soiled, what three actions must be performed before it can be used again?
29. **close the affected area and clean it**	a backup of raw sewage has occurred in the kitchen. what should happen next?
30. **color**	the effectiveness of chemical sanitizers is NOT affected by its
31. **conduct a hazard analysis**	what is the first step in developing a HACCP plan?
32. **cooking food in the right temperature**	can reduce salmonella spp. in poultry to safe levels
33. **cool food from 135 to 70 within 2 hours**	the first step in cooling TCS food
34. **cool it from 70 to 41 in the next four hours**	the second step in cooling TCS food
35. **Creating a master cleaning schedule, training your employees to follow it, and monitoring the program to make sure it works**	three things to focus on when developing a cleaning program
36. **cross-connection**	a hose connected to a running faucet that is left submerged in a bucket is an example of a
37. **degreaser**	clean a grill backsplash
38. **delimers**	remove mineral deposits from a steam table
39. **deny pests access to the operation**	what is the first basic rule of an integrated pest management program?
40. **deny pests food, water, and a nesting or hiding place**	what is the second basic rule of an integrated pest management(IPM) program?
41. **detergent**	wash a kitchen wall
42. **determine critical control points(CCPs)**	what is the second step in developing a HACCP plan?

43. **establish critical limits**	what is the third step in developing a HACCP plan?
44. **establish monitoring procedures**	what is the fourth step in developing a HACCP plan?
45. **establish procedures for record keeping and documentation**	what is the seventh step in developing a HACCP plan?
46. **every 4 hours**	if a food contact surface is in constant use, how often must it be cleaned and sanitized
47. **fully describe each menu item to customers who ask, including any secret ingredients**	when taking the orders of customers with food allergies, a server should
48. **gap between what an employee knows and what an employee needs to know**	a training need is a
49. **identify corrective actions**	what is the fifth step in developing a HACCP plan?
50. **immersion probes**	use these to check the temperature of liquids, like soups, sauces, and frying oil
51. **individuals and small groups**	on-the-job training works best for
52. **inform employees of safe use and hazards associated with chemicals used in the operation**	what is the purpose of Material Safety Data Sheets
53. **insert the thermometer of the stem into the thickest part of the product**	what is the right way to measure the temperature of fresh meat, poultry, or seafood when it is delivered
54. **insulated**	What type of container should be used to transport TCS food from the place of preparation to the place of service?
55. **IPM program**	the best way to deal with pets is to have an
56. **Jaundice**	a foodhandler must be excluded from the operation for which symptom?
57. **keep it accurate**	what is the calibration nut on a bimetallic stemmed thermometer used for?
58. **keep the foodhandler away from duties that involve food**	what should a manager do when a foodhandler reports being diagnosed with shigellosis?
59. **Material Safety Data sheet**	OSHA requires chemical manufacturers and suppliers to provide a_____ for each hazardous chemical they sell
60. **minimum internal cooking temperature of food**	when using a bottom to top shelving order, what determines the best placement of food in a cooler?

61. **pasteurized**	raw or undercooked dishes made for high-risk populations must use eggs that have been__.
62. **person's intestines**	where is the only place a foodborne virus can reproduce?
63. **pile of soft materials in a corner**	__is a sign of a possible rodent infestation
64. **practice the skill**	to learn a new skill, learners must be given the opportunity to__.
65. **Shiga toxin producing e coli**	linked with contaminated ground beef and produce
66. **Show if food has been time-temperature abused during shipment**	what do time-temperature indicators do?
67. **Sliced cantaloupe**	an example of TCS food is
68. **Sous-vide**	cooking food in an airtight bag in hot water at 140 degrees for a long period of time
69. **spore**	what is form some bacteria take to keep from dying when they do not have enough food?
70. **state**	most regulations for foodservice operations are at what level?
71. **state or local regulatory authority**	which agency enforces food safety in a foodservice operation?
72. **surface temperature**	what is an infrared thermometer used to measure?
73. **the date the food should be sold**	labels on containers of ready to eat TCS food that was prepped on site must include
74. **the federal government's recommendations for foodservice sanitation regulations**	What is the FDA food code?
75. **the HACCP system**	is used to control risks and hazards throughout the flow of food
76. **the water vaporizes before items can be sanitized**	What happened when the water temperature in a high temperature dishwashing machine is too high?
77. **thermocouples and thermistors**	good for checking the temperature of thick and thin food
78. **thrown out immediately**	hot TCS food that has been held below 135 for over 4 hours should be
79. **time-temperature abuse**	what can cause histamine to form in tuna?
80. **touching the walls**	food stored in a dry-storage area should NOT be
81. **toxic metal poisoning**	cooking tomato sauce in a copper pot can cause which food borne illness

Sample Test 1

1. A food establishment that packages ROP food should
   A. not be without a good vacuum-packer
   B. be packaged according to USDA standards
   C. have HACCP
   D. have HESSN

2. All vehicles and trucks delivering food products should be checked to ensure that the
   A. food was not exposed to contamination during shipping
   B. shipper was local
   C. vehicle has safety features
   D. truck was loaded promptly

3. All canned goods must be checked thoroughly when received and
   A. when stored
   B. at the end of the shift
   C. just before use
   D. after the expiration date has passed

4. The principle of "First In, First Out" (FIFO) refers to the safe food service practice of
   A. using products in the order in which they are received
   B. serving customers in the order in which they arrive
   C. having the manager arrive first and leave first
   D. attending to problems as they arise

5. Which of the following is NOT a potentially hazardous food (PHF/TCS)?
   A. cream-filled pastry
   B. crackers
   C. ground beef
   D. sliced melons

6. When keeping food in hot holding equipment, how often is it recommended to check the temperature of the food?
   A. at least once every 2 hours
   B. at least once every 3 hours
   C. at least once every 4 hours
   D. at least once a day

7. Which of the following microorganisms can be found in leafy produce such as spinach?
   A. Staphylococcus aureus
   B. Hepatitis A virus
   C. Trichinella spiralis
   D. E. Coli

8. Which of the following is the proper procedure for washing your hands?
   A. run hot water, moisten hands and apply soap, vigorously scrub hands and arms
   B. run hot water, moisten hands and apply soap, vigorously scrub hands and arms, rinse hands, dry hands
   C. run cold water, moisten hands and apply soap, vigorously scrub hands and arms, rinse hands, dry hands
   D. run cold water, moisten hands and apply soap, vigorously scrub hands and arms, apply sanitizer, dry hands

9. The agencies that regulate food safety at your establishment is
   A. CDC
   B. state and local departments of health
   C. federal department of health
   D. HACCP

10. If a guest spills a drink on the floor, the first thing you should do is
    A. make sure a co-worker stays by the spill to warn people while you get the proper caution signs and equipment
    B. bring the guest a new drink right away
    C. use a wiping cloth to wipe off the floor
    D. get a sign to warn people that the floor is slippery

11. What type of container should be used to store leftover tomato sauce?
    A. any pan or bucket available
    B. uncovered container
    C. covered food container
    D. copper container

12. What is the biggest problem with mixing raw foods together with cooked foods?
    A. product texture
    B. uneven temperature
    C. cross-connection
    D. cross-contamination

13. Which of the following is the BEST way to prevent food contamination?
    A. covering your mouth when you sneeze
    B. frequent and effective hand-washing
    C. smoking only in designated areas
    D. bathing every day

14. Which of the following is a safe food service practice?
    A. thawing meat on a work table overnight
    B. wrapping cooked meat and poultry in the same package
    C. cooling cooked meat rapidly for storing
    D. reheating cooked meat and poultry in a steam table

15. Where can food service employees smoke?
    A. in the food storage and food prep area
    B. in areas where utensils are cleaned and stored
    C. in linen storage areas
    D. in designated areas

16. All of the following practices can help prevent time-temperature abuse EXCEPT
    A. storing milk at 41°F (5°C)
    B. holding chicken noodle soup at 120°F (49°C)
    C. reheating chili to 165°F (74°C) for 15 sec. within 2 hours
    D. holding the ingredients for tuna salad at 39°F

17. If a food handler is diagnosed with Salmonella, Shigella, E. Coli, or Hepatitis A, the manger must first
    A. instruct the food handler to wear protective gloves
    B. post a communicable disease sign in all public areas
    C. exclude the food handler from the establishment and notify the health department
    D. restrict the food handler to a non-food handling area

Sample Test 1

18. Food handlers should be excluded from working with or around food if they are experiencing which of the following symptoms?
    A. soreness, itching, fatigue
    B. fever, vomiting, diarrhea
    C. headache, irritability, thirst
    D. muscle cramps, insomnia, sweating

19. After entering a walk-in refrigerator, which of the following situations would you correct?
    A. frozen turkey is thawing in a pan on the bottom shelf
    B. egg salad is stored in a plastic container with a tight fitting lid
    C. loosely covered chicken noodle casserole is cooling on the top shelf
    D. raw chicken is stored on a shelf above a tray of shrimp

20. Beef stew must be cooled from 135°F to 70°F within __ hours and from 70°F to 41°F or lower in an additional __ hours.
    A. 2, 4
    B. 4, 2
    C. 3, 2
    D. 2, 3

21. Staphylococcal food intoxication is caused by bacteria that are commonly found
    A. in dairy products, including milk and ice cream
    B. on the skin and in the nose, mouth, and throat of many otherwise healthy people
    C. in areas having poor ventilation and high temperatures
    D. in many types of seafood including shrimp and lobster

22. Which of the following employee actions DO NOT require that employees wash their hands and change gloves in order to prevent contamination?
    A. walking to the food prep sink
    B. using the toilet
    C. handling raw poultry or meat
    D. answering the telephone

23. Before they are cooked or served, raw fruits and vegetables should be thoroughly washed with
    A. sanitizer
    B. natural fruit or vegetable juice
    C. potable water
    D. non-potable water

24. What is the correct method to check the temperature of hot food on a buffet line?
    A. verify the setting of the thermostat for the holding table
    B. insert a thermometer into the food
    C. verify that steam is rising from the hot food
    D. check to see how long ago the food was cooked

25. Before operating a dishwashing machine, an employee should
    A. wear a plastic apron
    B. mix soap and sanitizer
    C. be properly trained
    D. separate dinner dishes from breakfast dishes

26. What is the proper way to cool a large pot of clam chowder?
    A. allow the pot to cool at room temperature
    B. put the hot pot into the walk-in cooler
    C. put the hot pot into the walk-in freezer
    D. divide the clam chowder into smaller containers and place them in an ice-water bath

27. Which of the following is an acceptable serving practice at a self-service bar?
    A. holding hot, potentially hazardous foods at 120°F
    B. storing raw meat next to ready-to-eat food
    C. allowing guests to re-use glassware for beverage refills
    D. allowing guests to use the same plate for a return trip to the self-service bar

28. A HACCP plan is required when an establishment
    A. serves raw pork
    B. serves undercooked ground beef
    C. uses mushrooms that have been picked in the wild
    D. packages unpasteurized juice

29. Which of the following will NOT prevent backflow?
    A. an air gap between the sink drain pipe and the floor drain
    B. a sink with a long faucet but with light water pressure
    C. the air space between the faucet and the flood rim of a sink
    D. a vacuum breaker

30. Which of the following is the most important step when receiving a delivery of meat?
    A. determine if the delivery matches the order
    B. check the temperature of the meat
    C. put the delivery in the refrigerator immediately
    D. check the temperature of the delivery vehicle

31. Wiping cloths and rags that are used for wiping non-food contact surfaces such as counters and walls should be
    A. discarded after one use
    B. laundered after each use
    C. stored in a sanitizing solution
    D. wrung out frequently in hot water

32. To properly monitor the strength of a chemical sanitizing solution, a food service manager should
    A. measure the temperature of the solution
    B. observe the color of the solution
    C. use test strips to measure proper PPM (parts per million)
    D. check the cleanliness of the plates being sanitized

33. All of the following may be used for chemically sanitizing food-contact surfaces EXCEPT
    A. quaternary ammonium
    B. chlorine
    C. iodine
    D. degreaser

34. The first step in cleaning electric food preparation equipment is to
    A. disassemble all removable parts
    B. disconnect the power
    C. wash food-contact surfaces and rinse with a chemical sanitizer
    D. wipe down the non-food contact surfaces and allow all parts to air-dry

35. Containers of poisonous or toxic materials must be
    A. clearly labeled according to law and locked up
    B. stored outside the premises
    C. color coded by category
    D. stored in dry storage areas

Sample Test 1

36. All of the following can lead to the chemical contamination of food except
    A. cooking tomato sauce in a copper pot
    B. using a backflow-prevention device on a carbonated beverage dispenser
    C. storing orange juice in a tin container
    D. serving fruit punch in a galvanized tub

37. A chef receives a delivery of raw chicken breasts and beef. Where in the refrigerator should the beef be stored?
    A. below the chicken
    B. above the chicken
    C. on the same shelf as the chicken
    D. wherever there is room available

38. Which of the following food products has been properly cooked?
    A. whole roasted chicken cooked to an internal temperature of 125°F for 15 sec.
    B. ground beef patty cooked to an internal temp of 155°F for 5 sec.
    C. pork chop cooked to an internal temp of 145°F for 15 sec.
    D. whole turkey cooked to an internal temp of 155°F for 15 sec.

39. Which of the following is the proper procedure for delivering prepared hot food off-site?
    A. reheat the food to 165°F immediately
    B. cook all fresh foods at the point of delivery
    C. maintain hot food temp above 135°F
    D. drive to the off-site location as quickly as possible

40. Which of the following is considered criteria for rejection when receiving a fresh fish delivery?
    A. shiny skin
    B. bright and clear eyes
    C. soft flesh
    D. little or no fishy smell

41. All ingredients in your restaurant must come from where?
    A. approved and reputable vendors
    B. local farmer's market
    C. organic home garden
    D. discount warehouse

42. Can you use an outdoor well as your potable water source?
    A. yes, if the temp does not exceed 60°F
    B. yes, if tested at least once a year by the regulatory agency
    C. no, outdoor water is not permitted under any circumstances
    D. yes, if tested once every 5 years

43. What food should never be served in a hospital or to high-risk populations?
    A. jello
    B. alfalfa sprouts
    C. lettuce
    D. oranges

44. A new seafood restaurant will serve live oysters and clams from their tanks. What do they need from the health department?
    A. air gap
    B. MSDS
    C. health department variance
    D. sanitized tank

45. The chef has created a new entrée. The best way to train the other cooks is by
    A. tests
    B. visual aids and posters
    C. clear verbal instructions only
    D. live demonstration

46. A food handler takes a carton of ultra-high pasteurized milk from the storage and opens it. What should she do with the rest?
    A. the carton should be placed back on the shelf in storage
    B. the carton should be stored in the refrigerator
    C. the food handler should pour the rest of the content into an air-tight container and place it back in the storage room
    D. the carton should be discarded

47. Statements from a dairy supplier's sales brochure are listed below. Which statement should tell you not to hire this supplier?
    A. "From farm to you, our milk is kept at temperatures below 41°F"
    B. "Money-back guarantee—our prices are the lowest in town!"
    C. "We deliver according to your schedule and needs"
    D. "We make our cheese with only the freshest unpasteurized milk"

48. A cook was preparing a cucumber salad on the same surface that was used to prepare raw chicken. A Salmonellosis outbreak occurred afterwards. What would be the most probable reason for the outbreak?
    A. cross-contamination
    B. unwashed chicken
    C. unwashed cucumber
    D. inadequate refrigeration

49. Which is the most important factor in choosing a food supplier?
    A. it has been inspected and in compliance with local, state, and federal laws
    B. its warehouse is close to your establishment
    C. it offers a convenient delivery schedule
    D. its price are the lowest

50. To keep refrigerated food at an ideal internal temperature, the temp in the refrigerator should ideally be at least ___ or lower.
    A. 50°F
    B. 39°F
    C. 45°F
    D. 0°F

51. Can you smoke in the food prep area? Why?
    A. no, the smoke can be annoying and cause cancer
    B. no, saliva from smoker can contain Staph
    C. yes, if an ash tray is used and cleaned afterwards
    D. yes, if an air filter is used

52. The dishwasher notices that there is dirty water in the 2nd compartment for dishwashing. He adds clean water to fill the compartment. This is an example of
    A. acceptable dishwashing
    B. cross-contamination
    C. cross-connection
    D. Clean In Place

53. A live fish in a fish tank contains 100 Giardia parasites. The fish is taken out of the tank and 20 minutes later, there are now
    A. 200 parasites
    B. 80 parasites
    C. still 100 parasites
    D. zero parasites

54. CIP (Clean In Place) must allow for
    A. food handlers to clean dishes in one place of the food prep area
    B. cleaning and sanitizing solution to circulate throughout
    C. dishes to be stacked evenly to allow for thorough cleaning
    D. none of the above

55. A health inspector checks the lighting in your buffet area. Lighting in the buffet area should be at least
    A. 5 foot-candles
    B. 10 foot-candles
    C. 20 foot-candles
    D. 40 foot-candles

56. Which of the following storage practices for pesticides is correct?
    A. they should be stored in their original containers
    B. they should be kept on the bottom shelf in dry storage
    C. they should be easily accessible to all associates for rapid use
    D. they should be stored with cleaning tools and supplies

57. Which condition would cause you to reject a shipment of live oysters?
    A. most of the oyster shells are open
    B. the oysters have closed shells
    C. the oysters have mild seaweed scent
    D. the oysters are delivered with shell stock ID tags

58. Which of the following requires washing before cooking?
    A. bell peppers
    B. zucchini
    C. eggplant
    D. all of the above

59. Bacteria that cause food borne intoxications
    A. are all spore-formers
    B. produce potentially poisonous substances
    C. grow more quickly than other bacteria
    D. start out in toxic wastes

60. Which of the following is most effecting in preventing Giardia?
    A. using safe water supplies
    B. not using home-canned products
    C. not cooking with wild mushrooms
    D. using pasteurized milk

61. The manager enters the dry food storage area and smells a sharp oily odor and sees oily brush marks on the walls. This is a sign of
    A. roaches
    B. roaches and rodents
    C. roaches and maggots
    D. maggots and moths

62. The two-stage cooling process allows for a maximum of how many hours in the temperature danger zone?
    A. 3 hours
    B. 4 hours
    C. 5 hours
    D. 6 hours

63. A bag of rice is left on the floor of the storage room. The bag should
    A. be emptied into a water-proof container to prevent moisture and contamination
    B. be placed on a shelf 6 inches from the ground and wall
    C. be placed on a shelf 5 inches from the ground and wall
    D. do nothing as long as the bag is unopened and there are no spills

64. Toxic metal contamination occurs when acidic foods such as lemons and vinegar are mixed with metals such as
    A. copper, brass, and silver
    B. copper, brass, and tin
    C. gold, silver, and bronze
    D. tin, brass, and gold

65. A food worker notices a can of pesticide on the top shelf of the supply room. The employee should
    A. do nothing if the rest of the shelf is empty
    B. place the pesticide with heavy-duty cleaning supplies
    C. place the pesticide in a locked cabinet away from other supplies
    D. place the pesticide in a locked cabinet with cleaning supplies

66. Cleaning tools should be
    A. replaced every four weeks
    B. used only after closing
    C. kept in the dry storage room
    D. stored away from food prep areas

67. To cool a cooked, 10-pound pork roast before refrigerating, you should
    A. cut the roast into smaller pieces
    B. cover the entire roast
    C. place the entire roast in a 5-inch pan on the bottom shelf
    D. immerse the entire roast directly in a warm water bath

68. Which of the following is a sign you might have a problem with cockroaches?
    A. you find capsule-shaped egg cases
    B. you smell a strong oily odor
    C. you find droppings that look like grains of black pepper
    D. all of the above

69. Which of the following procedures is most important for ensuring microorganisms are reduced to safe levels?
    A. cleaning and sanitizing a cutting board between chopping celery and carrots
    B. covering ready-to-eat meats that are refrigerated
    C. cooking potentially hazardous foods to the recommended internal temperatures
    D. using as much sanitizer as possible on all food contact surfaces

70. Potentially hazardous foods are often
    A. non-acidic, dry and do not contain protein
    B. slightly acidic, moist and contain protein
    C. very acidic, moist and contain protein
    D. slightly acidic, dry and do not contain protein

71. There is no more hot water coming from the faucet. The restaurant can stay open for how many hours before closing?
    A. 1 hour
    B. 3 hours
    C. 5 hours
    D. 0 hours

Sample Test 1

72. When receiving a shipment of frozen food, always check for
    A. pest activity
    B. large ice crystals at the bottom of the box
    C. proper labeling
    D. accurate inventory count

73. The only items reusable at a buffet are
    A. spoons and forks
    B. cups and glasses
    C. dessert plates
    D. nothing

74. An example of a UHT (Ultra High Temperature) food is
    A. gourmet canned foods
    B. vacuum-sealed potato chips
    C. some types of coffee creamers
    D. hard candy

75. An allergic reaction to foods like shrimp, tofu, and peanuts can result in hives, shortness of breath and even death. This is also called
    A. whooping cough
    B. anaphylaxis
    C. scurvy
    D. 24-hour flu

76. If you find small scraps of paper and cloth gathered in the corner of a shelf, which pest would you suspect you have in your establishment?
    A. cockroaches
    B. rats
    C. mice
    D. spiders

77. Which food is safe to eat if it is cooked to a minimum internal temperature of 145°F for 15 sec.?
    A. roast chicken
    B. meat loaf
    C. fish
    D. stuffed pork sausage

78. You enter a walk-in refrigerator and see the following stored food. Which is incorrectly stored?
    A. frozen chicken is thawing in a pan on the bottom shelf
    B. barbecue pork is stored in a plastic container with a tight-fitting lid on a shelf above ground beef and poultry
    C. raw ground beef is stored on a shelf above a tray of bologna
    D. loosely-covered, pre-cooked chicken noodle soup is cooling on the top shelf

79. Bacteria thrive in an environment with a pH range of what?
    A. 4.6-7.5
    B. 4.7-7.6
    C. 3.6-7.5
    D. 7.6-7.5

80. A person shows up at a restaurant claiming to be a health inspector. What should the manager do?
    A. ask to see an inspection warrant
    B. ask to see identification
    C. offer them an alcoholic beverage and try to stall the Inspection
    D. ask for a one-day postponement to prepare for the inspection

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