



GUEST
SERVICES™

**FOOD PROTECTION MANAGER
CERTIFICATION AND RECERTIFICATION COURSE
FAIRFAX, VIRGINIA**

FOOD PROTECTION MANAGER CERTIFICATION & RECERTIFICATION
GUEST SERVICES, INC. TRAINING CENTER
3005 PROSPERITY AVENUE
FAIRFAX, VIRGINIA
9:00 AM – 5:00 PM

- **WELCOME/INTRODUCTION**
- **EMPLOYEE FOOD SAFETY TRAINING**
- **INTRODUCTION TO FOOD SAFETY**
 - Foodborne Illness
 - High Risk Population
 - How Food Become Contaminated
- **FOODBORNE MICROORGANISMS, CONTAMINANTS, AND ALLERGENS**
 - Biological Contaminants
 - Chemical Contaminants
 - Physical Contaminants
 - Food Allergens
- **PERSONAL HYGIENE**
 - Handwashing
 - Proper use of gloves
 - Personal Cleanliness
 - Personal Habits
 - Employee Health
- **PREPARATION, COOKING, AND SERVING**
 - Thawing
 - Cooking
 - Reheating
 - Service
- **PURCHASING, RECEIVING AND STORAGE**
 - General Purchasing Principles
 - Receiving and Inspecting Deliveries
 - General Storage Guidelines
- **FACILITIES, CLEANING AND SANITIZING, PEST MANAGEMENT**
 - Sanitary Facilities and Equipment
 - Cleaning and Sanitizing
 - Integrated Pest Management
- **EXAM**

Introduction to Food Safety

Foodborne Illness

High risk population

How food becomes unsafe

Challenges to Food Safety

- **Foodborne illness** is a disease that is carried or transmitted to people by food.
At least two or more people must experience the same illness after eating the same food before the incident is considered an outbreak
- **The costs of foodborne illness include**
 - Loss of customers and sales
 - Damage to reputation
 - Lowered employee morale and absenteeism
 - Closure
- **High Risk Population:**
 - Infants and preschool age children haven't built up adequate immune systems, the body's defense against illness.
 - Pregnant women's immune system is compromised towards the end of pregnancy; the health of the fetus is also at risk.
 - The elderly's immune system have weakened with age
 - The immune systems of people taking certain medications, people with organ transplant, people with chronic illness or those seriously ill, are compromised
- **Foods become unsafe due to:**
 - Time temperature abuse
 - Cross-contamination
 - Poor personal hygiene
 - Inadequate cooking
- **Challenges to Food Safety**
 - Time
 - Language and Culture
 - Literacy and Education
 - Microorganism
 - Unapproved supplier
 - High Risk Customers

BASIC FOOD SAFETY AND SANITATION GUIDELINES

Guest Services Sanitation Mission is to create and maintain healthful conditions in all its foodservice operations. As a valued employee, you play an important role in fulfilling this mission. Your knowledge, understanding and application of basic food safety and sanitation are required.

To help create and maintain healthful conditions in your unit, you must...

1. Wash hands frequently at accessible, properly maintained hand sinks for at least 20 seconds.
2. Avoid unprotected sneezes and coughs. No eating, drinking or smoking in foodservice areas.
3. Inform supervisor of any illness or injury. (**Hepatitis A, Salmonellosis, Shigellosis, E. Coli, Norovirus, Non-Typhoid Salmonellosis.** Abdominal cramps, diarrhea, vomiting, Jaundice, sore throat with fever, open or draining boils or infected wounds on hands, wrist, or exposed arm)
4. Avoid hand contact with food, use utensils or disposable gloves. Change gloves between tasks.
5. Wear an effective hair restraint and clean uniform; they are your Guest Services uniform.
6. Know the common food allergens - **nuts, eggs, shellfish, dairy, soy, wheat, tree nuts, and fish.**
7. Monitor food temperatures with clean, calibrated thermometers and record temperatures on logs.
8. **COOK** All foods to the required internal product temperature

Poultry, stuffing, stuffed meats	165°F or above
Ground beef, hamburger	155°F or above
Pork, Beef, Fish	145°F or above
All other foods	135°F or above
9. **REHEAT** Rapidly heat leftovers to 165°F or above within 2 hours before serving.
DO NOT REHEAT FOOD ON STEAM TABLES OR HOT HOLDING EQUIPMENT.
10. **HOLD**

Hot foods	135°F or above
Cold foods	41°F or below
11. **COOL** Foods under refrigeration from 135°F to 41°F or less within 4 hours, or
Two step process: 135°F to 70°F in 2 hours; 70°F to 41°F within an additional 4 hours.
Use shallow pans 3 - 4" deep; (food depth 2 - 3" deep) or
Use an ice bath and stir frequently; or
Reduce the mass of the food
12. **THAW** Submerged under cold running water (70°F or less); or
In the refrigerator; or
In the microwave oven, immediately prior to cooking; or
As a part of the cooking process
13. **RECEIVE** Only from approved source. Examine all deliveries. Reject questionable products.
14. Keep raw foods separate from ready-to-eat foods; store raw foods below ready-to-eat foods.
15. Properly date and label food items in storage. Store foods off floor at least 6 inches.
16. Report products that are unwholesome or damaged to manager immediately when found.
17. Clean and sanitize surfaces before each use. Keep wiping cloths in sanitizing solution.
18. Inform unit manager of worn, damaged, discolored utensils and equipment.
19. Keep all toxic chemicals labeled and separated from food or food contact surfaces.
20. Eliminate food and shelter for pests - practice good housekeeping. Clean as you go.
21. Report any insanitary conditions to manager/supervisor immediately when detected.

Foodborne Microorganisms, Contaminants and Allergens

Biological/Microbial Contaminants

Chemical Contaminants

Physical Contaminants

Food Allergens

Microorganisms are small, living organism that can only be seen with the aid of a microscope. Those that cause illness are called pathogens. Eating food contaminated with foodborne pathogens, or their toxin, is the leading cause of foodborne illness.

Biological/Microbial Contaminants

1. What are the six conditions that affect the growth of microorganisms?
2. What types of food do microorganisms need to grow?
3. What is the ideal pH range for the growth of microorganisms?
4. Foodborne pathogens grow well within what temperature range?
5. How long can it take for microorganisms to grow to levels high enough to make someone one ill?
6. What types of food are better able to support the rapid growth of microorganisms?
7. What is the best way to keep foodborne virus from contaminating food?
8. What is the best way to keep foodborne parasites from contaminating food?
9. What is the best way to keep mold from contaminating food?
10. What safeguards should be taken to prevent foodborne illness from seafood toxins?

Chemical Contamination

11. What substances used in an establishment can result in chemical contamination?
12. What can you do to prevent chemical contamination?

Physical Contamination

13. What are some common physical contaminants you should watch out for?

Food Allergens

14. What are the symptoms of an allergic reaction?
15. What are some common food allergens?
16. What measures can be taken to keep customer with allergies safe?

Foodborne Illness

Foodborne illness: any illness transmitted by food

Foodborne disease outbreak: 2 or more persons experiencing similar illness after ingestion of a common food and epidemiological analysis implicates the food as the source of the illness. Definition includes a single case of illness such as one person ill from botulism or chemical poisoning.

Foodborne infection - illness resulting from consuming food containing living harmful microorganisms.

Foodborne intoxication - illness resulting from consuming food containing toxins from bacterial or mold growth.

MICROBIOLOGICAL (BIOLOGICAL)
Microorganisms

VIRUSES	Do not multiply in food, only in living cells Foodborne illness caused by failure to wash hands. Hepatitis A, Norovirus	
PARASITES	Organisms that live in or on another organism. Can be eliminated by proper cooking of product. <i>Trichinella spiralis, Anisakis worm</i>	
FUNGI	Mold and yeast Some produce toxins.	
BACTERIA	Food	Potentially hazardous foods, protein-rich foods Also cut melons, cooked vegetables and rice
	Acidity	A pH range of 4.6 - 8.0 Ideal range of 4.6 – 7.5
	Temperature	41 F to 135 F (temperature danger zone)
	Time	Reproduce within 20-30 minutes
	Oxygen	Aerobes - need free oxygen to survive Anaerobes - do not need free oxygen to survive Facultative - can survive with or without free oxygen
	Moisture	Water activity - A_w , .85 - 1.00

Bacteria reproduce by cell division. One divides into two, two divides into four, and so on...

Some bacteria form spores to withstand adverse conditions

Safe food handling reduces or eliminates the chances for foodborne illness. Foodborne illness is any illness that is transmitted by food.

Biological Contaminants

May be produced by pathogens found on food

May occur naturally in plants or animals

May occur as a result of an animal's diet

Seafood Toxins

Ciguatera toxin accumulates in the tissue of large predatory tropical reef fish such as Snapper, Grouper, barracuda

Scombroid poisoning – Toxin: Histamine. Tuna, Mackerel, Bluefish, mahi mahi

Food Allergens

Body's reaction to a particular food protein

Common food allergens include **milk and dairy products, eggs and egg products, fish, shellfish, wheat, soy and soy products, peanuts, tree nuts**

Cross-contamination - the transfer of contaminant from one item or food to another by means of equipment, utensils, and human hands or from storing and thawing raw meat and poultry above other foods that will receive no further cooking.

BACTERIA

Salmonellosis (*Salmonella* spp)

Food: Poultry and eggs, dairy products, beef

Symptoms: Diarrhea, abdominal cramps, vomiting, fever,

Prevention: Cook food to required temperature, avoid cross-contamination

Shigellosis (*Shigella* spp)

Foods: Ready to eat foods, produce, contaminated water

Symptoms: Diarrhea, abdominal pain/cramps, fever

Prevention: Personal hygiene, safe water source

Listeriosis (*Listeria monocytogenes*)

Food: Unpasteurized milk and milk products, ready to eat foods, luncheon meats

Symptoms: Diarrhea, abdominal cramps, vomiting, fever,

Prevention: Cook food to required temperature, avoid cross-contamination

Staphylococcal gastroenteritis (*Staphylococcus aureus*)

Food: Salads, deli meats

Symptoms: Nausea, vomiting and retching, abdominal cramps

Prevention: Good personal hygiene, avoid time-temperature abuse

Clostridium perfringens gastroenteritis (*Clostridium perfringens*)

Food: Meat, poultry, gravies, stews

Symptoms: Diarrhea, severe abdominal pain,

Prevention: Cool and reheat food properly, hold at required temperature

Bacillus cereus

- Food:** Cooked vegetables, cooked rice, rice dishes
Symptoms: Watery diarrhea, abdominal cramps, nausea, vomiting
Prevention: Cook food to required temperature, hold food at proper temperature, cool food properly

Botulism (Clostridium botulinum)

- Food:** Improperly canned food, ROP foods, temperature abused vegetables
Symptoms: Nausea, vomiting, weakness, double vision, difficulty speaking and swallowing
Prevention: Avoid time-temperature abuse, inspect canned food for damage

Campylobacteriosis (Campylobacter jejuni)

- Food:** Poultry, contaminated water
Symptoms: Diarrhea, abdominal cramps, fever, headache
Prevention: Cook food to required temperature, avoid cross-contamination

Hemorrhagic colitis Shiga toxin producing Escherichia coli

- Food:** Ground beef (raw and undercooked), contaminated produce
Symptoms: Bloody diarrhea, abdominal cramps
Prevention: Cook food to required temperature, avoid cross-contamination, good personal hygiene

Vibrio parahaemolyticus Gastroenteritis

- Food:** Raw or partially cooked oysters
Symptoms: Diarrhea, abdominal cramps, nausea, vomiting, fever
Prevention: Purchase from approved, reputable supplier, cook food to required temperature

VIRUSES

Hepatitis A

- Food:** Raw or partially cooked shellfish, produce, deli meats, salads
Symptoms: Fever, nausea, abdominal pain, jaundice
Prevention: Purchase from approved, reputable supplier, good personal hygiene

Norovirus Gastroenteritis

- Food:** Ready to eat food, shellfish from contaminated water
Symptoms: Vomiting, diarrhea, nausea, abdominal cramps
Prevention: Purchase from approved, reputable supplier, good personal hygiene

Rotavirus Gastroenteritis

- Food:** Water/ice, contaminated water, raw and ready to eat food
Symptoms: Vomiting, watery diarrhea, abdominal pain, fever
Prevention: Good personal hygiene, cook to required temperature, safe water source

PARASITES

Trichinosis (*Trichinella spiralis*)

Food: Pigs, wild game

Symptoms: Nausea, vomiting, diarrhea, fever, fatigue, muscle pain

Prevention: Cook food to required temperature, avoid cross-contamination

Anisakiasis (*Anisaki simplex*)

Food: Raw and undercooked fish (herring, cod, halibut, mackerel, salmon)

Symptoms: Tingling in throat, coughing up worms, stomach pain, nausea, vomiting, diarrhea

Prevention: Cook food to required temperature, Purchase from approved, reputable supplier

Giardiasis (*Giardia duodenalis*)

Food: Improperly treated water

Symptoms: Fever, loose stool, abdominal cramps, nausea

Prevention: Safe water supply, good personal hygiene

PHYSICAL CONTAMINANT

Glass, metal fragments, hair, nails, jewelry

Foreign objects Poorly maintained equipment or utensils, improper storage of food

Prevention Maintain equipment and utensils, protect food at all time from contamination

CHEMICAL CONTAMINANT

Food additives, preservatives, pesticides, toxic metals, cleaning compound

Cleaning compounds, Toxic chemicals Improper storage, improper labeling, acidic food in galvanized container

Prevention Store cleaning compounds and other toxic chemicals separate from foods or utensils; properly label all containers as to content

Food Allergies

what you need to know



Millions of people have food allergies that can range from mild to life-threatening.

Most Common Food Allergens



Peanuts



Tree nuts



Fish



Shellfish



Eggs



Milk



Wheat



Soy



Take guest food allergy requests & questions seriously.



Always let the guest make their own informed decision.

When a guest informs you that someone in their party has a food allergy, follow the four R's below:

- **Refer** the food allergy concern to the chef, manager, or person in charge.
- **Review** the food allergy with the guest and check ingredient labels.
- **Remember** to check the preparation procedure for potential cross-contact.
- **Respond** to the guest and inform them of your findings.



If a guest has an allergic reaction, notify management and call 911.

Personal Hygiene

Handwashing

Proper use of gloves

Personal Cleanliness

Personal habits

Employee Health

1. What is the required temperature for hot water at handwashing station?
2. How long should you scrub your hands and arms with soap when washing them?
3. Why should you use a paper towel to turn off the faucet after you have finished washing your hands?
4. When must food handlers wash their hands?
5. What should be done with cuts or wounds on hands or arms?
6. Can gloves used for food handling be reused?
7. When should hands be washed when gloves are used?
8. What jewelry must be removed before preparing or serving food and when working around food preparation areas?
9. Why must employees refrain from eating, drinking, smoking, and chewing gum or tobacco when preparing or serving food or in areas used to clean utensils and equipment?
10. When must an employee report health problems to the manager?
11. When must a food handler be restricted from working with or around food?
12. When must a food handler be excluded from the establishment?

PERSONAL HYGIENE FOR FOODSERVICE EMPLOYEES

Grooming

Bathe daily, use deodorants, change into clean clothes daily. Wear proper work shoes and keep them clean.

Aprons

Aprons must be clean and in good condition. Replace dirty, torn aprons. Do not use aprons as hand towels or wiping cloths. Protect uniform from contamination - Do not wear uniform during travel to work; put uniform on upon arrival at work location.

Hair Restraints

Hats and hair nets, including beard guard, are considered effective hair restraints. They keep your hair from falling onto the food or the food contact surfaces. Hair restraints must be clean and in good condition, and worn while involved in food preparation and warewashing.

Jewelry

Jewelry is not to be worn while involved in food preparation or handling. It becomes dirty and traps food and other soil. Jewelry can also become lost in food items, get caught in equipment, or cause other injuries.

Fingernails/False Eyelashes

Keep fingernails clean and trimmed. False eyelashes, false fingernails, ornate decorations on nails and nail polish should not be worn when performing food preparation/handling duties. They may dislodge and fall into food or onto food contact surfaces.

Smoking, Eating, Drinking, Gum Chewing

No eating, drinking, smoking, or chewing gum is permitted in the food preparation/handling, ware washing areas. Eat, drink, and smoke only in designated areas.

Plastic Gloves

GLOVES ARE NOT A SUBSTITUTE FOR PROPER HANDWASHING. Hands must be washed before putting gloves on. Gloves must be changed between tasks.

When to use gloves:

when handling foods that will not be cooked

when handling foods that have been cooked and will receive no further heat treatment

Improperly used gloves have a high risk for cross-contamination.

Cuts, Abrasions, & Burns

Inform manager of all wounds. Wounds should be bandaged with **blue band aid** and covered with a clean disposable glove.

Illness

Illness capable of being transmitted by food must be reported to manager. Employee with illness transmittable through food is prohibited from working with food or food contact surfaces.

Employee Health

Disease transmitted through food frequently originates from an infected foodservice employee.

Proper management of a foodservice establishment begins with employing healthy people and instituting a system of identifying employees who present a risk of transmitting foodborne pathogens to food or to other employees.

In order to protect the health of both customers and employees, information concerning the health status of applicants and foodservice workers must be disclosed to the person in charge.

DISEASE OR MEDICAL CONDITIONS WHICH REQUIRE REPORTING

Employee diagnosed with	Employee has one of more of following symptoms caused by illness, infection or other source that is associated with acute Gastrointestinal illness or a pustular lesion	Employee meet one or more of the following high risk condition(s)
Salmonella typhi Non-Typhoidal Salmonella Shigella spp. Escherichia coli Hepatitis A Norovirus	Abdominal cramps Diarrhea Fever Loss of appetite for 3 or more consecutive days Vomiting Jaundice Open or draining boils or infected wounds on hands, wrist, or exposed arm	Lives in the same household as a person who is diagnosed with listed diseases. Lives in same household as a person who works or attends setting of a confirmed disease outbreak caused by listed diseases. Is suspected of causing or being exposed to confirmed disease outbreak caused by listed diseases.

GUEST SERVICES FOOD EMPLOYEE HEALTH POLICY AND REPORTING AGREEMENT

Preventing Transmission of Diseases through Food by Infected Conditional Employees or Food Employees

The purpose of this agreement is to inform conditional employees or food employees of Guest Services' Employee Health Policy and their responsibility to notify the person in charge when they experience any of the conditions listed so that the person in charge can take appropriate steps to prevent the transmission of foodborne illness.

I. REPORTING: SYMPTOMS OF ILLNESS

I agree to report to the manager if I have any onset of the following symptoms, either while at work or outside of work, including the date of onset:

1. Diarrhea
2. Vomiting
3. Jaundice (yellowing of the skin and/or eyes)
4. Sore throat with fever
5. Infected cuts or wounds, or lesions containing pus on the hand, wrist, and an exposed body part (*such as boils and infected wounds, however small*).

II. REPORTING: DIAGNOSED ILLNESSES

I agree to report to the manager whenever I am diagnosed as being ill with:

1. Norovirus
2. *Salmonella* Typhi (typhoid fever)
3. *Shigella* spp. infection
4. *E. coli* infection (*Escherichia coli* O157:H7 or other EHEC/STEC infection)
5. Hepatitis A
6. Non-typhoidal *Salmonella*

Note: The **manager must immediately report to his/her District Manager** when an employee has one of these illnesses. The District Manager and Corporate Sanitarian will report to the local health department.

III. REPORTING: EXPOSURE OF ILLNESS

I agree to report to the manager when I have been exposed to any of the illnesses listed above through:

1. An outbreak of Norovirus, typhoid fever, *Shigella* spp. infection, *E. coli* infection, or Hepatitis A.
2. A household member with Norovirus, typhoid fever, *Shigella* spp. infection, *E. coli* infection, or hepatitis A.
3. A household member attending or working in a setting with an outbreak of Norovirus, typhoid fever, *Shigella* spp. infection, *E. coli* infection, or Hepatitis A.

IV. EXCLUSION AND RESTRICTION FROM WORK

If you have any of the symptoms or illnesses listed above, you may be **excluded*** or **restricted**** from work.

*If you are excluded from work you are not allowed to come to work.

**If you are restricted from work you are allowed to come to work, but your duties may be limited.

V. RETURNING TO WORK

If you are excluded from work for having diarrhea and/or vomiting, you will not be able to return to work until **more than 24 hours have passed** since your last symptoms of diarrhea and/or vomiting.

If you are excluded from work for exhibiting symptoms of a sore throat with fever or for having jaundice, Norovirus, *Salmonella* Typhii (typhoid fever), *Shigella* spp. infection, *E. coli* infection, non-typhoidal salmonella and/or Hepatitis A, you will not be able to return to work until **regulatory authority approval** is granted.

VI. AGREEMENT

I have read (or had explained to me) and understand the requirements concerning my responsibilities under the Food Code and this agreement to comply with:

1. Reporting requirements specified above involving symptoms, diagnoses, and exposure specified;
2. Work restrictions or exclusions that are imposed upon me; and
3. I understand that if I do not comply with this agreement, it may affect my employment.

Food Employee Name (please print) _____

Signature of Employee _____ Date _____

Manager (Person-in-Charge) Name (please print) _____

Signature of Manager (Person-in-Charge) _____ Date _____

Purchasing, Receiving and Storage

General Purchasing Principles

Receiving and Inspecting Deliveries

General Storage Guidelines

1. What is cross contamination?
2. How can cross contamination be prevented?
3. To keep food safe, it must be kept out of what temperature range?
4. How can time and temperature abuse be prevented?
5. What must be done with food that has spent four or more hours in the temperature zone?

General Purchasing Principles

6. What is an approved source?
7. What can be done to ensure that receiving staff has adequate time to inspect deliveries?
8. What should be checked when receiving products to ensure safety?
9. How can time and temperature abuse be prevented when receiving products?

Receiving and Inspecting Deliveries

10. What does the inspection stamp on meat packaging mean?
11. What conditions indicate that an egg delivery is acceptable?
12. What conditions indicate that a produce delivery should be rejected?

General Storage Guidelines

13. What are some general guidelines for storing food?
14. When labeling food that has been prepared on-site, what should you include on the label?
15. How long can you store potentially hazardous, ready-to-eat food what was prepared on-site?
16. What should be internal temperature of refrigerated food be?
17. In what order must raw meat, poultry, and fish be stored to prevent contamination when stored in the same refrigerator?
18. How high off the floor should dry food be stored?

Preparation, Cooking, and Serving

Thawing

Cooking & Reheating

Service

1. What are the four acceptable methods for thawing food?
2. What types of salad have been involved in foodborne illness outbreaks?
3. What is the only way you can reduce microorganisms to a safe level?
4. How do you get an accurate reading of cooked food temperature?
5. Does cooking food destroy spores or toxins that may be in the food?
6. What is the minimum internal cooking temperature for each of these foods?

a) Scrambled eggs served immediately:	
b) Roast duck:	
c) Pork sausage (ground meat):	
d) Stuffed pasta:	
e) Lamb Chops:	
f) Eggs cooked in a microwave oven:	
g) Beef roast:	
h) Grilled Salmon:	

7. What procedure should be followed when cooking food in a microwave oven?
8. What temperature requirement must be met when cooling potentially hazardous food?
9. Why is it important to get food from 135 F to 70 F in the first two hours?
10. What should you do if food has not reached 70 F within the first two hours when cooling it?
11. Why should large quantities of hot food not be placed in a refrigerator to cool?
12. What are three safe methods for cooling food?
13. What are the requirements for reheating potentially hazardous food?
14. What should be done if food has not reached 165 F for fifteen seconds within two hours when reheating it?
15. At what temperatures should hot and cold potentially hazardous food be held?
16. How often should you check the temperature of food being held for service?
17. What precautions should be taken to keep food safe when using serving utensils?
18. What can be done to prevent contamination on food bars and buffets?
19. What is a consumer advisory?

CONSUMER ADVISORY

Consuming raw or undercooked meats, poultry, seafood, shellfish, or eggs may increase your risk of foodborne illness, especially if you have certain medical conditions.



FDA Food Code 3-603.11

Facilities, Cleaning & Sanitizing, Pest Management
Sanitary Facilities and Equipment
Cleaning and Sanitizing
Integrated Pest Management

1. What are the requirements for flooring?
2. Why must coving be used when installing flooring?
3. Handwashing stations are required in what areas of the foodservice facility?
4. What items are required at a handwashing station?
5. What are the requirements for food contact surfaces?
6. What are the requirements for non-food contact surfaces?
7. Why is cross-connection dangerous?
8. What are the requirements for grease traps?
9. What must be done when there is a backup of raw sewage in the operation?
10. How can you keep lighting from contaminating food and food contact surfaces?
11. What is the difference between cleaning and sanitizing? Sanitizers?
12. What surfaces must be cleaned and sanitized?
13. What should the following cleaning agent be used for?
 - a. General purpose detergents:
 - b. Degreasers
 - c. Acid cleaners
 - d. Abrasive cleaners
14. What is the purpose of a Master Cleaning Schedule?
15. What can you do to ensure chemical sanitizers are effective?
16. What is the required temperature of the final rinse of a high temp dishmachine?
17. What is the required final rinse temperature of a chemical sanitizing dishmachine (low-temp)?
18. Food contact surfaces in constant use must be cleaned and sanitized at what interval?
19. What should be done before cleaning and sanitizing items in a three-compartment sink?
20. What is listed on an (M)SDS?
21. What are the three basic goals of an IPM program?

I. Food Safety Management Systems

II. Food Safety Regulations

III. Employee Food Safety Training

1. When is HACCP required?
2. What are the seven steps of HACCP?
3. What is a goal of the food safety inspection program?
4. Generally, establishments that use a private water source such as a well must have it tested how often?
5. What should the manager do when a person enters claiming to be a health inspector?
6. Which agency enforces food safety in a restaurant?

HACCP - Hazard Analysis Critical Control Point

Recognized worldwide as a sound approach to food safety assurance

A tool for food safety management

Monitors food preparation process from receiving to service

Requires commitment from management as well as front-line employees

HACCP Plan is required if the establishment is engaged in the following activity:

- Smoke or cure food as a method of food preservation
- Use food additives as a method of food preservation
- Package food using a reduced-oxygen packaging method
- Offer live, molluscan shellfish from a display tank
- Custom-process animal for personal use
- Package unpasteurized juice for sale to the consumer without a warning label

FACTORS CONTRIBUTING TO FOODBORNE ILLNESS

Improper hot holding temperatures

Poor personal hygiene

Improper cleaning of equipment

Cross-contamination from raw to cooked food

Inadequate cooking

HACCP PRINCIPLES

I. IDENTIFY POTENTIAL FOOD SAFETY HAZARDS

Identify and assess potential hazards in the food you serve, start by taking a look at how it is processed in the establishment. Hazards can be microbiological, chemical, or physical.

II. IDENTIFY CRITICAL CONTROL POINTS

Find the points in the process where the identified hazard(s) can be prevented, eliminated, or reduced to safe levels. These are the critical control points (CCPs). Depending on the process, there may be more than one CCP.

III. ESTABLISH CRITICAL LIMITS FOR CRITICAL CONTROL POINTS

For each CCP, establish minimum or maximum limits that must be met to prevent or eliminate the hazard, or to reduce it to a safe level.

IV. ESTABLISH MONITORING PROCEDURES

Once critical limits have been established, determine the best way for your unit to check them to make sure they are consistently met. Identify who will monitor them and how often.

V. ESTABLISH CORRECTIVE ACTIONS FOR DEVIATIONS

Identify steps that must take when a critical limit is not met. These steps should be determined in advance.

VI. ESTABLISH EFFECTIVE RECORD KEEPING PROCEDURES

Determine if the plan is working as intended. Plan to evaluate on a regular basis your monitoring charts, records, how you performed your hazard analysis, etc., and determine if your plan adequately prevents, reduces, or eliminates identified hazards.

VII. ESTABLISH VERIFICATION PROCEDURES

Maintain your HACCP plan and keep all documentation created when developing it. Keep records when monitoring activities are performed; corrective action is taken, equipment is validated; working with supplier.

HACCP PROCEDURE FORM

FACILITY: _____

MENU ITEMS: _____

INGREDIENTS: _____

CRITICAL CONTROL POINT	CRITICAL LIMITS	CORRECTIVE ACTION
Receiving <input type="radio"/> Yes <input type="radio"/> Not applicable	<input type="radio"/> GSI approved source <input type="radio"/> Transport vehicle meet standards <input type="radio"/> Not adulterated/spoiled <input type="radio"/> Temperature 41°F / 0°F <input type="radio"/> No swollen or dented cans	<input type="radio"/> Refuse delivery <input type="radio"/> Discard food <input type="radio"/> Other:
Cold Storage/Cold Hold <input type="radio"/> Yes <input type="radio"/> Not applicable	<input type="radio"/> Raw foods separated from cooked products <input type="radio"/> Temperature 41°F / 0°F (<i>circle</i>)	<input type="radio"/> Discard if food is > 41°F for ___ hrs <input type="radio"/> Do not refreeze food greater than 41°F <input type="radio"/> Other:
Thaw <input type="radio"/> Yes <input type="radio"/> Not applicable	<input type="radio"/> Microwave <input type="radio"/> In refrigerator at 41°F <input type="radio"/> Under running water 70°F <input type="radio"/> Other _____	<input type="radio"/> Discard food <input type="radio"/> Alter process <input type="radio"/> Other:
Cook <input type="radio"/> Yes <input type="radio"/> Not applicable	Internal Temperature of (<i>coolest part</i>) <input type="radio"/> Chicken 165°F for 15 sec <input type="radio"/> Roast Beef 130°F for 121 mins <input type="radio"/> Ground beef, comminuted meats 155°F for 15 sec <input type="radio"/> Whole meat, pork, 145°F <input type="radio"/> Vegetables 135°F	<input type="radio"/> Continue heating until required internal temperature is attained <input type="radio"/> Other:
Preparation/Ready to Serve Items <input type="radio"/> Yes <input type="radio"/> Not applicable	<input type="radio"/> Employee hygiene maintained <input type="radio"/> Equipment cleaned and sanitized <input type="radio"/> Minimize hand contact <input type="radio"/> Time of food at ambient temperature _____ <input type="radio"/> Pre-chilling ingredients to 41≤°F or less <input type="radio"/> Food in pans <3" depth	<input type="radio"/> Clean hands <input type="radio"/> Clean and sanitize equipment <input type="radio"/> Discard food > 41°F for 3 hours <input type="radio"/> Other:
Hot Holding <input type="radio"/> Yes <input type="radio"/> Not applicable	<input type="radio"/> Hold food at 135°F or greater <input type="radio"/> Check food every _____ <input type="radio"/> Maximum holding time: _____	<input type="radio"/> Rapidly reheat to 165°F and hold at 135°F if < 2 hours. <input type="radio"/> Discard if < 135°F for 3 hours <input type="radio"/> Other:
Cooling <input type="radio"/> Yes <input type="radio"/> Not applicable	<input type="radio"/> Cool in shallow pans <3" in depth <input type="radio"/> Ice bath until reaches 41°F <input type="radio"/> Refrigerate <input type="radio"/> Monitor temperature ___ hrs <input type="radio"/> Cool from 140°F to 70°F in 2 hours, from 70°F to 41°F in 4 add'l hours	<input type="radio"/> Rapidly reheat to 165°F if not cooled in 6 hours, discard if >6 hours <input type="radio"/> Discard product <input type="radio"/> Other:
Reheat <input type="radio"/> Yes <input type="radio"/> Not applicable	<input type="radio"/> Rapidly reheat to >165 F in < 2 hours <input type="radio"/> Temperature taken at coolest part of product <input type="radio"/> Timed reheat	<input type="radio"/> Continue heating until required internal temperature is attained <input type="radio"/> Other:

Critical Control Point: a point, step or procedure at which control can be applied and food safety hazards can be prevented, eliminated, or reduced to an acceptable level.

Test your knowledge of HACCP principles

	a) Checking to see if critical limits are being met
	b) Retention of documents obtained when creating and implementing the HACCP plan
	c) Assessing risk within the flow of food
	d) Specific places in the flow of food where a hazard can be prevented, eliminated, or reduced to safe levels
	e) Predetermined step taken when a critical limit is not met
	f) Minimum or maximum boundaries that must be met to prevent a hazard
	g) Determining if the HACCP plan is working

1. **Hazard analysis**
2. **Critical control points**
3. **Critical limits**
4. **Monitoring**
5. **Corrective action**
6. **Verification**
7. **Record keeping and documentation**

FLOW OF FOOD

Prepare flow diagram or descriptive narrative of the food preparation steps for chicken salad below.

ANSWERS

Conditions Affecting the Growth of Microorganisms

1. FATTOM – Food, acidity, temperature, time, oxygen, moisture.
2. Carbohydrates and protein.
3. 4.6 -7.5
4. 41 F to 135 F. (Temperature Danger Zone)
5. Four or more hours at temperatures in the temperature danger zone.
6. TCS (Time and Temperature control for Safety) foods. Milk, eggs, fish, shellfish, baked potatoes, sliced melons, soy products, meats, poultry, raw sprouts and sprout seeds, heat treated plant food, untreated garlic-and-oil mixtures.
7. Practicing good personal hygiene; it is especially important to wash hands properly and minimize bare-hand contact with ready-to-eat food.
8. Purchase food such as meat, seafood, and produce from approved, reputable suppliers.
9. Throw away all moldy food, unless the mold is a natural part of the product like certain cheeses.
10. Purchase shellfish from an approved, reputable supplier.

Chemical Contamination

11. Toxic metals, pesticides, cleaning products, sanitizers, and lubricants.
12. Follow the directions supplied by the chemical manufacturer. Use caution when using chemicals during operating hours. Store chemicals away from food, utensils, and equipment used for food. Store chemical in their original containers. If chemicals are transferred to smaller containers or spray bottles, label each container correctly and clearly.

Physical Contamination

13. Metal shavings from cans, staples from cartons, glass from broken light bulbs, finger nails, hair, bandages, jewelry, dirt, bone, fruit pits or seeds.

Food Allergens

14. Itching in and around the mouth, face or scalp. Tightening in the throat. Wheezing or shortness of breath. Hives. Swelling of the face, eyes, hands or feet.
15. Milk and dairy products. Eggs and egg products. Fish and shellfish. Wheat. Soy and soy products. Peanuts and tree nuts.
16. Inform them of items that contain potential allergens. During preparation and service, make sure that allergens are not transferred from food containing allergen to the food served to the customer.

Personal Hygiene

1. As hot as you can comfortably stand, approximately 100 F.
2. 10 – 15 seconds.
3. To prevent recontamination of your hands from soiled faucet handles.

4. Before starting work for the day, after using the restroom, after touching the hair, face, or body, after sneezing, coughing or using a tissue, after smoking, eating, drinking or chewing gum or tobacco, after taking out the garbage, after bussing tables, after handling money, after any opportunity for contamination of hands.
5. They should be covered with a clean bandage. Clean gloves or a finger cot should be worn over the bandage at all times.
6. They must never be washed and reused.
7. Hands must be washed before putting gloves on and when changing to a new pair.
8. All jewelry must be removed from hands and arms; this includes watches, bracelets, and rings. The only exception is a ring that is a plain band.
9. In the process of eating, drinking, or smoking, saliva can be transferred to an employee's hands or directly to food or food contact surfaces being handled,
10. Before starting work. Immediately, if he or she becomes ill during the work day.
11. If the person has a sore throat with fever. If the operation primarily serves a high-risk population, the person must be excluded from the establishment when experiencing these symptoms.
12. If the person has diarrhea or vomiting. If the person has jaundice. If the person has been diagnosed with salmonellosis, shigellosis, Hepatitis A, Norovirus, or E. coli.

Purchasing, Receiving and Storage

1. The transfer of microorganisms from one food or surface to another.
2. Clean and sanitize food contact surfaces after each task. Prepare raw meats, fish, and poultry after preparation of ready-to-eat foods. Use designated equipment or space for preparation of raw and ready-to-eat foods.
3. 41 F to 135 F, temperature danger zone.
4. Minimize the time food spends in the temperature danger zone.
5. Discard.

General Purchasing Principles

1. One that has been inspected and is in compliance with applicable local, state, and federal laws.
2. Schedule deliveries for off-peak hours. Receive only one delivery at a time.
3. Expiration date, temperature, integrity of package, label, quality, inspection stamps,
4. Inspect deliveries immediately and put them away as quickly as possible.

Receiving and Inspecting Deliveries

1. The product is coming from an approved source. The product and the processing plant have met certain standards.
2. Free of filth, unbroken shells, USDA stamp, temperature of 45 F or less.
3. Mold, bruising, damage to outer layer, insects.

General Storage Guidelines

6. Label food properly. Store products so the oldest inventory is used first (FIFO).

7. Name of the product and date by which it should be sold, consumed or discarded.
8. Maximum of 7 days if it is held at 41 F or less.
9. 41F.
10. They must be stored in the following top-to-bottom order: whole fish, whole cuts of beef and pork, ground meat and fish, whole and ground poultry. (Stored in order of final cook temperature. Highest final cook temperature on bottom.)
11. At least 6 inches.

Preparation, Cooking, and Serving

1. Under refrigeration at 41 F or less; submerged under running water of 70 F or less; in a microwave oven then cooked immediately; as part of the cooking process.
2. Salads containing chicken, tuna, eggs, pasta, and potatoes.
3. Cook the food to its required minimum internal temperature; this temperature must be reached and held for a specific amount of time.
4. Check the temperature in the thickest part of the food. Take at least two readings in different locations.
5. No, that is why it is critical to handle food safely before it is cooked to prevent spores from forming.
6. What is the minimum internal cooking temperature for each of these foods?

Scrambled eggs served immediately:	145 F for 15 seconds
Roast duck:	165 F for 15 seconds
Pork sausage (ground meat):	155 F for 15 seconds
Stuffed pasta:	165 F for 15 seconds
Lamb Chops:	145 F for 15 seconds
Eggs cooked in a microwave oven:	165 F for 15 seconds
Beef roast:	145 F for 4 minutes
Grilled Salmon:	145 F for 15 seconds

7. Cover the food to prevent the surface from drying out. Rotate or stir it halfway through cooking to distribute the heat more evenly. Let it stand at least two minutes after cooking to let the temperature even out. Check the temperature in several places to make sure the food is cooked thoroughly
8. It must be cooled from 135 F to 70 F within two hours and then from 70 F to 41 F or lower in the next four hours.
9. Microorganisms grow much faster at temperatures between 125 F and 70 F, so food must pass through this temperature range quickly to minimize growth. Cooling to 70 F within two hours allows it to pass quickly and safely through the most dangerous part of the temperature danger zone.
10. Throw it out.
11. Many refrigerators are not designed to cool hot food quickly. It may raise the internal temperature of the refrigerator, putting stored food at risk.

12. Place the food in an ice bath and stir the food frequently. Stir the food with an ice paddle. Place the food in a blast chiller or tumble chiller.
13. Reheat it to an internal temperature of 165 F or above for fifteen seconds within two hours.
14. Throw it out.
15. Cold foods – 41F or less. Hot foods – 135 F or above.
16. At least every 4 hours.
17. Only clean and sanitized utensils should be used for serving. Separate utensils should be used for each food item. Utensils should be cleaned and sanitized at least once every four hours during continuous use.
18. Have employees monitor these areas closely. Install sneeze guards. Label all items. Do not allow customers to refill soiled plates or use soiled silverware at the food bar.
19. What is a consumer advisory?

Facilities, Cleaning & Sanitizing, Pest Management

1. Must be smooth and nonabsorbent. Should be durable and easy to clean.
2. To eliminate gaps or sharp corners between the floor and wall that would be impossible to clean.
3. Restrooms. Food preparation areas. Service areas. Dishwashing areas.
4. Hot and cold running water. Soap. Means to dry hands. Waste container. Handwashing sign.
5. Safe, durable, corrosion-resistant, nonabsorbent, non-toxic, smooth and easy to clean.
6. Smooth, nonabsorbent, corrosion-resistant, free of unnecessary ledges, projections, and crevices, easy to clean.
7. It allows the possibility of backflow – the unwanted, reverse flow contaminants into a potable water system.
8. Must be installed and maintained by licensed plumbers.
9. Affected areas must be closed immediately. Problem must be fixed and the area thoroughly cleaned.
10. Use shatter resistant light bulbs. Put protective covers made of metal mesh or plastic fixtures.
11. Cleaning is the process of removing food and other types of soil from a surface, such as a prep table or plate. Sanitizing is the process of reducing the number of pathogen on a clean surface to safe levels.
12. Those that come in contact with food.
13. What should the following cleaning agent be used for?
 - a. General purpose detergents: removing fresh dirt from floors, walls, ceiling, prep surfaces, and utensils.
 - b. Degreasers: removing burned on grease.
 - c. Acid cleaners: (delimers) removing mineral deposits and other soils.
 - d. Abrasive cleaners: removing baked on food.
14. Inform employees of what, who, when and how of cleaning.
15. Chemical test strips
16. 180 F
17. 120 F

18. At least every four hours.
19. Clean and sanitize each sink and all work surfaces.
20. Name of product, storage requirement, handling procedures, first aid procedures.
21. Deny pest access. Deny pest food and shelter. Work with a licensed PCO to eliminate pests that do enter.

Food Safety Management Systems

1. Smoke or cure food as a method of food preservation. Use food additives as a method of food preservation. Package food using a reduced-oxygen packaging method. Offer live, molluscan shellfish from a display tank. Custom-process animal for personal use. Package unpasteurized juice for sale to the consumer without a warning label
2. Seven Principles of HACCP
 - 1) Identify potential food safety hazards;**
 - 2) Identify critical control points;**
 - 3) Establish critical limits for critical control points;**
 - 4) Establish monitoring procedures;**
 - 5) Establish corrective actions for deviations;**
 - 6) Establish effective record keeping procedures;**
 - 7) Establish verification procedures**
3. Annually.
4. Request identification.
5. Local and state regulators.