

ServSafe Study Guide

Chapter 1: New topics

1. Listing of a new bacterial contaminant - Nontyphoidal Salmonella
 - a. Source-farm animals
 - b. Food linked with the bacteria
 - i. Poultry and eggs
 - ii. Meat
 - iii. Milk and dairy products
 - iv. Produce, i.e. tomatoes, peppers and cantaloupes
 - c. Prevention Measures
 - i. Cook poultry and eggs to minimum internal temperatures
 - ii. Prevent cross-contamination between poultry and ready-to-eat food.
 - iii. Keep food handlers who are vomiting or have diarrhea and have been diagnosed with salmonellosis out of the operation.
2. The book now refers to the “Big Six Pathogens”—six of the most contagious pathogens out of more than 40 bacteria, viruses, parasites ,etc. that occur in food and can cause a food borne illness. They are:
 - a. Shigella spp.
 - b. Salmonella typhi
 - c. Nontyphoidal Salmonella
 - d. E. Coli
 - e. Hepatitis A
 - f. Norovirus
3. Prevention measures have changed for E. coli, Shigella, Hepatitis A, and Norovirus. It is important to know symptoms of foodborne illnesses and to have a system set up with food handlers to report illnesses to their superiors.
 - a. E. Coli Prevention Measures
 - i. Exclude food handlers who have diarrhea and have been diagnosed with an illness caused by the bacteria from the operation.
 - ii. Cook food, especially ground beef, to minimum internal temperatures
 - iii. Purchase produce from approved, reputable suppliers
 - iv. Prevent cross-contamination between raw meat and ready-to-eat food.
 - b. Shigella spp. Prevention Measures
 - i. Exclude food handlers who have diarrhea and have been diagnosed with an illness caused by Shigella from the operation
 - ii. Wash hands
 - iii. Control flies inside and outside the operation

- c. Hepatitis A-prevention measures
 - i. Exclude food handlers who have been diagnosed with hepatitis A
 - ii. Exclude food handlers who have had jaundice for seven days or less
 - iii. Wash hands
 - iv. Avoid bare-hand contact with ready-to-eat food
 - v. Purchase shellfish from approved, reputable suppliers.
 - d. Norovirus—prevention measures
 - i. Exclude food handlers who are vomiting or have diarrhea and have been diagnosed with Norovirus
 - ii. Wash hands
 - iii. Avoid bare hand contact with ready-to-eat food
 - iv. Purchase shellfish from approved, reputable suppliers.
4. Glove Use—the wording has changed with glove use. It used to be that you had to change your gloves after starting a new task. Now it says you do not need to rewash your hands each time you change gloves as long as you are performing the same task, and your hands have not become contaminated. The difference here is slight; you do not have wash when you change gloves while doing the same task.
5. Bare hand contact with ready-to-eat food. There are times when it may be acceptable to handle ready-to-eat food with bare hands. This is true in the following situations.
- a. The food will be added as an ingredient to a dish that does not contain raw meat, seafood, or poultry, but will be cooked to at least 145°. For example, adding cheese to pizza dough.
 - b. The food will be added as an ingredient to a dish containing raw meat, seafood, or poultry, and the dish will be cooked to the required minimum temperature of the raw items. For example, adding vegetables to a beef stew.
6. Handling staff illnesses. There are very exact requirements for treating illnesses with food handlers:
- a. Exclude the food handler from the operation if:
 - i. The food handler is vomiting or has diarrhea and has been diagnosed with an illness caused by one of these pathogens.
 - 1. Norovirus
 - 2. Shigella
 - 3. Nontyphoidal Salmonella
 - 4. E. coli
 - b. Exclude the food handler from the operation if:
 - i. The food handler has been diagnosed with an illness caused by one of these pathogens
 - 1. Hepatitis A
 - 2. Salmonella Typhi

7. Labeling Food Packaged on-site for retail sale—food packaged in the operation that is being sold to customer for use at home, such as bottled salad dressing, must be labeled. The label must include the following information
 - a. Common name of the food or a statement that clearly identifies it
 - b. Quantity of the food
 - c. List of ingredients in descending order by weight. This is necessary if the item contains two or more ingredients.
 - d. List of artificial colors and flavors in the food. Chemical preservative must also be listed.
 - e. Name and place of business of the manufacturer, packer, or distributor
 - f. Source of each major food allergen contained in the food. This is not necessary if the source is already part of the common name of the ingredient.
 - g. These labeling requirements do not apply to customers' leftover food items placed in carry-out containers.

8. Thawing ROP fish—frozen fish may be supplied in reduced-oxygen-packaging (ROP). This fish should usually remain frozen until ready for use. If this is stated on the label, the fish must be removed from the packaging at the following times
 - a. Before thawing it under refrigeration
 - b. Before or immediately after thawing it under running water.

9. Partial cooking during preparation—some operations partially cook food during prep and then finish cooking it just before service. You must follow the step below if you plan to partially cook meat, seafood, poultry, or eggs; or dishes containing these items.
 - a. Do not cook the food for longer than 60 minutes during initial cooking
 - b. Cool the food immediately after initial cooking
 - c. Freeze or refrigerate the food after cooling it. If refrigerating the food, make sure it is held at 41° or lower.
 - d. Heat the food to its required minimum internal temperature before selling or serving it.
 - e. Cool the food if it will not be served immediately or held for service.

10. Refilling returnable take-home containers—some jurisdictions allow food handlers to refill take-home containers brought back by a customer with food and beverages.
 - a. Take-home containers can be refilled if they meet the following conditions
 - i. They were designed to be reused
 - ii. They were provided to the customer by the operation
 - iii. They are cleaned and sanitized correctly
 - b. Take home beverage containers can also be refilled as long as the beverage is not a TCS food and the container will be refilled for the same customer. The container must also meet the following conditions.
 - i. It can be effectively cleaned at home and in the operation

- ii. It will be rinsed before refilling with fresh, hot water under pressure
- iii. It will be refilled by staff in the operation or by the customer using a process that prevents contamination

11. High temperature dishwashing machines—operations using high-temperature dishwashing machines must provide staff with an easy and quick way to measure surface temperatures of times being sanitized. The method used must provide an irreversible record of the highest temperature reached during the sanitizing rinse. This ensures that the dishwasher can reach correct sanitizing temperatures during operation. Maximum registering thermometers or heat sensitive tape are good tools for checking temperatures.
12. Cleaning up after people who get sick. If a person has diarrhea or vomits in the operation, these spills must be cleaned up correctly. “Vomit and diarrhea can carry Norovirus, which is highly contagious. Correct cleanup can prevent food from becoming contaminated. It will also keep others from getting sick. Check with your local regulatory authority regarding requirements for cleaning up vomit and diarrhea. In many jurisdictions, a written cleanup plan may be required.

Chapter II. How Food Becomes Unsafe

A. The Center for Disease Control (CDC) has identified common factors that are responsible for foodborne illness. They are:

1. Purchasing food from unsafe sources
2. Failing to cook food properly
3. Holding food at improper temperatures
4. Practicing Poor Personal Hygiene
5. Using contaminated equipment

It is the manager's responsibility to actively control these and other risk factors for foodborne illness. This is called **active managerial control**. This is a proactive action rather than reactive. You should anticipate risks and try to plan for them. The use of standard operating procedures and training programs can be used to achieve this result.

B. While these are all important factors, remind employees that there are major factors that can cause food to become unsafe and these are:

1. Time and temperature abuse
2. Cross-contamination
3. Poor personal hygiene
4. Poor cleaning and sanitizing

C. FDA's Public Health Interventions (Section 8.4 in ServSafe Essentials) These are recommendations for controlling common risk factors for foodborne illness.

1. **Demonstration of Knowledge**—Manager must be able to show they have the knowledge to keep food safe. Becoming certified in food safety is one method to show this.

2. **Staff health controls**—procedures must be put in place to make sure staff are practicing personal hygiene. For example, has staff been trained to report illnesses to management?

3. **Controlling hands as a vehicle of contamination**—Controls must be put in place to prevent bare-hand contact with ready-to-eat food.

4. **Time and temperature parameters for controlling pathogens**—procedures must be put in place to limit the time food spends in the temperature danger zone. Setting up verification records to check time and temperature are examples.

5. **Consumer advisories**—Notices must be provided to customers if you serve raw or undercooked menu items.

Chapter III—Preventive Measures

A. Cook food to correct internal temps;

1. Using thermometers (**section 4.6 of ServSafe Essentials**)

- i. A bimetallic stemmed thermometer is the most commonly used thermometer. It can check temperatures from 0° to 220°. This makes it useful for checking temperatures across the range of use in the flow of food.
- ii. Insert the probe, which is the part of the thermometer from the tip to the first dimple, into thickest part of food. Take two readings in different locations.
- iii. Be sure to wash, rinse and sanitize the thermometer before use. Make sure the thermometer is calibrated. And allow the bimetallic thermometer 15 seconds after insertion to get a steady reading.
- iv. A thermometer for measuring food should be accurate to $\pm 2^\circ$, and easy to read.

2. Know correct cooking temperatures (**Section 6.9 of ServSafe Essentials**)

- i. 165° for 15 seconds
 1. Poultry
 2. Stuffing made with fish, meat or poultry
 3. Foods using previously cooked **TCS** (**TCS** is the term used to describe foods that support the rapid growth of bacteria, it stands for food requiring **Temperature Control for Safety**) ingredients.
- ii. 155° for 15 seconds
 1. Ground meat
 2. Injected meat, mechanically tenderized meat
 3. Shell eggs, hot held for service
 4. Ground seafood
- iii. 145° for 15 seconds
 1. Seafood
 2. Shell eggs that will be served immediately
 3. Game, steaks, chops
- iv. 145° for 4 minutes
 1. Roasts of pork, beef, veal and lamb
 2. Roasts may be cooked to an alternate time and temperature according to type of roast and oven used.
- v. 135; fruits, vegetables, grains, legumes
- vi. Microwave—165°, all meats, seafood, poultry and eggs must be cooked to 165°. Also you should cover food and rotate or stir the food halfway through the cooking process. Let the food stand for at least 2 minutes after cooking to let the temperature even out.

3. Partial Cooking during preparation—if you partially cook food during prep and then finish it off for service you must follow these guidelines.
 - i. Do not cook food longer than 60 minutes
 - ii. Cool immediately
 - iii. Refrigerate or freeze after cooling.
 - iv. Heat to required minimum temp before serving.
 - v. Cool again if it will not be served immediately or held for service

4. Consumer advisories for serving undercooked food at customer's request
 - i. You must cook food to its proper internal temperature unless a customer requests otherwise.
 - ii. **If you serve TCS food raw or undercooked you must note it on the menu.**

B. Purchase food from approved sources; (Sections 5.2 of ServSafe Essentials)

1. Approved, reputable suppliers are those that are inspected; meet all applicable local, state, federal laws.
2. You can consider reviewing the suppliers' inspection reports
3. Provide staff with the tools to properly inspect deliveries; these would include purchase orders, thermometers, and scales.
4. Key drop deliveries are when you allow deliveries to be made after hours when the business is closed. These deliveries must still be inspected to be sure the orders were put into the correct storage locations.
5. What are receiving temperatures? Generally speaking cold food is received at 41° or below. There are a few exceptions; once received they must be chilled to 41° in less than 4 hours
 - i. Live and shucked Shellfish 45°
 - ii. Eggs 45°
 - iii. Milk 45°

C. Preventing cross contamination (Section 4.3 and 5.10 in ServSafe Essentials)

1. Keep raw and Ready-to-eat food away from each other
 - i. Use separate equipment—colored coded cutting boards and equipment are the easiest way to keep different foods separate.
 - ii. Clean and sanitize all work surfaces after each task.
 - iii. Prepping food at different times
 - iv. Buy prepared food

2. Store food properly
 - i. Store away from walls and 6 inches off the floor

- ii. Store single use items in original packing
 - iii. Store food in containers intended for food
 - iv. Never use empty food containers to store chemicals and never put food in chemical containers.
 - v. Dry food such as flour, rice and sugar should be stored in labeled, approved food containers with tight-fitting lids.
3. Cleaning and Sanitizing
- i. Cleaning is defined as the first step to remove dirt from a surface.
 - ii. Store food in containers that have been cleaned and sanitized
 - iii. Store dirty linens away from food
 - iv. Clean up spills and leaks promptly
 - v. Clean and sanitize food utensils at least every four hours.
 - vi. Sanitizing solutions must be properly set up using the correct sanitizer and must be checked for accuracy with a test kit.
 - vii. Sanitizing chemicals must be stored away from food to prevent chemical contamination.
4. Storage order
- i. Wrap food. Store raw meat, poultry, and seafood separately from ready-to-eat food. Store READY-TO-EAT food above raw food.
 - ii. Raw meat, etc., can be stored with or above READY-TO-EAT food in a freezer if all of the items have been commercially processed and packaged. Frozen food that is being thawed in coolers must also be stored below ready-to-eat food.
 - iii. Store raw meat, poultry, and seafood in coolers in the following top-to-bottom order; seafood, whole cuts of beef and pork, ground meat and ground fish, whole and ground poultry. This is based on the minimum internal cooking temperature of each food. As an exception, ground meat and fish can be stored above whole cuts of beef and pork. If this is done, the packaging must keep out pathogens and chemicals and must not leak.
5. Contaminated ingredients cannot be added to food that receives no further cooking.
6. Ready to eat food cannot touch contaminated surfaces
7. Contaminated food cannot touch or drip fluids onto cooked or ready-to-eat food
8. A food handler cannot touch contaminated food and then touch ready-to-eat food

9. Contaminated cleaning cloths cannot touch food contact surfaces. Wiping cloths should be stored in sanitizing solution during the work day.

D. Controlling Time and Temperature(Section 4.4 in ServSafe Essentials)

1. Most food borne illnesses happen because TCS food has been time-temperature abused. If a food has been exposed to temperatures between 41° and 135° for more than 4 hours it has been time and temperature abused. However, most pathogens grow much faster from 70° to 125°, so this is a more dangerous temperature range. Most food is being temperature abused whenever it is handled in the following ways
 - i. Cooked to the wrong internal temperature
 - ii. Held at the wrong temperature
 - iii. Cooled or reheated incorrectly
2. If food is held in the Temperature Danger Zone for more than 4 hours it must be thrown out.
3. Set up monitoring procedures to ensure that food is not left out in the temperature danger zone. Educate workers on what to do, how to do it and why it is important. Teach them corrective actions to reset proper controls.
4. Holding food (**Section 7.2 in ServSafe Essentials**). Create policies for how long to hold food and also when to throw food out. Cover food and install sneeze guards when food is held out for display.
 - i. Hold hot food at 135° or higher.
 - ii. Hold cold food at 41° or lower.
 - iii. Check food temperatures **at least** every 4 hours.
 - iv. You can check food every 2 hours. This will leave time for corrective action. You could reheat hold food that has fallen below 135° and then place back in hot-holding.
5. Holding Food without Temperature Control
 - i. Cold food; can be held for up to 6 hours if you meet these conditions.
 1. Hold the food at 41° or lower before removing it from refrigeration.
 2. Label the food with the time it was removed from refrigeration and the time you must throw it out. This would be 6 hours from the time it was removed from refrigeration.
 3. Make sure the food temperature does not exceed 70° while it is being served. Throw out any food that exceeds this temperature.

4. Sell, serve, or throw out the food within six hours.
- ii. Hot food. Can be held without temperature control for up to four hours if you meet these conditions.
 1. Hold the food at 135° or higher before removing it from temperature control.
 2. Label the food with the time you must throw it out. This should be four hours from the time it was removed from temperature control.
 3. Sell, serve, or throw out the food within four hours.
6. Avoid time-temperature abuse by following good policies and procedures **(Section 4.4)**
 - i. Monitoring—check food items at certain times
 - ii. Tools—Thermometers should be given out to all employees
 1. Bimetallic stemmed thermometers; 0° to 220°. Thermometers in a walk-in cooler must be placed in the warmest part of the unit.
 2. Thermocouples-digital probe. Sensing area is on the tip. They can come with different types of probes.
 3. Thermistors—another kind of digital thermometer.
 4. Infrared—good for surface temps; not useful for air or internal temperature of food.
 5. Calibration—should be done before each shift. Some units cannot be calibrated or must be sent back to manufacturer. Air temp accuracy is +/-3°
 - iii. Recording—Create forms to log time and temperature
 - iv. Time and temperature control—Store frozen food at temperatures that will keep it frozen.
 - v. Corrective actions—make sure food handlers know what to do when standards are not met.
7. Thawing Foods—never thaw food at room temperature; this would allow pathogens to grow. Follow these methods to correctly thaw food. **(Section 6.3)**
 - i. Refrigeration—thaw food in a cooler, at temperatures below 41°
 - ii. Running water—Submerge food under running, drinkable water at 70° or lower. The flow of water must be strong enough to wash loose food bits into the drain. Never let the temperature of the food go above 41° for longer than four hours.
 - iii. Microwave—thaw food in microwave if it will be cooked immediately after.
 - iv. Cooking—thaw food as part of the cooking process.
8. Thawing ROP Fish--Fish should usually remain frozen until ready for use. If this is stated on the label, the fish must be removed from the packaging at the following times
 - i. Before thawing it under refrigeration
 - ii. Before or immediately after thawing it under running water.

E. Keep Staff Healthy and away from contaminating Food (Section 3.12-3.13 in ServSafe Essentials)

1. It is extremely important that you tell your staff to let you know when they are sick. The following are policies for reporting health issues.
 - i. Regulatory agencies may ask for proof that your staff will tell you when they are sick
 - ii. Do you have staff prepare signed statements about health?
 - iii. Can you provide documentation that staff have been trained on the importance of reporting illnesses?
 - iv. Have you posted signs to remind staff to notify management when they are ill?
2. Handling Staff Illnesses
 - i. If food handler has a sore throat with fever;
 1. restrict food handler from working around food
 2. Exclude food handler from high risk operation; must have written release from medical practitioner
 - ii. If food handler has symptom of vomiting, diarrhea, or jaundice then
 1. Exclude from operation and cannot return without symptom free for 24 hours or a written release from doctor
 2. If they have jaundice then they must be reported to regulatory authority. If they have jaundice for 7 days or less they must be excluded from the operation. They must have a written release and approval from regulatory authority before they can return to work.
 - iii. If food handler is vomiting or has diarrhea and has been diagnosed with an illness caused by one of these pathogens; Norovirus, Shigella, Nontyphoidal salmonella, E. coli, or just diagnosed with Hepatitis A or Salmonella typhi, then;
 1. Exclude from operation and use the regulatory authority to determine when they can return to work.

F. Washing Hands (Section 3.4 in ServSafe Essentials)

It is very important to keep food handlers from contaminating the food. One of the key components of a personal hygiene program is hand washing. The manager must establish a training program that sets policies and implements proper behaviors. Hand washing is a key part of any personal hygiene program.

1. Where to wash hands—wash in a sink designated for hand washing. Never wash your hands in a prep or dish washing sink
2. How to wash hands
 - i. Wet hands and arms under running water as hot as you can stand. Water should be at least 100°

- ii. Apply enough soap to build up a good lather
 - iii. Scrub hand and arms for 10 to 15 seconds. Clean under fingernails and between fingers
 - iv. Rinse hands and arms thoroughly with warm water
 - v. Dry hands and arms using a single-use paper towel or hand dryer.
3. When to wash hands
- i. Before you start work
 - ii. After using the restroom
 - iii. After handling raw meat, poultry, and seafood (before and after)
 - iv. After touching the hair, face, or body
 - v. After sneezing, coughing, or using a tissue
 - vi. After eating, drinking, smoking, or chewing gum or tobacco.
 - vii. After handling chemicals.
 - viii. After taking out garbage.
 - ix. After clearing tables or busing
 - x. After touching clothing or aprons.
 - xi. After handling money
 - xii. After leaving and returning to the kitchen area
 - xiii. After handling service animals
 - xiv. After touching anything that may contaminate hands such as dirty equipment, work surfaces.
4. Hand antiseptics can only be used after hand washing and never in place of it. If used, wait for a hand antiseptic to dry before touching food or equipment.

G. Pest Control (Section 9.11 in the ServSafe Essentials)

Prevention is critical to pest control. Pests can spread diseases and damage food and supplies. Establishing and following basic pest prevention rules is a must for any food manager.

1. Basic rules
- i. Deny pests access to the operation
 - 1. Secure points of access, screen all windows and vents, patch when needed.
 - 2. Seal cracks in floors and walls and around pipes.
 - 3. Install air curtains along doors.
 - 4. Inspect shipments for signs of pests
 - ii. Deny pests food, water and shelter
 - 1. Throw out garbage, and clean garbage containers
 - 2. Store recyclables in pest-proof containers. Keep containers away from buildings
 - 3. Clean up spills from food and beverages

- iii. Work with licensed pest control operator

H. (8) Personal Hygiene (Section 3.7 in ServSafe Essentials) Food Contamination resulting in foodborne illness is most often caused by unwashed hands.

- 1. Hand practices

- i. Hand Care

- 1. **Fingernail length**—short and clean; long fingernails are harder to keep clean and may rip gloves.
 - 2. **False fingernails** are forbidden. They are hard to keep clean and can chip off into food. Some regulatory authorities allow false nails if covered by gloves
 - 3. **Nail Polish.** It can disguise dirt under nails and may flake off into food.
 - 4. **Infected wounds or cuts.** Must be covered to prevent contamination. Bandage wounds and wear a glove.

- ii. **Gloves (section 3.9)** Gloves should be worn when handling ready-to-eat food. Exceptions include when washing produce, or when handling ready-to-eat food for a dish that will be cooked to the correct internal temperature.

- 1. How to use gloves.

- a. Wash your hands before putting on gloves when starting a new task. **You do not need to rewash your hands each time you change gloves as long as you are performing the same task, and your hands have not become contaminated.**
 - b. Hold gloves by the edge, check for rips or tears
 - c. Never blow into gloves
 - d. Never roll gloves to make them easier to put on.

- 2. When to change gloves

- a. As soon as they become dirty or torn
 - b. Before beginning a different task
 - c. After an interruption, such as taking a phone call
 - d. After handling raw meat, seafood, or poultry, and before handling ready-to-eat food.

- 2. **Work Attire Guidelines (Section 3.11 in ServSafe Essentials).** Dirty clothing may carry pathogens that cause foodborne illnesses. These pathogens can be transferred from the clothing to the hands and to the food being prepared. Follow these guidelines.

- i. **Hair restraint**

- 1. Wear a clean hat when in the food prep area.

2. False eyelashes can become physical contaminants and cannot be worn.
3. Beard restraints are necessary as needed.

ii. **Clean clothing**

1. If possible, change into work clothes at work.
2. Wear clean clothes every day.

iii. **Aprons**—remove aprons when leaving prep area

iv. **Jewelry**—no bracelets, no rings, no watches

I. Bare Hand contact with Ready to Eat Food (Section 3.10 in ServSafe Essentials)

1. Do not handle ready-to-eat food with bare hands especially if high risk or if hands have wounds or cuts.
2. There are times when it is okay to handle RTE foods with bare hands
 - i. When the food will be added as an ingredient to a dish that does not contain raw meat, seafood, or poultry, but will be cooked to at least 145°.
 - ii. When the food will be added as an ingredient to a dish containing raw meat, seafood, or poultry and the dish will be cooked to the required minimum internal temperature of the raw items. I.e. vegetables to beef stew.

Chapter Four Miscellaneous Facts

- A. **Government agencies— (Section 1.9 in ServSafe Essentials)** FDA-inspects all food except meat, poultry, and eggs. But its most important job is to issue a Food Code. This provides recommendations for food safety regulations. The FDA cannot require states to adopt this code.

- B. **Food Allergens—(Section 2.17 in ServSafe Essentials)** you should be able to recognize the signs of an allergic reaction so that you can protect your customers. It is also important to know the types of food that often cause allergic reactions to help prevent them from happening.
 - i. Allergy Symptoms—an allergic reaction can happen just after eating or several hours later. The symptoms can be one or several of the following:
 - 1. Nausea
 - 2. Shortness of breath
 - 3. Hives
 - 4. Swelling
 - 5. Vomiting/diarrhea
 - 6. Abdominal pain
 - ii. This is a list of common food allergens—there are actually over 160 food items that can cause allergic reactions but these eight items account for 90% of all reactions.
 - 1. Milk
 - 2. Eggs
 - 3. Fish
 - 4. Wheat
 - 5. Soy
 - 6. Peanuts
 - 7. Tree nuts
 - iii. Avoiding allergens
 - a. Food labels—Federal law requires labeling if one of the big Eight allergens is contained in the product.
 - b. Service staff—train service staff to inform customers of potential allergens ingredients in menu items.
 - c. Kitchen staff—instruct them to cook different types of food at different times or using different pieces of equipment.
 - d. Cross-contact—wash, rinse and sanitizing equipment between uses. If there is a special order to avoid an allergen, make sure the equipment does not come in contact with any other food.

C. Labeling Food (Section 5.8 in ServSafe Essentials)—Labeling food is important to prevent illnesses and allergic reactions.

- i. Labeling food for use on site
 1. All items not in their original containers must be labeled
 2. Food labels should include a common name or a statement that clearly identifies it.
 3. It is not necessary to label food if it clearly will not be mistaken for another item. The food must be easily identified by sight.
- ii. Packaged on site for retail sale; bottled salad dressing is an example
 1. Quantity of food
 2. Common name of the food or a statement that clearly identifies it
 3. List of ingredients and sub ingredients in descending order by weight, if it has more than 2 ingredients
 4. List of artificial colors and flavors. Chemical preservatives must be listed.
 5. Name and place of manufacturer
 6. Source of each major food allergen

D. Date Marking (Section 5.9 of ServSafe Essentials)

- i. Ready to eat TCS food must be marked if held for longer than 24 hours. It must indicate when the food must be sold, eaten or thrown out
- ii. Ready-to-eat TCS food can be stored for only 7 days if it is held at 41° or lower. Count begins on the date the food was prepared or commercial container was opened.
- iii. When combining food in a dish with different use-by dates, the discard date of the dish should be based on the earliest prepared food.

E. Prepping specific food

- i. Produce-to prevent cross-contamination, make sure fruit and vegetables do not touch surfaces exposed to raw meat, seafood or poultry.
 1. Wash produce in slightly warmer water than the produce
 2. Do not mix different items or multiple batches of the same item in the same water-ice slurry

3. Refrigerate and hold sliced melons, cut tomatoes, and cut leafy greens at 41° or lower.
- ii. Eggs and Egg mixtures—when prepping eggs follow these guidelines
 1. Pooled eggs—pooled eggs are cracked open and combined in a container, they should be held at 41° or cooked immediately.
 2. Pasteurized Eggs—should be considered when using eggs that need little or no cooking. Or if you are cooking for high risk populations such as the very young or the elderly.
- iii. Ice—make ice from water that is safe to drink and never use ice as an ingredient if it was used to keep food cold.

F. HACCP (Section 8.4 of ServSafe Essentials)

HACCP is a written plan unique to each food operation. It is based on seven principles of food control that take into account each menu, equipment, and processes. Each principle builds on information gathered in the previous step. Therefore you should follow each step in order.

- i. First, conduct a hazard analysis
- ii. Determine a critical control point
- iii. Establish critical limits
- iv. Establish monitoring procedures
- v. Identify corrective actions
- vi. Verify that the system works
- vii. Establish record keeping
- viii. In general the first two step help you identify and evaluate your hazards
- ix. Steps 3,4 and 5 help you establish ways for controlling those hazards
- x. Steps 6 and 7 help you maintain the HACCP plan and system, and verify its effectiveness.

G. Plumbing (Section 9.5 in ServSafe Essentials)Water used in food preparation may come from many sources, these are; approved public water mains, private water sources that are regularly tested and maintained, closed portable water containers and water transport vehicles.

- i. **Cross Connection**—the greatest challenge to water safety
 1. A cross connection is a physical link between safe and dirty water
 2. Dangerous because it can let backflow occur
 3. The best way to prevent backflow is to avoid the cross connection in the first place, and therefore create an air gap, otherwise there are mechanical devices that can be used

- a. Vacuum breaker
 - b. Double check valve
 - ii. The only sure way to prevent backflow is to create an air gap; this separates the water supply outlet from a potentially contaminated source.
- H. **NSF** and other food organizations check for food safety equipment. NSF standards require food equipment to be nonabsorbent, smooth, and corrosion resistant. This equipment should also be easy to clean, durable and resistant to damage.
- J. **Cutting boards** should be made from hardwoods or polyethylene materials that are durable and easy to clean, not from softwoods such as pine.
- K. **MSDS**—Material Safety Data Sheets are a requirement of the Occupational Safety and Health Administration (OSHA). These sheets contain information on safe use and handling of chemicals which includes precautions, first aid info, manufacturer's name and phone number, hazardous ingredients and identity information. These sheets should be sent with any chemical shipment used in the operation; if not than you can request them from your supplier. The sheets must be kept where your employees have access to them.
- L. **Responding to a Food-borne Illness Outbreak (Section 2.15 of ServSafe Essentials)**
 - 1. If a foodborne illness outbreak should occur, the following are things to consider in handling the fallout.
 - i. Gather Information-identify the food that was eaten.
 - ii. What were the symptoms and when did they first become sick.
 - iii. Contact regulatory authority if you suspect an outbreak.
 - iv. Set aside the suspect food if still available.
 - v. Cooperate with authorities to provide all information available to you.
- M. **Review—Temperatures:** You should know all of these temperatures and the function that goes with them.
 - Hand washing; 100°
 - Thawing water temp. 70° or lower
 - Temperature Danger Zone is 41° to 135°
 - Microwave 165°
 - Hot Holding 135°
 - Receiving temperatures for fresh meats and poultry 41°
 - Receiving temperature can be 45° if Milk, Shellfish or Eggs
 - Reheating 165°
 - Vegetables 135°
 - Poultry 165
 - Hot Held Eggs 155
 - Final rinse temp of hot water machine 180°
 - 3 compartment sink: First sink 110°; 3rd sink 171°

Below is a table with sanitizer concentrations for the most commonly used sanitizers.

	Chlorine	Iodine	Quats
1. Concentration	50-99 ppm	12.5-25ppm	Per instr. 200-400 ppm
2. Contact time	7 sec	30 sec	30 sec
3. Temperature	75-100°	68°	75°