

Lesson 5:

Chapter 2 Module 2

Maintaining Clean Food Service Facilities

Chapter 2: Basic Guidelines for Safe Food Practices

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Chapter 2 – Module 2: Maintaining Clean Food Service Facilities

MAINTAINING CLEAN FOOD SERVICE FACILITIES

Key Words:

- Cleaning
- Sanitizing
- Chemical Sanitizers
- Pest Management
- Three-Compartment Sink
- Dishwashing
- Cross-Contact

Main Ideas:

- Cleaning removes dirt from the surface
- Sanitizing reduces harmful organisms that can cause foodborne illness
- Separate work areas for allergen-free food preparation reduces Cross-Contact
- Pest management is one important step in maintaining clean facilities

Maintaining Clean Food Service Facilities

Keeping work surfaces that come in contact with food clean and sanitized help prevent the spread of bacteria and viruses that can cause foodborne illness. It also helps to prevent **Cross-Contact** between foods containing allergens and other foods.

Cleaning and Sanitizing

There is a big difference between cleaning and sanitizing.

- **Cleaning** removes visible food particles and other soil from surfaces. In a restaurant, various types of detergents and other cleaning products are used for cleaning. Work surfaces should be cleaned first and then sanitized.
- **Cleaning** can remove most bacteria, viruses, and food allergens from surfaces.
- **Sanitizing** involves using heat or chemicals to reduce harmful organisms that could cause foodborne illness. Effective sanitizers should kill 99.99% of the harmful organisms.
- **Sanitizing** kills almost all of the remaining bacteria and viruses, but sanitizers do not kill food allergens.

FDA Food Code

The FDA Food Code states that food-contact surfaces and utensils should be cleaned in-between working with different types of raw meat, poultry, and fish or when switching from working with these foods to preparing raw fruits and vegetables. If high risk foods are prepared in the kitchen, food-contact surfaces should be cleaned and sanitized at least every 4 hours.

Heat Sanitizing:

Heat can be used to sanitize equipment, utensils, and dinnerware.

1. In a manual operation, heat sanitizing must reach a temperature of 171°F or above. Items should be immersed for at least 30 seconds.
2. Dishwashing temperatures for heat sanitizing:
 - Stationary-rack machines: at or above 165°F
 - All other machines: at or above 180°F

Chemical Sanitizers

In restaurants, solutions of chemical sanitizers are commonly used to sanitize work counters and equipment. There are three types of chemical sanitizers used most often to kill harmful bacteria and viruses:

1. Chlorine,
2. Iodine, and
3. Quaternary ammonium compounds

Guidelines for Using Chemical Sanitizers

Chemical sanitizers are affected by the concentration, temperature, the contact time, and the presence of food particles. Employees should be trained to follow manufacturer's directions concerning the concentration of the sanitizer in water.

- Most chemical sanitizers work best between 55° and 120°F
- Chlorine is inactivated by water temperatures above 120°F
- Chemical sanitizers become less effective when exposed to air, detergents, and food particles
- Chemical sanitizing solutions can be tested for strength using paper test strips.
- Hard water and food particles reduce the effectiveness of chemical sanitizer solutions.

In most restaurants, employees keep a container of chemical sanitizer solution on work counters along with a clean wipe rag that can be soaked in sanitizer solution and used to wipe up food spills.

- The wipe rags should be changed every 4 hours or as often as they become dirty.
- Replace sanitizer solution when it becomes dirty or decreases in concentration.
- Employees should test the solution frequently with a paper test strip. The paper strip will change color if the concentration is strong enough.



Cutting boards and equipment such as slicers and food processors should be cleaned and sanitized after being used with high risk foods such as meat, poultry, and fish. Sanitizer solution can also be placed in spray bottles and used to spray work counters and equipment.

REMEMBER:

Sanitizers only reduce the number of bacteria and viruses –

not food allergens.

Clean Work Areas for Allergen-Free Foods

Today many customers may request foods that are free of allergens contained in common foods such as milk, eggs, soy, wheat, fish, crustacean shellfish, peanuts, or tree nuts (The Big Eight). Food allergens are very small proteins that cannot be seen. Thorough cleaning of food counters and equipment is one way to make sure that food can be prepared allergen-free. If possible, it is best to have a separate work counter and equipment to prepare allergen-free food. Even a small amount of **Cross-Contact** with a food allergen can make a customer who has a food allergy very ill.

- ✓ Clean and sanitize preparation areas using disposable paper towels
- ✓ Clean and sanitize tables, menus, condiments, etc., before seating customers

Some equipment cannot be easily cleaned and made allergen-free, such as fryers, toasters, grills, and waffle irons. Use dedicated equipment or alternative cooking methods for allergen-free foods. For example:

- Dedicate a toaster for gluten-free bread
- Place a piece of aluminum foil on the grill to cook a hamburger patty



Dishwashing

Dishes and utensils may be washed either in a three-compartment sink or a dishwashing machine.

Three-Compartment Sink

The steps in dishwashing when using a three-compartment sink are as follows:

SCRAPE → WASH → RINSE → SANITIZE → AIR DRY



- **SCRAPE:** Before washing, scrape and remove food particles from pans.
- **WASH:** The first compartment is used for manually washing pans or utensils using detergent and water that is at least 110°F.
- **RINSE:** The second compartment with water at a temperature of at least 110°F is used for rinsing the pans.
- **SANITIZE:** The third compartment is used for sanitizing, either by heat or a chemical solution. When only heat is used for sanitizing, the water in the third sink compartment must be at a temperature of at least 171°F, and the pans must remain immersed in the hot water for at least 30 seconds. (Note that some state health departments may require that the hot water temperature used for sanitizing be 180°F.)
- **AIR-DRY:** After sanitizing, the pans should be air-dried on a clean drain board. Pans should be completely dry before they are stored.

Dishwashing Machines

Many types and sizes of dishwashing machines are used in restaurant operations. Employees and managers should check wash water and rinse water temperatures of a dishwashing machine on a regular basis.

Dishwashing machine temperatures should be:

- For a stationary rack, single temperature machine, the hot water sanitizing rinse should be at least 165°F
- For other heat sanitizing dishwashers, the final rinse temperature should reach 180°F

Dishwashers that use chemical sanitizers can clean and sanitize dishes at much lower water temperatures, thus saving on energy costs. One should follow manufacturer's directions when using these dishwashing machines.

Pest Management

There are many reasons that restaurants operators should control pests such as cockroaches, flies, mice, and rats:

- Pests spread bacteria that can cause illness
- Customers will get a bad impression if they see evidence of any of these pests
- A health inspector who finds evidence of a large number of pests in a restaurant can close the operation
- Damage to food by pests costs money as a result of food waste

Insect and rodent pests are attracted to a restaurant foodservice kitchen because they can often find food, water, and shelter. This happens when food is not stored properly, food scraps are left on the counters or floors, or garbage cans are not covered tightly. In older buildings, there are often cracks in walls or door and window openings where pests can gain entry and make a home.

Restaurant managers and employees can control these insect and rodent pests by preventing them from entering the building, removing nesting and breeding sites, and maintaining clean and sanitary facilities that do not provide food and water to pests. Here are some practices that can help.



Prevent Entry

- Inspect food deliveries for pests when they are received
- Use self-closing doors
- Install air curtains at doorways
- Repair cracks in walls and floors
- Fill openings around drain pipes and vents
- Make sure that window openings are tightly screened

Remove Nesting and Breeding Sites

- Store food or boxes containing food on racks or pallets at least 6 inches off the floor
- Clean the kitchen and dining area thoroughly each day

Remove Food and Water Sources

- Make sure all food is stored in refrigerators, freezers, or containers with tight-fitting lids
- Inspect food inventory frequently and discard any food that is infested with pests
- Clean food scraps off the floor and under equipment daily
- Store garbage cans away from food preparation areas
- Clean grease traps regularly
- Eliminate sources of moisture such as leaky plumbing

Following the above practices will ensure that pests such as cockroaches, flies, mice, and rats do not make themselves at home in your restaurant.

STANDARD OPERATING PROCEDURES: MAINTAINING CLEAN FOOD SERVICE FACILITIES

- Clean and sanitize food contact surfaces regularly
 - Between working with raw and cooked foods
 - At least every 4 hours
- Food allergens are NOT removed with sanitation solution alone
- Use disposable or single-use towels when cleaning for food allergens
- Clean the work area and utensils before preparing allergy-free foods
 - Have a dedicated work area for allergy-free foods when possible
- Use chemical or heat sanitizers
 - Chemical sanitizers: chlorine, iodine, and quaternary ammonia
 - Heat sanitation requires high temperatures:
 - For manual washing: at or above 171°F
 - For stationary rack dish machines: at or above 165°F
 - For all other dish machines: at or above 180°F
- Scrape loose food particles from dishes before washing
- When using a three-compartment sink:
 - scrape, wash, rinse, sanitize, and air-dry
- Develop and follow a Pest Management Plan
 - Prevent entry of pests
 - Remove nesting and breeding sites
 - Remove food and water

[View Video linked from Chapter 2 Module 2.](#)

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Maintaining Clean Food Service Facilities

Module Quiz: Please make sure you have read Chapter 2 – Module 2 and watched the corresponding video before you take the quiz. If you have any questions about the information found in Module 2, please ask your manager before you begin.

- _____ is removing visible food particles from surfaces.
 - Cleaning
 - Sanitizing
 - Rinsing
 - Scrubbing
- _____ means using heat or chemicals to reduce harmful organisms that could cause illness.
 - Cleaning
 - Sanitizing
 - Rinsing
 - Scrubbing
- Which of the following is a common sanitizer used in food service operations to kill bacteria?
 - Chlorine
 - Iodine
 - Quaternary Ammonia
 - All of the above
- While sanitizing reduces bacteria responsible for foodborne illness, sanitizing does **NOT** destroy food allergens.
 - True
 - False
- Wipe rags and sanitizer solutions used to sanitize food-contact surfaces should be replaced at least every _____ hours.
 - 2
 - 3
 - 4
 - 5
- The correct order of steps when washing pans in a three-compartment sink is:
 - Scrape food particles from pans, wash, rinse, sanitize, air dry
 - Scrape food particles from pans, wash, sanitize, rinse, air dry
 - Scrape food particles from pans, rinse, wash, sanitize, air dry
 - Scrape food particles from pans, sanitize, wash, rinse, air dry
- For a stationary rack, single temperature machine, the hot water sanitizing rinse should be at least _____.
 - 155°F
 - 165°F
 - 175°F
 - 185°F

8. Pests such as cockroaches, flies, mice, and rats spread bacteria that can cause illness.
 - a. True
 - b. False

9. To avoid giving pests homes for nesting and breeding, one should store food and boxes containing food at least _____ inches off the floor.
 - a. 2
 - b. 4
 - c. 6
 - d. 8

10. Which of the following practices will help control pests in a restaurant?
 - a. Clean kitchen and dining areas thoroughly each day
 - b. Install air curtains at doorways
 - c. Repair cracks in walls and floors
 - d. Store garbage cans away from food preparation areas
 - e. All of the above