Food Safety for School Nutrition Programs

Participant Manual

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Table of Contents

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Introduction

Welcome to Food Safety

Welcome to *Food Safety for School Nutrition Programs*! The goal of this course is to give you a solid foundation in food safety so that you are confident in your ability to serve safe food to students in your program, as well as pass an accredited ***food protection manager*** exam.

Before we dive into what food safety is and what it entails, let's start off with what you can expect from each of the lessons in this course.

Course Structure

This course consists of 10 lessons. You might be completing these lessons as an online course, or you might be completing them in-person (or a combination of both). Regardless, each lesson has the following:

- Learning objectives
- Presentation with course content
- Learning activities
- Case studies
- Study worksheet
- Review quiz

Learning Objectives

Each lesson starts off with learning objectives. These are a list of what you should be able to do after you complete the lesson. For this first lesson, the learning objectives are:

- Recognize a foodborne illness, outbreak, and potential consequences.
- Name the four most common factors responsible for causing foodborne illness.
- Describe the four essential rules of food safety.
- Recognize the three basic food safety hazards.
- List common foods that require time/temperature control for safety (TCS).
- Identify the different regulatory agencies responsible for setting food safety requirements in schools.
- Explain the requirements of food safety certification in California.

Presentation

In the presentation, you will learn about food safety. The presentation is organized in the same order as your Participant Manual, so you will be able to follow along in your guide if you wish.

Learning Activities

The learning activities are a way to learn or reinforce the material in your Participant Manual. Many of the activities will ask you to think about why certain food safety requirements exist.

Case Study

Each case study is a short story about different employees who work in school nutrition programs. The case study provides an opportunity to apply what you know in a scenario that could happen in real life.

Study Worksheet

The study worksheet at the end of the lesson is a guide for you to complete to help study for a food protection manager exam. Try completing each of the worksheets from memory first, filling in as much as you can. Then use your Participant Manual to complete the remainder of the worksheet and check your answers. This will help you determine which areas you may need to spend more time reviewing.

Review Quiz

Each review quiz is a small selection of multiple choice questions to test your knowledge. However, these questions do not encompass all the possible questions on the food protection manager exam, so be sure to be familiar with all the material, not just the material covered in the review quiz.

Appendix Materials

In addition to ten lessons, the Participant Manual also contains an appendix. The appendix includes study worksheet and quiz keys, useful resources about food safety in schools, including California Department of Education Management Bulletins related to food safety, information on pesticide training requirements, and links to online resources.

Food for Thought

Additional Information

Extra information has been included that is specific to California or is directly relevant to schools. This information will not be found on certified food protection manager exam and is identified by gray boxes labeled **Food for Thought**.

Lesson 1 – The Importance of Food Safety in School Nutrition

Introduction

Welcome to Lesson 1! In this lesson, we will learn about some of the basic concepts you'll need to know about food safety.

Learning Objectives

By the end of this lesson, you will be able to:

- Recognize a foodborne illness, outbreak, and potential consequences.
- Name the four most common factors responsible for causing foodborne illness.
- Describe the four essential rules of food safety.
- Recognize the three basic food safety hazards.
- List common foods that require time/temperature control for safety (TCS).
- Identify the different regulatory agencies responsible for setting food safety requirements in schools.
- Explain the requirements of food safety certification in California.

Concepts and Vocabulary

Foodborne illness – when a person becomes ill due to consuming unsafe food or beverages

Foodborne illness outbreak - an incident where two or more people become sick after eating the same food and is confirmed when a lab analysis shows the source of sickness to be a specific food

High-risk population – those who are at higher risk for foodborne illness, including preschool-aged children, the elderly, and those with compromised immune systems

Time and temperature abuse – when food sits at unsafe temperatures for an extended period of time or is not cooked to a safe internal temperature

Temperature danger zone – temperature range in which harmful bacteria can grow and reproduce rapidly (41° to 135 °F)

Personal Hygiene - personal behaviors and practices that help keep food safe

Pathogens – harmful microorganisms that cause illness

Food contact surfaces – any surface that comes in contact with food

Clean – free of dirt, food particles, or other visible soil

Sanitary – free of harmful levels of pathogens

Cross-contamination – the transfer of harmful pathogens from one food to another through the use of contaminated utensils or equipment, or through improper storage

Clean, Separate, Cook, and Chill – the four essential rules of food safety

Biological contaminants are harmful microorganisms that we can't see

present in food or beverages. These include bacteria, viruses, fungi, and parasites.

Physical contaminants – non-food items present in food or beverages

Chemical contaminants – undesirable chemical substances in food or beverages

Time/temperature control for safety (TCS) foods – foods on which pathogens grow well. (Sometimes called potentially hazardous foods or PHF.)

Food protection manager – food safety certification obtained by passing an accredited exam

Food handler certificate – certificate required for every food handler in the state of California. (Schools are exempt from this requirement with the exception of San Bernardino, Riverside, and San Diego counties, which have their own requirements for food handlers.)

What is Food Safety? Why is Food Safety Important?

Food safety means keeping food safe from anything that could harm the health of a person. Unsafe food can cause *foodborne illness* (often called food poisoning). Foodborne illness occurs when a person becomes ill due to consuming unsafe food or beverages. A foodborne illness is considered a *foodborne illness outbreak* when two or more people become sick after eating the same food and the source is confirmed by a lab analysis.

While a bout of foodborne illness may seem like a minor inconvenience, it can have very serious consequences. According to the Centers for Disease Control and Prevention (CDC), 48 million Americans each year experience a foodborne illness, 128,000 are hospitalized, and 3000 die.[1]

There are some groups of people that are at higher risk for foodborne illness. These are called *high-risk populations* and includes:

- Preschool-aged children
- Elderly people
- People with compromised immune systems, such as those undergoing chemotherapy or those taking immune-suppressing medications.

In schools, food safety is especially important because it is required by law and unsafe food might impact a child's ability to learn. Foodborne illness can lead to missed days of school; as school nutrition programs feed a large number of students, a foodborne illness outbreak can have a broad impact.

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[1] Estimates of Foodborne Illness in the United States; CDC, 2016; https://www.cdc.gov/foodborneburden/estimates-overview.html

In addition, safe food is also good business practice. Unsafe facilities and food can reduce revenue through spoiled product that needs to be tossed out as well as through reduced participation. Your facility may also be held legally liable if someone becomes ill as a result of your food.

Food Safety Basics

Causes of Foodborne Illness

Foodborne illness can be caused by a variety of different factors, but generally fall into five categories.

Time and Temperature Abuse

Time and temperature abuse occurs when food sits at unsafe temperatures for an extended period of time or is not cooked to a safe internal temperature. As we will learn in later lessons, harmful bacteria can grow and reproduce rapidly within a certain temperature range known as the *temperature danger zone* (41° to 135 °F).

Have you ever attended an outdoor picnic on a hot day? Sitting in the sun when it is 100 °F outside might sound uncomfortable to you, but bacteria feel very differently. Allowing foods to sit out on the picnic table for several hours would be considered time and temperature abuse. Other examples you might have encountered could be a turkey that was not cooked to 165 °F, a batch of soup that was held at 130 °F, or frozen chicken cutlets thawed on the kitchen counter. All of these situations could allow bacteria to grow and multiply very quickly.

Poor Personal Hygiene

Personal hygiene in food safety means personal behaviors and practices that help keep food safe. Poor personal hygiene, on the other hand, is a great way to spread *pathogens* around. Pathogens are harmful microorganisms that cause illness. One of the main goals of food safety is to prevent pathogens from being spread from humans to food. Some pathogens, such as *viruses*, are mainly spread through poor personal hygiene practices.

Handwashing is the number one way we can keep food safe through personal hygiene, but isn't the only practice we need to engage in when it comes to food safety. Single-use gloves are a great tool in our food safety toolbox, but if we don't use them the way they are intended, they can spread pathogens around very easily. Other poor personal hygiene practices include wearing nail polish (which can flake into food), having long or ragged nails (which can harbor pathogens), not wearing a hair restraint, and wearing dirty clothes or a dirty apron.

Improper Cleaning and Sanitizing

In addition to keeping our hands clean, we also need to keep all *food contact surfaces* clean and sanitary. *Clean* means free of dirt, food particles, or other visible soil, while *sanitary* means free of harmful levels of pathogens.

Cross-Contamination

We've avoided time and temperature abuse and used proper personal hygiene practices; this means we're in the clear, right? Not necessarily. We also need to be vigilant against *cross-contamination*. Cross-contamination is the transfer of harmful pathogens from one food to another through the use of contaminated utensils or equipment, or through improper storage.

There are many ways food can become unsafe due to cross-contamination. Using a cutting board to cut raw poultry followed by preparing vegetables on the same board, and storing raw hamburger meat above ready-to-eat sandwiches in a refrigerator are just a few ways cross-contamination can occur.

Purchasing from Unsafe Sources

Preparing safe food means starting with food that is safe. That is, food that is purchased from approved food vendors.

Essential Rules for Food Safety

There are four essential food safety rules to follow that we will discuss these in detail in the lessons ahead. These are *Clean, Separate, Cook, and Chill*. These rules address the different causes of foodborne illness.

Clean

Clean hands and food contact surfaces frequently. Wash raw fruits and vegetables before consuming or cooking them. This helps prevent foodborne illness as a result of poor personal hygiene and improper cleaning and sanitizing.

Separate

Prevent cross-contamination by keeping raw and cooked foods separate, using different cutting boards for raw meat and produce, and storing foods safely.

Cook

Cook foods to safe internal temperatures and hold hot foods above 135 °F to prevent time and temperature abuse.

Prevent time and temperature abuse by keeping cold foods cold (at 41 °F or below), or cooling hot foods quickly to minimize time food spends in the temperature danger. Store foods at safe temperatures.

Hazards to Food Safety

There are three basic hazards that can cause foodborne illness. They are categorized as biological, physical, or chemical.

Biological Contaminants

Biological contaminants are harmful microorganisms that we can't see but are present in food or beverages. These include bacteria, viruses, fungi, and parasites.

Physical Contaminants

Physical contaminants are non-food items present in food or beverages. Examples include metal shards from opening a can improperly, flakes of nail polish, strands of hair, and plastic pieces from a storage container.

Chemical Contaminants

Chemical contaminants are undesirable chemical substances in food or beverages. Examples include cleaning and sanitizing compounds, food allergens, and pesticides.

Time/Temperature Control for Safety Foods

There are some foods that require extra care in addition to the four essential food safety rules. These are called *time/temperature control for safety* (TCS) foods, or sometimes *potentially hazardous foods* (PHF). These are foods on which pathogens grow well. By controlling time and temperature, the growth of pathogens can be limited.

The following foods are considered TCS foods:

- Milk, cream, yogurt, cheese, and other dairy foods
- Cut melons
- Raw sprouts
- Eggs
- Sliced tomatoes and cut leafy greens
- Soy products, such as tofu
- Cooked vegetables and fruits
- Cooked rice and other cooked grains
- Meat, poultry, fish, and shellfish

- Untreated garlic and oil mixtures

Regulating Food Safety

Agencies that Regulate Food Safety

There are several regulatory agencies that help to ensure the safety of food served in schools.

National Level

The Food and Drug Administration (FDA) is the main government agency tasked with ensuring the safety of our food supply. The FDA protects consumers from unsafe foods through inspections, recalls, seizures, up to and including criminal prosecution. The FDA also produces the FDA Food Code, which provides the basis for many state food safety regulations.

The Centers for Disease Control and Prevention (CDC) gathers data on foodborne illness, investigates foodborne illness outbreaks, and monitors the effectiveness of prevention and control efforts in preventing foodborne illness.

The U.S. Department of Agriculture (USDA) Food Safety and Inspection Service inspects meat, poultry, and eggs for safety. When it comes to schools, the USDA has an additional role. They also issue food safety requirements that schools must follow if they participate in child nutrition programs such as the National School Lunch Program.

Food for Thought

State Level

At the state level, the state legislature passes food safety laws for retail food establishments in the interest of safeguarding public health. The *California Retail Food Code* (CRFC), which is based on the FDA Food Code, contains all the requirements that food service establishments, including schools, must follow in order to serve food in California. The California Department of Public Health is the state agency that administers the California Retail Food Code.

Although not involved in food safety regulation, the California Department of Education plays a role in food safety in schools. CDE assesses aspects of food safety during the Administrative Review that schools participating in child nutrition programs undergo every three years. They also provide food safety guidance and resources to schools.

County Level

While the CRFC is produced at the state level, it is enforced at the county level through county health departments. Each county may also have its own food safety requirements. For example, some counties have additional requirements for food handler certification. In addition, counties may interpret the CRFC slightly

differently. It's always a good idea to consult with your county health department when you have questions about how to meet food safety requirements.

Requirements for Food Protection Managers

California requires that all food service facilities follow the CRFC. A key requirement is that staff must have documented training and certification. Every retail establishment that serves food is required to have at least one individual that is a certified as a food protection manager by passing an accredited exam. This means that every site within a school district must have a certified manager.

Currently, there are five different organizations that have been accredited to provide food protection manager exams by the American National Standards Institute (ANSI):

360training.com, Inc.

- Information about 360training.com Learn2Serve® Food Protection Manager Certification Program can be found at: http://www.learn2serve.com/food-manager-certification

National Registry of Food Safety Professionals

- Information about the National Registry of Food Safety Professionals Food Protection Manager Certification Program can be found at: http://www.nrfsp.com/

National Restaurant Association (ServSafe)

- Information about the National Restaurant Association ServSafe® Food Protection Manager Certification Program can be found at: http://www.servsafe.com/home

Prometric Inc.

- Information about Prometric Food Protection Manager Certification Program can be found at: https://www.prometric.com/en-us/clients/foodsafety/Pages/landing.aspx

AboveTraining/StateFoodSafety.com

- Information about the AboveTraining/StateFoodSafety.com Certified Food Protection Manager (CFPM) Exam can be found at: https://www.statefoodsafety.com

Food for Thought

Requirements for Food Handlers

California law requires everyone that handles food in a retail establishment to have a food handler certificate. However, school nutrition personnel working in public or private school cafeterias are exempt from this requirement, with the exception of Riverside, San Bernardino, and San Diego counties. These counties have their own, county-specific laws for food handlers.

It's important to note that the food handler certificate is <u>not</u> equivalent to a manager certification and does <u>not</u> meet the requirement for a certified food protection manager at every facility and school site.

If you choose to have your employees earn a food handler certificate (often called a food handler's card), the training must be from an ANSI accredited training provider.

A food handler card is issued after successful completion of an ANSI accredited training program and examination; together they are designed to be completed in about two and a half hours. The exam consists of approximately 40 questions, and requires at least 70% correct to pass. The certificate expires after three years, and needs to be renewed by taking an ANSI accredited course and exam.

County-Specific Food Handler Card Requirements

Three counties in California have their own food handler requirements that do not exempt schools: Riverside, San Bernardino, and San Diego. Each county has county-specific courses and exams. These cannot be used to fulfill the state requirements for a certified food safety manager, the state requirements for a food handler certificate, or to fulfill the requirements in a different county. Only the courses and tests approved by each county meet the requirements in that particular county.

- If an individual is a certified food safety manager, he or she does not need to obtain a food handler certificate.
- If an individual has a food handler certificate from a state-approved course and test, that person would still need to obtain the county-specific certification from a course and exam approved by that county.

Food for Thought

Case Study

Larry, a cook at a local elementary school, decided to do some quick meal preparation for the week on Sunday afternoon. Staying cool in the warm weather, he was dressed in a t-shirt, shorts, and sandals. Upon arrival, he walked into the breakroom to drop off his belongings and retrieved a clean apron. He then properly cleaned and sanitized his workstations using the designated cleaning supplies.

After washing his hands at the handwashing station, he took out a cutting board and a beef roast to slice for sandwiches. When he was done, he placed the slices in a clean, sanitized container and put the knife in the first compartment of the three-compartment sink to clean it later. He noticed that the meat was dripping juice all over the countertop, so he retrieved some paper towels and used them to soak up the juice. He threw the paper towels away in a nearby trashcan before placing the remainder of the roast in a pan to be sliced on Monday morning. He then took the pan to the ready-to-eat refrigerator and put it on the shelf above an open container containing sliced cheddar cheese.

While in the refrigerator, Larry grabbed some heads of lettuce to prep for being chopped the following morning. He rinsed the lettuce under cold water for a minute before placing it on a few paper towels to air dry. As the lettuce was drying, Larry started to sanitize his workstation when he noticed a bandage on his pointer finger was missing. He left the station to look for the bandage and found it in the container of sliced roast. While he didn't like wasting that much product, he decided to play it safe and discard the entire container as well as the lettuce he had just finished washing.

Larry rinsed and dried his hands, and then went to the breakroom to collect his belongings. He wore the apron home and left it in his warm car to bring back for the next day.

Questions:

1. Explain what Larry did wrong during his meal preparations. What would you do differently?

2. Name the three basic food safety hazards and provide an example of each from the text above.

Lesson 1 Study Worksheet

The purpose of this worksheet is to help you review the material covered in this lesson. First, try to complete as much of the worksheet as possible from memory. Then go back and look up the information you need to fill in any remaining questions.

What is a foodborne illness?

What is a foodborne illness outbreak?

What are the five most common factors responsible for causing foodborne illness?

1.
2.
3.
4.
5.

What are the four essential rules of food safety?

1.
2.
3.
4.

What are the three basic food safety hazards?

1.
2.
3.

What does the term time/temperature control (TCS) for food safety mean?

What are the foods that are considered TCS foods?

What are the national agencies involved in food safety? What are their responsibilities?

Agency   **Responsibilities**

What are the requirements for food safety certification in food service establishments?

Lesson 1 Review Quiz

1. **All of the following are TCS foods <u>except</u>:**
   a. Sliced tomatoes
   b. Cooked rice
   c. Olive oil
   d. Cooked green beans

2. **Which of these is example of time/temperature abuse?**
   a. Leaving bread out for 7 hours
   b. Thawing frozen chicken on a counter
   c. Failing to wash hands before handling food
   d. Turning the steam table temperature too high

3. **Food allergens are considered which of the following?**
   a. Biological hazard
   b. Chemical hazard
   c. Physical hazard
   d. All of the above

4. **Which of these agencies conducts inspections of meat, poultry, and eggs for safety?**
   a. Centers for Disease Control and Prevention
   b. Food and Drug Administration
   c. Food Safety Inspection Administration
   d. U.S. Department of Agriculture

5. **True or False: All food handlers in California schools are required to be food protection managers.**
   a. True
   b. False

6. **Poor personal hygiene can lead to:**
   a. Time temperature abuse
   b. Spread of viruses
   c. Insect infestation
   d. All of the above

7. **Which of these is the minimum holding temperature for hot foods?**
   a. 135 °F
   b. 145 °F
   c. 155 °F
   d. 165 °F

8. **Which of these is the maximum holding temperature for cold foods?**
   a. 12 °F
   b. 32 °F
   c. 41 °F
   d. 45 °F

Lesson 2 – Physical and Chemical Contamination

Introduction

We learned in Lesson 1 that there are three basic hazards that can cause foodborne illness. They are categorized as biological, physical, or chemical. Biological contaminants are harmful microorganisms present in food or beverages. We will talk more about biological contaminants in Lesson 3. Physical contaminants are non-food items present in food or beverages. Chemical contaminants are undesirable chemical substances in food or beverages.

Learning Objectives

- Identify and describe ways to prevent physical and chemical food contamination.
- Identify the purpose of and requirements for safety data sheets (previously called material safety data sheets, or MSDS) in a food service facility.
- Describe the differences between food allergies and intolerances.
- Identify the eight most common food allergies.
- Demonstrate methods for managing food allergies.

Concepts and Vocabulary

Physical contaminants – non-food items present in food or beverages

Chemical contaminants – undesirable chemical substances in food or beverages

Safety Data Sheets – standardized information sheets designed to communicate the hazards of the chemical and how it can be used safely and stored safely

NSF International – a third-party organization that tests and certifies products for safety

Underwriters Laboratory (UL) – a third-party organization that tests and certifies products for safety

Food allergy – a specific type of immune system response to a food

Allergen – substance that causes an allergic reaction

Anaphylaxis – severe allergic reaction that results in a drop in blood pressure and difficulty breathing

Cross-contact – when allergens from a food are transferred to another food

Food intolerance – sensitivity to a food that does not involve the same type of reaction as a food allergy

Celiac disease – immune system reaction to gluten that causes damage to the lining of the intestine

Lactose intolerance – inability to digest lactose

Physical Contamination

First, let's talk about physical contamination in more depth. Physical contamination can occur in several different ways. For example, it can happen when food isn't prepared properly such as when a filet of fish has bones or pieces of bones remaining. Physical contamination can also occur when food isn't stored properly or equipment isn't maintained, such as when a dull can opener causes metal shards to fall into food. It can also be a result of unsafe personal practices (which we will cover in more detail in lesson 4). Flakes of fingernail polish falling into food are an example of easily preventable physical contamination.

Physical contamination can have significant consequences. It can cause injury, both minor and severe. For example, chipping a tooth on a small pebble in a bowl of cooked beans. It can also have negative financial consequences by driving people away from the school meal program and lowering participation.

Preventing Physical Contamination

To prevent physical contamination, be vigilant at every step of purchasing, storing, preparing, and serving food. This starts with only purchasing food from reputable sources and closely inspecting the food you receive. Remove staples, nails, etc., from boxes when food is received so you don't run the risk of these accidentally ending up in your food. After receiving your food safely, only store it in containers approved for food storage and never reuse a single use container.

Prevent your ice from becoming contaminated by using commercial ice scoops to scoop ice. Never store the ice scoop in the ice; in fact, never store anything in the same ice that will be used for food or beverages because you run the risk of contaminating the ice.

Keep your facility and equipment safe. For example, place covers on lights to safeguard against broken light bulbs contaminating food. Clean can openers once or twice daily and change blades regularly.

It's also possible that employees could unintentionally contaminate food. Ensure that all employees are following proper personal hygiene practices and ask employees to avoid false fingernails and nail polish. Jewelry should be limited to a smooth wedding band when preparing food to prevent jewelry or loose jewelry components from falling into food. Check with your local health department on the specific rules for your county. Employees should always wear hair restraints when preparing or serving food to make sure that hair doesn't contaminate food.

Chemical Contamination

Chemical contamination is when food is contaminated with undesirable chemical substances. Food service establishments have a variety of different chemicals they use

to maintain the cleanliness and safety of their facility, such as cleaning chemicals, sanitizers, or pesticides.

Preventing Chemical Contamination

Safe use of chemicals starts with safe storage. Ideally, chemicals are stored in a separate area, away from food entirely. If you must keep chemicals in a food storage area, store them in a locked metal cabinet. Limit who has access to the chemicals so that only authorized staff handle them. Store chemicals in their original containers, or label chemicals thoroughly if they are moved from the original container. Make sure that all labels display the chemical hazards.

Always follow the usage instructions when using chemicals and wash hands after using them. If you use chemical sanitizers, test them frequently so that you know that they are neither too dilute nor too strong. If you have a pest control operator in your facility applying pesticides, monitor their procedures to ensure that pesticides don't inadvertently contaminate food.

It's not just the chemicals used by food service establishments that can contaminate food. Employees need to be careful with their own personal medications. Medications should be properly labeled and stored away from where food is stored and prepared, such as in the employee break room. If an employee has medication that needs to be refrigerated it should never be stored in the same refrigerators that are used for food for service. This also applies to personal food and beverages.

Safety Data Sheets

Safety Data Sheets (SDS), previously called Material Safety Data Sheets (MSDS), are standardized information sheets required for each chemical that you use in your facility. These are produced by the manufacturer, distributer, or importer, and designed to communicate the hazards of the chemical and how it can be used safely and stored safely. The Occupational Safety and Health Administration (OSHA) requires that you have these available for employees to be able to consult for all potentially harmful chemicals.

Preventing Contamination from Metal Wares and Equipment

Acidic foods, when not handled properly, can lead to chemical contamination. This is because they can react with metals during cooking or storage, causing the metal to leach into the food. Metal food-grade equipment is perfectly safe to use as long as you're aware of what not to do. For example, do not use metal mixing bowls for holding hot foods and never store food in an opened can. And always use only commercial food service equipment that follow *NSF International (NSF)* or *Underwriters Laboratory (UL)* standards. These are third-party organization that test and certify products for safety.

To protect against metal leaching, only use metal containers and metallic items for their intended use. Some materials should never be used as food contact surfaces because of the risk of leaching into food. These metals include lead, brass, copper, cadmium, and galvanized metal. Also avoid using enamelware.

What are Food Allergies and Intolerances?

In addition to the more obvious chemical contamination we've already discussed, food allergens are also considered a type of chemical contamination. A *food allergy* is when a person has a specific type of immune system response to a food or food ingredient. The symptoms of a food allergy can be mild or severe, even causing death. The food or ingredient that causes the response is called an *allergen*.

Causes and Symptoms of Food Allergies

A food allergy can have several different symptoms. Symptoms may include:

- Swelling of the mouth, lips, and/or tongue
- Itchiness in the mouth
- Rash and/or hives
- Runny nose
- Throat tightness
- Trouble breathing
- Vomiting, diarrhea, gastrointestinal pain
- Anaphylaxis

Anaphylaxis is the most dangerous food allergy reaction, as it can result in death if not treated quickly. Symptoms of anaphylaxis include:

- Drop in blood pressure
- Hives, itching, swelling of the mouth, lips, tongue
- Difficulty swallowing
- Constriction of the airway, which can cause wheezing, difficulty breathing
- Weak or rapid pulse
- Nausea, vomiting, diarrhea
- Dizziness or fainting

When someone has an anaphylactic reaction, one or more injections with an epinephrine autoinjector (e.g. EpiPen) is necessary, followed by a visit to the emergency department to make sure symptoms don't return.

While an allergy can develop to almost any food or ingredient, these are the most common food allergies:

Milk	Eggs	Peanuts	Tree nuts
Fish	Shellfish	Soy	Wheat

It's not just the food or ingredient itself that could potentially cause a reaction. ***Cross contact*** is when an allergen from one food is transferred to another. It does not have to be direct contact. For example, a knife used to spread peanut butter, if it is not cleaned thoroughly after use, could spread peanut protein to a jar of jam.

Managing Food Allergies

Severe food allergies may be considered a disability, which means schools are required to accommodate those allergies. For allergies that do not rise to the level of a disability, it's up to the school or district on whether they are able to accommodate the student's needs. Regardless, having a comprehensive written plan to deal with food allergies is a must.

Know what to avoid or substitute.

The first step in managing food allergies in the kitchen and lunchroom is knowing what to avoid and substitute. Ask parents of a child with a food allergy to provide a list from their physician of food ingredients the child needs to avoid as well as suggested substitutes. Be sure to always read labels, and check labels each time you get a shipment. Manufacturers sometimes change their formulations without warning, and you don't want to inadvertently serve an allergen to an allergic student. Include allergen information on your recipes to help identify which menu items may cause a reaction.

Prepare the kitchen and lunchroom.

Start by designating an area in the kitchen where allergy-free meals can be prepared and keep this area free of ingredients allergic students should avoid.

Have allergy-free tables in the cafeteria for students who need them. It is important to note that students with allergies cannot be required to sit at an allergy-free table, only encouraged. The reason for this is because it can be considered discrimination, which schools are prohibited from engaging in.

Prevent cross contact.

Preventing cross contact in your kitchen requires planning and diligence. Begin by cleaning surfaces, equipment, pans, and utensils with hot, soapy water before preparing allergen-free foods. Wash your hands with soap and water to remove any allergens.

If you are cooking several foods at the same time, cook allergen-free foods first, then keep them covered and away from other foods that are cooking. Use a separate cutting board for allergen-free foods. You may even want to have designated cutting boards and utensils just for preparing allergen-free foods.

When it's time for service, wash your hands thoroughly before serving allergen-free meals.

Identify the students.

Have a policy in place to identify the students moving through the line that need allergen-free meals. For example, some schools might have an alert on their POS system so that staff can quickly match students to their allergen-free meals. Keep in mind that a student's food allergy is considered medical information, which can only be shared on a need-to-know basis, so be sure that this information is not viewable or accessible by other members of the school community.

Develop cleaning procedures.

Designate a person responsible for ensuring that tables and surrounding areas are thoroughly cleaned with hot soapy water before and after meal periods. It's a good idea to have designated sponges or cleaning cloths for allergen-free tables.

Food for Thought

Food Intolerances

Food intolerances are a sensitivity to a food that does not involve the same type of immune response. Some types of intolerances don't involve the immune system at all. The most common food intolerances that you may encounter in your program are celiac disease and lactose intolerance.

Celiac Disease

Celiac disease is a reaction to gluten that results in the immune system attacking the lining of the gut. This leads to damage to the lining of the intestine that causes pain, diarrhea, gas, and bloating. If the damage becomes bad enough, it can lead to malnutrition.

- Celiac disease is treated by removing gluten from the diet. Those who have celiac disease need to avoid several grains. An easy way to remember is through the acronym WROB:
    - **W**heat

- **R**ye
- **O**ats
- **B**arley

Lactose Intolerance

Lactose intolerance occurs when the gut is unable to break down lactose during digestion. Symptoms of lactose intolerance are bloating, gas, and/or diarrhea after eating foods containing lactose. Those with lactose intolerance need to avoid foods with lactose in order to avoid symptoms.

Case Study

Delia, the onsite foodservice manager, arrived late to work Monday morning due to a nail appointment. Running late for a meeting, she washed her hands quickly before grabbing some bagels from dry good storage and cream cheese from the refrigerator for the staff. Unwrapping the plastic, she placed the bagels on a platter and raced off to the meeting room.

Bert, one of the cooks not attending the meeting, started preparing chicken sandwiches for lunch. Looking for the cleaning agent container, he stumbled upon an empty pesticide spray bottle. Not wanting to waste any more time, he filled up the empty pesticide container with the cleaning agent and began to spray down the counters. While he was preparing the chicken, his coworker Dev saw the pesticide bottle on the counter, and remembered he had seen a few ants wandering near the door to the loading area. He grabbed the bottle to spray the kitchen floor near the doorway.

At the end of the meeting, Delia was packing up to check-in with Bert on the chicken sandwiches when she noticed some of her nail polish had chipped and her pink pointer-finger nail fell off. Disappointed, she left the meeting room to find Bert. As she was walking toward him, she slipped on the cleaning solution Dev had unknowingly sprayed on the floor. She raised her voice to call Dev over to clean it up.

Bert became so distracted by the commotion, that he left the chicken in the oven too long. Charred on the outside, he decided to leave it on the cool countertop. He would instead use three-day old cold chicken that was stored in a container in the refrigerator for school lunch that day.

Questions:

1. List one action Delia, Bert, and Dev did incorrectly and state what should have happened instead.

2. What were some examples of factors that cause foodborne illness, such as time/temperature abuse or poor personal hygiene in the text above?

Lesson 2 Study Worksheet

The purpose of this worksheet is to help you review the material covered in this lesson. First, try to complete as much of the worksheet as possible from memory. Then go back and look up the information you need to fill in any remaining questions.

What are the three types of hazards that cause foodborne illness?

List potential sources of physical contamination, and ways to prevent them.

Source   **Prevention Method**

List potential sources of chemical contamination, and ways to prevent them.

Source   **Prevention Method**

What kind of information can you find on a Safety Data Sheet (SDS)?

What is important to know to prevent metal leaching into food?

What is a food allergy?

What is an allergen?

What type of contamination is it when there are allergens in a food?

List the possible symptoms of an allergic reaction.

What is anaphylaxis?

What are the possible symptoms of anaphylaxis?

What is cross contact?

What are the steps you can take to prevent cross contact?

Lesson 2 Review Quiz

1. **Which of these is one of the top eight allergies?**

   a. Strawberries

   b. Eggs

   c. Rice

   d. Mustard

2. **Which of these is NOT a characteristic of food allergies?**

   a. They are chemical contaminants.

   b. Cross contamination needs to be prevented.

   c. Cross contact needs to be prevented.

   d. They involve an immune response.

3. **Safety Data Sheets (previously called Material Safety Data Sheets) contain which of the following information?**

   a. Expiration date

   b. Closest emergency room

   c. Information about safe use

   d. All of the above

4. **Which of the following is <u>physical</u> contamination risk when preparing food?**

   a. Wearing single use gloves over false nails

   b. Storing a wiping cloth in the back pocket of jeans

   c. Using shatterproof light fixtures

   d. Reusing single-use containers

5. **Which of the following is a <u>chemical</u> contamination risk?**

   a. Storing chemicals in a food storage area on an open shelf

   b. Storing chemicals in a food storage area in a locked cabinet

   c. Storing medication in refrigerator in the staff break room

   d. Storing medication in a locker in the staff break room

6. **Which of the following is a <u>biological contaminant</u>?**

    a. Bones in a fish filet

    b. Allergens

    c. Viruses

    d. All of the above

7. **How often should a can opener be cleaned?**

    a. When changing the blade

    b. Twice per week

    c. Before and after each lunch period

    d. Once per day or more

8. **True or False: Sanitizing solutions remove allergens**

    a. True

    b. False

Lesson 3 – Biological Contaminants

Introduction

We learned in Lesson 2 about two of the three basic hazards that can cause foodborne illness. In this lesson, we will talk more in depth about biological contaminants. Biological contaminants are harmful pathogens or toxins produced by microorganisms.

Learning Objectives

- Contrast the terms food contamination and food spoilage.
- Identify factors that affect bacterial growth and explain the bacterial growth curve.
- Describe the effect of acidity or alkalinity on bacterial growth and how this affects food handling and storage.
- Recognize common pathogens found in the food service environment that may cause foodborne illness.

Concepts and Vocabulary

Biological contaminants – harmful microorganisms present in food or beverages

Food spoilage – when a food becomes inedible due to damage

Pathogens – harmful microorganisms that cause illness

Bacteria – single-celled organisms that have a distinct cellular structure

Viruses – an agent that is only able to grow and reproduce by hijacking a living cell's machinery to replicate

Parasites – single-celled or multi-celled organisms that require a host to reproduce

Fungi – a varied group of organisms that range from single-celled yeasts to molds to large complex mushrooms

Biological toxins – toxins produced by microorganisms

Infection – when a pathogen grows and reproduces in the body

Intoxication – when a pathogen produces a toxin while it grows and reproduces in a food, which is then ingested, causing illness

Toxin-mediated infection – when a pathogen is ingested and produces a toxin that makes a person ill while it grows and reproduces in the body

Lag phase – the phase of bacterial growth when there are only a few bacteria

Log phase – the phase of bacterial growth when bacteria are rapidly reproducing

Stationary phase – the phase of bacterial growth in which growth slows

Decline or death phase – the phase of bacterial growth in which the number of bacteria drops as they die off from lack of food or being poisoned by their own waste products

FATTOM – an acronym of the six requirements for bacterial growth (food, acidity, temperature, time, oxygen, and moisture)

Spore – a structure that some bacteria species can produce to survive conditions that would otherwise kill the cell

Vegetative cell – a cell that is able to grow and multiply

Big Six – the six pathogens identified by the FDA as being highly infectious

Person in Charge – the individual present at a food facility who is responsible for the operation of the food facility, such as a manager

High-risk population – those who are more likely to contract a foodborne illness, such as the immune compromised, young children, and the elderly

The Basics of Biological Contaminants

When a harmful microorganism that causes illness is present in a food, it can have severe consequences. Harmful microorganisms are known as *pathogens*.

While we are concerned with preventing illness from pathogens, not all microorganisms in food cause harm; for example several strains of bacteria, yeasts, and mold are used in the production of foods that are enjoyed worldwide, such as bread, cheese and yogurt, or fermented vegetables such as kimchi or sauerkraut.

In addition to pathogens and beneficial microorganisms, there are also microorganisms that cause a food to spoil. There is an important distinction between food contamination and food spoilage. *Food spoilage* is when a food becomes inedible due to damage, although it doesn't necessarily mean that a food is contaminated and will cause illness. Spoilage is detected by sight, smell, and taste, while biological contamination is usually not detectable. Although the molds and bacteria that cause food spoilage do not cause illness, the presence of spoilage could mean that harmful bacteria have been able to proliferate as well. Spoiled food should always be discarded.

Categories of Biological Contaminants

There are several different categories of biological contaminants and the ways we prevent foodborne illness target these different contaminants in different ways. First, let's review the major categories of biological contaminants.

Bacteria

Bacteria are single-celled organisms that multiply when conditions are favorable and are so small that they can only be seen through a microscope. Pathogenic bacteria cause a large proportion of foodborne illnesses.

Viruses

Viruses are very small, even smaller than bacteria. They are unable to grow and reproduce on their own; they must invade host cells and hijack the cell's machinery in order to reproduce. For example, a cold virus invades the cells lining the respiratory tract, such as in the nose, and uses those cells to make more of the cold virus. In that way it can spread from cell to cell, and then person to person.

Parasites

Parasites can be either single-celled or multi-celled organisms. Parasites require a host to reproduce, but the host can be either human or animal. Foodborne parasites are generally either protozoa, which are single-celled and can be present in unsafe water, or flatworms or roundworms that infect pork or fish.

Fungi

Fungi are a varied group of organisms and range from single-celled **yeasts** to **molds** to large complex mushrooms. Yeasts and molds can present an issue in food service by causing food spoilage, although a few strains of mold produce toxins that cause foodborne illness.

Toxins

Biological toxins are produced by microorganisms.

Infection or Intoxication?

There are different mechanisms by which a pathogen causes illness in a person, and different types of contaminants are able to cause illness in different ways. In general, it boils down to whether the pathogen grows and reproduces in the food, or grows and reproduces in the person after it's been ingested. We'll discuss in detail later on in the lesson what individual species of pathogens are capable of, but first, it's important to know the difference between an infection and an intoxication.

Infection

A foodborne *infection* occurs when a pathogen is ingested and then grows and reproduces in the body. Examples include bacteria such as *Listeria monocytogenes*, as well as all foodborne illness-causing viruses and pathogens. A **toxin-mediated infection** is a kind of infection that occurs when a pathogen produces a toxin while it is growing in the body that makes a person ill. An example is Shiga toxin-producing *Escherichia coli*.

Intoxication

A foodborne *intoxication* occurs when the pathogen produces a toxin while it grows and reproduces in a food. The toxin is then ingested and causes illness. Examples

include toxin-producing bacteria such as *Clostridium botulinum* and *Staphylococcus aureus.*

Brass Tacks of Bacteria

A lot of what we do to keep food safe is to prevent pathogenic bacteria in food from growing and reproducing to unsafe levels. First, let's discuss the pattern of bacterial growth.

Bacterial Growth Curve

When conditions are right for growth, bacteria follow a pattern of growth with the following four phases:

Lag phase

This is the phase in which there are just a few bacteria. They're just getting started, (you can think of them as lagging behind) so the number of bacteria is still fairly small. In ideal conditions, a single bacterium will divide every 20 minutes.

Log phase

As bacteria grow in number, they enter the log phase. It's called this because of "logarithmic growth" (you can think of them as logging miles, as if they were in a race). The bacteria are still dividing every 20 minutes, causing their numbers to double. Since there are so many, the number of cells is growing at an increasing rate.

Stationary phase

After a while, growth slows down and bacterial growth enters the stationary phase. This is because the conditions aren't ideal anymore, due to too many bacteria competing for the same resources.

Decline or Death phase

Finally, bacterial growth enters the decline phase (also called the death phase). The number of bacteria drops as they die off from lack of food or being poisoned by their own waste products.

Bacterial Growth Curve
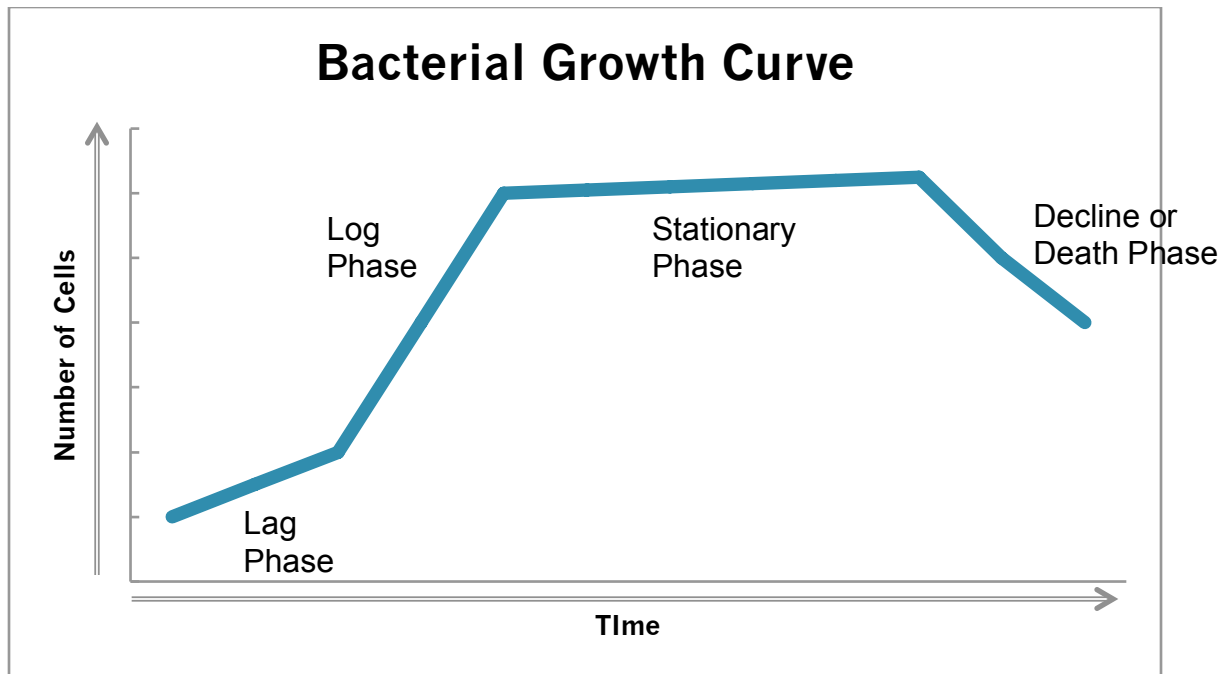
We want to keep bacteria in the lag phase as much as possible, because this is the phase in which the numbers of bacteria are the lowest. They haven't yet had a chance to experience the explosive growth of the log phase. While bacteria reproduce slowly in the stationary phase and are dying off in death phase, the numbers are still high because they've already gone through the log phase. In addition, if the species of bacteria causes foodborne intoxication, it's had ample time to produce enough toxin to cause illness.

Controlling and Slowing Bacterial Growth

We want to control and slow the growth of bacteria so that they stay in the lag phase as much as possible, but how do we do that? We do this by creating an environment that deprives bacteria of what they need to grow. Bacteria have six main requirements for growth that can be remembered with the acronym *FATTOM*.

Food

Like any living organism, bacteria require food. In particular, bacteria thrive on foods that are high in protein or carbohydrates. If you think back to the time/temperature control for safety (TCS) foods discussed in lesson 1, nearly all of these foods are either high in protein or carbohydrates or both.

Acidity

Bacteria grow best in foods that are neutral to slightly acidic. The pH range most pathogenic bacteria prefer is from 4.6 to 7.5.

While many foods that we enjoy are quite acidic, such as citrus fruits, most foods are in the range that bacteria prefer.[2]

What is pH?

We use the *pH scale* as a way to measure how acidic or alkaline a substance is. The scale ranges from 0 to 14.

- 7.0 is neutral – neither acidic nor alkaline
- <7.0 is acidic. The smaller the number, the more acidic a substance is.
- >7.0 is alkaline. The larger the number, the more alkaline a substance is.

Bacteria grow in
pH range of 4.6 – 7.5

Acid   Neutral   Alkaline

0   7   14

Lemons
2.2-2.4

Apples
3.3-4.0

Berries
3.2-4.5

Tomatoes
4.2-4.9

Raw ground
beef 5.1-6.2

Milk, poultry,
cooked rice
6.5-7.0

Egg whites
7.0-9.0
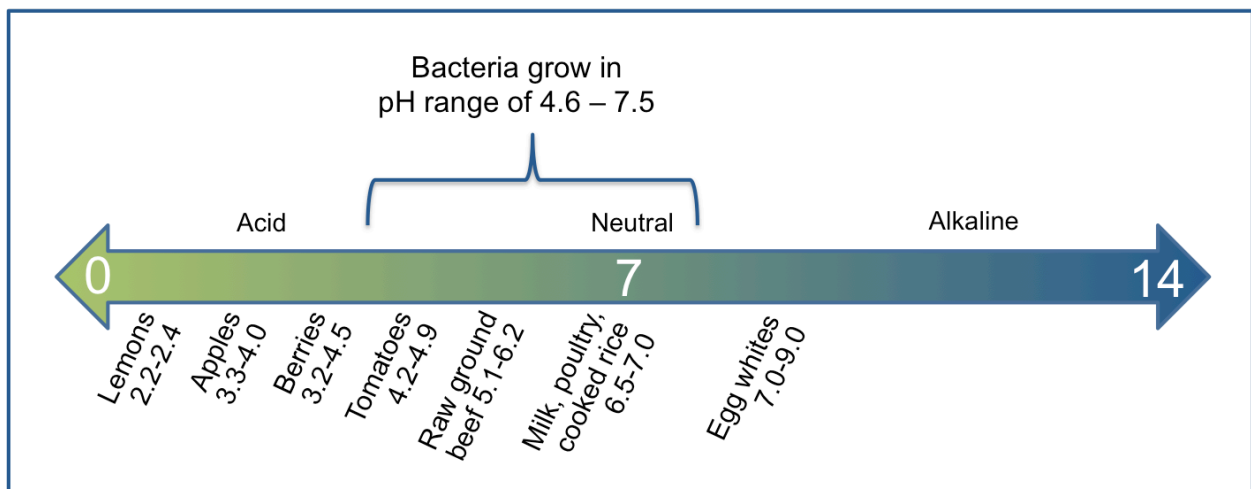
Temperature

The temperature range in which bacteria grow rapidly is known as the *temperature danger zone*. This range is **41 °F to 135 °F**.

"Keep hot foods hot and cold foods cold" is a phrase used commonly in food service. It means to keep food out of the temperature danger zone by keeping cold foods below 41 °F and hot foods above 135 °F.

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[2]For more information, see the FDA Bad Bug Book at http://www.fda.gov/Food/FoodborneIllnessContaminants/CausesOfIllnessBadBugBook/ucm122 561.htm

Time

In the right conditions, bacteria can double in number every 20 minutes. This means that a single bacterium can become millions in a matter of hours. Limiting the amount of time TCS foods spent in the temperature danger zone is critical so that bacteria a limited in how much they are allowed to grow.

Oxygen

Different species of bacteria respond to the presence of oxygen in different ways. Most species of bacteria that cause foodborne illness can survive either with or without oxygen, although a few need oxygen and a few are poisoned by oxygen.

Moisture

Bacteria need moisture to grow. If a food is too dry, bacteria lack the necessary water to reproduce. Moisture is measured using water activity (a_w). Most bacteria need water activity of at least 0.85. All of the TCS foods are fairly moist, some even have a_w of 0.99, such a raw meat and fresh vegetables.

> *What is water activity (a_w)?*
> Water activity is a measure of how much moisture is available for bacteria to use for growth.
>
> Water activity ranges from 0 (no water activity) to 1.0 (pure water).

Spore-forming Bacteria

While bacteria grow in environments that meet FATTOM criteria, some bacteria are able to survive conditions that are less than ideal by forming *spores*. Spores are dormant and can survive an extremely long time without nutrients. They can even withstand freezing, all but the most extreme heat, some sanitizing solutions, and radiation. When conditions improve, the spore can germinate and become a *vegetative cell*. This means the cell is able to grow and multiple.

What kinds of conditions are needed for a spore to become a vegetative cell? It means that conditions meet the FATTOM requirements. For example, a bacterium might form spores to survive freezing, but when the food enters the temperature danger zone, the spore germinates, becomes a vegetative cell, and starts to multiply.

There are a few spore-forming pathogens we have to be vigilant against in food service: *Bacillus cereus*, *Clostridium botulinum*, and *Clostridium perfringens.* All three of these cause foodborne intoxications, so we have to be very careful about time and temperature control to prevent spores from germinating and producing their toxins and causing illness.

The View on Viruses

Viruses are microscopic pathogens that require a host to grow and reproduce; this means they are only able to cause infections. Because viruses don't grow in food and cooking doesn't destroy viruses, time and temperature control are ineffective and thorough handwashing and good personal hygiene are the main lines of defense against the spread of viral pathogens.

Viruses that cause food-borne illness are primarily spread through inadequate hand washing after using the restroom. This is called the fecal-to-oral route. In addition to being transferred directly from an infected individual to a food, viruses can also be transferred from:

- One food to another
- Contaminated water to a food
- Food contact surface to a food.

Properties of Parasites

Parasites are small or microscopic organisms that require a host to live and reproduce. Like viruses, parasites do not grow and reproduce in food, although they can contaminate food and water. The most common parasites are roundworms, which are found in some kinds of meat (pork, wild game) and fish, and protozoa found in contaminated water. Unlike viruses, parasites are killed by cooking. Some are killed by freezing, which is why fish that is to be served raw (such as in sushi) is required to be frozen for at least 7 days at -4 °F (-20 °C). The freezing time is reduced to 15 hours if stored at -31 °F or below.

Fundamentals of Fungi

Fungi are a varied group of organisms and range from single-celled *yeasts* to *molds* to large complex mushrooms. Molds and yeasts can cause food spoilage, and a few molds produce toxins that cause food-borne illness. Molds can grow on almost any food, in a variety of conditions and can survive lower moisture and lower pH than bacteria. However, all molds are aerobic and require oxygen to grow. Unlike bacteria, contamination by mold is usually easy to see. Keys to preventing spoilage from molds and yeasts are proper inventory control and rotation.

Biological Toxins

In addition to pathogens, there are also biological toxins known to contaminate fish. These toxins are not destroyed by freezing or cooking. The best way to prevent contamination is through purchasing fish from reputable sources.

The Big Six

According to the FDA, there are six highly infectious foodborne pathogens known as the "*Big Six*." These six pathogens are:

- Shiga toxin-producing *E. Coli*. (such as *Escherichia Coli* O157:H7 or other *enterohemorrhagic E. coli)*
- Nontyphoidal *Salmonella* species
- Salmonella typhi
- *Shigella* species
- Hepatitis A
- Norovirus

While there are many other pathogens that cause foodborne illness (see Appendix D for more information on these), these pathogens are spread very easily and can cause severe illness.

Shiga toxin-producin Escherichia coli (causes infection or toxin-mediated infection)	
Symptoms	**Time to Onset**
Abdominal pain, diarrhea (sometimes bloody), vomiting. Severe cases: kidney failure and hemolytic uremic syndrome (HUS)	1 to 8 days
Food sources	**Prevention**
Undercooked meat, unpasteurized milk and juice, lettuce, alfalfa sprouts, contaminated water	Time and temperature control, proper handwashing, proper sanitation, avoid cross-contamination

Non-typhoidal *Salmonella* species (causes infection)	
Symptoms	**Time to Onset**
Diarrhea, fever abdominal cramps, nausea or vomiting	6 to 48 hours
Food sources	**Prevention**
Eggs, poultry, meat, unpasteurized milk or juice, cheese, contaminated raw fruits (such as raw melon) and vegetables	Time and temperature control. avoid cross-contamination

Salmonella typhi (causes infection)

Symptoms	Time to Onset
Diarrhea, fever abdominal cramps, nausea or vomiting	7 to 28 days

Food sources	Prevention
Ready to eat foods, beverages, foods handled by an infected food handler	Proper handwashing, good personal hygiene, time and temperature control. avoid cross-contamination

Not so fun facts
Salmonella typhi, causes typhoid fever and in spread by infected food handlers. A person infected with this bacterium can continue to spread the pathogen for weeks after symptoms subside.

Shigella species (causes infection)	
Symptoms	**Time to Onset**
Diarrhea, fever abdominal cramps, nausea or vomiting. Stools may contain blood and mucus.	1 to 7 days
Food sources	**Prevention**
Cold salads (e.g. tuna, egg, chicken), raw produce, foods handled by an infected food handler	Time and temperature control, proper handwashing, avoid cross-contamination, wash produce thoroughly.
Not so fun fact:	
Some species of *Shigella* are able to produce Shiga-toxins.	

Hepatitis A (causes viral infection)	
Symptoms	**Time to Onset**
Diarrhea, fever, abdominal cramps, nausea, vomiting, jaundice.	10 to 50 days
Food sources	**Prevention**
Shellfish, salads, ready-to-eat food, fruit and juice, milk products, vegetables, ice, foods handled by an infected food handler, contaminated water	Proper handwashing, good personal hygiene. Avoid cross-contamination. Use approved sources for shellfish. Proper sanitation. Use potable water from non-contaminated sources.

Norovirus, also called Norwalk virus (causes viral infection)	
Symptoms	**Time to Onset**
Diarrhea, fever, abdominal cramps, nausea	24 to 48 hours
Food sources	**Prevention**
Water, ice, ready-to-eat foods, salads, foods handled by infected food handlers	Proper handwashing, good personal hygiene. Avoid cross-contamination. Use potable water from non-contaminated sources.

Stay Away!

It's common sense that someone who is ill probably shouldn't be handling food. Depending on the illness or the symptoms the employee has, they will need to report the illness or symptoms to the *person-in-charge (PIC)*. The PIC will probably be the manager or supervisor that is in charge that day. It's then up to the PIC to either exclude someone from working, or restrict them from working with food, depending on the circumstances. There are three things we need to consider when making this decision:

1. **What are their symptoms?** Certain symptoms, such as vomiting, diarrhea, jaundice, or a sore throat with fever may mean a person is capable of spreading illness to others.

2. **Have they been diagnosed with any of the Big Six?** If they've recently been diagnosed with one of the Big Six, an employee should definitely not work with food. However, a lot of the time when someone has a foodborne illness they are never diagnosed. It may be necessary to exclude someone based on symptoms alone.

3. **Have they been exposed to any foodborne illnesses?** This means a person has been in contact with someone who has had a foodborne illness, even if they don't feel sick and haven't been diagnosed. For example, if an employee has a child that has Norovirus, that employee has been exposed to Norovirus.

In general, any diagnosed foodborne illness, or symptoms of a foodborne illness requires the employee be excluded from work until a doctor has cleared them to return. For those who work with high-risk populations, the requirements are stricter. This is because a foodborne illness can be much more serious in those who are very young,

the elderly, and the immune compromised. Below are the guidelines to follow when an employee is ill.

Report to the Person-in-Charge

Food service employees with certain symptoms and illnesses need to be reported to the PIC.

- Symptoms: Vomiting, diarrhea, jaundice, sore throat with fever, exposed boil or infected wound that is open and/or draining on the hands or arms
- Diagnosed illness: Any of the Big Six
- Exposed to:
    - Norovirus within the last 48 hours
    - Shiga toxin-producing *E. coli*, *Shigella*, within the last 3 days
    - *Salmonella typhi* within the last 14 days
    - Hepatitis A within the last 30 days

Exclude from work:

- Symptomatic with vomiting, diarrhea, jaundice.
- Symptomatic with vomiting, diarrhea with a diagnosis of Norovirus, Shiga toxin-producing *E. coli*, *Shigella*, or nontyphoidal *Salmonella.*
- Diagnosed with hepatitis A (with or without jaundice)
- Diagnosed with *Salmonella typhi* within the last 3 months.
- If serving a high-risk population, anyone who is asymptomatic but has been diagnosed with Norovirus, Shiga toxin-producing *E. coli*, *Shigella*, or nontyphoidal *Salmonella.*
- If serving a high-risk population, anyone who has been exposed to one of the Big Six

Restrict from working with food:

- Sore throat with fever
- Exposed boil or infected wound that is open and/or draining on the hands or arms
    - If the wound, cut, or burn is properly covered with an impermeable cover like a finger cot or a disposable glove, over a dry, durable, tightfitting bandage, then they may be allowed to work with food.
- If not serving a high-risk population, anyone who is asymptomatic but has been diagnosed with Norovirus, Shiga toxin-producing *E. coli*, *Shigella*, or nontyphoidal *Salmonella.*
- If not serving a high-risk population, anyone who has been exposed to one of the Big Six.

Case Study

Rebecca, the foodservice manager, entered the break room just in time to overhear her staff member, Sonia, complaining about a sick child at home who had likely contracted Norovirus from day care. Rebecca crossed her fingers that Sonia wouldn't get sick, since many of the staff were already out due to a sore throat and fever, leaving her shorthanded. Tim was lingering in the break room over his coffee, looking extremely pale and fatigued. Rebecca thought it was best to have him help her do office work until he felt better.

Later on that morning, Sonia, Benny, and Beth were in the kitchen prepping food for lunch. Beth continued to wipe her nose on her sleeve, while Benny kept leaving his station in a rush to the bathroom. Rebecca checked-in with both of them in concern for their health. Beth told her she felt fine and that she would continue to wash her hands throughout the day and would sanitize more often than she would if she did not have a runny nose. Benny mentioned he believed he was recovering from food poisoning after eating at a new local restaurant. Since Rebecca was shorthanded and running low on staff members, she decided to let Beth continue making lunch, but instructed her to take extra care to not contaminate any food. Rebecca sent Benny home and discarded the food he had handled and sanitized his station thoroughly.

As the time went on, Beth began to feel worse. She decided to rush through their food preparations to help Rebecca and Sonia make enough food items to serve the students. She did her best to wash her hands as much as needed and to adhere to food safe practices, but forgot to check the temperatures of the food she had prepared. However, even shorthanded, Beth, Rebecca, and Sonia were able to finish just in time to serve all the students for lunch.

Questions:

1. If you were in Rebecca's shoes, what would you have done differently?

2. Based on some of the symptoms, what illness could Benny have contracted?

3. What are the symptoms and illnesses that would prevent staff from being able to work in a food facility? What are the symptoms and illnesses that would require them to be restricted from working with food?

Lesson 3 Study Worksheet

The purpose of this worksheet is to help you review the material covered in this lesson. First, try to complete as much of the worksheet as possible from memory. Then go back and look up the information you need to fill in any remaining questions.

What is the difference between food contamination and food spoilage?

What are pathogens?

What are the five major categories of biological contaminants?

1.
2.
3.
4.
5.

Describe foodborne infections, intoxications, and toxin-mediated infections.

Infection

Intoxication

Toxin-mediated infection

Label the below graph with the four phases of bacterial growth.
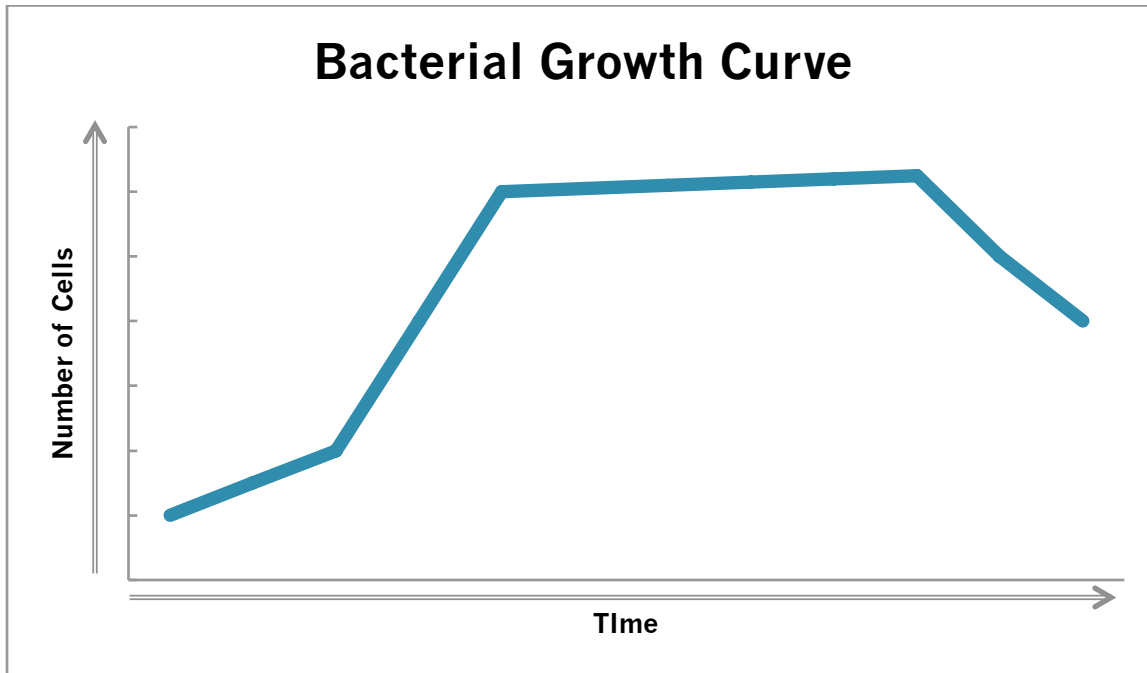
Bacterial Growth Curve

Number of Cells

Time

Which of the four phases is the one we need to focus on to be most effective in preventing foodborne illness?

What are the six factors that affect growth of bacteria? List one important fact to remember for each.

Factor	Important Fact to Remember
1.	
2.	
3.	
4.	
5.	
6.	

What is the difference between a spore and a vegetative cell?

Which pathogens are able to form spores?

List the Big Six, their symptoms, common food sources, and methods of prevention.

Pathogen	Symptoms	Food Sources	Prevention
1.			
2.			
3.			
4.			
5.			
6.			

Complete the following table:

Report to the PIC	Exclude from Work
Symptoms Diagnosed illnesses Exposures	Symptoms Diagnosed illnesses Exposures
Restrict from Working with Food Symptoms Diagnosed illnesses Exposures	**When Serving a High-Risk Population: Exclude** Symptoms Diagnosed illnesses Exposures

Lesson 3 Review Quiz

1. **Which of the following foodborne pathogens are controlled through time and temperature?**

   a. Hepatitis A

   b. Norovirus

   c. Shigella

   d. Rotavirus

2. **Which of the following has been linked to *Clostridium botulinum* outbreaks?**

   a. Improperly canned foods

   b. Undercooked chicken

   c. Contaminated water

   d. Unpasteurized cheese

3. **Under which of these pH levels are bacteria likely to grow?**

   a. pH=2.0

   b. pH=7.4

   c. pH=4.5

   d. pH=1.4

4. **Which of these is a water activity (a_w) that bacteria would grow at?**

   a. a_w= .85

   b. a_w= .75

   c. a_w= .65

   d. a_w= .55

5. **Which of these statements describes the bacteria in the lag phase?**

   a. Bacteria decline rapidly.

   b. Bacteria grow rapidly.

   c. Bacteria double every 20 minutes.

   d. Bacteria grow slowly.

6. **An employee of yours has developed nausea, vomiting, and jaundice. Which of the following pathogens is most likely to have caused their symptoms?**

    a. Norovirus

    b. Hepatitis A

    c. Listeria monocytogenes

    d. Salmonella

7. **An employee arrives to work complaining of a sore throat and fever. Which of the following actions should you take?**

    a. Allow the employee to work, but restrict from working with food

    b. Exclude the employee from work

    c. Allow the employee to work as normally, but wear a mask

    d. Exclude the employee from work and report the illness to the health department

8. **An employee is preparing the steam table for the first lunch period. Not wanting to feel too hot while serving, he sets the steam table to the lowest setting. During the lunch rush, he forgets to check the internal temperatures of the foods in the steam table. Which of these is a potential consequence?**

    a. Cross contamination

    b. Cross contact

    c. Time/temperature abuse

    d. Bacterial spore formation

Lesson 4 – Personal Hygiene

Introduction

In a food service establishment, good ***personal hygiene*** is necessary to help prevent contamination and the spread of foodborne illness. In Lesson 3, we learned about how different pathogens can cause foodborne illness. In this lesson, we'll go into detail on what is proper personal hygiene in food service, and what steps we need to take to keep food safe.

Learning Objectives

- Identify unsafe attire, such as dangling earrings, nail polish, etc.
- Summarize key steps of glove use.
- Describe the symptoms of food-borne illness that disqualify a person from working with food.
- Demonstrate the steps of effective handwashing.
- Apply sanitary personal practices for safe food service in the workplace.
- Describe ways that proper personal hygiene help prevent food contamination.

Concepts and Vocabulary

Handwashing station – a sink and supplies designated solely for handwashing

Hair restraint – a hat, hairnet, or visor designed to keep hair confined

Bare hand contact – touching food with ungloved hands

Hand antiseptics – a gel, foam, or liquid that is applied to the hands to reduce the number of bacteria present

Handwashing: Why, How, Where, and When

Why

Handwashing is one of the key lines of defense in the fight against foodborne illness. As you'll recall from Lesson 3, handwashing is particularly important in preventing the spread of viruses, as these are not controlled through time and temperature.

How

Making sure your hands are washed adequately is more than a matter of soaping them up and rinsing them off. The steps of proper handwashing are:

1. Use warm (at least 100 °F) to wet your hands and forearms.
2. Apply soap and work it into a good lather.
3. Briskly scrub hands and forearms up to the elbow for 15 seconds. Don't forget to clean under fingernails and between fingers.
4. Rinse hands and forearms with warm water. Don't turn off the water yet.

5. Dry hands and forearms with a paper towel.

6. Use the paper towel to turn off the faucet. Use the towel to open the door, if there is one.

7. Discard the paper towel in a trashcan.

Where

While it may seem like any sink should be fine to be used for handwashing, hands should only be washed in sinks designated for handwashing. Never wash hands in prep sinks, dishwashing sinks, or utility sinks, because this might spread contamination. Designated handwashing stations must have:

- Hot (at least 120 °F from the tap) and cold running water

- Soap

- Single-use paper towels or a hand dryer

- A trash can for paper towels

- A sign that says "Employees must wash hands before returning to work"

When

The short answer for when you should wash your hands is before beginning work, before preparing or serving food, and anytime they may have become contaminated.

The long answer is that hands should be washed:

- When reporting to work.

- Before beginning food preparation.

- Before putting on disposable gloves.

- Before serving food.

When in doubt, wash your hands.

- After doing anything that could contaminate your hands, including:
  - Using the restroom – this is particularly important because of viral pathogens.
  - Touching raw meat, poultry, or seafood.
  - Touching or scratching your face, hair, or body.
  - Touching your clothing or apron.
  - Eating, drinking, using tobacco, or chewing gum.
  - Sneezing, coughing, or using a tissue.
  - Touching animals (including service animals, fish or shellfish in aquariums).
  - Taking out the trash.

- o   Handling chemicals (such as sanitizer, cleaning chemicals, pesticides).

- o   Busing tables or clearing dirty dishes.

- o   Handling money.

- o   Cleaning or wiping prep and work surfaces, tables, equipment, etc.

- o   Whenever you leave and return to the kitchen.

Food Safe Fashion

Keeping food safe isn't just about keeping your hands clean. What we wear can also play a role; in food service, this means sticking to styles that minimize the potential for spreading contamination.

Let's start with fingernails. Keeping fingernails neatly trimmed and filed makes them easier to keep clean and helps prevent nails from harboring pathogens. False nails and nail polish shouldn't be worn because they can become a physical contaminant. No one wants to find a false nail or a flake of nail polish in his or her food. However, in California they are allowed as long as single use gloves are worn when touching food or food contact surfaces.

Hair restraints are a must to prevent hair from falling into food. Hats, hair coverings, or hairnets are all options, and beard restraints and clothing that covers body hair may also be necessary depending on the employee.

Jewelry is another area in which we need to take care to only wear items that don't present a risk of physical or biological contamination. Other than a smooth, plain wedding band, no jewelry should be worn on hands and wrists, including medical alert bracelets. In California, employees are allowed to wear rings other than smooth bands as long as single use gloves are worn when touching food or food contact surfaces.

Lastly, clean clothing should be worn daily to prevent contamination; ideally this would mean changing into clean work clothes after arriving. Aprons should only be worn in food prep areas; for example, they should be removed before using the restroom or taking out trash.

Glove Guidelines

Single-use gloves are a great tool in our food safety toolbox to help prevent contamination, but only if they are used properly. It's important to note that gloves do not replace handwashing – hands need to be washed before putting on gloves. Employees need to remember that gloves become contaminated just as easily as hands do and that they need to be changed anytime you would normally wash your hands. This means changing gloves after handling raw meat, poultry, or seafood, before handling ready-to-eat food, when switching tasks, after an interruption to food handling, and whenever they've potentially been contaminated. When switching tasks, or if your

hands have become contaminated, hands should be rewashed before putting on a new set of gloves.

How to Put on Gloves

- Wash your hands before putting on gloves.

- Only use gloves that are single-use and approved for use with food.

- Wear gloves that are the right size for your hands. Gloves that are too big may slip off and gloves that are too small may break.

- Never blow into gloves or roll them to make them easily to put on.

- Before putting them on, check gloves for rips or tears.

Bare Hand Contact and Ready-to-Eat Foods

Ready-to-eat foods are those that are not going to undergo cooking or any further cooking before being served. Because of this, there is a chance that pathogens might be introduced to ready-to-eat foods if we aren't careful and diligent in their handling. Ready-to-eat foods should never be touched with bare hands. Gloves or utensils (such as tongs) should always be used.

In some limited cases, ready-to-eat foods can be handled with bare hands, but only if they are going to be subsequently heated to a safe temperature.

- If the dish doesn't contain raw meat, poultry, or seafood, it must be heated to at least 145 °F. For example, adding cheese to a pizza before it is cooked.

- If the dish contains raw meat, poultry, or seafood, it must be heated to the minimum safe internal temperature of the raw ingredient. For example, adding shredded carrots to a chili that contains ground turkey. This would need to be cooked to a minimum internal temperature of 165 °F.

Hand Antiseptics

As with gloves, hand antiseptics (sometimes called hand sanitizers) can be used in addition to handwashing, not in lieu of. This is because hand antiseptics are designed to reduce the number of bacteria and other microorganisms on your hands, rather than clean them. According to the CDC, they're not as effective when hands are dirty or greasy, and may not be able to remove chemicals, such as cleaners. [3]

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[3] Show Me the Science – When & How to Use Hand Sanitizer; CDC; 2016; https://www.cdc.gov/handwashing/show-me-the-science-hand-sanitizer.html

What's important to remember is that they have to safe to be used in a food service establishment. But what qualifies as safe? If you are going to use hand antiseptics, the active antimicrobial ingredient is required to be FDA approved as an antiseptic handwash.

<table>
<tr><td>Food for Thought</td><td>

They also need to be generally recognized as safe under one of the following federal regulations:

- 21 CFR 178 - Indirect Food Additives: Adjuvants, Production Aids, and Sanitizers as regulated for use as a Food Additive with conditions of safety use.

- 21 CFR 182 - Substances Generally Recognized as Safe

- 21 CFR 184 - Direct Food Substances Affirmed as Generally Recognized as Safe,

- 21 CFR 186 - Indirect Food Substances Affirmed as Generally Recognized as Safe for use in contact with food.

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Recap – Symptoms that Disqualify an Employee from Working with Food

While it was covered in Lesson 3, a key part of personal hygiene is being aware of the symptoms that disqualify a food service employee from working with food.

The following requires someone to be excluded from work:

- Symptomatic with vomiting, diarrhea, jaundice

- Symptomatic with vomiting, diarrhea with a diagnosis of Norovirus, Shiga toxin-producing *E. coli*, *Shigella*, or nontyphoidal *Salmonella.*

- Diagnosed with hepatitis A (with or without jaundice)

- Diagnosed with *Salmonella typhi* within the last 3 months.

- If serving a high-risk population, anyone who is asymptomatic but has been diagnosed with Norovirus, Shiga toxin-producing *E. coli*, *Shigella*, or nontyphoidal *Salmonella.*

- If serving a high-risk population, anyone who has been exposed to one of the Big Six

Case Study

Riki arrived to work a few minutes late. She waved hello to her coworkers who were already prepping for breakfast and walked over to the area where clean aprons were stored. She grabbed one off the hook and put it on while walking over to her lead, Omar, to check in and find out what tasks needed to be completed. Omar asked Riki to portion out fruit salad that had been prepared the night before into ½ cup servings.

On her way to the walk-in cooler, Riki took her gum out and tossed it in one of the nearby trash cans. She pulled out the storage container of fruit salad and placed it on one of the prep counters, after which she grabbed a stack of disposable containers with lids for the fruit salad and a measuring cup. Washing her hands quickly in the nearby dishwashing sink, she dried them on her apron before grabbing a pair of gloves from the dispenser. To make them easier to put on, she selected a pair that fit loosely.

When Riki was on her last few portions of fruit salad, she felt her phone buzz in her pocket. She pulled off her gloves and left them on the counter while she walked out of the kitchen to take the call. Finishing up her call, she dropped her phone in her apron pocket and returned to the kitchen. She pulled her gloves back on and portioned out the last of the fruit salad.

After breakfast was over, Riki wiped down and sanitized the salad bar so that it would be ready for the first lunch period. After that, she pulled her phone out of her apron pocket to check her text messages and returned to the kitchen. Seeing that her coworker Masha needed help moving just-baked rolls from the baking sheets into pans for the lunch line, she pulled on a fresh pair of gloves and started grabbing rolls.

Questions:

1. What are some of the unsafe things that Riki did?

2. What are some of the consequences of Riki's choices?

3. If you were kitchen manager, what food safety topics would you include in a refresher training for staff? Why?

Lesson 4 Study Worksheet

The purpose of this worksheet is to help you review the material covered in this lesson. First, try to complete as much of the worksheet as possible from memory. Then go back and look up the information you need to fill in any remaining questions.

What are the steps for handwashing?

What are the requirements for a handwashing sink?

List the instances in which you are required to wash your hands.

If an employee was dressed for food safety, what would they need for each of the following?

    Hair

    Jewelry

Clothes

Hands

What are the important things to remember about glove use?

What are the important things to remember about hand antiseptics?

Lesson 4 Review Quiz

1. **An employee washed her hands and put gloves on to prep raw chicken. She finishes up with the raw chicken and is ready to move on to her next task, which is to slice tomatoes for the salad bar. Which of the following should she do?**

   a. Change gloves

   b. Change gloves and then wash hands

   c. Wash hands and then change gloves

   d. Use hand antiseptic and change gloves

2. **Which of these pathogens is most likely to be spread by poor personal hygiene?**

   a. Norovirus

   b. *Clostridium perfringens*

   c. *Giardia*

   d. *Trichinella spiralis*

3. **After which of the following should you always wash your hands?**

   a. Before beginning work

   b. After handling trash

   c. After using the restroom

   d. All of the above

4. **Which of these is a NOT an example of good personal hygiene?**

   a. Wearing a fresh, clean apron daily

   b. Serving ready-to-eat foods with clean hands

   c. Wearing a hairnet

   d. Washing hands and then using hand antiseptic

5. **An employee shows up to work wearing nail polish, a ring that is a smooth band, and a watch. What does the California Retail Food Code require that the employee do?**

    a. Remove the nail polish, ring, and watch before handling food

    b. Remove the watch and wear gloves while handling food

    c. Remove the ring and nail polish before handling food

    d. Wear gloves while handling food

6. **When should an apron be removed?**

    a. Before cleaning lunchroom tables

    b. Before using the rest room

    c. Before handling trash

    d. All of the above

7. **Which of these is the best way to make sure gloves don't break while wearing them?**

    a. Roll the gloves before putting them on

    b. Blow into the gloves before putting them on

    c. Select gloves that are the right size for your hands

    d. All of the above

8. **On a recent health inspection, a middle school's kitchen was cited because the required signage was missing from the employee restroom. What should the sign the kitchen manager hangs in the restroom say to correct this error?**

    a. Do not flush paper towels

    b. Please turn lights off when you leave

    c. Employees must wash hands before returning to work

    d. Heroes wash hands!

Lesson 5 – Cleaning and Sanitizing

Introduction

In a food service establishment, knowing how to properly *clean* and *sanitize* a facility is important to help prevent the spread of foodborne pathogens, which can cause illness. In Lesson 4, we learned about how to maintain proper personal hygiene. In this lesson, we will learn the difference between clean and sanitary, the different methods of sanitization, how to properly sanitize equipment and why it's important to maintain a clean and sanitary environment. As we go through this lesson, think about some of the ways your facility currently maintains a clean and sanitary environment and what you can do to help maintain that environment.

Learning Objectives

- Summarize the difference between "clean" and "sanitary."
- Describe two methods of sanitizing equipment.
- Describe the steps involved in properly sanitizing both portable & in place equipment.
- Explain how to clean and sanitize using a dishwasher or three compartment sink.
- Outline the pros and cons of commonly used chemical sanitizers.
- Identify the frequency with which food contact surfaces should be cleaned and sanitized.
- Describe ways in which effective cleaning and sanitizing help prevent food contamination.
- Recognize design characteristics of a food service facility that contribute to maintaining a clean and sanitary facility
- Explain how to develop a cleaning schedule

Concepts and Vocabulary

Clean – free of dirt, food particles, or other visible soil

Sanitary – free of harmful levels of pathogens

Wash – the physical removal of dirt, food residues, and other visible soil

Rinse – the removal of cleansers

Sanitize – to treat a surface that has been previously cleaned to remove or reduce any disease-causing pathogens to safe levels

Portable equipment – smaller equipment that is easy to carry or move around the kitchen

In-place equipment – large items that are immobile or fixed to the floor or a bench. Also called stationary equipment

Wash, Rinse, and Sanitize

There are three basic steps to a clean and sanitary environment. Using these basic steps in order to properly clean and sanitize equipment helps prevent foodborne illnesses and keep harmful pathogens under control.

1. Wash

Washing physically removes dirt, food residues, and other visible soil. A detergent or other types of cleansers are used to remove the soil which disperses into the wash water.

2. Rinse

Rinsing removes cleansers. The dispersed soil is removed with the detergent or cleanser to prevent it from being redeposited onto the clean surface

3. Sanitize

Sanitizing treats a surface that has been previously cleaned to remove or reduce any disease-causing pathogens to safe levels.

The Two Types of Sanitation Methods

There are two types of sanitation methods: the heat method and the chemical method. It is important to follow the directions of each method to ensure proper sanitization.

The Heat Method

There are several advantages to using the heat method. It is non-corrosive to metal surfaces and can penetrate small cracks and crevices. It is not selective in the microorganisms it kills, doesn't leave a residue, and is easily measured. The heat method has two ways in which it can be used to sanitize equipment:

Manual

The manual heat method is immersing the item or equipment in water 171 °F or higher for at least 30 seconds.

Dishwashing Machine

When using a dishwashing machine to sanitize wares, the surface temperature of the wares need to reach at least 160 °F. To do this, a dishwashing machine needs to be able to reach a minimum temperature depending on the type of machine:

- 165 °F for stationary rack and single temperature machines

- 180 °F for all other machines

Using the dishwashing machine heat method requires properly maintaining the dishwasher. A few simple steps can save a lot of time, cost, and will ensure the surfaces are being properly sanitized.

1. Regularly check the detergent and sanitizer dispensers to make sure they are filled and working correctly

2. Check the water temperature and pressure

3. Keep the machine clean inside and out

4. Do not overload the dish racks

The Chemical Method

When using chemical sanitizers, it is important to remember some become less effective when they come into contact with food particles, as they kill bacteria, or are exposed to air. It is important to check the concentration frequently using test strips appropriate for the sanitizer. Always use EPA-approved sanitizers and buy chemicals from an approved vendor. Your facility should provide a list of approved companies. There are three kinds of chemicals that can be used for sanitizing equipment:

Chlorine

Chlorine-based sanitizer, commonly known as bleach, is the most common chemical used for sanitizing purposes. Using bleach has many advantages: it is economical, good for most applications, deodorizes as well as sanitizes, nontoxic to humans (when used as recommended) and is colorless and non-staining. The disadvantages to using bleach are very few. It can be corrosive to equipment and irritates human skin.

> Household bleach is not standardized and should not be used for the purposes of sanitizing a food facility.

Iodine

Iodine is less corrosive than chlorine and can destroy a wide range of microorganisms. It is also less affected by food particles and less irritating to the skin. Some of the disadvantages to using iodine are that it is more expensive and can discolor or stain surfaces. It also is slippery and harder to handle than chlorine is.

Quaternary Ammonia (Quats)

Quaternary ammonia, or quats, are ammonia salts. There are several advantages to using quats. They are non-corrosive and do not irritate the skin. They also leave no taste or odor when properly diluted and are stable at high temperatures and for a longer contact time. They are good as in-place sanitizers. Disadvantages to quats are that they can leave a film on the surface or equipment and may be more expensive than chlorine-based sanitizers.

Ensuring the Effectiveness of Chemical Sanitizers

When making the decision to use chemical sanitizers it's always important to follow the manufacturer's instructions on care and use. To ensure effectiveness of chemical sanitizers check the water temperature. For most sanitizers, the water temperature should be between 75 °F and 120 °F. Different sanitizers are most effective at different temperatures. Maintaining the concentration of the sanitizer is essential for its use. Check the concentration frequently, as it's likely to become diluted over time. Test strips, which can be purchased from the manufacturer, should be used to make sure the solution is at the proper concentration. When a chemical sanitizer is no longer at the proper concentration, it should be drained and replaced with a new batch. With that, remember a higher concentration of the sanitizer doesn't mean it will be more effective.

Choose a sanitizer that can kill a broad range of microorganisms. You will also need to take into the account the pH and the water hardness of the water supply you are using. If the pH is too low or too high, the sanitizer may lose effectiveness. The necessary concentration of sanitizer may also vary depending on how hard your water supply is; check with the manufacturer to identify the appropriate concentration for the water you are using.

Rinse off detergents and cleansers before sanitizing. Always allow sufficient time for the chemical to be exposed to the item or surface you are sanitizing. This is usually called the exposure time or contact time. The manufacturer's instructions should include guidelines for proper use of the chemical you have chosen to use. It is important to follow the instructions to ensure the effectiveness of the sanitizer.

How to Apply the Sanitizing Solution

Depending on the type of equipment being sanitized there are a few ways to apply the sanitizing solution. If the equipment is portable, such as utensils or cutting boards, you may be able to immerse the object in the sanitizing solution. Otherwise you can spray the equipment or wipe it down with a cloth or sponge soaked in the solution. Once you've applied the sanitizing solution, allow the equipment to air dry.

Cloths and Sponges

If you are using a cloth or sponge to sanitize equipment, there are guidelines for how to properly use and store the cloth or sponge while in-use. Always properly sanitize clothes and sponges during and between uses. Containers of sanitizing solutions for storage of in-use wiping cloths may be placed above the floor and must be used in a manner to prevent contamination of food, equipment, utensils, linens, and single service or single use items. When preparing animal foods such as chicken or beef:

> Sponges are not allowed to be used on cleaned and sanitized or in use food contract surfaces.

- Dry or wet cloths used with animal foods must be kept separate from cloths used for other purposes

- Wet cloths used with animal foods must be kept in a separate sanitizing solution

California Retail Food Code has specific guidelines for use of cloths and sponges for sanitizing equipment. It specifies wiping cloths are to be laundered daily and prohibits cloth drying of equipment and utensils.

Properly Storing Chemicals

While chemicals help us keep surfaces sanitized, they can also be very harmful if contamination of food and food surfaces occurs. Store chemicals used for cleaning and pest control in a locked cabinet away from food and prep areas to avoid accidental contamination of food and food-contact areas. Store chemicals in their original containers. If you must transfer a chemical to a new container, label the container with the common name of the chemical.

Exposure to Hazardous Chemicals

Now that we have discussed the way to properly store chemicals, it is just as important to understand your risks and the way to properly handle chemicals used in your facility. Only trained employees should be handling hazardous chemicals. Ensuring your facility has a proper training program for employees on how to store, handle, and use chemicals for sanitizing and pest control will reduce the risk of contamination and misuse. Providing and requiring employees to wear safety equipment while handling chemicals will reduce the risk of contamination and injury. Employees should wear nonporous gloves and eye protection (such as safety goggles or glasses) when working with sanitizing agents and other cleaners.

As you'll recall from lesson 2, the OSHA requires employees to know about the hazardous chemicals to which they may be exposed to on the job. All employees are required to have access to the Safety Data Sheet (SDS) on all chemicals stored at the facility, including chemical sanitizers. The SDS must be kept on file and is supplied by the manufacturer. The SDS provides all information on the risks of being exposed to that chemical as well as how to properly store and use the chemical.

Food for Thought

New Training Requirement for Schools

Beginning July 1, 2016, any person applying a pesticide in schools, including chemical sanitizers used in food service, must undergo yearly training approved by the California Department of Pesticide Regulation. See Appendix D for more information on this requirement.

Cleaning and Sanitizing Equipment

Types of Equipment

There are two types of kitchen equipment, ***portable*** and ***in-place*** (also called stationary equipment). Understanding the difference between the two and how to clean and sanitize each type are all part of maintaining a clean and sanitary facility.

Portable

Portable equipment is smaller and easy to move around the kitchen. It includes items such as peelers, choppers, mixers, can openers, cooking utensils, cutting boards, pots, and pans. Can you identify the portable equipment in your facility?

Now that you have identified the portable equipment in your facility, let's discuss the proper way to sanitize the equipment. Always start with a clean and sanitized sink and work surface, then scrape and rinse food into the garbage container or disposal. Keep the area for scraping and rinsing food separate from the area for cleaning and sanitizing. Use a three-compartment sink and separate drain boards for clean and soiled items. Follow these steps on how to use a three-compartment sink:

1. Rinse, soak, and scrape if needed
2. Wash items in soapy water at least 110 °F in the first compartment
3. Rinse items using a sprayer or dunking the item in the second compartment of the sink
4. Sanitize the item in the third compartment of the sink
5. Place on a sanitized surface to air dry

If you do not have a three-compartment sink and are using a two-compartment sink, modify the steps above by washing and rinsing, then placing the rinsed items on a sanitized surface. Drain the rinse water from the second sink and refill with sanitizing solution. Continue to follow the sanitizing and drying steps.

After cleaning and sanitizing, make sure all items are completely dry before storing. Remember to allow sufficient time to air dry because cloth drying is prohibited of sanitized items. Store all glasses and cups upside down and flatware and utensils with the handles up.

In-place

In-place equipment are large items that are immobile or fixed the floor or a bench. Examples include stoves, ovens, sinks, and fryers. What in-place items are in your facility?

Don't forget to sanitize the in-place equipment! Follow these simple steps to sanitize the in-place equipment in your facility.

1. Unplug equipment

2. Remove food particles

3. Wash, rinse, and sanitize removable parts

4. Wash remaining food-contact surface(s), rinse with clean water, then wipe down with a chemical sanitizer

5. Wipe down all other surfaces with a sanitized cloth

6. Allow all parts to air dry before reassembling

For wooden surfaces, scrub with a detergent solution and a stiff bristled nylon brush, rinse in clear clean water and wipe down with a sanitizing solution.

When to Clean, and Sanitize Equipment

It's not just about how to clean and sanitize but when to do so. In general, equipment should be cleaned and sanitized when:

- There is a change from working with raw foods to cooked or ready-to-eat foods

- Between uses with raw fruits and vegetables to potentially hazardous foods such as raw meats or poultry

- If interrupted during a task

- At a minimum of every four hours if the equipment is being used constantly

- Anytime during the operation where contamination may have occurred

There are items with specific requirements, at a minimum of when to be cleaned and sanitized.

- Thermometers before using and before storing

- Food contact surfaces of equipment and utensils used with TCS foods must be cleaned at least every four hours

- Iced tea dispensers at least every 24 hours

- Consumer self-service utensils that are not in contact with TCS foods (scoops, tongs, ladles) at least every 24 hours

- Consumer self-service equipment that are not in contact with TCS foods (condiment dispensers, display counters) should be cleaned and sanitized before restocking

Cleaning Equipment and Supplies

Just like how we learned chemicals must be stored in a separate area than food and food prep or food contact areas to prevent contamination, the same goes for cleaning equipment and supplies. Cleaning equipment includes items such as mops, buckets, cloths, sponges, and spray bottles. These items should be stored away from food and

utensil storage in a separate room. Handwashing, food prep, and ware washing sinks must never be used for cleaning mops and brushes; always use a separate sink to fill and empty mop buckets, rinse and clean mops, brushes, and sponges. The waste water should be disposed of through a janitor sink or a floor drain. Facility design plays an important role in cleaning, sanitizing, and properly storing items in a kitchen. You will learn more about facility design in another chapter.

Developing a Cleaning Schedule

There is a lot to remember and look out for when maintaining a clean and sanitized facility. It is important to ensure you are taking all the proper steps to help reduce the risk of contamination and foodborne illness. One preventative measure is to develop a cleaning schedule. This schedule should include what to clean, when to clean it, how it is to be cleaned, and who is responsible for cleaning it. All staff should be trained on the schedule and responsible for their stations. Enforcing a cleaning schedule reinforces the importance of food safety in the facility.

Case Study

Lin, a new substitute employee, had almost finished her shift at the local middle school. Two co-workers had gone home early, leaving Lin by herself. As she walked toward the refrigerator to put the remaining food away, Lin glanced at the posted schedule on a clip board hanging on the wall and realized that not all the tasks on the cleaning schedule had been completed for the day.

As she returned to the kitchen she looked around and saw a pile of dishes in the sink and a pile of dishes in the dish rack. She filled the first sink in the three-compartment sink with hot water and soap and scrubbed the equipment clean before rinsing it in clean water in the second compartment. She changes the wash water and the rinse water to keep both looking clean as she worked. Once Lin finished with the dishes, she piled them on top of the other ones to air dry.

She then decided to start cleaning the in-place equipment. She grabbed a spray bottle of cleanser and a clean cloth and started wiping down the areas of the in-place equipment that looked dirty.

Moving onto her next task, she walked into the storage closet and grabbed the mop. She filled a bucket with water from the bathroom sink, and began swishing it around to clean the floor. Noticing that her shift was over, she left the mop in the still-full bucket, hung her apron on one of the hooks where they were stored, and went home.

Questions:

1. What are the unsanitary actions performed by Lin?

2. How do these actions impact the workplace, and what further problems may arise?

3. What would you have done differently?

Lesson 5 Study Worksheet

The purpose of this worksheet is to help you review the material covered in this lesson. First, try to complete as much of the worksheet as possible from memory. Then go back and look up the information you need to fill in any remaining questions.

What is the difference between clean and sanitary?

What are the three steps to a clean and sanitary environment?

List the different types of sanitizing methods

List the steps to sanitize portable equipment.

List the steps to sanitize in-place or stationary equipment.

What are the minimum temperatures for sanitizing using the heat method?

      Manual:

      Stationary and Single Temperature Dishwashing Machines:

      All Other Dishwashing Machines:

When should equipment be cleaned and sanitized?

Lesson 5 Review Quiz

1. **Which of these is the correct order for the three basic steps to a clean and sanitary environment?**

   a. Rinse, wash, sanitize

   b. Sanitize, wash, rinse

   c. Wash, sanitize, rinse

   d. Wash, rinse, sanitize

2. **How long should an item be immersed when using the manual heat sanitizing method?**

   a. 15 seconds

   b. 1 minute

   c. 30 seconds

   d. 1 minute, 30 seconds

3. **Select the statement about cloths and sponges that is TRUE:**

   a. Dry and wet cloths used with animal foods must be kept together with cloths used for other purposes.

   b. Sponges can be used on cleaned and sanitized or in-use food contact surfaces.

   c. Containers of sanitizing solutions for storage of in-use wiping cloths may be placed above the floor.

   d. Using a cloth to dry equipment and utensils is allowable.

4. **Where should chemicals be stored:**

   a. In the prep area

   b. On the floor under the sink

   c. In a locked cabinet away from food

   d. Next to the oven

5. **The first step to cleaning and sanitizing portable equipment is:**
   a. Wash the item in soapy water
   b. Sanitize the item
   c. Rinse, soak, and scrape food particles off the item
   d. Dunk the item in the second compartment of the sink

6. **Which item is considered in-place equipment?**
   a. Stove
   b. Spatula
   c. Colander
   d. Knife

7. **True or False: Equipment that is used constantly throughout the day should be cleaned every four hours.**
   a. True
   b. False

8. **Handwashing, food prep, and ware washing sinks should never be used for:**
   a. Filling a mop bucket
   b. Cleaning sponges
   c. Emptying waste water
   d. All of the above

Lesson 6 – Flow of Food Part 1

Introduction

The *flow of food* is the journey food takes from purchasing to when it is served to patrons, and every step in between. In this lesson, we'll talk about several steps in the process: purchasing, receiving, and storage. In Lesson 7, the remaining steps will be covered.

Learning Objectives

- Describe and compare the two most common food thermometer types, and know how to use and calibrate at least one.
- Describe the steps for calibrating a thermometer using ice point and boiling point methods.
- Define the temperature danger zone, time/temperature abuse, and recognize methods to avoid time/temperature abuse.
- Describe requirements and methods of controlling food safety hazards during:
  - Purchasing
  - Receiving
  - Storing
- Describe the requirements and process of accepting or rejecting shipments.
- Identify storage and recordkeeping requirements for shellfish.
- Identify the instances in which a variance is required.

Concepts and Vocabulary

Flow of food – the path that food takes from purchasing through being served to patrons

Thermometer – device used to measure temperature

Calibrate – the process of ensuring a device's accuracy by comparing it to a known standard

Ice point method – calibration method for thermometers that uses the freezing temperature of water as the standard for comparison

Boiling point method – calibration method for thermometers that uses the boiling temperature of water as the standard for comparison

First In, First Out (FIFO) – the principle that oldest items are used before newer items

Shellfish tag – required tag for commercially sold shellfish that contains information about the origin of the shellfish

Variance - a document issued by a regulatory authority (such as a state or county health department) to waive a regulatory requirement.

Thermometer Basics

First, we need to cover some basics about *thermometers,* because ensuring that foods are kept at or cooked to the correct temperature is key in preventing foodborne illness. Thermometers are devices that measure temperature. In food service establishments, you may encounter several different kinds:

- Bimetallic thermometer - the typical analog thermometers that you'll see very frequently in food service. They have a sensing area on the stem that extends up to a dimple, and a calibration nut that can be used to adjust the reading.

- Thermocouple and thermistors – these are digital probe thermometers. There are three different kinds you might encounter:

Immersion Probes	Penetration Probes	Air Probes
Internal temperature of liquids	Internal temperature of thin foods	Temperature inside equipment

- Infrared thermometer – these measure surface temperature. These don't come in contact with food and so do not need to be cleaned and sanitized between uses.

- Time-temperature indicator – these are a small strip or device that monitors temperature. An example is a strip that changes color to indicate when a product reaches an unsafe temperature.

Calibrating Thermometers

To ensure that foods are held at or cooked to a safe temperature, we need to know that our thermometers can measure temperatures accurately. If being used to measure the temperature of food, they must be accurate to within 2 °F in either direction. To do this, we *calibrate* thermometers by comparing the measurement with something of a known temperature. We can take advantage of the fact that we know water will freeze at 32 °F and use that as a reference point to calibrate a thermometer. This is called the "*ice point method*." There is also the "*boiling point method*" which relies on a similar principle, but with 212 °F, the boiling temperature of water at sea level. However, the boiling temperature of water varies at different elevations, so the boiling point method is not the preferred method of calibrating thermometers.

To measure internal temperature of food, you will need to insert the thermometer so that the entire sensing area is within the food. This means inserting the stem of the thermometer up to the dimple that marks the end of the sensing area.

How to Calibrate a Thermometer with the Ice Point Method

1. Fill a container with crushed ice. The container should be about 3" in diameter and tall enough that thermometer won't touch the bottom when the sensor is submerged. Add water until the ice is just barely covered.

2. Submerge the thermometer in the ice water so that the sensor is fully covered. Don't allow it to touch the sides or bottom, as this might throw off the reading.

3. Let the thermometer sit in the water for 30 to 60 seconds.

4. If the thermometer does not read 32 °F, it will need to be adjusted. Many thermometers have a small nut below the dial that can be adjusted using a wrench until the thermometer reads 32 °F. Digital thermometers will often have a button to press to set the temperature at 32 °F.

When to Calibrate a Thermometer

Thermometers need to be calibrated on a regular basis so that you can be assured they are accurately measuring temperature. At very minimum, thermometers should be calibrated on a weekly basis and whenever they have been dropped.

> Don't forget that thermometers need to be clean and sanitized just like all food contact surfaces!

Recap – Temperature Danger Zone

As we discussed in Lesson 3, bacteria grow best in a temperature range known as the temperature danger zone: 41 °F to 135 °F. Because bacteria grow rapidly in this range, we need to limit the amount of time food spends in the temperature danger zone. We do this by keeping:

- Hot foods hot (at or above 135 °F)
- Cold foods cold (at or below 41 °F)

When we allow TCS foods to spend too much time in the temperature danger zone, this is known as time/temperature abuse. This can happen when foods are at room temperature too long during preparation, not cooked to a safe internal temperature, not held as a safe temperature, or not cooled or reheated properly. Time/temperature abuse is one of the leading causes of foodborne illness.

Purchasing Safe Food

Purchasing is the first step in ensuring food safety. You want to hold your suppliers to the same high standards you have for your kitchen. Suppliers need to meet all national, state, and local food codes and health standards and use HACCP in their operations. Just like you and your staff are trained in food safety, you need their employees to be trained. When it comes time to deliver, their trucks should be clean with adequate refrigeration and freezer units so that foods are delivered at the correct temperatures. To prevent cross contamination, suppliers should use durable, protective leak-proof packaging and deliver raw products separately from processed foods and produce.

They also need to be able to provide you with their policies and procedures on handling recalls and returns.

Let vendors know that you have high standards that need to be met. Here are some suggestions to keep you and your suppliers on the same page:

- Put food safety standards in purchase specifications.
- Check the vendor's health inspection report.
- Ask vendors for a printed copy of their standard operating procedures for food sanitation.
- Work with vendors to establish a schedule.
- Tell vendors you will be inspecting their trucks at every delivery and then do so.
- If possible, visit vendors' warehouses to make sure they are clean and organized.
- Reject all products that do not meet your requirements.

Receiving Food

Be Prepared

The process of receiving food starts before the delivery truck even arrives. Have everything you need to receive and store this food ready to go before delivery. This includes planning ahead to make sure you have enough space. There are a number of things you'll want handy when the truck arrives:

- Have a calibrated food thermometer in the receiving area to check delivery temperatures. You may also want to have an infrared thermometer handy so that you may quickly check the temperature inside the truck.
- Have a pen and paper available.
- Keep sanitary carts handy.
- Have the receiving ticket or market order ready.
- Have the product specification list ready.

Inspecting Incoming Food

Once the truck arrives with your order, you first want to make sure the truck looks and smells clean, and that the interior temperature is appropriate for the foods being delivered. Once you've done that, you can move on to inspecting the incoming food. In general, you'll need to check the following:

- Inspect for appropriate temperatures, food specifications, and food quality.

- Mark "use by" dates.

- Check expiration dates of perishables and make sure they haven't expired

- Make sure frozen foods are in airtight, moisture-proof wrappings.

- Remove empty containers and packing materials immediately.

- Move foods quickly from receiving area to appropriate storage.

Temperatures for Receiving Foods Safely

41 °F or Below

In general, you'll need to TCS foods to be received at 41 °F or below. There are some foods that are received at different temperatures (specified below).

45 °F or Below

Eggs can be received at an air temperature of 45 °F or below.

Milk can be received at an internal temperature of 45 °F, as long as it is cooled to 41 °F or below within four hours.

Live shellfish can be received at an air temperature of 45 °F or below and internal temperature of 50 °F, as long as it is cooled to 41 °F or below within 4 hours.

Shucked shellfish can be received at an air temperature of 45 °F or below, as long as it is cooled to 41 °F or below within 4 hours.

Food for Thought	In California, some food items are allowed to be stored at 45 °F if they are placed immediately upon their receipt in a refrigerator with an ambient temperature of 45 °F. These items include pasteurized milk in original, sealed containers, pasteurized milk products in original, sealed containers, raw shell eggs, and unshucked live molluscan shellfish.

0 °F or Below

Frozen foods should be frozen solid and received at 0 °F or below. To measure the temperature of frozen foods, insert the thermometer between two packages and wait for the temperature to stabilize.

There may be instances in which you'll need to reject a shipment, which will usually be due to signs that a food might be unsafe to eat. Be on the lookout and reject any of the following:

- TCS foods delivered in the temperature danger zone.

- Food that have passed the expiration or use-by dates.

- Frozen foods that have thawed, partially thawed or have signs that they have thawed and refrozen (such as ice crystals on the food or packaging).

- Cans that are swollen, rusty, dented, or with flawed seams.
- Any signs of spoilage, such as abnormal odor, brown, green or purple blotches, or back, white or green spots.
- Foods with damaged packaging or pest damage.
- Foods from dirty flats or crates.

Storing Foods Safely

Once you've accepted a shipment of food, it needs to be stored appropriately and safely. Make sure that everything is labeled with the common name of the item and use-by date. You may even want to indicate the date received to help with inventory rotation – remember, *First In, First Out (FIFO)*. Store food in their original containers, or in labeled, food-grade, clean, sanitized containers. Food is required to be stored at least 6 inches off the ground, and should never be stored anywhere it might become contaminated. This includes storing away from cleaning supplies, chemicals, personal belongings, and never stored in rest rooms, dressing rooms, mechanical rooms, or under sewer lines, leaky pipes, or open stairwells.

Cold Storage – Refrigerators and Freezers

It will come as no surprise that refrigerators need to be cold enough to maintain food at or below 41 °F – we want to avoid the temperature danger zone. In order to maintain a consistent internal temperature of the foods in the refrigerator, it should be kept at 38 to 39 °F. Freezers should be maintained at 0 °F or below. Of course we need to be able to verify this temperature, and to do so you should have thermometers placed in the warmest parts of the refrigerator and freezer. This is usually near the inside top corner of the door. In addition to monitoring the refrigerator and freezer temperatures, also monitor the temperature of the foods stored inside. Proper airflow is important in keeping all the foods in the refrigerator at a safe temperature, and to keep foods frozen in the freezer. To maintain airflow, use wire shelving and never overfill the refrigerator or freezer.

The order in which foods are stored is also important, because we want to minimize the chance for cross contamination. Use labeled, clean, food-grade containers, and keep food covered. While you may not need to store all of these types of food items at your site, the general order for food storage, from top to bottom is:

- Ready-to-eat foods
- Whole fish
- Whole cuts of meat
- Ground meat
- Whole or ground poultry

These are stored in order of their cooking temperature, with the foods with the highest cooking temperature (raw poultry, 165 °F) at the bottom. In the off chance that a something drips onto the foods below it, the food will still be safe to eat after cooking because the drips have a lower cooking temperature than the food it dripped on. We'll discuss cooking temperatures in the next lesson.

Dry Storage

Dry storage is used for foods that don't require refrigeration, such as dry pasta, canned goods, and dry ingredients like flour and sugar. Food should be stored at least 6 inches off the ground, so that you are able to clean the entire floor. Dry foods should be stored between 50 and 70 °F, with humidity between 50 and 60 percent.

Special Requirements for Shellfish

Commercially sold shellfish are required to have a tag with certain information on it. This is so that shellfish involved in a foodborne illness outbreak can be traced to its origin.

Shellfish tags need to be kept with the original bag the shellfish came in, with the shellfish until it is all sold or served. If the shellfish is moved to another container, a copy of the tag needs to be in the container with the shellfish.

Once all the shellfish has been sold or served, tags need to be kept on file in order they were received for a minimum of 90 days.

Variances

In the next lesson, we will discuss controlling food safety hazards during preparation. However, there are few instances in which a food service establishment may need to get special permission to prepare food in a certain way if it means that a regulatory requirement will need to be waived. These are called *variances*. A variance is needed for any of the following:

- Smoking for preservation
- Curing, such as with lox.
- Custom-processing animals. For example, let's say you went fishing and caught some albacore. If you wanted to take it to a restaurant where they would smoke it for you, they would need a variance.
- Packaging in Reduced-Oxygen Packaging (ROP). In lesson 3, we talked about bacteria that are poisoned by oxygen. In reduced-oxygen packaging, the oxygen is removed, which means unless the processor takes precautions, bacteria like *Clostridium botulinum* can be a risk.
- Sprouting seeds or beans. We know that sprouts are a TCS food, and that's because the conditions in which they are sprouted check several of the boxes for FATTOM. In order to sprout seeds and beans, a variance is needed.

- Offering live shellfish from a display tank
- Using food additives for preservation. An instance of this might be pickling, such as using vinegar to lower the pH of a food to below 4.6.
- Regulatory authority determines a variance is needed.

Case Study

Aisha, the foodservice manager, waited for the delivery truck carrying her school's shipment. Over the weekend, one of their refrigerators had failed and wasn't discovered until she arrived early Monday. Everything in the refrigerator was ruined and needed to be discarded. Her usual vendors weren't able to fill her order on such short notice, so she had to scramble to find a local supplier that could provide the supplies needed for breakfast and lunch that day.

Upon their arrival, she noticed how unkempt the truck appeared. When the truck driver opened the door, Aisha noticed the back of the truck appeared dirty. Needing the food items for the next few school meals, she signed off on the order and went back inside to check-in with her staff.

After she had checked in with the staff, Aisha checked the temperatures of the deliveries before putting them into storage. Nearly all the food was still at the proper temperatures, but the eggs and milk both read at 50 °F. Concerned about this temperature, she rushed them to the refrigerator. Next, she went to put the ready-to-eat food salad green packages in storage. Because one of the refrigerators was out of commission, the remaining fridge was filling up quickly with the shipment she just received. In a rush, she put the salad greens on whichever shelf she could find space, planning to reorganize after breakfast service was over.

Rupert, one of the chefs, was preparing the lunch entrees for the day. He asked Aisha if there was a meat shipment that came in this morning. She handed him a box of thawing chicken and ground turkey. Rupert commented on the ice crystals on the packaging, to which Aisha said that he should use them anyway.

Questions:

1. Did Aisha take the correct measures when it came to accepting an order from the supplier? If not, what should she have done instead?

2. If you were Rupert what would you have done with the food items?

Lesson 6 Study Worksheet

The purpose of this worksheet is to help you review the material covered in this lesson. First, try to complete as much of the worksheet as possible from memory. Then go back and look up the information you need to fill in any remaining questions.

What are the steps for calibrating a thermometer using the ice point method?

List at least seven things you should do to hold suppliers to high standards.

What should you have prepared before a delivery arrives?

When inspecting a delivery, what should you look for?

For each of the receiving temperature below, list the foods that are received at that temperature.

       41 °F or below

       45 °F or below

       0 °F or below

For each of the following, list guidelines for storage.

       Storage in general

       Cold storage

       Dry storage

What is the order in which foods should be stored in a cooler from top to bottom?

What is important to know about shellfish tags?

Lesson 6 Review Quiz

1. **The temperature of frozen food should be measured by…**

    a. Inserting the sensing probe into the center of a package until the temperature stabilizes.

    b. Inserting the sensing probe between two packages until the temperature stabilizes.

    c. Measuring the air temperature of the frozen food compartment of the delivery vehicle.

    d. Looking for signs of freezing and thawing, such as large ice crystals or frozen juices in the box.

2. **TCS foods should NOT be accepted at a food establishment if…**

    a. They have damaged packaging.

    b. The package is intact.

    c. The temperature is below 41 °F.

    d. The temperature of the delivery truck is 38 °F.

3. **Which practice requires corrective action?**

    a. Products in the dry storage area are being rotated on a first-in, first-out stock basis.

    b. Foods stored in the walk-in freezer are stored on slatted shelves that are 6 inches above the floor.

    c. Raw beef is stored above salad in the refrigerator.

    d. Pesticides are stored in a locked and labeled cabinet in the dry food storage area.

4. **A shipment should be rejected for all of the following, except…**

    a. Foods are past the expiration dates

    b. Cans are rusty and dented

    c. Eggs delivered at 44 °F

    d. Frozen items have ice crystals on the packaging

5. **A shipment is being delivered during the busiest school lunch period, several hours before it was scheduled. It is very busy and hectic in the kitchen, and no sanitary carts are ready. Which of these is safest action?**

   a. Pull employees from the lunch line to receive the shipment

   b. Use the nearest carts to transport the food to storage

   c. Store all the foods in the walk-in until they can be checked over

   d. Reject the shipment

6. **Which of the following is the maximum temperature milk can be received at?**

   a. 45 °F, as long as it is cooled to below 41 °F within 4 hours

   b. 50 °F, as long as it is cooled to below 41 °F within 4 hours

   c. 41 °F

   d. 32 °F

7. **Which of the following temperatures and humidity levels is acceptable for dry storage?**

   a. 32 °F, 0 % humidity

   b. 40 °F, 60% humidity

   c. 50 °F, 85% humidity

   d. 65 °F, 50% humidity

8. **How accurate does a thermometer need to be when it is used to measure the internal temperature of food?**

   a. Within plus/minus 1 °F

   b. Within plus/minus 2 °F

   c. Within plus/minus 3 °F

   d. Within plus/minus 5 °F

Lesson 7 – Flow of Food Part 2

Introduction

In lesson 6, we learned about keeping food safe during purchasing, receiving, and storage. In this lesson, we'll talk more about how to keep food safe from preparation all the way through cooling, reheating, serving, and transporting.

Learning Objectives

- Describe requirements and methods of controlling food safety hazards during:
    - Preparation
    - Cooking
    - Holding
    - Serving
    - Cooling
    - Reheating
    - Transporting
- Identify minimum safe cooking temperatures and times for different types of foods.
- Recognize special considerations for off-site service and vending machines.

Concepts and Vocabulary

Hermetically sealed – completely sealed and airtight packaging

Controlling Food Safety Hazards During Preparation

During preparation, preventing cross-contamination and time/temperature abuse is key.

Prevent Cross Contamination

Start with clean and sanitized food contact surfaces to prevent cross-contamination, as well as clean hands and fresh gloves. Don't forget that you need to rewash your hands whenever you switch tasks, or when they may have become contaminated.

Raw meat, poultry, and seafood present a risk for contaminating ready-to-eat foods if you are not careful. Never allow produce or ready-to-eat foods to come in contact with raw meat, poultry, and seafood, or to touch surfaces that have been in contact with these foods. One way to help ensure you keep these foods separate is to have designated cutting boards and utensils. For example, a green cutting board that is only used for produce, a yellow cutting board that is only used for raw poultry, and a red

cutting board that is only used for raw meat. Another option to help prevent cross contamination is to prepare produce and ready-to-eat foods first, before moving on to foods that present a cross contamination risk.

Limit Time Spent in the Temperature Danger Zone

If you think back to Lesson 3 and the bacterial growth curve, you'll remember that bacteria in the log phase grow rapidly. Every time a TCS food enters the danger zone, the bacteria that are present are able to grow quickly. While we can knock their numbers back down by cooking foods to a safe internal temperature, we still want to limit the amount of time bacteria spend in the log phase in every stage of the flow of food.

When preparing food, work with small batches and only work on one step at a time. Limit the time food spends in the temperature danger zone during preparation to less than two hours. Keep foods in the refrigerator when you're not actively preparing them. For example, when preparing a recipe such as a chicken and vegetable stir-fry, store the raw chicken cutlets in the refrigerator while you are chopping the vegetables. If this stir-fry called for a large amount of chicken to be chopped, take the chicken out of the cooler in small batches (but don't forget to wash your hands each time they become contaminated!). For TCS foods, you may even want to use ice baths to further limit time spent in the temperature danger zone during preparation.

Bacterial Growth Curve

Number of Cells

Log Phase

Lag Phase

Stationary Phase

Decline or Death Phase

TIme
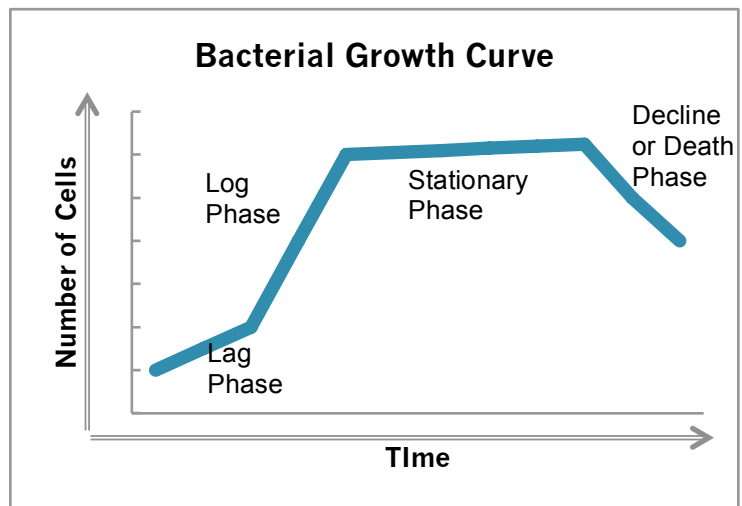
Thawing Food Safely

There a many different points in the preparation process where food could potentially enter the temperature danger zone. One of these is during thawing. Freezing doesn't kill bacteria, so any bacteria present in the frozen food could have a chance to grow again once the food thaws. We can minimize the amount of time food spends in the temperature danger zone by keeping foods under 41 °F the entire time they are thawing, or thawing in such a way that the time spent in the temperature danger zone is as short as possible. There are four approved methods for thawing foods: in a refrigerator, under cold, drinkable, running water, in a microwave, or as part of the cooking process.

Thaw in a refrigerator.	• Place packages in a pan so they don't drip on foods below them. Change the pan when liquid is visible. • Allow enough time for food to thaw. Large items, such as frozen whole turkeys, may take several days.
Thaw under cold, drinkable running water.	• Make sure the food is completely submerged. • If it's ready-to-eat, it needs to stay below 41 °F. • The water temperature should be at or below 70 °F. If it's not, use a different thawing method.
Thaw in a microwave.	• Only use this method for foods that will be cooked immediately. • Food should be heated to the minimum internal cooking temperature within two hours.
Thaw as part of the cooking process.	• This is often used for foods such as frozen lasagna or chicken nuggets. • Food should be heated to the minimum internal cooking temperature within two hours.

When thawing, check temperatures frequently with a clean, sanitized thermometer. Record the temperature and the time it is checked (remember, if you won't write it down, it's like it never happened).

Special Considerations for Certain Types of Foods

As mentioned, extra care is needed with ready-to-eat foods, as they won't undergo cooking to reduce pathogen numbers. In addition to that, there are other foods that have additional steps necessary in preparation to maintain food safety.

Produce

Wash produce thoroughly in potable water. Raw sprouts, cut melons, cut leafy greens, and cut tomatoes are all TCS foods. These must be stored below 41 °F. (Establishments serving high risk populations cannot serve raw sprouts.) Scrub whole melons before cutting, as a knife can easily transfer pathogens from the outside of the melon.

Salads Made With TCS foods

Salads made with TCS foods (egg, chicken, tuna, pasta, and potato salad) need to be kept below 41 °F and discarded after seven days (assuming they have been held below 41 °F during that time).

Eggs, Egg or Milk Batters, and Breading

Take care to prevent cross-contamination and cross contact with these. It's best to use small batches of these foods, and you should never combine batches. Keep these on ice if you can.

One thing you might do is open many shell eggs in advance to use for cooking later, which is referred to as pooled eggs. If you have pooled batches of eggs, these need to be cooked immediately or stored below 41 °F. Never combine separate batches of pooled eggs.

If serving a high-risk population, raw eggs can only be used if they will be cooked thoroughly. Otherwise, pasteurized eggs must be used.

Ice

It's easy to forget that ice can easily become contaminated. Ice must be made from potable water, and you should always use clean, sanitized equipment, containers, and utensils. Never use a glass or your hands to scoop ice, always use a designated food-grade scoop with a handle. Ice scoops should not be stored in the ice, but in or on a clean, sanitized surface.

Never reuse ice that has been used to cool foods as an ingredient or in drinks. If the ice is intended to be consumed, never use it to store anything, including packaged beverages.

Controlling Food Safety Hazards During Cooking

Foods need to be cooked to a safe minimum internal temperature, which varies depending on the food. To make sure TCS foods reach a safe temperature, monitor temperature while cooking using an appropriate, calibrated thermometer. It will take longer for the thickest part of the food to reach a safe temperature, so this is where you want to take the internal temperature of the food. That way you can be sure that every part of the food is safe to eat. If it's an oddly shaped food, measure the temperature at a few different spots. And don't forget to clean and sanitize the thermometer before and after use!

Minimum Internal Cooking Temperatures

Minimum Internal Cooking Temperature	Time Required	Food
135 °F	Not specified	Fruits and vegetables that are cooked for hot holding Grains, rice, and pasta cooked for hot holding Ready to eat foods
145 °F	15 seconds	Raw shell eggs that are broken and cooked to order for immediate service Single pieces of meat: beef, veal, lamb, pork, and game animals (e.g. steaks, chops) Fish
155 °F	15 seconds	Pooled raw eggs and other raw eggs that aren't broken and cooked to order Injected meats (such as meat injected with marinade) Ground/minced meat of any kind (other than poultry)
165 °F	15 seconds	Poultry (including ground poultry) Stuffed fish, stuffed meat, stuffed poultry Stuffing containing fish, meat, or poultry Pasta and any other food stuffed with fish, meat, or poultry
130 °F	112 minutes*	Roasts: beef, corned beef, pork, cured pork

*At higher temperatures, roasts can be cooked for a shorter time. See section 114004 of the California Retail Food Code for more information.

Microwaving TCS Foods

If you're using a microwave to cook TCS foods, there are a few things to do to make sure that the food is cooked safely:

- Cover the food.

- Rotate or stir halfway through cooking.

- Let stand for 2 minutes after cooking for the temperature to even out.

- Cook foods to a minimum internal temperature of 165 °F. Check the temperature in two places.

Controlling Food Safety Hazards During Holding and Serving

Now that we've prepared and cooked our food safety, we need to make sure it stays safe through holding and serving. To do this, we need to prevent cross contamination, maintain proper personal hygiene to avoid contaminating food, and we need to hold foods at a safe temperature (as always, keep hot foods hot and cold foods cold).

Holding Hot Foods

Our goal when holding hot foods is to keep them out of the temperature danger zone, which means they need to be held at a temperature at or above 135 °F. It's important to note that this is the internal temperature of the food, NOT the temperature of the equipment. For example, if a steam table is at 135 °F, the internal temperature of the food is going to be well below this temperature. In fact, this would mean the food is within the temperature danger zone, providing ample opportunity for bacteria to grow.

When it comes to hot foods, if they are allowed to stay in the temperature danger zone (i.e. below 135 °F) longer than four hours then they must be discarded. However, if it has spent less than hours in the danger zone, then it can be reheated to above 165 °F and continued to be served. That is why you should check the internal temperature of hot-held foods at least every four hours, and keep a log of internal temperatures. That way you can estimate how long a food has been in the temperature danger zone. In schools, consider checking temperatures more frequently. For example, when a food is put in holding, when starting to serve, and between serving periods.

To sum up hot holding:

- Hold hot foods at or above 135 °F. This is the internal temperature of the food, not the temperature of the equipment.

- Measure temperatures at least every four hours and keep records.

- If a food drops below 135 °F, it can be reheated IF it has spent less than 4 hours below 135 °F. Otherwise it must be thrown away.

Holding Cold Foods

Like with hot foods, we want to keep cold foods out of the temperature danger zone during holding. For cold foods, this means holding at or below 41 °F. Again, this is the internal temperature of the food, not the temperature of the equipment.

With cold foods, you will still need to measure internal temperatures at least every four hours, however the rules for discarding are a little different.

- If a food stays below 70 °F, it can be held for up to 6 hours before being thrown out.

- If it is above 70 °F, it must be discarded after four hours.

- If the temperature stays continuously at or below 41 °F, it can be held for up to 7 days.

Holding Cold Food Without Temperature Control

Sometimes you may need to hold cold foods without temperature control. We can do that safely for up to six hours as long as we do the following:

- Store food at or below 41 °F until it needs to be removed from refrigeration.

- Label the food thoroughly. Include on the label:
  - The time the food was removed from refrigeration.
  - The time it will need to be discarded. We can safely allow food to be held for up to six hours if it stays continuously below 70 °F. For example, if you remove a food from refrigeration at 6 am, the time it would need to be discarded is 12 pm.

- Make sure the food stays below 70 °F. If it exceeds this temperature, discard the food.

- Use all the food within 6 hours (assuming it stays below 70 °F then entire time).

Here is an example of what a label might look like:

Item: *Single-serve milk cartons*		
Time: *6:00*	☑ AM ☐ PM	Date: *1/23*
Day: *Tuesday*	Discard After: *12 pm (6 hours) or if exceeds 70 °F*	

Keeping Food Safe During Serving

Those who are preparing and cooking are not the only ones that will come in contact with the food before it reaches your students. Servers also need to be trained in food safety, especially personal hygiene, handwashing, glove use, and preventing cross contamination. Servers should always wash hands before serving, and if they have a cut or infection on their hands or wrists, it should be covered with a bandage and impermeable glove. When serving ready-to-eat foods, including rolls and other baked goods, they should never be touched with bare hands, rather tongs or gloves must be used. You also never want to touch the areas of dishware or utensils where a student's (or customer's) food or mouth will touch, such as the food compartments on a student's tray. Just like with preparing and serving food, hands should be washed and/or gloves should be changed if they have potentially become contaminated. In addition, use lids and sneeze guards as another line of defense against contamination.

To serve food, use clean and sanitized utensils. If you are storing in-use utensils in water, make sure it stays at or above 135 °F. Don't give pathogens a chance to grow in the storage water and subsequently be transferred to the food you are serving. Clean and sanitize utensils, equipment, and food contact surfaces after each use; if in continuous use, be sure to clean and sanitize every four hours.

Self-Service

With self-service, we need to be able to keep students or customers from unintentionally contaminating food. If you have self-serve bars, such as a salad bar or garden bar, you are required to have sneeze guards that are no more than 14 inches above the counter, and a counter that extends at least 7 inches from the food.

> Don't forget to keep hot foods hot and cold foods cold in your self-serve bars!

Keep an eye on the behavior of your students and remove food that may have been contaminated. They will continually amaze you with the new and different ways they contaminate food on the bar. Some of the ways they might do that include:

- Using the same plate or tray twice
- Not using the serving utensils
- Touching food with their hands
- Touching the edges of serving dishes
- Sneezing or coughing on food
- Picking up foods with their fingers
- Eating on the food line
- Dipping fingers in food to taste it
- Returning food items to avoid waste

- Putting their heads under sneeze guards

Having a designated salad bar monitor is a good idea to ensure that food remains safe, especially when serving younger children.

Cooling and Reheating Food Safely

Not all food that you prepare will be served immediately; often food will need to be cooled and stored to be reheated for service later on.

Cooling Foods to Control Food Safety Hazards

The goal when it comes to cooling food is for it to be cooled quickly to minimize time spend in the temperature danger zone. Cool TCS foods to 41 °F or below within 6 hours in the following manner:

- Below 70 °F within 2 hours
- Cool from 70 °F to 41 °F or below within the next four hours

There are several different methods you can use to cool foods quickly. Separating large batches into small, shallow containers will help speed up cooling. You can also use ice water baths to quickly bring the temperature down. Clean and sanitized ice paddles can be frozen and then used to stir foods to cool them rapidly, such as hot soup. Blast chillers are another option to cool foods. What you should never do is attempt to cool large amounts of food in a refrigerator or cooler. This could result in raising the temperature of the cooler and putting all the food in the cooler at risk of spending too much time in the temperature danger zone.

Reheating Foods Safely

Unlike cooking, where different foods have a different minimum internal temperature, there is only a single safe internal temperature for reheated foods: 165 °F for 15 seconds. It must reach this temperature within two hours.

Let's look at a quick example. Yesterday, you cooked a batch of pork chops to 145 °F for 15 seconds with the plan to reheat and serve these the following day. You followed all the steps necessary to cook and chill these safely, and now you're ready to reheat them for lunch service. Because you're a food safety star, you know that regardless of the cooking temperature, you'll need to reheat the chops to 165 °F for 15 seconds.

Ready-to-eat foods from an intact package from a food processing plant need to be reheated to an internal temperature of 135 °F.

Transporting and Off-site Service

It may be that not all the food you prepare will be served on site. Many schools have central kitchens or catering programs that involve transporting food to other sites. If you are transporting foods, you will want to them to be transported safely.

First, start by preparing food to be transported. Label the food with the common name, the use-by date, reheating or cooling instructions, and the service instructions. Check internal temperatures and maintain a log. It's a good idea to send extra samples of the food so they can be used to test food temperatures on arrival. If it is a TCS food, keep a sample of the food on hand for 48 hours.

Carriers and Delivery Vehicles

Use insulated food-grade carriers approved by NSF International. Check that the insulating properties work, and they can keep hot foods hot and cold foods cold. The carrier should be rigid and sectioned, non-porous, and able to close tightly. Only use carriers that are easy to clean or disposable, and sanitize carriers daily.

Use delivery vehicles that can keep hot foods hot and cold foods cold. Clean inside the vehicles on a regular basis.

Vending Machines

Vending machines should use FIFO, so that foods that are dispensed in order. Check the foods inside daily for expiration and use-by dates and discard those past their date. If you using vending machines for TCS foods, make sure the machine keeps TCS foods at the correct temperature, and that the machine has a mechanism to prevent food from being dispensed if it's been in the temperature danger zone for too long.

Case Study

Keela arrived for usual shift at 6 am. She checked in with her manager, who asked her to prepare lunches for a field trip of 20 fourth graders. Each lunch was to have a turkey and cheese sandwich on whole-wheat bread, an apple, a carton of milk, and a bag of carrot sticks. At 6:30 am, Keela started by gathering all the necessary supplies, and removing the ingredients she would need from the refrigerator. First she washed her hands and put on gloves, after which she placed an apple, milk, and pre-packaged carrot sticks in each bag. She decided to leave the bags out on the counter while she prepared sandwiches. After washing her hands again and putting on fresh gloves, she prepared the sandwiches, which she individually packaged in plastic wrap and placed in the lunch bags. Once she was finished, she checked the clock on the wall, and she saw that it was 7:30 am. She put the lunch bags in an insulated carrier, and labeled it with the following information:

Item: 4th grade bag lunches: Turkey sandwich, apple, carrot sticks, milk		
Time: 7:30	☑ AM ☐ PM	Date: 5/12
Day: Monday	Discard After: 1:30 pm (6 hours) or if exceeds 70 °F	

The insulated carrier was placed on the bus, and the students left on their field trip at 8:30 am. At 1 pm, the teacher handed out the lunch bags to the students. A few days later, some of the students stayed home sick from school, reporting symptoms of nausea, diarrhea, and vomiting.

Questions:

1. Did Keela properly prepare and label the lunches? If not, what would you have done differently?

2. Keela was holding cold foods without temperature control. What is the maximum number of hours cold foods can be held without temperature control? What is the temperature at which they need to be discarded?

3. How many hours passed between when the foods were removed from refrigeration and when the students ate their lunches? Explain how this could have resulted in the students becoming ill.

Lesson 7 Study Worksheet

The purpose of this worksheet is to help you review the material covered in this lesson. First, try to complete as much of the worksheet as possible from memory. Then go back and look up the information you need to fill in any remaining questions.

List at least five different ways you can prevent cross contamination when preparing food.

List at least four different ways to prevent time/temperature abuse when preparing food.

For each of the following foods, list some of the key ways you can keep them safe

 Produce (including raw sprouts, cut melons, cut leafy greens, and cut tomatoes)

 Salads made with TCS foods

 Eggs (including raw eggs and pooled eggs)

 Ice

For each of the following minimum internal cooking temperatures, list the foods that need to be cooked to that temperature. (Some temperatures have more than one food.)

Minimum Internal Cooking Temperature	Time Required	Food
135 °F	Not specified	1. 2.
145 °F	15 seconds	1. 2. 3.
155°	15 seconds	1. 2. 3.
165 °F	15 seconds	1. 2. 3. 4.
130 °F	112 minutes	1.

Fill in the blanks below for rules on discarding hot and cold foods.

- Hot foods that have spent _____ hours in the temperature danger zone must be discarded.

- Cold foods that have spent _____ hours in the temperature danger zone but were <u>below</u> 70 °F must be discarded.

- Cold foods that have spent _____ hours in the temperature danger zone but were <u>above</u> 70 °F must be discarded.

- If a cold held food stays continuously below 41 °F, it can be held for up _____ before being discarded.

List at least seven different ways you can prevent cross contamination when serving food.

For each of the following, list the guidelines for transporting or vending food safely

<u>**Preparing for transport**</u>

<u>**Carriers and delivery vehicles**</u>

<u>**Vending machines**</u>

Lesson 7 Review Quiz

1. **Hot foods should be held at _____ or above and cold foods should be held at _____ or below.**

    a. 165 °F; 41 °F

    b. 165 °F; 32 °F

    c. 135 °F; 41 °F

    d. 135 °F; 32 °F

2. **Poultry and stuffed meats should be cooked to an internal temperature of _____ for 15 seconds to be considered safe.**

    a. 140 °F

    b. 145 °F

    c. 155 °F

    d. 165 °F

3. **Ground beef should be cooked to a minimum internal temperature of _____ for 15 seconds to be considered safe.**

    a. 140 °F

    b. 145 °F

    c. 155 °F

    d. 165 °F

4. **A container of rice that has been cooked and cooled needs to be reheated to an internal temperature of _____ within 2 hours to be considered safe.**

    a. 140 °F

    b. 145 °F

    c. 155 °F

    d. 165 °F

5. **If measuring the internal temperature of a pot of soup, which of the following thermometers would be appropriate to use?**

   a. Time-temperature indicator

   b. Immersion probe

   c. Infrared thermometer

   d. Air probe

6. **Jai observed a student drop serving tongs from the salad bar onto the floor, pick them up, and return them to the food. What would be the appropriate action?**

   a. Replace the tongs with clean ones

   b. Wipe the tongs with a paper towel and replace them

   c. Replace the entire container of food as well as the tongs

   d. Discard the top layer of food and replace the tongs

7. **A salad bar requires a sneeze guard that is no more than _____ above the counter, and a counter that extends at least _____ from the food.**

   a. 12 inches; 7 inches

   b. 14 inches; 7 inches

   c. 14 inches; 8 inches

   d. 15 inches; 7 inches

Lesson 8 – Hazard Analysis Critical Control Point

Introduction

Welcome to Lesson 6: Hazard Analysis Critical Control Point. In previous lessons we've learned many of the factors that influence food safety in school nutrition. Now, it's time to put it all together in a system to prevent outbreaks of foodborne illness.

Learning Objectives

By the end of this lesson, you will be able to:

- Define HACCP and explain its importance in food service operations.
- Identify and apply the key principles of HACCP.
- Analyze a recipe for critical control points.
- Contrast No Cook, Same Day, and Complex food process flows and critical control points for each.

Concepts and Vocabulary

Hazard Analysis Critical Control Point (HACCP) – a systematic approach to the identification, evaluation, and control of food safety hazards.

HACCP Plan – written documentation based on the principles of HACCP.

HACCP System – the result of the implementation of the HACCP plan.

HACCP Team – the group of people who are responsible for developing, implementing, and maintaining the HACCP system.

Hazard – a biological, chemical, or physical agent that could cause illness or injury if not controlled

Hazard Analysis – the process of deciding which process and foods have hazards that must be addressed in the HACCP plan

Risk – how likely a condition or conditions will lead to a hazard

Severity – the seriousness of the consequences of exposure to a hazard

Critical Control Point (CCP) – a step at which control can be used to prevent or eliminate a food safety hazard or reduce it to an acceptable level

Standard Operating Procedures (SOPs) – specific practices to address general hygiene and measures to prevent food from becoming contaminated due to various aspects of the food environment

Critical Limit – a maximum and/or minimum value that must be met to prevent, eliminate or reduce a food safety hazard

No cook process – foods that are served without the need for cooking

Same day process – foods that are cooked and served immediately

Complex process – foods that are cooked, cooled, and reheated before serving

Monitoring – checking and recording whether a CCP is met, and if not, what actions were taken

Corrective Actions – procedures followed when a critical limit is not met

Verification – determining that the HACCP plan is working

What is HACCP

Hazard Analysis Critical Control Point (HACCP) is a systematic approach to the identification, evaluation, and control of food safety hazards. HACCP was originally designed to safeguard the food provided for astronauts as a way to prevent foodborne illness in space. Since then, HACCP has grown and gained worldwide support. HACCP is not a "one size fits all" approach to food safety; it is customizable to the complexity of your operation. By creating a **HACCP plan**, which is the written documentation based on the seven principles of HACCP, you can create a **HACCP system**, which is the result of the implementation of the HACCP plan, to keep food safe in your operation.

The 7 Principles of a HACCP System

There are seven principles that form a basic HACCP plan:

1. Conduct a Hazard Analysis.

2. Determine Critical Control Points (CCPs).

3. Establish the Critical Limits.

4. Establish Monitoring Procedures.

5. Establish Corrective Actions.

6. Establish Verification Procedures.

7. Establish Record-Keeping and Documentation Procedures.

1. Conduct a Hazard Analysis

The first step in HACCP is *hazard analysis*. A hazard analysis is the process of deciding which hazards associated with foods need to be addressed in the HACCP plan.

One way to do this is by creating flow diagrams that detail the steps from purchasing to serving for the foods on your menu.

You can think of the flow diagram as a road map of your operation that food needs to follow so it is served safely. Each step of the diagram is a different checkpoint along the road that food needs to pass through to be safe for consumers.

- Purchasing
- Receiving
- Storage
- Preparation
- Cooking
- Cooling
- Reheating
- Serving
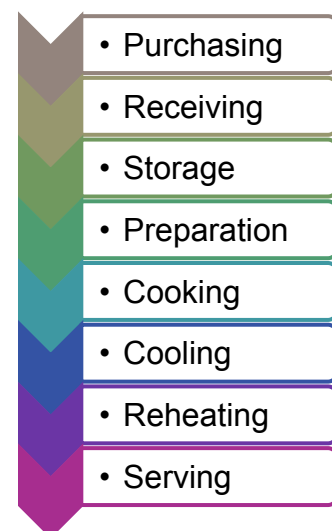
Next, brainstorm a list of potential hazards for each step of the process you have laid out. A **hazard** is a biological, chemical, or physical agent that could cause illness or injury if it wasn't controlled.

To identify hazards there are many questions you should ask yourself about food in your operation.

1. Ingredients - does the food contain any ingredients that may present biological, chemical, or physical hazards? For example, are any of the ingredients TCS foods?

2. Procedures used – do any of the steps in the process destroy pathogens? If so, which pathogens? Consider both vegetative cells and spores. How much time will it spend in the temperature danger zone? How can this be minimized?

3. Employee health, hygiene, and education - can employee health or personal hygiene practices impact upon the safety of the food being processed? For example, bare-handed contact of ready-to-eat foods.

4. Conditions of storage between packaging and the end user - what is the likelihood that the food will be improperly stored at the wrong temperature?

5. Intended consumer - is the food intended for the public? Is the food intended for consumption by a population with increased susceptibility to illness?

After you've determined the hazards for each step, decide which of them need to be addressed in the HACCP plan. Address hazards based on their risk and severity. **Risk** is the probability that a potential hazard will lead to illness or injury. For example, mishandling raw meat is a real possibility with dangerous consequences. **Severity** is the seriousness of the consequences of exposure to a hazard. On the other hand, hazards that are of little to no risk or are unlikely to occur do not need to be addressed in the HACCP plan. Keep in mind that hazards differ among operations. A hazard that is significant for one operation may not be significant in yours.

2. Determine Critical Control Points (CCPs)

The next step is to determine the critical control points (CCPs). A **critical control point** is a step at which you can control, prevent, or eliminate a food safety hazard or reduce it to an safe level.

For example, when preparing chicken breasts to be served there may be many steps where hazards can be controlled. However, properly cooking the chicken breasts is the only step where harmful levels of bacteria are brought down to safe levels. In this instance, cooking is a critical control point.

Think of CCPs as paying a toll at a checkpoint. The step, reaching a checkpoint, and the subsequent action of paying a toll are essential to continue onward. Similarly, think of the essential steps and actions that food must take to be served safely.

Examples of CCPs can include the following:

1. Cooking food to a proper internal temperature for a specific amount of time to destroy a microbiological pathogen.

2. Proper cooling, hot holding, and cold holding to prevent or slow down the rate of bacterial growth.

3. Adjusting the pH of a food to prevent bacteria from growing.

4. Purchasing seafood and ready-to-eat foods from approved sources.

For actions that are difficult to monitor, measure, and record, consider categorizing them as standard operating procedures or house rules. **Standard operating procedures** (SOPs) specify practices to prevent food from becoming contaminated. The benefit of having standard operating procedures is so that employees have a predefined set of steps to follow so they can focus on the hazards associated with food and preparation rather than trying to determine the steps for each food they prepare and serve.

Categories of standard operating procedures include the following:

1. Cross contamination control

2. Employee hygiene procedures

3. Facility and equipment handling procedures

Always remember to carefully develop and document all CCPs and SOPs.

3. Establish the Critical Limits

All CCPs will have one or more actions to prevent, eliminate, or reduce hazards. Each action will also have a critical limit. A **critical limit** is a maximum or minimum value to which a biological, chemical, or physical hazard must meet. You can think of critical limits as the amount of money you have to pay at checkpoints along the road. Critical limits must be as specific as possible and easily measured or observed so it's clear when they are not met. An example of a strong critical limit would be, "heat rapidly to an internal temperature of 165 °F within 2 hours."

A critical limit for chicken breasts would be to cook to a minimum internal temperature of 165 °F or higher for 15 seconds. If this critical limit is met then the chicken can move on.

A critical limit for ground beef would be to cook to a minimum internal temperature of 155 °F or higher for at least 15 seconds.

Critical limits should be set based on sound food safety standards and guidelines. The factors of food safety that can be the basis of critical limits include:

1. Temperature – keeping food at or below 41 °F or at or above 135 °F.

2. Time – limit time spent in temperature danger zone.

3. pH – disease-causing bacteria do not grow on foods pH 4.6 or below.

4. Water activity – foods with a water activity of 0.85 or less do not support growth of disease causing bacteria.

Control measures, CCPs, and critical limits should all be easy to monitor, measure, and record.

Three Different Processes: No Cook, Same-Day Service, and Complex Process

We can categorize food based the number of complete trips it makes through the temperature danger zone; a complete trip means the food goes from below 41 °F to above 135 °F. The more trips through the temperature danger zone a food goes through, the more opportunity pathogens have to grow. HACCP plans will differ based on the type of process a food is. The more trips through the temperature danger zone, the more critical control points (CCP).
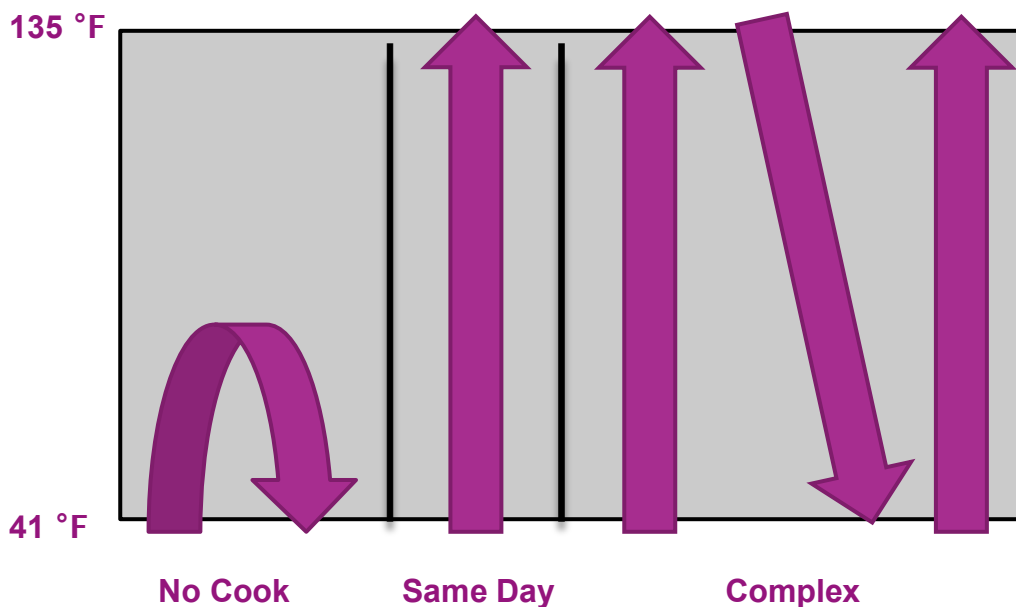
No Cook Foods

No cook foods are those that are prepared and served cold, and never make a complete trip through the temperature danger zone. For these types of food a CCP

might be in preparing and holding, with a critical limit of 41 °F or below. There may also be a time limit for preparing or holding that would also be a CCP.

Same-day Service

Same-day service foods are those that cooked and held hot to be consumed right away. These make one complete trip through the temperature danger zone because they are not cooled and reheated for later use. A CCP might be cooking, with a critical limit being the safe minimum cooking temperature of the food. Another CCP might be holding, with the critical limit being at or above 135 °F.

Complex Process

Complex process foods make multiple trips through the temperature danger zone. These are foods that are cooked and then cooled and served (two trips), or cooked, then cooled, then reheated and served (three trips).

A complex process food has more CCPs than no cook and same day service foods. Examples of CCPs are:

- Cooking, with critical limit of the minimum cooking temperature,
- Cooling to 41 °F or below within the appropriate time frame (critical limit),
- Storage at or below 41 °F (critical limit),
- Reheating to the appropriate minimum temperature (critical limit), and
- Holding at or above 135 °F (critical limit).

4. Establish Monitoring Procedures

At this point you've identified the hazards (hazard analysis), know the steps where an action will control the hazard (critical control points), and know the specific limits that need to be met (critical limits). Now it is time to establish monitoring procedures to track and meet the CCPs. **Monitoring** is checking and recording whether a critical limit has been met, which lets you know if you need to take corrective action. Similarly, tolls are monitored for drivers who try to drive though without paying. In both cases, the general purpose is to make sure that if a limit is not met, then action can be taken.

The best practice for monitoring is for it to be:

1. Continuous (preferred) or in intervals that are reliable, such as monitoring the temperature of hot held foods at least every four hours.

2. Realistic, so that monitoring procedures are rapid and doable.

3. Accurate, with trained employees taking measurements with properly calibrated tools.

4. Recorded and signed by the person responsible for monitoring.

5. Establish Corrective Actions

Food production should not continue unless all CCPs and critical limits are met. **Corrective actions** are procedures followed when a critical limit is not met. Develop these actions in advance with your CCPs and the rest of the HACCP plan.

The information you should include about corrective actions includes:

1. What to do when a critical limit is not met

2. Who will be responsible for taking action

3. A method to record the actions taken

Any corrective actions you do take should include the following steps:

1. Determine what went wrong

2. Choose and apply the appropriate corrective action

3. Record any additional steps beyond the corrective action

4. Verify that the critical limit is met using the revised system.

If a corrective action is consistently needed, you may want to consider updating your HACCP plan to reflect the correct action.

6. Establish Verification Procedures

Verification is defined as activities, other than monitoring, that determine that the HACCP plan and the system is working according to plan. This means frequent reviewing of the HACCP plan, making sure it is being correctly followed, and reviewing monitoring and record keeping procedures. A **HACCP team** is the group of people who are responsible for developing, implementing, and maintaining the HACCP system. This team should meet to review and evaluate the operation's HACCP program at least once a year.

There are two phases of verification:

1. Verify that the critical limits are effective (prevent, eliminate, or reduce hazards to acceptable levels).

2. Verify that the overall HACCP plan is functioning (review flow plans and records)

Verifying HACCP should also occur under these circumstances:

1. Clientele changes to a high risk population

2. Items on the menu are changed to contain TCS foods

3. Low risk foods are substituted with high risk foods

4. The process for preparing a HACCP menu item changes

5. New hazards are recognized

6. There is an unexplained system failure

You may also want to consider having an unbiased third-party conduct an evaluation of your HACCP plan.

7. Establish Record-Keeping and Documentation Procedures

The purpose of record keeping is to record and keep track of whether critical limits are met and that corrective actions are taken when needed. Without record keeping, it is likely that problems with food safety will repeat and food will be less safe. Record-keeping procedures can be simple, such as when employees fill out temperature logs after checking the internal temperature of cooked meat. These documents will be used for verification purposes, so always keep them as written copies in the establishment.

The records for a HACCP system generally include the following:

1. A summary of the hazard analysis

2. The HACCP plan

3. The HACCP team and responsibilities

4. Description of foods which includes the following:

   a. Distribution, intended use, and consumer

5. Verified flow diagrams

6. A HACCP plan summary which includes the following:

   a. CCPs

   b. Hazards of concern

   c. Critical limits

   d. Monitoring procedures

   e. Corrective actions

   f. Verification procedures

   g. Record-keeping practices

7. Validation records

Implementing a HACCP System

The success of a HACCP plan depends on all levels of the operation, from upper management to the team of employees performing HACCP tasks. At the beginning, the HACCP team must be committed to developing the initial plan and coordinating its implementation. During implementation, employees must be good at the tasks that the HACCP plan requires of them.

Everyone involved with HACCP must understand his or her role and responsibilities. An effective training program for HACCP should include the following:

1. An overview of HACCP

2. An examination of CCPs and critical limits

3. How HACCP integrates with employee duties

4. Motivation and the importance of employees roles in HACCP

If the raw ingredients are safe, and the process is safe, then the finished product is safe.

Case Study

Gerardo was preparing for breakfast service one morning. Most of the food had already been prepared, so he proceeded to fetch nonfat yogurts from the refrigerator. He noticed that they did not feel as cold as he expected, and the temperature on the air probe thermometer in the refrigerator read 45 °F. When he checked the temperature log for the refrigerator he saw that it has last been updated the previous day at 4 pm with a temperature of 37 °F. He opened one of the yogurts to measure the temperature with a clean and sanitized thermometer. The temperature measured 43 °F. He decided that was close enough, since the yogurts would be consumed soon.

On the other side of the kitchen, Lucia had finished preparing for breakfast and was getting a jump on lunch preparations for the next day. She asked Jim check the temperature of the chicken she had just finished cooking. Jim took out a metal-stemmed thermometer from the first compartment of the three-compartment sink and placed it inside the center of the chicken. He patiently waited 15 seconds and saw that the chicken was 155 °F. Since it would be reheated before lunch service in 5 hours, he figured that would be fine and put the chicken in the refrigerator.

A few hours later, Gerardo began getting food ready for lunch. The day before, he had prepared beef and cheese enchiladas. He reheated the enchiladas in the oven. Shortly before service, he pulled them out and checked the internal temperature. The temperature read 165 °F for 15 seconds, which he knew was safe for reheated foods. He recorded that number on the temperature log for the entrée before putting it out on the lunch line.

Lucia returned to preparing the chicken about an hour before the first lunch period. She reheated the chicken in the microwave but forgot to check the temperature before putting it on the steam line to hold for service.

Questions:

1. What are some critical control points, critical limits, and corrective actions you would recommend for the foods being served?

2. What are some SOPs you would recommend be developed for this kitchen?

Lesson 8 Study Worksheet

The purpose of this worksheet is to help you review the material covered in this lesson. First, try to complete as much of the worksheet as possible from memory. Then go back and look up the information you need to fill in any remaining questions.

What are the seven principles of a HACCP system?

1.

2.

3.

4.

5.

6.

7.

What are the four steps of a hazard analysis?

1.

2.

3.

4.

What is the difference between severity and risk?

What are critical control points and critical limits and how are they related to each other?

Describe each of the below processes and some potential critical control points.

No cook process	Critical Control Points

Same-day service process	Critical Control Points

Complex process	Critical Control Points

What are the four best practices for monitoring procedures?

1.

2.

3.

4.

What are the four steps when taking any corrective action?

1.

2.

3.

4.

What are the two phases of verification?

1.

2.

What is the purpose of having record-keeping procedures?

What is required of employees to ensure that a HACCP system is successful?

Lesson 8 Review Quiz

1. **Which of the following is NOT a principle of HACCP?**

   a. Establish monitoring procedures

   b. Establish verification procedures

   c. Establish record-keeping and documentation procedures

   d. Establish standard operating procedures

2. **True or False: Hazards that are of little to no risk or are unlikely to occur need to be addressed in the HACCP plan.**

   a. True

   b. False

3. **True or False: All hazards can be prevented.**

   a. True

   b. False

4. **Which of the following would be better suited as a standard operating procedure than a critical control point?**

   a. Proper employee hygiene

   b. Cooking food to proper internal temperatures

   c. Adjusting the pH of food

   d. Proper hot-/cold-holding procedures

5. **Which of the following is an example of an incorrect critical limit?**

   a. Holding food at or below 41F or at or above 135F

   b. Limiting time spent in the temperature danger zone

   c. Keeping food at a pH of 7 or below

   d. Keeping food at a water activity of 0.85 or less

6. **Which of the following does not need to be included in HACCP records?**

   a. A blueprint of the operation's facility

   b. A summary of the hazard analysis

c. The HACCP team and their responsibilities

d. The HACCP plan summary

7. **Verifying the HACCP plan should occur in all of these conditions except when…**

a. Clientele changes to a high risk population

b. New hazards are recognized

c. High risk foods are substituted with low risk foods

d. The process to prepare HACCP products changes

8. **Which of the following should be easy to measure, monitor, and record?**

a. Control measures

b. Critical control points

c. Critical limits

d. All of the above

Lesson 9 – A Food-Safe Facility from the Ground Up

Introduction

In the previous lessons, we learned about keeping food safe throughout the flow of food. In this lesson, we'll talk more about how a food service facility can be designed to promote food safety.

Learning Objectives

- Identify common pests found in the food service environment.

- Characterize the environments most liked by common pests.

- Demonstrate methods for keeping pests away from food storage areas.

- Describe the design characteristics of a safe and sanitary food service facility.

- Evaluate examples of unsafe food service facilities and identify areas for improvement.

- Describe design requirements for each the following:
    - Flooring
    - Walls and ceilings
    - Lighting
    - Storage shelves and containers
    - Plumbing
    - Handwashing stations
    - Ventilation
    - Doors and windows
    - Restrooms
    - Waste management
    - Equipment

Concepts and Vocabulary

Coving – a curved, sealed edge between the wall and the floor with a minimum radius of 3/8-inch edge extending up the wall at least 4 inches

Foot-candles – a unit of measurement for lighting intensity

Lux – a unit of measurement for lighting intensity

Cross connection – any physical link through which contamination from drains, sewers, or waste pipes can enter a potable water supply

Backflow – a backward flow of contaminated water, caused by back pressure or back siphonage, into a potable water supply

Air gap – a vertical space between the potable water source and the source of contamination

Double check valves – a device that prevents backflow by closing off the flow when pressure drops

Vacuum breaker – a device that prevents backflow by closing off the flow when pressure drops

Reduced pressure principle backflow preventers – a device that prevents backflow by opening a drain when pressure drops

Floors, Walls, and Ceilings

The most important rule for floors, walls, and ceilings is that they are smooth and easily cleanable. Floors should only be made from non-absorbent, non-skid materials. Options include marble, terrazzo, quarry or asphalt tiles, or seamless concrete treated with sealants. Floors must also have *coving*, which is a curved, sealed edge between the wall and the floor to help keep dirt and grime from being trapped in crevices. It needs to have a minimum radius of 3/8-inch edge and extend up the wall at least 4 inches. Carpet is allowed only in dining areas.

Lighting Requirements

Lighting needs to be bright enough to reveal dirt and stains, positioned so that employees don't cast shadows on their work, and positioned or protected so that broken glass doesn't fall into food.

Specific lighting intensity requirements differ depending on location and purpose. Intensity is measured in *foot-candles* or *lux*. A light meter is used to determine intensity, either at 30 inches above the floor, or at the surface (such as a counter).

10 foot-candles (108 lux), measured 30 inches above the floor

This is lowest lighting requirement, reserved for food storage areas (walk-in refrigerator and freezer units, dry storage areas) and inside equipment.

20 foot-candles (215 lux) measured 30 inches above the floor

The next lowest lighting requirement is used for handwashing or ware washing areas, areas used for equipment and utensil storage, and toilet rooms.

During cleaning, all areas and rooms need to be this bright. For example, if you are cleaning inside dry storage areas, the required brightness is 20 foot-candles, rather than the 10 foot-candles that are required all other times.

20 foot-candles (215 lux), measured at the surface

This level of lighting is required at server stations where food is prepared, at a surface where food is provided for consumer self-service (such as a salad bar) or where fresh produce or prepackaged foods are sold or offered for consumption.

The brightest lighting is required where employees are working with food (with the exception of server stations), or when employee safety is a factor, as when they're working with utensils such as knives, slicers, grinders, or saws.

Shelving and Storage Containers

As mentioned in lesson 6, there are requirements for shelving and storage containers that promote food safety. Shelving needs to be corrosion resistant and easily cleanable. Wide, slatted shelving promotes air circulation. Don't line shelves (including refrigerator and freezer shelves) with aluminum foil, paper, or any other material, because these can limit air flow. The lowest shelf needs to be at least 6 inches from the floor, and there must be six inches of space between the shelves and the wall.

Storage containers need to be food-grade, kept covered, and labeled with the contents and use-by date.

Plumbing

The specifications for plumbing requirements are designed to prevent contamination. This starts with using clean, potable water. Water can be from any of the following sources:

- Approved public water main

- Private water sources that are tested regularly and maintained

- Closed, portable water containers

- Water transport vehicles.

Preventing Cross Connections

The next step is being aware of how cross connections can occur, and how to prevent them. A *cross connection* is when there is a physical link through which contaminants from drains, sewers, or waste pipes can enter a potable water source. An example is *backflow*, which is when contaminated water flows backwards into the potable water supply through a drain, hose, or other source. This occurs when the pressure in the water system drops below that of the contaminated water supply and the higher pressure forces contamination back into the potable water supply. This could happen with a water main break, a shut-down of the system for repairs, or heavy water use during a fire.

The most reliable way to prevent backflow is an *air gap*, which is a vertical space between the potable water source (e.g. faucet) and the source of contamination (e.g. the rim of a sink). An air gap must be 2 times the diameter of the supply pipe, but never

less than 1 inch. In addition to an air gap between a water source and the source of contamination, there also should be an air gap between a sink drain and the floor.

If an air gap can't be used, other options to prevent backflow include *vacuum breakers*, *double check valves*, or *reduced pressure principle backflow preventers*.

Three-Compartment Sinks

Three-compartment sinks are used to manually clean and sanitize wares and equipment. In addition to three-compartments, these sinks are required to have integral metal drain boards.

Food for Thought	In California, a two-compartment sink is allowed if it was in use prior to January 1, 1996 and the installation of a three-compartment sink would not be readily achievable. However, other approved sanitation methods must be used. (See Lesson 5 to review how to clean and sanitize with a two-compartment sink.)

Handwashing Stations

You'll recall from Lesson 4 that handwashing should only be conducted in designated handwashing sinks. These stations must be clean, unobstructed, and accessible at all times for employee use. Each handwashing station is required to have:

- Hot water (at least 120 °F from the tap) and cold running water. Warm water (under pressure) needs to be available for at least 15 seconds.

- Soap

- Single-use paper towels or a hand dryer

- Trash can for paper towels

- Sign that states "Employees must wash hands before returning to work" in all languages spoken by your employees.

If a handwashing sink is within two feet of a warewashing sink, a metal splashguard of at least 6 inches in height is required. This splashguard needs to have rounded corners, and extend from the back edge of the drainboard to the front edge of the drainboard.

Restrooms

Permanent food facilities are required to have a restroom for employees. These restrooms must be conveniently located, but separate from the kitchen, with well-fitted, self-closing doors. Doors need to be kept closed except during cleaning and maintenance. Inside the restroom, separate covered trashcans are required for paper towels and feminine sanitary products. If a handwashing station is not located inside the restroom, it needs to be directly next to it.

Other Plumbing Requirements

Curbed Cleaning Facility or Janitorial Sink

A least one conveniently-located curbed cleaning facility or janitorial sink equipped with hot and cold water and drain is required for cleaning mops and similar tools.

Grease Trap

A grease trap is another requirement, and it needs to be located where it is accessible for cleaning. A grease trap that is not cleaned regularly can result in sewage system failure, and it could attract pests.

Doors, Windows, and Ventilation

Tight-fitting doors and windows are a must to keep out pests. These are required to be solid or screened. If screens are used, they must be a 16 mesh. Doors must be self-closing, and doors and windows should be kept shut whenever possible. If there are windows in a storage area, frosted glass is necessary to prevent damage to food quality.

Ventilation systems remove steam, smoke, and heat from food preparation areas. Think about the areas where you have the most steam, smoke or heat. These are probably cooking areas and near the dishwashing machine. That's why hoods should be built and used over these areas. Ventilation ducts, steam pipes, water lines, and conduits should not be exposed, but filters need to be easily removed for cleaning. To keep out pests, screen outside air intakes.

Waste Management

Managing waste properly is one of the many ways in which we discourage pests from lurking around our food establishments.

Indoors

Receptacles need to be cleaned often, and be durable, odor-resistant, leak-proof, waterproof, and pest-proof. If they contain food debris, they need to have lids on at all times, unless in continuous use.

Outdoors

Outside containers must have tight-fitting lids, doors, or covers. Food establishments need an outside storage area and enclosure to hold refuse, recyclables, and returnables. The outside storage surface should be sloped to drain so that waste water will not pool and attract insects and rodents and have a surface that is smooth,

nonabsorbent, durable, cleanable, and maintained in good repair. If the refuse storage equipment and receptacles have drains, the drain plugs need to be in place.

Equipment

All equipment must be designed for commercial use and approved by either NSF International or Underwriters Laboratories (UL).

In general, all equipment should be durable, corrosion-resistant, smooth and seamless, with rounded corners and edges. Equally important is that they are easy to clean, as well as easy to clean under. This means that floor mounted equipment needs to be at least six inches off the floor, or be sealed to the floor on a masonry base. Tabletop equipment must at least four inches off the table or sealed to the countertop.

Dishwashing Machines

Dishwashing machines need to be the appropriate size for the facility and able to sanitize wares through heat or chemical solutions. On the dishwashing machine, there needs to be easily accessible information posted:

- The washing, rinsing, and sanitizing temperatures
- Pressure required for the sanitizing rinse
- Conveyor speed or cycle time

In addition, the machine needs to be able to measure temperature and pressure. If it dispenses sanitizer, it needs to be able to measure the sanitizer concentration.

Pest Management

There are few things more likely to ruin your appetite more quickly than seeing evidence of pests in a food service establishment. While pests are disgusting, the biggest concern regarding pests in food service is that they are capable of spreading disease. That's why we do everything possible to keep them out.

Lock them out!

The first line of defense is keeping them out entirely. Don't give them an easy way to get in; fill openings or cracks in walls and floors with putty, plastic, wood, or a similar product and fill openings around pipes or equipment fittings. Screen windows, doors, and outer openings and keep them in good repair. Use self-closing doors that open outward. Install an air curtain at food service entrances. Inspect food supplies before storing or using them.

Keep it clean!

Now that we've made it more difficult for pests to get in, we want to remove any tasty incentives by keeping our facility clean. Clean up spills immediately and pick up crumbs and other food scraps pronto. Put all garbage in garbage cans with lids and dispose of garbage properly and promptly. Dispose of mop and cleaning bucket water properly. Clean all grease traps regularly.

Store it right!

In addition to keeping pests and out and keeping the facility clean, we need to store food properly so that it doesn't attract pests. Keep food in labeled containers approved for food storage with tight-fitting lids and store food and containers 6 inches off the floor. Store food in areas with proper temperatures and keep all supplies clean, dry, and properly stored. If any food does become infested, remove and destroy it.

Be on the lookout!

How will you know if there is an infestation? By knowing the signs of different pests that might invade your facility. Droppings or gnawed or shredded packaging indicates mice and rats have been by. Cockroaches can leave a strong oily odor, as well as egg cases and feces. Keep an eye out for flies, ants, moths, and beetles as well.

In the event of an infestation

Even the cleanest, best-managed operation can experience an infestation; it's important to know what to do if it happens. First of all, work with a licensed pest control operator and use only pesticides and poisons allowed by the health department. Only licensed pest control operators should apply pesticides at your establishment. Do not install insect control devices over food preparation areas or in close proximity to exposed food and/or food-contact surfaces. Insect control devices should be designed so that the insect is maintained inside.

Case Study

Jorge is a new foodservice manager. One of his first tasks in his new job was to ensure that the facility met food safety standards. He created a checklist of items to note and ensure met the standards. He first went around to inspect the floors, checking to see if the floors had coving, which they did not.

Next on his list was lighting. Many of the lights were old, and the corner lights flickered from time to time. The lighting was fairly consistent across the entire facility.

He then went on to check the shelving and storage units. To keep dirt and food particles off the shelves, employees had them lined with paper. One staff member pointed out how they utilized the storage space, using all the space from the ceiling to the flooring.

Jorge went on to look at the handwashing station. He checked-off soap, sanitizer, paper towels, and saw the trashcan was used for both food and used paper towels.

Last on Jorge's list was doors and ventilation. The hoods had been removed above the stovetops. An employee told him it was because they kept getting greasy and often ran too loud, affecting employee concentration. The employee reassured him that they were able to keep the area ventilated by having the door propped open when in use.

Jorge had the following items on his to-do list:

- Add coving
- Replace flickering lights
- Reorganize storage so that items were stored at least six inches from the floors and ceiling
- Replace hoods

Questions:

1. Did Jorge make an adequate list of items? What did he miss?

2. To ensure for facility safety and sanitization, what other concerns need to be addressed?

Lesson 9 Study Worksheet

The purpose of this worksheet is to help you review the material covered in this lesson. First, try to complete as much of the worksheet as possible from memory. Then go back and look up the information you need to fill in any remaining questions.

What are the requirements for floors, walls, and ceilings?

<u>**Floors**</u>   <u>**Walls**</u>
<u>**Ceilings**</u>

For each of the different lighting levels, fill in the areas of the facility that require that intensity.

10 foot-candles (108 lux), measured 30 inches above the floor	20 foot-candles (215 lux) measured 30 inches above the floor
20 foot-candles (215 lux), measured at the surface	**50 foot-candles (540 lux), measured at the surface**

What are the requirements for shelving and storage containers?

Describe cross connection and backflow. List the most effective method to prevent backflow and describe the requirements for it.

      Cross connection

      Backflow

      Most effective backflow preventer and requirements

What are the requirements for a three-compartment sink?

When can a two-compartment sink be used in California?

Describe the requirements for handwashing stations, including splashguard requirements.

List the requirements for restrooms

Kitchens are required to have a janitorial sink or curbed cleaning facility and a grease trap. What are the requirements for each of these?

Janitorial sink or curbed cleaning facility   **Grease trap**

What are the requirements for doors, windows, and ventilation?

Doors   **Windows**   **Ventilation**

What are the important things to remember for managing waste indoors?

What are the general requirements for equipment?

What are the specific requirements for dishwashing machines?

List at least ten things that should be done to help prevent pests in your facility.

Describe signs of infestation by cockroaches and rodents.

<u>Cockroaches</u>   <u>Rodents</u>

What should be done in the event of an infestation?

Lesson 9 Review Quiz

1. **Which of the following statements is FALSE?**

   a. Toilet facilities must be available for all employees.

   b. Employee toilet facilities must be conveniently located and accessible during working hours.

   c. Separate toilet facilities should be provided for men and women.

   d. Poor sanitation in toilet facilities will influence customer's opinions about cleanliness, but will not promote the spread of disease.

2. **The most effective device for protecting the potable water system from contamination by backflow is a (an)…**

   a. Air gap

   b. Double check valve

   c. Reduced pressure backflow preventer

   d. Vacuum breaker

3. **For air gaps, the vertical distance from the supply pipe (faucet) to the flood rim must be at least:**

   a. Two times the diameter of the supply pipe, but never less than 1 inch.

   b. Two times the diameter of the supply pipe, but never less than 2 inches.

   c. Three times the diameter of the supply pipe, but never less than 1 inch.

   d. Four times the diameter of the supply pipe, but never less than 2 inches.

4. **Which of the following statements is FALSE?**

   a. Proper disposal and storage of garbage is needed to prevent food contamination and avoid pests.

   b. A trash receptacle must be provided in each area of the establishment where refuse is generated.

   c. Garbage receptacles must be durable, clean, nonabsorbent, leak-proof, and pest-proof.

   d. Trash may be stored outdoors in plastic bags provided the bags are stored at least 15 inches off the ground.

5. **Which one of the following situations requires corrective action?**

    a. A trash can with the lid off while in use

    b. A handwashing station with a multi-use cloth towel for hand drying

    c. Light colored ceramic tile being used for the walls of the food preparation area

    d. Anti-slip flooring provided in the dishwashing area

6. **The best way to encourage employees to wash their hands when needed is to:**

    a. Provide separate restrooms for employees and for customers.

    b. Provide handwashing stations near work areas.

    c. Provide hand sanitizers instead of handwashing stations in food preparation areas.

    d. Put up a sign in the employee locker room reminding them of proper handwashing.

7. **Coving is a (an):**

    a. Curved sealed edge between the floor and wall that eliminates sharp corners to make cleaning easier.

    b. Anti-slip floor covering used to protect workers from slips and falls.

    c. Plastic material used to seal cracks and crevices under and around equipment in a food establishment.

    d. Device used to prevent back siphonage.

8. **An employee is sharpening knives. What is the minimum level of lighting in the area in which she is working?**

    a. 108 lux, measured 30 inches above the floor

    b. 215 lux, measured at the surface

    c. 540 lux, measured 30 inches about the floor

    d. 540 lux, measured at the surface

Lesson 10 – Active Management

Introduction

In the previous lessons, we learned about how a food service facility can be designed to promote food safety. In this lesson we will learn about *Active Managerial Control*, what to do in an emergency, what to do in case of a food-borne illness outbreak and the USDA professional standards.

Learning Objectives

- Define "Active Managerial Control."
- Recognize procedures to follow during a food service facility emergency.
- Identify procedures to follow during a food recall.
- Recognize what to do in case of a food-borne illness outbreak.
- Explain steps that can be taken to prevent deliberate contamination of food.
- Summarize when staff should be trained, how training should be documented and barriers to training.

Concepts and Vocabulary

Active Managerial Control – a food safety system that is designed to prevent, prevent, eliminate, or reduce the risk foodborne illness

Workplace emergency – an unforeseen situation that threatens your employees, customers, or the public

Imminent health hazard – an emergency that poses a risk to food safety

Foodborne illness outbreak – an incident where two or more people become sick after eating the same food and is confirmed when a lab analysis shows the source of sickness to be a specific food

USDA Professional Standards – minimum professional standards requirements for school nutrition professionals who manage and operate the National School Lunch and School Breakfast Programs

What is Active Managerial Control?

Active managerial control is a food safety system that is designed to prevent, eliminate, or reduce the risk of foodborne illness. It is a way for food service operators and food handlers to stop foodborne illness before it happens, rather than reacting to it after the fact. It means taking an active role in prevention through sound food safety knowledge, training, and practices. Active managerial control addresses the four most common causes of foodborne illness (time/temperature abuse, poor personal hygiene, cross contamination, improper cleaning and sanitizing, purchasing from unsafe sources) through written policies and SOPs, and continuous monitoring and verification. HACCP, which we learned about in Lesson 8, is one type of active managerial control.

Being Proactive

One way in which the food industry is proactive is through regular inspections. While inspections may be stressful, they are a way for food service establishments to be proactive by learning what areas they may need to work on. Inspections are also something that schools need to be more aware of than other types of food service establishments, because they are required to have two per year. For more information about this requirement, see Appendix G and Appendix H for the CDE Management Bulletins and USDA School Meal Program Policy Memos about this topic.

Being Effective

In the previous lessons, we've talked about all the different components of food safety that you need to be aware of as a food protection manager. Active Managerial Control is a way of combining all of these into an effective food safety system. The elements of an effective food safety management system include the following:

- Certified food protection managers who have shown a proficiency in required information by passing a test that is part of an accredited program. Remember, every site in your program is required to have at least one food protection manager.
- Standard operating procedures (SOPs) for performing critical steps in a food preparation process, such as cooling foods safely. These SOPs should be part of your HACCP plan.
- Recipes that contain the specific steps for preparing a food item and the food safety critical limits, such as final cooking temperatures, that need to be monitored, verified, and recorded. It's also a good idea to include corrective actions that should be taken if the critical limits aren't met.
- Monitoring procedures and record keeping. Monitoring and record keeping are key components of a HACCP plan. As we'll discuss later in this lesson, record keeping is also important in the event of foodborne illness outbreak.
- Purchasing specifications
- Equipment and facility design and maintenance. As we learned in Lesson 9, a well-designed and maintained facility makes it easier for everyone to adhere to sound food safety practices.
- Employee health policy for restricting or excluding ill employees.
- Manager and employee training, so that everyone who handles food understands how important food safety is, as well as the necessary steps to keep food safe all the way through the flow of food.
- On-going quality control and assurance. This is a way we know we are holding ourselves to the highest food safety standards.

Handling a Food Recall

As a manager, you may have to deal with a food recall. A food recall occurs when a food has the potential for making someone ill. This might be due to pathogen contamination, such as a recall of hummus due to *Listeria* concerns, or it might be due to incorrect labeling that fails to identify that the food contains an allergen.

Vendors may notify you of a recall, but you should also monitor recall notices issued by the FDA and USDA. Make sure that more than one person in your school or facility receives this notices. When there is a recall, take the following steps:

- Identify the recalled food by matching information from the recall notice.
- Remove the item and store it separately from food to be consumed, utensils, equipment, etc.
- Label it with "Do Not Use, Do Not Discard" or with the recall notice
- Inform employees
- Follow vendor notification or recall notice instructions

Foodborne Illness Outbreak

What is a **foodborne illness outbreak**? It is an incident where two or more people become sick after eating the same food, and is confirmed when a lab analysis shows the source of sickness to be a specific food. When a foodborne illness outbreak occurs it is best to remain calm and inform your supervisor. All serving of the suspected food should halt and any evidence available needs to be preserved. This includes preserving the suspected food. Collect as much information as possible, including the names and contact information of all people affected, symptoms of those affected, onset and duration of those symptoms, and if they've seen a health provider and received a diagnosis. You'll also want to collect information on which employees were working in all food prep and service areas. Create a log of the suspected food, including:

- A description of the food,
- The production date
- Any possible batch numbers
- Any HACCP-related records, such as temperature logs

Once you have gathered and logged all possible information, it is important to report the results to your local health department and cooperate with their investigation.

Deliberate Food Contamination

Deliberate food contamination is when harmful contaminants (including pathogens) are purposely put into food, water, etc. to make people ill and/or die. To prevent deliberate food contamination, use the following guidelines:

1. Only allow approved employees into production areas.
   - Do not allow employees in the food production area outside of their shift
2. Establish a policy for visitors, including having visitors sign in and out
3. Do not allow personal items in food production areas.
4. Have policies and training for reporting suspicious activities, including who to contact. Your district may already have policies in place for this.

To address the possibility of deliberate food contamination, the FDA has developed the FDA ALERT initiative. It identifies five key points to decreasing vulnerabilities to intentional food contamination.

A – Assure – food and supplies are purchased from safe and secure sources. Supervise offloading of deliveries and make sure the person making the delivery has identification.

L – Look – after the security of products and ingredients. Be aware of surroundings. Store products in a secure location. If something or someone looks suspicious, always report to the manager on duty. You may also wish to contact the police.

E – Employees – only allow authorized personnel. Limit staff access to only areas they need to access.

R – Reports – keep records regarding the security measures used to keep your food and facility safe.

T – Threats – make sure your staff knows how to handle and who to contact regarding security threats, including suspicious behavior.

In Case of an Emergency

A *workplace emergency* is an unforeseen situation that threatens your employees, customers, or the public. It can disrupt or shut down your operations or cause physical or environmental damage. When an emergency could pose a risk to food safety, it is known as an *imminent health hazard.* These include sewage backups, extended power outages, and an interrupted water supply, such as a broken water main. If one of these occurs, you will need to determine if they could result in your food becoming unsafe. If that is the case, you should stop service immediately, and you may be required to notify the local health department.

In addition to imminent health hazards, there are other emergencies that can occur, both natural or manmade:

- Floods
- Earthquakes
- Hurricanes
- Tornadoes
- Fires
- Toxic gas releases
- Chemical spills
- Radiological accidents
- Explosions
- Civil disturbances
- Workplace violence resulting in bodily harm and trauma

Food for Thought

When an emergency arises, having an emergency action plan can be critical to ensuring the safety and wellbeing of your employees, students, and the public. If your facility doesn't have an emergency action plan here are some guidelines on how to develop one.

According to the OSHA emergency action plans must include:

- A preferred method for reporting fires and other emergencies;
- An evacuation policy and procedure;
- Emergency escape procedures and route assignments, such as floor plans, workplace maps, and safe or refuge areas;
- Names, titles, departments, and telephone numbers of individuals both within and outside your program to contact for additional information or explanation of duties and responsibilities under the emergency plan;
- Procedures for employees who remain to perform or shut down critical operations (such as shutting off gas lines), operate fire extinguishers, or perform other essential services before evacuating; and
- Rescue and medical duties for any workers designated to perform them.

You also may want to consider designating an assembly location and procedures to account for all employees after an evacuation

Check with your district office about their emergency action plan. If you need to develop your own, a great resource for developing an emergency action plan can be found on the OSHA website at www.osha.gov.

Employee Food Safety Training

All employees in a food service facility must be trained in food safety. Training staff when they are first hired (before handling food), and ensuring they are retrained regularly is key to maintaining the highest standards of food safety. Different programs handle training in different ways. Some have short refreshers at regular intervals, such as a different food safety topic at monthly staff meetings. Other programs might have a training in-service day before the start of the school year. In addition, regular training will also help you and your staff fulfill USDA Professional Standards requirements.

USDA Professional Standards

USDA has established minimum professional standards that require minimum annual training for all new and current school nutrition professionals.

Annual training requirements for all school nutrition employees:

Job Category	Annual Requirements
Directors	12 hours
Managers	10 hours
Staff (full-time)	6 hours
Part-Time Staff (working less than 20 hours per week	4 hours

What Qualifies as Training?

Training should apply to an employee's work duties. In addition to your own training, you should plan to assist your managers and staff with training. Consider these options for job-specific training:

- Online courses
- Structured, on-the-job training
- In-service training
- Local school nutrition organization educational events
- State agency-sponsored training
- Training you conduct for staff
- Meetings sponsored by foodservice partners (vendors and commodity groups), including exhibits (as allowed by your State agency)
- College courses with job-specific content

Food for Thought

Food for Thought

Training records for each employee must be maintained and include:

1. Employee's name
2. Position as defined in the professional standards (director, manager, or staff)
3. Training title
4. Training topics/subjects (i.e. key area, key topic, and learning topics/codes)
5. Date training completed
6. Creditable training hours

Case Study

Lydia held training with fellow foodservice managers. She provides the trainees with informational sheets and worksheet for them to fill-in. She covered what defines an "active managerial control", the steps needed to carry out during a food service facility emergency, how and why it is important to recognize what to do with a food-borne illness outbreak, the necessary steps to prevent food contamination, and when and how staff need to be trained. At the end of her presentation, she handed the trainees a mini quiz to fill out. Below is one of the quizzes from one of the trainees:

1. What is meant by "active managerial control"?

   When the manager is aware of his/her responsibilities and overseas his/her staff's duties. He/she must be certified as a food handler, and know about all the safety concerns and issues.

2. List a few workplace emergencies:

   Floods, staff calling in sick, earthquakes, delivery truck not delivering food items on time, fires, overflowing toilet.

3. True or false: Your facility should have and review an emergency action plan, having one ready at all times.

   False; should only be prepared in times of emergencies.

4. True or False: a food borne outbreak occurs when one person at each school facility becoming ill after eating their school lunches.

   True.

5. What is considered to be a deliberate contamination of food?

   Letting jewelry or other physical contaminants enter the food.

6. What does the acronym ALERT stand for in FDA ALERT?

   A: Access
   L: Look
   E: Evacuate
   R: Report
   T: Treat

7. When is the ideal time to train staff?

   As they are first learning to prepare the school meals.

Questions:

1. This trainee made a few errors in their quiz. Please go back and write-in the correct answers.

2. How would you present this material to your staff?

Lesson 10 Study Worksheet

The purpose of this worksheet is to help you review the material covered in this lesson. First, try to complete as much of the worksheet as possible from memory. Then go back and look up the information you need to fill in any remaining questions.

Define Active Managerial Control.

List two elements of an effective food safety management system.

    1.

    2.

Describe what should be done in the event of a recall.

Name three examples of a workplace emergency.

    1.
    2.
    3.

What is deliberate contamination of food?

Define the five key points to the FDA ALERT:

      A –

      L –

      E –

      R –

      T –

When should employees in a food service facility receive food safety training?

Lesson 10 Review Quiz

1. **Which is the correct definition of Active Managerial Control?**

   a. A food safety system that is designed to prevent, prevent, eliminate, or reduce the risk foodborne illness

   b. An actively controlling manager

   c. Health inspection records, customer comments, and quality assurance audits

   d. Plan, administer, implement, monitor, and evaluate all district-wide aspects of school nutrition programs

2. **Which is NOT an element of an effective food safety management system?**

   a. Purchasing specifications

   b. Accepting deliveries

   c. Equipment and facility design and maintenance

   d. On-going quality control and assurance

3. **True or false: HACCP is a type of active managerial control.**

   a. True

   b. False

4. **When handing a recall, which of the following should recalled food be labeled with?**

   a. Do not touch

   b. Do not use, do not discard

   c. Caution

   d. Unsafe to eat.

5. **Which of the following would be considered an emergency in a food service establishment?**

   a. Broken water main

   b. Thunderstorms

   c. Power outage for 10 minutes

   d. Employee diagnosed with hepatitis A

6. **How many people must become sick after eating the same food for it to be considered a food borne outbreak?**

   a. Ten

   b. Three

   c. Five

   d. Two

7. **The FDA ALERT stands for:**

   a. Assure, Look, Emergency, Reports, Threats

   b. Alert, Look, Employees, Reports, Threats

   c. Assure, Look, Employees, Reports, Threats

   d. Assure, Listen, Employees, Reports, Threats

8. **Which of the following is NOT an example of an imminent health hazard?**

   a. Sewage backup

   b. Extended power outage

   c. Interrupted water supply

   d. Earthquake

Appendix

Appendix A – Lesson Study Worksheet and Quiz Answer Keys

Lesson 1

Study Worksheet

What is a foodborne illness?

A foodborne illness is when a person becomes ill due to consuming unsafe food or beverages.

What is a foodborne illness outbreak?

An outbreak is when two or more people become ill with the same symptoms.

What are the five most common factors responsible for causing foodborne illness?

1. *Time and temperature abuse*
2. *Poor personal hygiene*
3. *Improper cleaning and sanitizing*
4. *Cross contamination*
5. *Purchasing from unsafe sources*

What are the four essential rules of food safety?

1. *Clean*
2. *Separate*
3. *Cook*
4. *Chill*

What are the three basic food safety hazards?

1. *Physical*
2. *Chemical*
3. *Biological*

What does the term time/temperature control (TCS) for food safety mean?

These are foods on which pathogens grow well. (Sometimes called potentially hazardous foods or PHF.) We control the growth of pathogens by controlling the temperature these foods are stored, held, or cooked, as well as the amount of time they spend in the temperature danger zone.

What are the TCS foods?

Fruits	Protein Foods	Dairy Foods
Cooked fruits *Sliced melons*	*Meat, poultry, fish, shellfish* *Eggs* *Soy products*	*Milk, yogurt,* *cheese, cream, etc*

Vegetables	Grains	Other
Cooked vegetables *Sliced tomatoes* *Raw sprouts*	*Cooked rice, other grains*	*Untreated garlic/* *oil mixtures*

What are the national agencies involved in food safety? What are their responsibilities?

Agency	Responsibilities
FDA	*Inspections, recalls, seizures, produces FDA Food Code*
CDC	*investigates outbreaks,* *monitors prevention and control efforts*
USDA	*Inspects meat, poultry, eggs*

What are the requirements for food safety certification in food service establishments?

Every retail establishment that serves food is required to have at least one individual that is a certified as a food protection manager by passing an accredited exam. Everyone that handles food in a retail establishment to have a food handler certificate, which is sometimes called a food handler card. However, school nutrition personnel working in public or private school cafeterias are exempt from this requirement, with the exception of Riverside, San Bernardino, and San Diego counties.

1. **All of the following are TCS foods <u>except</u>:**

   c. Olive oil. *Unless it is an untreated garlic and oil mixture, olive oil is not considered a TCS food*

2. **Which of these is example of time/temperature abuse?**

   b. Thawing frozen chicken on a counter. *By thawing frozen chicken on a counter, there is a risk that pathogens could grow to unsafe levels while it is thawing. Instead, thaw in a refrigerator, under cold running water, or in a microwave.*

3. **Food allergens are considered which of the following?**

   b. Chemical hazard. *Allergens are considered a chemical hazard.*

4. **Which of these agencies conducts inspections of meat, poultry, and eggs?**

   d. U.S. Department of Agriculture. *While the FDA is tasked with inspections of all other food, the USDA Food Safety and Inspection Service inspects meat, poultry, and eggs..*

5. **True or False: All food handlers in California schools are required to be food protection managers.**

   b. False. *Only one food protection manager is required per facility.*

6. **Poor personal hygiene can lead to:**

   b. Spread of viruses. *Personal hygiene is especially important in preventing the spread of viruses, because these are not controlled through time or temperature.*

7. **Which of these is the minimum holding temperature for hot foods?**

   a. 135 °F. *This temperature is the upper limit of the temperature danger zone, so all hot-held foods need to at or above 135 °F.*

8. **Which of these is the maximum holding temperature for cold foods?**

   c. 41 °F. *Anything above 41 °F would be in the temperature danger zone, therefore cold foods should be held at or below this temperature.*

Lesson 2

Study Worksheet

What are the three types of hazards that cause foodborne illness?

Physical, chemical, and biological

List potential sources of physical contamination, and ways to prevent them.

Source	**Prevention Method**

Answers to this question will vary. A few possible answers include:

False nails or nail polish	*Wear gloves*
Hair	*Use a hair restraint*
Bones in fish	*Carefully prepare and inspect food*
Dull can opener	*Maintain properly*
Jewelry	*Limit jewelry, wear gloves*

List potential sources of chemical contamination, and ways to prevent them.

Source	**Prevention Method**

Answers to this question will vary. A few possible answers include:

Pesticides	*Store away from food, train everyone in safe use*
Allergens	*Prepare allergen-free foods first in a separate area*
Chemical sanitizer	*Store away from food, follow usage instructions*

What kind of information can you find on a Safety Data Sheet (SDS)?

Information about safe use, hazards, safe storage

What is important to know to prevent metal leaching into food?

Materials like lead, cadmium, galvanized metal, and copper should not be used for food contact surfaces. Never use opened cans for storing food. Never store hot foods in metal mixing bowls.

What is a food allergy?

A food allergy is a specific type of immune system reaction to a food or food ingredient.

What is an allergen?

The food or ingredient that causes an allergic response.

What type of contamination is it when there are allergens in a food?

Chemical contamination

List the possible symptoms of an allergic reaction.

Swelling of the mouth, lips, and/or tongue; itchiness in the mouth; rash and/or hives; runny nose; throat tightness; trouble breathing; vomiting, diarrhea, GI pain; anaphylaxis

What is anaphylaxis?

Anaphylaxis is the most dangerous food allergy reaction, as it can result in death if not treated quickly.

What are the possible symptoms of anaphylaxis?

Drop in blood pressure; hives, itching, swelling of the mouth, lips, tongue; difficulty swallowing; constriction of the airway, which can cause wheezing, difficulty breathing; weak or rapid pulse; nausea, vomiting, diarrhea; dizziness or fainting

What is cross contact?

Cross contact is when an allergen from one food is transferred to another.

What are the steps you can take to prevent cross contact?

Clean surfaces, equipment, pans, and utensils with hot, soapy water before preparing allergen-free foods. Wash your hands with soap and water to remove any allergens. Cook allergen-free foods first. Use a separate cutting board and utensils for allergen-free foods. Wash your hands thoroughly before serving allergen-free meals.

1. **Which of these is one of the top eight allergies?**

    b. Eggs. *While the other foods could cause allergies, they are not among the top eight most common.*

2. **Which of these is NOT a characteristic of food allergies?**

    b. Cross contamination needs to be prevented. *Cross contamination involves the spread of pathogens. While preventing cross contamination is important, it does not pertain to allergies.*

3. **Safety Data Sheets (previously called Material Safety Data Sheets) contain which of the following information?**

    c. Information about safe use. *SDS sheets contain information about safe use, but they do not contain specific expiration dates or information about the closest emergency room.*

4. **Which of the following is <u>physical</u> contamination risk when preparing food?**

    d. Reusing single-use containers. *Reusing single-use containers could result in physical contamination if pieces of the container break off into food.*

5. **Which of the following is a <u>chemical</u> contamination risk?**

    d. Storing chemicals in a food storage area on an open shelf. *If chemicals are stored in a food storage area, they should be stored in a locked cabinet to reduce the likelihood of chemical contamination.*

6. **Which of the following is a <u>biological contaminant</u>?**

    c. Viruses. *Bones in a fish are considered a physical contaminant, while allergens are chemical contaminant.*

7. **How often should a can opener be cleaned?**

    d. Once per day or more. *While can openers can be cleaned more often than this, the minimum they should be cleaned is daily.*

8. **True or False: Sanitizing solutions remove allergens**

    b. False. *Sanitizing solutions are not capable of reliably removing allergens. Hot soapy water should be used instead.*

Lesson 3

What is the difference between food contamination and food spoilage?

Food Spoilage is when a food becomes inedible due to spoilage. Food contamination is when a food contains physical, chemical, or biological contaminants that could cause illness.

What are pathogens?

Pathogens are harmful microorganisms.

What are the five major categories of biological contaminants?

1. Bacteria; 2. Viruses; 3. Parasites; 4. Fungi; 5. Biological toxins

Describe foodborne infections, intoxications, and toxin-mediated infections.

Infection: *When a pathogen grows and reproduces in the body, causing illness*

Intoxication: *When a pathogen produces a toxin while growing in a food, which is ingested and causes illness.*

Toxin-mediated infection: *When a pathogen produces a toxin while growing in the body, causing illness.*

Label the below graph with the four phases of bacterial growth.
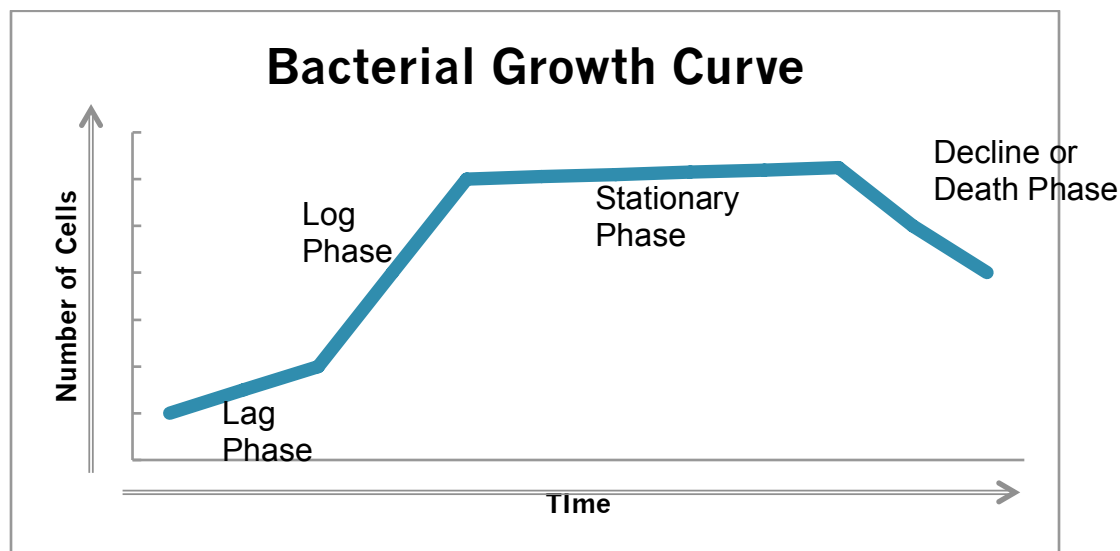
Which of the four phases is the one we need to focus on to be most effective in preventing foodborne illness?

The lag phase

What are the six factors that affect growth of bacteria? List one important fact to remember for each.

	Factor	Important Fact to Remember
	Factor	**Important Fact to Remember**
1.	*Food*	*Bacteria grow well on foods high in protein or carbohydrates*
2.	*Acidity*	*Bacteria grow best in a pH range of 4.6-7.5*
3.	*Temperature*	*Bacteria grow fastest between 41 and 135°F*
4.	*Time*	*Limit time in the temperature danger zone to 4 hours*
5.	*Oxygen*	*Most bacteria grow well with or without oxygen*
6.	*Moisture*	*Bacteria require a_w of 0.85 or above*

What is the difference between a spore and a vegetative cell?

A vegetative cell can reproduce. A spore can survive adverse conditions, and become a vegetative cell when conditions improve.

Which pathogens are able to form spores?

Clostridium botulinum, Clostridium perfringens, Bacillis cereus

List the Big Six, their symptoms, common food sources, and methods of prevention.

Pathogen	Symptoms	Food Sources	Prevention
Norovirus	*Diarrhea, fever, abdominal cramps, nausea*	*Water, ice, ready-to-eat foods, salads, foods handled by infected food handlers*	*Proper handwashing, good personal hygiene. Avoid cross-contamination. Use potable water from non-contaminated sources*
Hepatitis A	*Diarrhea, fever, abdominal cramps, nausea, vomiting, jaundice.*	*Shellfish, salads, ready-to-eat food, fruit and juice, milk products, vegetables, ice, foods handled by an infected food handler, contaminated water*	*Proper handwashing, good personal hygiene. Avoid cross-contamination. Use approved sources for shellfish. Proper sanitation. Use potable water from non-contaminated sources.*

Pathogen	Symptoms	Food Sources	Prevention
Salmonella typhi	*Diarrhea, fever, abdominal cramps, nausea or vomiting*	*Foods handled by an infected food handler*	*Proper handwashing, exclude infected handlers*
Non-typhoidal Salmonella	*Diarrhea, fever abdominal cramps, nausea or vomiting*	*Eggs, poultry, meat, unpasteurized milk or juice, cheese, contaminated raw fruits (such as raw melon) and vegetables*	*Time and temperature control. avoid cross-contamination*
Shigella species	*Diarrhea, fever abdominal cramps, nausea or vomiting. Stools may contain blood and mucus.*	*Cold salads (e.g. tuna, egg, chicken), raw produce, foods handled by an infected food handler*	*Time and temperature control, avoid cross-contamination, wash produce thoroughly.*
E. Coli O157:H7 and other Shiga-toxin producing E. coli	*Abdominal pain, diarrhea (sometimes bloody), vomiting.* *Severe cases: kidney failure and hemolytic uremic syndrome (HUS)*	*Undercooked meat, unpasteurized milk and juice, lettuce, alfalfa sprouts, contaminated water*	*Time and temperature control, proper handwashing, proper sanitation, avoid cross-contamination*

Complete the following table:

Report to the PIC Symptoms: *Vomiting, diarrhea, jaundice, sore throat with fever, lesion* Diagnosed illnesses: *Any of the Big Six* Exposures: *Norovirus within the last 48 hours, Shiga toxin-producing E. coli or Shigella, within the last 3 days, Salmonella typhi within the last 14 days, Hepatitis A within the last 30 days*	**Exclude from Work** Symptoms: *Vomiting, diarrhea, jaundice* Diagnosed illnesses: *Symptomatic Norovirus, Shiga toxin-producing E. coli, Shigella, or nontyphoidal Salmonella, hepatitis A (with or without jaundice), Salmonella typhi within the last 3 months* Exposures: None
Restrict from Working with Food Symptoms: Sore throat with fever, exposed boil or infected wound that is open and/or draining on the hands or arms unless safely covered Diagnosed illnesses: *asymptomatic but has been diagnosed with Norovirus, Shiga toxin-producing E. coli, Shigella, or nontyphoidal Salmonella* Exposures: *Any of the Big Six*	**When Serving a High-risk Population: Exclude** Symptoms: *Same as above* Diagnosed illnesses: *Same as above, as well as asymptomatic but diagnosed with Norovirus, Shiga toxin-producing E. coli, Shigella, or nontyphoidal Salmonella* Exposures: *Any of the Big Six*

1. **Which of the following foodborne pathogens are controlled through time and temperature?**

   c. Shigella. *Shigella is a bacterium, which means time and temperature control are effective.*

2. **Which of the following has been linked to *Clostridium botulinum* outbreaks?**

   a. Improperly canned foods. *These foods produce the oxygen-free environment that C. botulinum needs to grow.*

3. **Under which of these pH levels are bacteria likely to grow?**

   c. pH=7.4 *Bacteria grow between a pH range of 4.6-7.5*

4. **Which of these is a water activity (a_w) that bacteria would grow at?**

   a. a_w= .85 *Bacteria grow at a_w of .85 and above.*

5. **Which of these statements describes the bacteria in the lag phase?**

   d. Bacteria grow slowly. *Bacteria reproduce slowly in the lag phase.*

6. **An employee of yours has developed nausea, vomiting, and jaundice. Which of the following pathogens is most likely to have caused their symptoms?**

   b. Hepatitis A *While nausea and vomiting are caused by many pathogens, Hepatitis A is the only one capable of causing jaundice.*

7. **An employee arrives to work complaining of a sore throat and fever. Which of the following actions should you take?**

   a. Allow the employee to work, but restrict from working with food. *Unless you work with a high-risk population, it is acceptable for someone with a sore throat to work, as long as restricted from working with food.*

8. **An employee is preparing the steam table for the first lunch period. Not wanting to feel too hot while serving, he sets the steam table to the lowest setting. During the lunch rush, he forgets to check the internal temperatures of the foods in the steam table. Which of these is a potential consequence?**

c. Time temperature abuse. *By turning the steam table down, the employee may have allowed the food to enter the temperature danger zone. Because he didn't check the temperature, he would not be aware of whether this was the case or not.*

Lesson 4

What are the steps for handwashing?

1. *Use warm (at least 100 °F) to wet your hands and forearms.*

2. *Apply soap and work it into a good lather.*

3. *Briskly scrub hands and forearms up to the elbow for 10 to 15 seconds. Don't forget to clean under fingernails and between fingers.*

4. *Rinse hands and forearms with warm water. Don't turn off the water yet.*

5. *Dry hands and forearms with a paper towel.*

6. *Use the paper towel to turn off the faucet. Use the towel to open the door, if there is one.*

7. *Discard the paper towel in a trashcan.*

What are the requirements for a handwashing sink?

- *Hot (at least 100 F) and cold running water*

- *Soap*

- *Single-use paper towels or a hand dryer*

- *A trash can for paper towels*

- *A sign that says "Employees must wash hands before returning to work"*

List the instances in which you are required to wash your hands.

- *When reporting to work.*

- *Before beginning food preparation.*

- *Before putting on disposable gloves.*

- *Before serving food.*

- *After doing anything that could contaminate your hands.*

If an employee was dressed for food safety, what would they need for each of the following?

Hair: *Hair restraint*

Jewelry: *On hands, limited to smooth band unless wearing gloves. None on wrists*

Clothes: *Clean with clean apron*

Hands: *No false nails or nail polish unless wearing gloves*

What are the important things to remember about glove use?

Wash hands before putting on gloves. Don't blow into or roll them. Change gloves after handling raw meat, poultry, or seafood, before handling ready-to-eat food, when switching tasks, after an interruption to food handling, and whenever they've potentially been contaminated. When switching tasks, or if your hands have become contaminated, hands should be rewashed before putting on a new set of gloves.

What are the important things to remember about hand antiseptics?

They do not replace handwashing, and should only be used after washing hands. The antimicrobial ingredient must be FDA approved and must be generally recognized as safe.

1. **An employee washed her hands and put gloves on to prep raw chicken. She finishes up with the raw chicken and is ready to move on to her next task, which is to slice tomatoes for the salad bar. Which of the following should she do?**

   c. Wash hands and then change gloves. *Because she is switching tasks, her hands need to be rewashed before putting on fresh gloves.*

2. **Which of these pathogens is most likely to be spread by poor personal hygiene?**

   a. Norovirus *This pathogen is a virus, which are easily spread by poor personal hygiene.*

3. **When should you always wash your hands?**

   d. All of the above *Hands need to be washed before beginning work, after handling trash, and after using the restroom.*

4. **Which of these is a NOT an example of good personal hygiene?**

   b. Serving ready-to-eat foods with clean hands. *Ready-to-eat foods should be handled with utensils or gloved hands.*

5. **An employee shows up to work wearing nail polish, a ring that is a smooth band, and a watch. What does the California Retail Food Code require that the employee do?**

    b. Remove the watch and wear gloves while handling food. *The employee should remove the watch because it is a contamination hazard, as wear gloves because the nail polish could be a physical hazard.*

6. **When should an apron be removed?**

    d. All of the above. *Aprons should only be worn in food prep areas and they should be removed before using the restroom or taking out trash.*

7. **Which of these is the best way to make sure gloves don't break while wearing them?**

    c. Select gloves that are the right size for your hands. *If gloves are too small, they may break. Rolling or blowing into gloves can contaminate them.*

8. **On a recent health inspection, a middle school's kitchen was cited because the required signage was missing from the employee restroom. What should the sign the kitchen manager hangs in the restroom say to correct this error?**

    c. Employees must wash hands before returning to work. *It is required for restrooms to state this in every primary language employees in the facility speak.*

Lesson 5

What is the difference between clean and sanitary?

Clean means free of dirt, food particles, or other visible soil while sanitary means free of harmful levels of pathogens.

What are the three steps to a clean and sanitary environment?

Wash, rinse, and sanitize

List the different types of sanitizing methods

Heat and chemical methods

Circle the items that are portable equipment: *Spatula, Cutting board, Knives, Pots and pans, Blender, Wisk, Can opener, Mixing spoons*

List the steps to clean and sanitize portable equipment.

- *Rinse, soak, and scrape if needed*
- *Wash items in soapy water at least 110°F in the first compartment*
- *Rinse items using a sprayer or dunking the item in the second compartment of the sink*
- *Sanitize the item in the third compartment of the sink*
- *Place on a sanitized surface to air dry*

List the steps to sanitize in-place or stationary equipment.

1. *Wipe down all other surfaces with a sanitized cloth*
2. *Remove food particles*
3. *Allow all parts to air dry before reassembling*
4. *Wash, rinse, and sanitize removable parts*
5. *Unplug equipment*
6. *Wash remaining food-contact surface, rinse with clean water, then wipe down with a chemical sanitizer*

What are the minimum temperatures for sanitizing using the heat method?

      Manual: *171 °F*

      Stationary and Single Temperature Dishwashing Machines: *165 °F*

      All Other Dishwashing Machines: *180 °F*

When should equipment be cleaned and sanitized?

There is a change from working with raw foods to cooked or ready-to-eat foods. Between uses with raw fruits and vegetables to potentially hazardous foods such as raw meats or poultry. If interrupted during a task. At a minimum of every four hours if the equipment is being used constantly. Anytime during the operation where contamination may have occurred

1. **Which of these is the correct order for the three basic steps to a clean and sanitary environment?**

    d.   Wash, rinse, sanitize. *These are the three basic steps, the fourth step is to air dry.*

2. **How long should an item be immersed when using the manual heat sanitizing method?**

    c.   30 seconds. *The manual heat sanitizing method requires that an item be immersed for 30 seconds.*

3. **Select the statement about cloths and sponges that is TRUE:**

    c.   Containers of sanitizing solutions for storage of in-use wiping cloths may be placed above the floor. *Dry and wet cloths used with animal foods must be kept separate from cloths used for other purposes. Sponges cannot be used on cleaned and sanitized or in-use food contact surfaces. Using a cloth to dry equipment and utensils is not allowed.*

4. **Where should chemicals be stored:**

    c.   In a locked cabinet away from food. *This is the safest way to store chemicals to reduce the risk of accidental contamination.*

5. **The first step to cleaning and sanitizing portable equipment is:**

    c.   Rinse, soak, and scrape food particles off the item. *This is the first step in cleaning wares, and makes it easier to thoroughly wash items.*

6. **Which item is considered in-place equipment?**

    a.   Stove. *Because a stove cannot be moved to be washed, rinse, and sanitized, it is considered in-place equipment.*

7. **Is the following statement True or False?**

    Equipment that is used constantly throughout the day should be cleaned every four hours.

    a.   True. *The minimum it should be cleaned is every four hours, however it should also be cleaned when switching tasks.*

8. **Handwashing, food prep, and ware washing sinks should never be used for:**

    d. All of the above. *These sinks should only be used for their designated purposes, in order to prevent contamination.*

Lesson 6

What are the steps for calibrating a thermometer using the ice point method?

1. *Fill a container with crushed ice. The container should be about 3" in diameter and tall enough that thermometer won't touch the bottom when the sensor is submerged. Add water until the ice is just covered.*

2. *Submerge the thermometer in the ice water so that the sensor is fully covered. Don't allow it to touch the sides or bottom, as this might throw off the reading.*

3. *Let the thermometer sit in the water for 30 to 60 seconds.*

4. *If the thermometer does not read 32 °F, it will need to be adjusted. Many thermometers have a small nut below the dial that can be adjusted using a wrench until the thermometer reads 32 °F. Digital thermometers will often have a button to press to set the temperature at 32 °F.*

List at least seven things you should do to hold suppliers to high standards.

Put food safety standards in purchase specifications, check vendor's health inspection report, ask vendors for a printed copy of their standardized procedure for food sanitation, work with vendors to establish a schedule, tell vendors you will be inspecting their trucks at every delivery and then do so, if possible, visit vendors' warehouses to make sure they are clean and organized, reject all products that do not meet your requirements.

What should you have prepared before a delivery arrives?

A calibrated food thermometer in the receiving area to check delivery temperatures, pen and paper available, sanitary carts, the receiving ticket or market order.

When inspecting a delivery, what should you look for?

Inspect for appropriate temperatures, food specifications, and food quality. Check expiration dates of perishables and make sure they haven't expired. Make sure frozen foods are in airtight, moisture-proof wrappings.

For each of the receiving temperature below, list the foods that are received at that temperature.

41 °F or below

TCS foods

45 °F or below

Eggs (air temperature)
Milk (internal temperature, cooled to 41 °F or below within 4 hours)
Live shellfish (air temperature, cooled to 41 °F or below within 4 hours)
Shucked shellfish (air temperature, cooled to 41 °F or below within 4 hours)

0 °F or below

Frozen foods

For each of the following, list guidelines for storage.

Storage in general

Label everything with common name and use-by date. Store in original containers or clean, sanitized food-grade containers. Store 6 inches off of the ground. Never store food where it could become contaminated.

Cold storage

Keep refrigerators at 38 °F to 39 °F. Maintain freezers at 0 °F or below. Have thermometers in the warmest parts of refrigerators and freezers. Maintain proper airflow with wire shelving and never overfill.

Dry storage

Store food 6 inches off the floor. Keep temperature between 50 and 70 °F, and humidity between 50 and 60 percent

What is the order in which foods should be stored in a cooler from top to bottom?

- *Ready-to-eat foods*
- *Whole fish*
- *Whole cuts of meat*
- *Ground meat*
- *Whole or ground poultry*

What is important to know about shellfish tags.

Shellfish tags are required to be kept with the shellfish until it is all used. Once it has all been used, the tags much be kept on file in order received for at least 90 days.

1. **The temperature of frozen food should be measured by…**

   b. Inserting the sensing probe between two packages until the temperature stabilizes. *Because it is not feasible to take the internal temperature of a food that is frozen solid, measuring the temperature between two packages provides an approximation.*

2. **TCS foods should NOT be accepted at a food establishment if…**

   a. They have damaged packaging. *Damaged packaging may indicate possible contamination.*

3. **Which practice requires corrective action?**

   c. Raw beef is stored above salad in the refrigerator. *This could cause cross contamination if the beef is stored above salad. Always store ready-to-eat foods above raw foods.*

4. **A shipment should be rejected for all of the following, except…**

   c. Eggs delivered at 44 °F *Eggs can be delivered at an air temperature up to 45 °F*

5. **A shipment is being delivered during the busiest school lunch period, several hours before it was scheduled. It is very busy and hectic in the kitchen, and no sanitary carts are ready. Which of these is safest action?**

   d. Reject the shipment. *The safest action is to reject the shipment rather than to risk rushing through the receiving process without the necessary supplies.*

6. **Which of the following is the maximum temperature milk can be received at?**

   a. 45 °F, as long as it is cooled to below 41 °F within 4 hours

7. **Which of the following temperatures and humidity levels is acceptable for dry storage?**

   d. 65 °F, 50% humidity *Dry foods should be stored between 50 and 70 °F, with humidity between 50 and 60 percent*

8. **How accurate does a thermometer need to be when it is used to measure the internal temperature of food?**

b. Within plus/minus 2 °F. *While it is acceptable for a thermometer to be more accurate, the minimum level of accuracy is plus/minus 2 °F.*

Lesson 7

Study Worksheet

List at least five different ways you can prevent cross contamination when preparing food.

Start with clean and sanitized food contact surfaces and clean hands and fresh gloves. Rewash hands whenever switching tasks, or when they may have become contaminated. Never allow produce or ready-to-eat foods to come in contact with raw meat, poultry, and seafood, or to touch surfaces that have been in contact with these foods. Have designated cutting boards and utensils. Prepare produce and ready-to-eat foods first, before moving on to foods that present a cross contamination risk.

List at least four different ways to prevent time/temperature abuse when preparing food.

Work with small batches. Only work on step at a time. Keep foods in the cooler when you're not actively preparing them. Use ice baths for TCS foods.

For each of the following foods, list some of the key ways you can keep them safe

> **Produce (including raw sprouts, cut melons, cut leafy greens, and cut tomatoes):** *Wash produce thoroughly in potable water. Store raw sprouts, cut melons, cut leafy greens, and cut tomatoes below 41 °F. Scrub whole melons before cutting.*

> **Salads made with TCS foods:** *Store below 41 °F and discard after seven days (assuming they have been held below 41 °F during that time).*

> **Eggs (including raw eggs and pooled eggs):** *Use small batches, never combine batches. Keep these on ice if you can. Pooled batches of eggs need to be cooked immediately or stored below 41 °F. Never combine separate batches of pooled eggs. If serving a high risk population, raw eggs can only be used if they will be cooked thoroughly. Otherwise, pasteurized eggs must be used*

> **Ice:** *Must be made from potable water, use clean, sanitized equipment, containers, and utensils. Never use a glass or your hands to scoop ice, always use a designated food-grade scoop with a handle. Ice scoops should not be stored in the ice, but in or on a clean, sanitized surface. Never reuse ice that has been used to cool foods as an ingredient or in drinks. If the ice is intended to be consumed, never use it to store anything, including packaged beverages.*

For each of the following minimum internal cooking temperatures, list the foods that need to be cooked to that temperature. (Some temperatures have more than one food.)

Minimum Internal Cooking Temperature	Time Required	Food
135 °F	Not specified	1. Fruits and vegetables that are cooked for hot holding 2. Grains, rice, and pasta cooked for hot holding
145 °F	15 seconds	1. Raw shell eggs that are broken and prepared in response to a customer's order for immediate service 2. Fish 3. Single pieces of meat: beef, veal, lamb, pork, and game animals (e.g. steaks, chops)
155°	15 seconds	1. Raw eggs that aren't broken and prepared for immediate service (such as pooled eggs) 2. Injected meats 3. Ground/minced meat of any kind (other than poultry)
165 °F	15 seconds	1. Poultry (including ground poultry) 2. Stuffed fish, stuffed meat, stuffed poultry, 3. Stuffing containing fish, meat, poultry 4. Pasta and any other food stuff with fish, meat, poultry
130 °F	112 minutes	1. Roasts: beef, corned beef, pork, cured pork

Fill in the blanks below for rules on discarding hot and cold foods.

- Hot foods that have spent *4* hours in the temperature danger zone must be discarded.

- Cold foods that have spent *6* hours in the temperature danger zone but were <u>below</u> 70 °F must be discarded.

- Cold foods that have spent *4* hours in the temperature danger zone but were <u>above</u> 70 °F must be discarded.

- If a cold held food stays continuously below 41 °F, it can be held for up *7 days* before being discarded.

List at least seven different ways you can prevent cross contamination when serving food.

Train in food safety. Servers should always wash hands before serving, and if they have a cut or infection, it should be covered with a bandage and impermeable glove. Use tongs or gloves to serve ready-to-eat foods. Never touch the areas of dishware or utensils where a student's food or mouth will touch. Wash and/or change gloves if they have potentially become contaminated. Use lids and sneeze guards. To serve food, use clean and sanitized utensils. If you are storing in-use utensils in water, make sure it stays above 135 °F. Clean and sanitize utensils, equipment, and food contact surfaces after each use; if in continuous use, clean and sanitize every four hours.

For each of the following, list the guidelines for transporting or vending food safely

Preparing for transport

Label the food with the common name, the use-by date, reheating or cooling instructions, and the service instructions. Check internal temperatures and maintain a log. Send extra samples of the food so they can be used to test food temperatures on arrival. If it is a TCS food, keep a sample of the food on hand for 48 hours.

Carriers and delivery vehicles

Use insulated food-grade carriers approved by NSF International. Check that the insulating properties work, and they can keep hot foods hot and cold foods cold. The carrier should be rigid and sectioned, non-porous, and able to close tightly. Only use carriers that are easy to clean or disposable, and sanitize carriers daily. Use delivery vehicles that can keep hot foods hot and cold foods cold. Clean inside the vehicles on a regular basis.

Vending machines

Vending machines should use FIFO. Check the foods inside daily for expiration and use-by dates and discard those past their date. If you using vending machines for TCS food, make sure the machine keeps TCS foods at the correct temperature, and that the machine has a mechanism to prevent food from being dispensed if it's been in the temperature danger zone for too long.

1. **Hot foods should be held at _____ or above and cold foods should be held at _____ or below.**

   c. 135 °F; 41 °F. *These are the temperature limits of the temperature zone.*

2. **Poultry and stuffed meats should be cooked to an internal temperature of _____ for 15 seconds to be considered safe.**

   c. 165 °F. *This is the minimum safe temperature for poultry and stuffed meats.*

3. **Ground beef should be cooked to a minimum internal temperature of _____ for 15 seconds to be considered safe.**

   c. 155 °F. *This is the minimum safe temperature for ground beef.*

4. **A container of rice that has been cooked and cooled needs to be reheated to an internal temperature of _____ within 2 hours to be considered safe.**

   d. 165 °F. *Regardless of the initial cooking temperature, all foods must be heated to at least 165 °F within 2 hours.*

5. **If measuring the internal temperature of a pot of soup, which of the following thermometers would be appropriate to use?**

   b. Immersion probe. *This is the best option for taking internal temperature. The other options are not able to measure internal temperature.*

6. **Jai observed a student drop serving tongs from the salad bar onto the floor, pick them up, and return them to the food. What would be the appropriate action?**

   c. Replace the entire container of food as well as the tongs. *Because the tongs touched the food, the entire container as well as the tongs need to be replaced. It is not sufficient to just replace the tongs or remove the top layer of food, because the remainder could still be contaminated.*

7. **A salad bar requires a sneeze guard that is no more than _____ above the counter, and a counter that extends at least _____ from the food.**

   b. 14 inches; 7 inches. *These are the correct measurements for a sneeze guard.*

Lesson 8

What are the seven principles of a HACCP system?

1. *Conduct a Hazard Analysis.*
2. *Determine Critical Control Points (CCPs).*
3. *Establish the Critical Limits.*
4. *Establish Monitoring Procedures.*
5. *Establish Corrective Actions.*
6. *Establish Verification Procedures.*
7. *Establish Record-Keeping and Documentation Procedures.*

What are the four steps of a hazard analysis?

1. *Create flow diagrams that track potentially hazardous foods on your menu*
2. *Brainstorm a list of potential hazards for each step of the processes*
3. *Decide which hazards must be addressed in the HACCP plan*
4. *Establish basic control measures for each hazard*

What is the difference between severity and risk?

Severity is the seriousness of the consequences of exposure to a hazard. Risk is the probability that a condition or conditions will lead to a hazard

What are critical control points and critical limits and how are they related to each other?

A critical control point is a step at which a control, or an action, can be applied and is essential to prevent or eliminate a food safety hazard or reduce it to an acceptable level. A critical control point is a step at which a control, or an action, can be applied and is essential to prevent or eliminate a food safety hazard or reduce it to an acceptable level.

Each critical control point has a critical limit. The action taken at a critical control point must satisfy the critical limit.

Describe each of the below processes and some potential critical control points.

No cook process	Critical Control Points
Foods that are prepared and served cold and never make a complete trip through the temperature danger zone	*Hot holding*

Same-day service process	**Critical Control Points**
Foods that are cooked and held hot to be consumed right away. These make one complete trip through the temperature danger zone	*Cooking and holding*

Complex process	**Critical Control Points**
Complex process foods make multiple trips through the temperature danger zone. They are cooked, cooled and served (two trips), or cooked, cooled, then reheated and served (three trips).	*Cooking, cooling, reheating, holding*

What are the four best practices for monitoring procedures?

1. *Continuous (preferred) or in intervals that are reliable*

2. *Realistic – Monitoring procedures should be rapid and doable.*

3. *Accurate – Have trained employees taking measurements with properly calibrated tools.*

4. *Recorded and signed by the person responsible for monitoring.*

What are the four steps when taking any corrective action?

1. *Determine what went wrong*

2. *Choose and apply the appropriate corrective action*

3. *Record any additional steps beyond the corrective action*

4. *Verify that the critical limit is met using the revised system*

What are the two phases of verification?

1. *Verify that the critical limits are effective (prevent, eliminate, or reduce hazards to acceptable levels).*

2. *Verify that the overall HACCP plan is functioning (review flow plans and records)*

What is the purpose of having record-keeping procedures?

The purpose of record keeping is to record compliance with critical limits at CCPs.

What is required of employees to ensure that a HACCP system is successful?

Employees must be good at the tasks that the HACCP plan requires of them.

1. **Which of the following principles is NOT a part of HACCP?**

   a. Establish standard operating procedures. *Standard operating procedures are part of principle 2 – Determine Critical Control Points (CCPs).*

2. **True or False: Hazards that are of little to no risk or are unlikely to occur need to be addressed in the HACCP plan.**

   b. False. *These types of hazards do not need to be addressed in the HACCP plan. HACCP plans are uniquely developed for different operations.*

3. **True or False: All hazards can be prevented.**

   b. False. *All hazards cannot be prevented, but they can all be controlled.*

4. **Which of the following would be better suited as a standard operating procedure than a critical control point?**

   b. Proper employee hygiene. *Standard operating procedures are useful to specify actions that are difficult to monitor, measure, and record. These usually include procedures related to general hygiene, and measures to prevent food from being contaminated due to various aspects of the food environment.*

5. **Which of the following is an example of an incorrect critical limit?**

   c. Keeping food at a pH of 7 or below. *Disease causing bacteria do not grow on foods pH 4.6 or below.*

6. **Which of the following does NOT need to be included in HACCP records?**

   a. A blueprint of the operation's facility. *While HACCP records include many aspects of an operation, a blueprint of the facility is not one of them.*

7. **Verifying the HACCP plan should occur in all of these conditions except when…**

   d. High risk foods are substituted with low risk foods. *The HACCP plan should be verified when low risk foods are substituted with high risk foods.*

8. **Which of the following should be easy to measure, monitor, and record?**

   d. All of the above. *Control measures, critical control points, and critical limits must all be easy to monitor, measure, and record so employees can easily perform actions related to them.*

Lesson 9

Study Worksheet

What are the requirements for floors, walls, and ceilings?

<u>Floors</u>	<u>Walls</u>	<u>Ceilings</u>
Smooth and easily cleanable *Must have coving* *Non-absorbent, non-skid*	*Smooth and easily cleanable*	*Smooth and easily cleanable*

For each of the different lighting levels, fill in the areas of the facility that require that intensity.

10 foot-candles (108 lux), measured 30 inches above the floor	20 foot-candles (215 lux) measured 30 inches above the floor
Food storage areas, inside equipment	*Handwashing or warewashing areas, areas used for equipment and utensil storage, and toilet rooms.* *During cleaning, all areas and rooms need to be this bright.*
20 foot-candles (215 lux), measured at the surface	**50 foot-candles (540 lux), measured at the surface**
Server stations where food is prepared, at a surface where food is provided for consumer self-service (such as a salad bar) or where fresh produce or prepackaged foods are sold or offered for consumption.	*Where employees are working with food (with the exception of server stations), or when employee safety is a factor*

What are the requirements for shelving and storage containers?

Shelves must be corrosion resistant and easily cleanable. Wide, slatted shelving promotes air circulation. Don't line shelves because it can limit air flow. The lowest shelf needs to be at least 6 inches from the floor, and there must be six inches of space between the shelves and the wall.

Storage containers need to be food-grade, kept covered, and labeled with the contents and use-by date.

Describe cross connection and backflow. List the most effective method to prevent backflow and describe the requirements for it.

Cross connection

Physical link between through which contaminants from drains, sewers, or waste pipes can enter a potable water source

Backflow

When contaminated water flows backwards into the potable water supply through a drain, hose, or other source

Most effective backflow preventer and requirements

The most reliable way to prevent backflow is an **air gap***, which is a vertical space between the potable water source and the source of. An air gap must be 2 times the diameter of the supply pipe, but never less than 1 inch.*

What are the requirements for a three-compartment sink?

Must have three-compartments and integral metal drainboards

When can a two-compartment sink be used in California?

If it was in use prior to January 1, 1996 and the installation of a three-compartment sink would not be readily achievable

Describe the requirements for handwashing stations, including splashguard requirements.

- *Hot (at least 100 F) and cold running water. Warm water (under pressure) needs to be available for at least 15 seconds.*

- *Soap*

- *Single-use paper towels or a hand dryer*

- *Trash can for paper towels*

- *Sign that states "Employees must wash hands before returning to work" in all languages spoken by your employees.*

- *If a handwashing sink is within two feet of a warewashing sink, a metal splashguard that extends from the back edge of the drainboard to the front edge of the drainboard with rounded corners and height of at least 6 inches in height is required.*

List the requirements for restrooms

Permanent food facilities are required to have a restroom for employees. These restrooms must be conveniently located, but separate from the kitchen, with well-fitted, self-closing doors. Doors need to be kept closed except during cleaning and maintenance. Inside the restroom, separate covered trash cans are required tor paper towels and feminine sanitary products. If a handwashing station is not located inside the restroom, it needs to be directly next to it.

Kitchens are also required to have a janitorial sink or curbed cleaning facility and a grease trap. What are the requirements for each of these?

Janitorial sink or curbed cleaning facility	**Grease trap**
Conveniently located, with hot and cold water and a drain	*Located where accessible for cleaning*

What are the requirements for doors, windows, and ventilation?

Doors	**Windows**	**Ventilation**
Tight-fitting	*Tight-fitting*	*Hoods over cooking areas,*
Solid or screened	*Solid or screened*	*dishwashing machines*
16 mesh screens	*16 mesh screens*	*Ducts, pipes, etc not*
Self-closing	*Frosted in storage*	*exposed*
Kept shut	*areas*	*Filters easily removed*
Kept shut		

What are the important things to remember for managing waste indoors?

Receptacles need to be cleaned often, durable, odor-resistant, leak-proof, waterproof, pest-proof. If they contain food debris, they need to have lids on at all times, unless in continuous use.

What are the important things to remember for managing waste indoors?

Outside containers must have tight-fitting lids, doors, or covers. Food establishments need an outside storage area and enclosure to hold refuse, recyclables, and returnables. The outside storage surface should be sloped to drain so that waste water will not pool and attract insects and rodents and have a surface that is smooth, nonabsorbent, durable, cleanable, and maintained in good repair. If the refuse storage equipment and receptacles have drains the drain plugs need to be in place.

What are the general requirements for equipment?

All equipment must be designed for commercial use and approved by either the NSF or UL.

In general, all equipment should be durable, corrosion-resistant, smooth and seamless, with rounded corners and edges. Equally important is that they are easy to clean, as well as easy to clean under. Floor mounted equipment must be at least six inches off the floor, or be sealed to the floor on a masonry base. Tabletop equipment must at least four inches off the table or sealed to the countertop.

What are the specific requirements for dishwashing machines?

Dishwashing machines need to be appropriate size for the facility and able to sanitize wares through heat or chemical solutions. On the dishwashing machine, there needs to be easily accessible information posted: the washing, rinsing, and sanitizing temperatures; pressure required for the sanitizing rinse; and conveyor speed or cycle time. The machine needs to be able to measure temperature and pressure. If it dispenses sanitizer, it needs to be able to measure the sanitizer concentration.

List at least ten things that should be done to help prevent pests in your facility.

Fill openings or cracks in walls and floors with putty, plastic, wood, or a similar product and fill openings around pipes or equipment fittings. Screen windows, doors, and outer openings and keep them in good repair. Use self-closing doors that open outward. Install an air curtain at food service entrances. Inspect food supplies before storing or using them. Clean up spills immediately and pick up crumbs and other food scraps pronto. Put all garbage in garbage cans with lids and dispose of garbage properly and promptly. Dispose of mop and cleaning bucket water properly. Clean all grease traps regularly. Keep food in labeled containers approved for food storage with tight-fitting lids and store food and containers 6 inches off the floor. Store food in areas with proper temperatures and keep all supplied clean, dry, and properly stored. If any food does become infect, remove and destroy it.

Describe signs of infestation by cockroaches and rodents.

Cockroaches	Rodents
Strong oily odor	*Gnawed or shredded packaging*
Egg cases	*Droppings*
Feces	

What should be done in the event of an infestation?

Work with a licensed pest control operator and use only pesticides and poisons allowed by the health department. Only licensed pest control operators should apply pesticides at your establishment. Do not install insect control devices over food preparation areas or in close proximity to exposed food and/or food-contact surfaces. Insect control devices should be designed so that the insect is maintained inside.

1. **Which of the following statements is FALSE?**

   d. Poor sanitation in toilet facilities will influence customer's opinions about cleanliness, but will not promote the spread of disease. *Poor sanitation in toilet facilities has the potential to spread disease.*

2. **The most effective device for protecting the potable water system from contamination by backflow is a (an)…**

   a. Air gap. *An air gap is the most effective because there is not potential for failure. However, it's not always feasible in every situation.*

3. **For air gaps, the vertical distance from the supply pipe (faucet) to the flood rim must be at least:**

   a. Two times the diameter of the supply pipe, but never less than 1 inch. *These are the minimum dimensions because it allows for enough space that contamination cannot move into the supply pipe.*

4. **Which of the following statements is FALSE?**

   d. Trash may be stored outdoors in plastic bags provided the bags are stored at least 15 inches off the ground. *Trash must be stored in containers with tight-fitting lids, doors, or covers.*

5. **Which one of the following situations requires corrective action?**

   b. A handwashing station with a multi-use cloth towel for hand drying. *Handwashing stations must be equipped with single-use paper towels or hand dryers.*

6. **The best way to encourage employees to wash their hands when needed is to:**

   b. Provide handwashing stations near work areas. *Having convenient handwashing stations makes it easier for employees to wash hands when needed.*

7. **Coving is a (an):**

   a. Curved sealed edge between the floor and wall that eliminates sharp corners to make cleaning easier. *Coving is required on all floors.*

8. **An employee is sharpening knives. What is the minimum level of lighting in the area in which she is working?**

    d. 540 lux, measured at the surface *The brightest level of lighting is required whenever employee safety is a factor, which is the case when working with knives.*

Lesson 10

Define Active Managerial Control.

A food safety system that is designed to prevent, prevent, eliminate, or reduce the risk foodborne illness

List two elements of an effective food safety management system.

1. *Written policies and SOPs*

2. *Continuous monitoring and verification*

Describe what should be done in the event of a recall.

- *Identify the recalled food by matching information from the recall notice.*

- *Remove the item and store it separately from food to be consumed, utensils, equipment, etc.*

- *Label it with "Do Not Use, Do Not Discard" or with the recall notice*

- *Inform employees*

- *Follow vendor notification or recall notice instructions*

Name three examples of a workplace emergency.

1. *Floods,*
2. *Earthquakes,*
3. *Hurricanes,*
4. *Tornadoes,*
5. *Fires,*
6. *Toxic gas releases,*
7. *Chemical spills,*
8. *Radiological accidents,*
9. *Explosions,*
10. *Civil disturbances, and*
11. *Workplace violence resulting in bodily harm and trauma.*
12. *Sewage backups*
13. *Extended power outages*
14. *Interrupted water supply*

What is deliberate contamination of food?

When harmful contaminants (including pathogens) are purposely put into food, water, etc. to make people ill and/or die.

Define the five key points to the FDA ALERT:

A – *Assure – food and supplies are purchased from safe and secure sources. Supervise offloading of deliveries and make sure the person making the delivery has identification.*

L – *Look – after the security of products and ingredients. Be aware of surroundings. Store products in a secure location. If something or someone looks suspicious, always report to the manager on duty. You may also wish to contact the police.*

E – *Employees – only allow authorized personnel. Limit staff access to only areas they need to access*

R – *Reports – keep records regarding the security measures used to keep your food and facility safe*

T – *Threats – make sure your staff knows how to handle and who to contact regarding security threats, including suspicious behavior*

When should employees in a food service facility receive food safety training?

Train staff when they are first hired (before handling food), and retrain regularly.

1. **Which is the correct definition of Active Managerial Control?**

   a. A food safety system that is designed to prevent, prevent, eliminate, or reduce the risk foodborne illness *Although there are different ways to define active managerial control, the key point to remember is that it is a proactive system focused on prevention.*

2. **Which is NOT an element of an effective food safety management system?**

   c. Accepting deliveries *While accepting deliveries is important, it is not an typically considered an element of a food safety management system.*

3. **True or false: HACCP is a type of active managerial control.**

   a. True *HACCP is a good example of an active managerial control system.*

4. **True or False: Emergencies can be natural but not manmade.**

   b. False. *Emergencies can be manmade, for example, civil disturbances or work place violence.*

5. **When handling a recall, which of the following should recalled food be labeled with?**

   b. Do not use, do not discard *This ensures the food will not be used or discarded. It can also be labeled with the recall notice.*

6. **Which of the following would be considered an emergency in a food service establishment?**

   a. Broken water main. *An interrupted water supply, such as broken water main constitutes an emergency because it significantly interferes with food safety.*

7. **The FDA ALERT stands for:**

   c. Assure, Look, Employees, Reports, Threats. *Assure food is safe and secure. Look after the security of products and ingredients. Employees – only allow those authorized. Reports – keep records regarding security measures and safety. Threats – know how to handle.*

8. **Which of the following is NOT an example of imminent health hazard?**

   d. Earthquake. *While an earthquake may be cause for an emergency not all earthquakes will result in damage that would cause an imminent health hazard.*

Appendix B – Food Safety Resources

California Healthy Kids Resource Center Food Safe School Framework

http://www.californiahealthykids.org/food_safe

California Retail Food Code (CalCode)

http://www.cdph.ca.gov/programs/pages/fdbRetailFoodProgram.aspx

FDA Bad Bug Book

http://www.fda.gov/Food/FoodborneIllnessContaminants/CausesOfIllnessBadBugBook

FDA Employee Health and Personal Hygiene Handbook

http://www.fda.gov/Food/GuidanceRegulation/RetailFoodProtection/IndustryandRegulatoryAssistanceandTrainingResources/ucm113827.htm

FDA Food Code

http://www.fda.gov/Food/GuidanceRegulation/RetailFoodProtection/FoodCode/default.htm

FDA, USDHHS, CFSAN: Managing Food Safety: A Manual for the Voluntary Use of HACCP Principles for Operators of Food Service and Retail.

http://www.fda.gov/Food/GuidanceRegulation/HACCP/ucm2006811.htm

Fight Bac!

http://www.fightbac.org

Food Allergy Research and Education

http://www.foodallergy.org/

FoodSafety.gov

http://www.FoodSafety.gov

Iowa State Extension Food Safety

http://www.extension.iastate.edu/foodsafety/

Kansas State University Center of Excellence Food Safety Research in Child Nutrition Programs

http://cnsafefood.k-state.edu/

National Coalition for Food Safe Schools

http://www.foodsafeschools.org/

Institute of Child Nutrition

http://theicn.org

National Education Association Health Information Network: The Food Allergy Book What School Employees Need to Know.

http://healthyfutures.nea.org/wpcproduct/food-allergy-book-what-school-employees-need-to-know-english/

USDA Food and Nutrition Service Food Safety Resources

http://www.fns.usda.gov/food-safety/food-safety-resources

USDA National Agricultural Library Food Safety Research Information Office

https://www.nal.usda.gov/fsrio

Appendix C – Pathogens

Meet the Culprits – Bacteria

Bacillus cereus (causes intoxication or toxin-mediated infection)	
Symptoms	**Time to Onset**
Vomiting type: primarily causes nausea and vomiting, but may also cause diarrhea. **Diarrhea type:** Abdominal cramps and diarrhea	**Vomiting type:** 30 minutes to 6 hours **Diarrhea type:** 8 to 16 hours
Food sources	**Prevention**
Vomiting type: Starchy foods, such as rice, potatoes, pasta, grains **Diarrhea type**: Meat, milk, stews	Time and temperature control
Not so fun fact:	
Bacillus cereus is able to form spores.	

Campylobacter jejuni (causes infection)	
Symptoms	**Time to Onset**
Abdominal cramps, diarrhea (sometimes bloody), fever, and vomiting	2 to 5 days
Food sources	**Prevention**
Poultry, unpasteurized milk, contaminated water	Time and temperature control, Use potable water from non-contaminated sources

Clostridium botulinum (causes intoxication called botulism)	
Symptoms	**Time to Onset**
Vomiting, diarrhea, blurred or double vision, muscle weakness, difficulty speaking and swallowing. Can cause respiratory failure and death	12 to 36 hours
Food sources	**Prevention**
Improperly canned foods, untreated oil and garlic mixtures, baked potatoes, fermented fish, modified atmosphere packaged food, sous vide foods, vacuum-packed meats	Time and temperature control. Do not use home-canned foods. Properly heat-process anaerobically-packed foods
Not so fun fact:	
Clostridium botulinum is able to form spores.	

Clostridium perfringens (causes intoxication)	
Symptoms	**Time to Onset**
Diarrhea, abdominal cramps, sometimes nausea or vomiting	8 to 22 hours
Food sources	**Prevention**
Meat, stews, beans, gravy	Time and temperature control
Not so fun facts:	
Clostridium perfringens is able to form spores. It is known as the cafeteria germ because improperly heated steam tables are sometimes linked to outbreaks	

Escherichia coli (causes infection or toxin-mediated infection)	
Symptoms	**Time to Onset**
Abdominal pain, diarrhea (sometimes bloody), vomiting. Severe cases: kidney failure and hemolytic uremic syndrome (HUS)	1 to 8 days
Food sources	**Prevention**
Undercooked meat, unpasteurized milk and juice, lettuce, alfalfa sprouts, contaminated water	Time and temperature control, proper handwashing, proper sanitation, avoid cross-contamination
Not so fun fact:	
Some strains of _E. coli_ (e.g. O157:H7) are able to produce Shiga-toxins, which cause severe illness.	

Listeria monocytogenes (causes infection)	
Symptoms	**Time to Onset**
Healthy adults: Fever muscle aches, nausea, diarrhea **Immune-compromised, elderly**: Septicemia, meningitis, encephalitis. **In pregnant women**: Birth defects, miscarriage, stillbirth	1 day to 6 weeks
Food sources	**Prevention**
Raw milk, unpasteurized cheeses, dairy items, ready-to-eat deli meats, processed ready-to-eat meats, raw vegetables, raw melon, seafood	Time and temperature control, avoid cross-contamination, use only pasteurized milk and cheese, wash produce thoroughly
Not so fun facts:	
Listeria monocytogenes can grow at refrigerator temperatures. It is a relatively new pathogen – the first reported outbreak was in 1981 (Montville, et al. Food Microbiology: An Introduction, 2012).	

Non-typhoidal *Salmonella* species (causes infection)	
Symptoms	**Time to Onset**
Diarrhea, fever abdominal cramps, nausea or vomiting	6 to 48 hours
Food sources	**Prevention**
Eggs, poultry, meat, unpasteurized milk or juice, cheese, contaminated raw fruits (such as raw melon) and vegetables	Time and temperature control. avoid cross-contamination
Not so fun facts	
One species of *Salmonella,* called *Salmonella typhi,* is able to cause typhoid fever and in spread by infected food handlers. Good personal hygiene is key to prevention.	

Salmonella typhi (causes infection)	
Symptoms	**Time to Onset**
Diarrhea, fever abdominal cramps, nausea or vomiting	7 to 28 days
Food sources	**Prevention**
Ready to eat foods, beverages, foods handled by an infected food handler	Proper handwashing, good personal hygiene, time and temperature control. avoid cross-contamination
Not so fun facts	
Salmonella typhi, causes typhoid fever and in spread by infected food handlers. A person infected with this bacterium can continue to spread the pathogen for weeks after symptoms subside.	

Shigella species (causes infection)	
Symptoms	**Time to Onset**
Diarrhea, fever abdominal cramps, nausea or vomiting. Stools may contain blood and mucus.	1 to 7 days
Food sources	**Prevention**
Cold salads (e.g. tuna, egg, chicken), raw produce, foods handled by an infected food handler	Time and temperature control, proper handwashing, avoid cross-contamination, wash produce thoroughly.
Not so fun fact:	
Some species of *Shigella* are able to produce Shiga-toxins.	

Staphylococcus aureus (causes intoxication)	
Symptoms	**Time to Onset**
Diarrhea, fever, abdominal cramps, nausea, vomiting.	1 to 6 hours
Food sources	**Prevention**
Cream pastries, Improperly refrigerated meats, cold salads (e.g. tuna, egg, chicken)	Time and temperature control, proper handwashing, good personal hygiene.

Meet the Culprits – Viruses

Hepatitis A (causes viral infection)	
Symptoms	**Time to Onset**
Diarrhea, fever, abdominal cramps, nausea, vomiting, jaundice.	10 to 50 days
Food sources	**Prevention**
Shellfish, salads, ready-to-eat food, fruit and juice, milk products, vegetables, ice, foods handled by an infected food handler, contaminated water	Proper handwashing, good personal hygiene. Avoid cross-contamination. Use approved sources for shellfish. Proper sanitation. Use potable water from non-contaminated sources.

Norovirus, also called Norwalk virus (causes viral infection)	
Symptoms	**Time to Onset**
Diarrhea, fever, abdominal cramps, nausea	24 to 48 hours
Food sources	**Prevention**
Water, ice, ready-to-eat foods, salads, foods handled by infected food handlers	Proper handwashing, good personal hygiene. Avoid cross-contamination. Use potable water from non-contaminated sources.

Rotavirus (causes viral infection)	
Symptoms	**Time to Onset**
Diarrhea, fever, abdominal cramps, nausea	24 to 72 hours
Food sources	**Prevention**
Water, ice, ready-to-eat foods, salads, foods handled by infected food handlers	Proper handwashing, good personal hygiene. Avoid cross-contamination. Use potable water from non-contaminated sources.

Meet the Culprits – Parasites

Trichenella spiralis (causes parasite infection called trichinosis or trichinellosis)	
Symptoms	**Time to Onset**
Diarrhea, fever, nausea, fatigue	2 to 28 days
Food sources	**Prevention**
Raw, undercooked pork or wild game	Cook foods thoroughly. Purchase meat from approved sources. Proper sanitation
Not so fun fact:	
In recent years, eating undercooked wild game, such as bear, has caused most cases of trichinosis. (CDC, http://www.cdc.gov/parasites/trichinellosis/hunters.html)	

Anasakis simplex (roundworm, causes parasite infection)	
Symptoms	**Time to Onset**
Coughing, fever, abdominal cramps, vomiting	1 hour to two weeks
Food sources	**Prevention**
Raw, undercooked seafood	Cook foods thoroughly. Purchase seafood from approved sources. Freeze fish to be eaten raw for 7 days

Giardia duodenalis (protozoa, causes parasite infection)	
Symptoms	**Time to Onset**
Diarrhea, gas, abdominal cramps, nausea, weight loss, fatigue	24 to 72 hours
Food sources	**Prevention**
Contaminated water and ice, produce washed in contaminated water	Good personal hygiene. Use potable water from non-contaminated sources. Wash produce thoroughly

Meet the Culprits – Biological Toxins

Ciguatera toxin, also called Ciguatoxin (causes intoxication)	
Symptoms	**Time to Onset**
Vertigo, shortness of breath, nausea, hot and cold flashes, diarrhea, vomiting	15 minutes to 24 hours
Food sources	**Prevention**
Finfish from contaminated waters	Purchase fish from approved sources
Not so fun fact:	
Ciguatoxin is produced by toxic algae in tropical waters.	

Scombrotoxin (causes intoxication)	
Symptoms	**Time to Onset**
Dizziness, shortness of breath, burning feeling in mouth, facial rash or hives, peppery taste in mouth, headache, itching, teary eyes, runny nose	1 to 30 minutes
Food sources	**Prevention**
Tuna, mahi mahi, bluefish, sardines, amberjack, mackerel, anchovies, abalone, Swiss cheese	Purchase fish from approved sources, store fish between 32 degrees and 39 degrees temperatures to prevent the growth of histamine-producing bacteria
Not so fun fact:	
Scombrotoxin is made by histamine-producing bacteria.	

Appendix D - Healthy Schools Act (HSA) Pest Management in the School and Child Care Settings

What is the new HSA training requirement?

Beginning July 1, 2016 school IPM coordinators and anyone who may apply a pesticide at a school or child care center must take a training course approved by the California Department of Pesticide Regulation (DPR) before making a pesticide application.

What is considered a pesticide?

A pesticide is anything that is designed to prevent, destroy, or repel pests, including microorganisms. This means that sanitizers and other antimicrobials are considered pesticides.

Who needs to take an HSA training course?

Anyone using a pesticide, including licensed pesticide applicators, at a school or child care center needs to take an HSA training course. This includes, but is not limited to disinfecting wipes, sanitizers, and weed-killers.

How often must HSA training be completed?

School district staff, child care center staff, and any other unlicensed individuals using pesticides at a school or child care center must take a training course each year.

Licensed pesticide applicators must take a training course once during each renewal period.

What courses will meet the training requirement?

A course must be approved by DPR and must meet the training requirements as outlined in the Healthy Schools Act. The DPR provides a free online course as well as a list of available courses at the following website:

http://apps.cdpr.ca.gov/schoolipm/training/main.cfm

Adapted from California Department of Pesticide Regulation,
http://apps.cdpr.ca.gov/schoolipm/training/main.cfm

Appendix 234

Appendix E – Medical Statement to Request Special Meals and/or Accommodations for a Disability

An electronic version of this form can be downloaded from the California Department of Education at the following link:

http://www.cde.ca.gov/ls/nu/sn/fm.asp

MEDICAL STATEMENT TO REQUEST
SPECIAL MEALS AND/OR ACCOMMODATIONS

1. School	2. Site Name	3. Site Phone Number

4. Name of Child	5. Age of Child

6. Name of Parent or Guardian	7. Phone Number

8. Description of Child's Physical or Mental Impairment Affected:

9. Explanation of Diet Prescription and/or Accommodation to Ensure Proper Implementation:

10. Indicate Food Texture for Above Child:

☐ Regular   ☐ Chopped   ☐ Ground   ☐ Pureed

11. Foods to be Omitted and Appropriate Substitutions:

Foods To Be Omitted	Suggested Substitutions

12. Adaptive Equipment to be Used:

13. Signature of State Licensed Healthcare Professional*	14. Printed Name	15. Phone Number	16. Date

*For this purpose, a state licensed healthcare professional in California is a licensed physician, a physician assistant, or a nurse practitioner.

The information on this form should be updated to reflect the current medical and/or nutritional needs of the participant.

INSTRUCTIONS

1. **School:** Print the name of the school that is providing the form to the parent.

2. **Site:** Print the name of the school site where meals will be served.

3. **Site Phone Number:** Print the telephone number of site where meal will be served.

4. **Name of Child:** Print the name of the child to whom the information pertains.

5. **Age of Child:** Print the age of the child.

6. **Name of Parent or Guardian:** Print the name of the person requesting the child's medical statement.

7. **Phone Number:** Print the telephone number of parent or guardian.

8. **Description of Child's Physical or Mental Impairment Affected:** Describe how the physical or mental impairment restricts the child's diet.

9. **Explanation of Diet Prescription and/or Accommodation to Ensure Proper Implementation:** Describe a specific diet or accommodation that has been prescribed by the state healthcare professional.

10. **Indicate Texture:** If the participant does not need any modification, check "Regular".

11. **Foods to be Omitted:** List specific foods that must be omitted (e.g., exclude fluid milk).
    Suggested Substitutions: List specific foods to include in the diet (e.g., calcium-fortified juice).

12. **Adaptive Equipment to be Used:** Describe specific equipment required to assist the child with dining (e.g., sippy cup, large handled spoon, wheel-chair accessible furniture, etc.).

13. **Signature of State Licensed Healthcare Professional:** Signature of state licensed healthcare professional requesting the special meal or accommodation.

14. **Printed Name:** Print name of state licensed healthcare professional.

15. **Phone Number:** Telephone number of state licensed healthcare professional.

16. **Date:** Date state licensed healthcare professional signed form.

Citations are from Section 504 of the Rehabilitation Act of 1973, Americans with Disabilities Act (ADA) of 1990, and ADA Amendment Act of 2008:

A person with a disability is defined as any person who has a physical or mental impairment which substantially limits one or more major life activities, has a record of such impairment, or is regarded as having such an impairment.

Physical or mental impairment means (a) any physiological disorder or condition, cosmetic disfigurement, or anatomical loss affecting one or more of the following body systems: neurological; musculoskeletal; special sense organs; respiratory; speech; organs; cardiovascular; reproductive, digestive, genito-urinary; hemic and lymphatic; skin; and endocrine; or (b) any mental or psychological disorder, such as mental retardation, organic brain syndrome, emotional or mental illness, and specific learning disabilities.

Major life activities include, but are not limited to, caring for oneself, performing manual tasks, seeing, hearing, eating, sleeping, walking, standing, lifting, bending, speaking, breathing, learning, reading, concentrating, thinking, communicating, and working.

Major bodily functions have been added to major life activities and include the functions of the immune system; normal cell growth; and digestive, bowel, bladder, neurological, brain, respiratory, circulatory, endocrine, and reproductive functions.

"Has a record of such an impairment" means a person has, or has been classified (or misclassified) as having, a history of mental or physical impairment that substantially limits one or more major life activities.

Appendix F - Examples of Questions to be Considered When Conducting a Hazard Analysis

The hazard analysis consists of asking a series of questions which are appropriate to the process under consideration. The purpose of the questions is to assist in identifying potential hazards.

A. **Ingredients**

   1. Does the food contain any sensitive ingredients that may present microbiological hazards (e.g., Salmonella, Staphylococcus aureus); chemical hazards (e.g., aflatoxin, antibiotic or pesticide residues); or physical hazards (stones, glass, metal)?

   2. Are potable water, ice and steam used in formulating or in handling the food?

   3. What are the sources (e.g., geographical region, specific supplier)

B. **Intrinsic Factors** - Physical characteristics and composition (e.g., pH, type of acidulants, fermentable carbohydrate, water activity, preservatives) of the food during and after processing.

   1. What hazards may result if the food composition is not controlled?

   2. Does the food permit survival or multiplication of pathogens and/or toxin formation in the food during processing?

   3. Will the food permit survival or multiplication of pathogens and/or toxin formation during subsequent steps in the food chain?

   4. Are there other similar products in the market place? What has been the safety record for these products? What hazards have been associated with the products?

C. **Procedures used for processing**

   1. Does the process include a controllable processing step that destroys pathogens? If so, which pathogens? Consider both vegetative cells and spores.

   2. If the product is subject to recontamination between processing (e.g., cooking, pasteurizing) and packaging which biological, chemical or physical hazards are likely to occur?

D. **Microbial content of the food**

   1. What is the normal microbial content of the food?

   2. Does the microbial population change during the normal time the food is stored prior to consumption?

   3. Does the subsequent change in microbial population alter the safety of the food?

   4. Do the answers to the above questions indicate a high likelihood of certain biological hazards?

E. Facility design

1. Does the layout of the facility provide an adequate separation of raw materials from ready-to-eat (RTE) foods if this is important to food safety? If not, what hazards should be considered as possible contaminants of the RTE products?

2. Is positive air pressure maintained in product packaging areas? Is this essential for product safety?

3. Is the traffic pattern for people and moving equipment a significant source of contamination?

F. Equipment design and use

1. Will the equipment provide the time-temperature control that is necessary for safe food?

2. Is the equipment properly sized for the volume of food that will be processed?

3. Can the equipment be sufficiently controlled so that the variation in performance will be within the tolerances required to produce a safe food?

4. Is the equipment reliable or is it prone to frequent breakdowns?

5. Is the equipment designed so that it can be easily cleaned and sanitized?

6. Is there a chance for product contamination with hazardous substances; e.g., glass?

7. What product safety devices are used to enhance consumer safety?

   - metal detectors
   - magnets
   - sifters
   - filters

   - screens
   - thermometers
   - bone removal devices
   - dud detectors

8. To what degree will normal equipment wear affect the likely occurrence of a physical hazard (e.g., metal) in the product?

9. Are allergen protocols needed in using equipment for different products?

G. Packaging

1. Does the method of packaging affect the multiplication of microbial pathogens and/or the formation of toxins?

2. Is the package clearly labeled "Keep Refrigerated" if this is required for safety?

3. Does the package include instructions for the safe handling and preparation of the food by the end user?

4. Is the packaging material resistant to damage thereby preventing the entrance of microbial contamination?

5. Are tamper-evident packaging features used?

6. Is each package and case legibly and accurately coded?

7. Does each package contain the proper label?

8. Are potential allergens in the ingredients included in the list of ingredients on the label?

H. Sanitation

1. Can sanitation have an impact upon the safety of the food that is being processed?

2. Can the facility and equipment be easily cleaned and sanitized to permit the safe handling of food?

3. Is it possible to provide sanitary conditions consistently and adequately to assure safe foods?

I. Employee health, hygiene and education

1. Can employee health or personal hygiene practices impact upon the safety of the food being processed?

2. Do the employees understand the process and the factors they must control to assure the preparation of safe foods?

3. Will the employees inform management of a problem which could impact upon safety of food?

J. Conditions of storage between packaging and the end user

1. What is the likelihood that the food will be improperly stored at the wrong temperature?

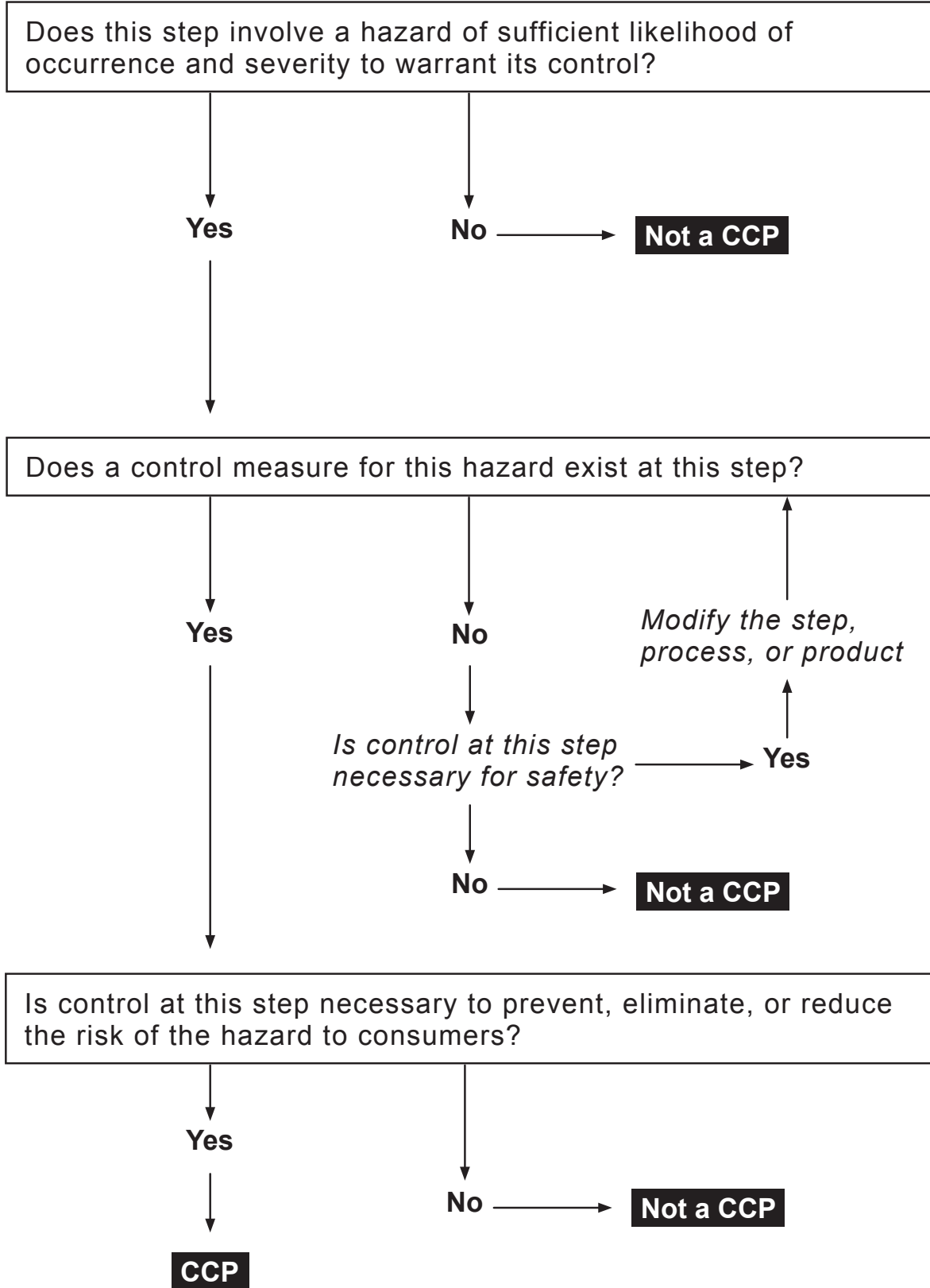2. Would an error in improper storage lead to a microbiologically unsafe food?

K. Intended use

1. Will the food be heated by the consumer?

2. Will there likely be leftovers?

L. Intended consumer

1. Is the food intended for the general public?

2. Is the food intended for consumption by a population with increased susceptibility to illness (e.g., infants, the aged, the infirmed, immunocompromised individuals)?

3. Is the food to be used for institutional feeding or the home?

Excerpt from: *HACCP Principles & Application Guidelines*, Food and Drug Administration. Available in its entirely at https://www.fda.gov/Food/GuidanceRegulation/HACCP/ucm2006801.htm

Does this step involve a hazard of sufficient likelihood of occurrence and severity to warrant its control?

Yes ⬇

No ➝ **Not a CCP**

Does a control measure for this hazard exist at this step?

Yes ⬇

No ⬇

Modify the step, process, or product

Is control at this step necessary for safety? ➝ **Yes**

No ➝ **Not a CCP**

Is control at this step necessary to prevent, eliminate, or reduce the risk of the hazard to consumers?

Yes ⬇

No ➝ **Not a CCP**

CCP

Appendix G – California Department of Education Management Bulletins Related to Food Safety

Number: USDA-SNP-12-2013

Subject: New Policy Change for Food Safety Inspections
Date: May 2013
Web link: http://www.cde.ca.gov/ls/nu/sn/mbusdasnp122013.asp

Number: SNP-09-2014

Subject: Mandatory Food Safety Inspections—Reminder
Date: February 2014
Web link: http://www.cde.ca.gov/ls/nu/sn/mbsnp092014.asp

Number: SNP-12-2016

Subject: Food Safety Certification Requirements
Date: April 2016
Web link: http://www.cde.ca.gov/ls/nu/sn/mbsnp122016.asp

Number: SNP-02-2017 Subject: Modifications to Accommodate Disabilities

Date: March 2017
Web link: http://www.cde.ca.gov/ls/nu/sn/mbsnp022017.asp

New Policy Change for Food Safety Inspections

Nutrition Services Division Management Bulletin	
Purpose: Policy, Action Required, Beneficial Information	
To: School Nutrition Program Sponsors	**Number:** USDA-SNP-12-2013
Attention: Food Service Directors	**Date:** May 2013
Subject: New Policy Change for Food Safety Inspections	
Reference: U.S. Department of Agriculture Policy Memos SP 39-2008 and SP 45-2011; Federal Register Vol. 74, No. 169, September 2, 2009; and Title 7, *Code of Federal Regulations*, sections 210.13 and 220.7	

This Management Bulletin (MB) notifies School Nutrition Program sponsors of a policy change pertaining to the mandatory school food safety inspection requirements; specifically, documentation requirements demonstrating attempt to schedule food safety inspections by School Food Authorities (SFA) that fail to obtain the required two inspections per year.

Background

Title 7, *Code of Federal Regulations*, sections 210.13 and 220.7 that govern the National School Lunch Program (NSLP) and School Breakfast Program (SBP), respectively; require that all participating school sites obtain **two** annual food safety inspections from the state or local governmental agency responsible for food safety inspections

Policy Change

For those SFAs that fail to obtain the two mandatory food safety inspections, the California Department of Education (CDE) requests that they submit a copy of the response from their local environmental health department, stating why the health department could not conduct the inspections. If the SFA did not receive a response, the CDE will request a copy of the letter sent to the local environmental health department requesting the inspections. In November 2013, the CDE will notify all SFAs that did not meet the federal requirement, and provide details for how they can submit their documentation to the CDE.

Please note, all SFAs that receive the two mandatory food safety inspections every school year will not need to submit documentation to the CDE.

It is important that all SFAs submit a letter in writing to their local environmental health department requesting the inspections for every school site, and keep a copy of this letter on file. If the local environmental health department is unable to conduct the inspections, the SFA should request a response in writing from the local environmental health department, and keep the response on file.

The CDE recommends that SFAs contact their local environmental health department early in the school year to allow inspectors time to annually conduct the mandated two food safety inspections. Please note that it is the responsibility of the SFA to request the two food safety inspections from their local environmental health department and to document their request.

If you have any questions related to this MB, please contact Ashley Osterman, Child Nutrition Consultant, Northern School Nutrition Programs Unit, by phone at 916-445-1261 or by e-mail at aosterman@cde.ca.gov.

Questions: Nutrition Services Division | 800-952-5609

Last Reviewed: Monday, August 1, 2016

Mandatory Food Safety Inspections--Reminder

Nutrition Services Division Management Bulletin

Purpose: Policy, Beneficial Information

Date: February 2014

Number: SNP-09-2014

To: School Nutrition Program Sponsors

Attention: Food Service Directors

Reference: U.S Department of Agriculture Food and Nutrition Service Policy Memoranda SP 45-2011 and SP 39-2008; Federal Register Vol. 74, No.169, September 2, 2009
http://www.fns.usda.gov/school-meals/policy/all

Subject: Mandatory Food Safety Inspections—Reminder

This Management Bulletin (MB) serves as a reminder for School Nutrition Program (SNP) sponsors about the U.S. Department of Agriculture's (USDA) Food Safety Inspection requirements.

All sponsors participating in the National School Lunch Program (NSLP) and School Breakfast Program (SBP) must obtain two food safety inspections from their state or local environmental health department (LEHD) annually. Depending on the type of food service

operation at each site, the scope of the food safety inspection required may vary. The level of inspection is determined by the agency conducting the inspection.

The California Department of Education (CDE) has received many questions from sponsors regarding whether or not they must obtain food safety inspections for school sites where they do not cook food. These sites are considered **service only sites**, and the requirement for two food safety inspections **also** applies to them.

Examples of service only sites include, but are not limited to:

- Sites that receive meals from a central kitchen, where staff only serve the meals

- Sites that receive prepackaged meals from a vendor, and staff do not prepare or cook meals at the site

Residential Child Care Institutions: Please refer to the information provided at the end of this MB.

Responsibility to Request Food Safety Inspections

It is the responsibility of the School Food Authority (SFA) to request two food safety inspections from their LEHD and document their efforts. For those agencies that fail to obtain the two mandatory food safety inspections, the CDE will request documentation from those sponsors to show that they have made every effort to comply with the federal requirements. SFAs should document their requests in writing for proper documentation of their efforts to obtain the inspections.

Mandatory Food Safety Inspection Survey

The USDA requires the CDE to report the results of food safety inspections for every NSLP and SBP site. In order to provide the CDE with this information, SFAs must submit an annual mandatory food safety inspection survey using the Child Nutrition Information and Payment System. Sponsors must enter their data in the survey beginning in **August 2014**. Prior to August 2014, all sponsors will receive an e-mail with detailed instructions on how to complete the survey. Sponsors must indicate the number of food safety inspections conducted at each of their sites for School Year 2013–14. The sponsor must indicate an acceptable reason for not meeting the required two food safety inspections.

Acceptable reasons for SFAs being unable to obtain two inspections include:

- Scheduling conflict. Sponsors must make every attempt to request the two food safety inspections from their LEHD. If the LEHD is unable to conduct the inspections, sponsors must provide documentation to the CDE of their effort to obtain the inspections.

- Excessive cost. The food safety inspections are an allowable expense to the cafeteria fund; however, if the cost is excessive and the SFA cannot pay for the inspections, the SFA may select this as a reason for not obtaining their inspection(s).

Note: The CDE will require all SFAs to indicate the fee charged for inspections as part of the 2013–14 mandatory food safety inspection survey.

Residential Child Care Institutions

Group homes do not fall under the jurisdiction of the LEHD; therefore they will not be able to obtain inspections from their LEHD. However, group homes are still required to complete the mandatory food safety inspection survey. When completing the survey, group homes must select "none" to report that zero inspections were conducted. In addition, they must select "other" and indicate "group home" as the reason for not obtaining the two inspections.

All other Residential Child Care Institutions (e.g., juvenile halls) must meet the requirement to obtain two food safety inspections.

Please remember that it is ultimately the responsibility of the SFA to request the two food safety inspections from their LEHD. In situations where the LEHD cannot conduct the food safety inspections, it is very important that SFAs document that they made an effort to obtain the inspections.

Contact Information

If you have any questions regarding this MB, please contact Ashley Osterman, Child Nutrition Consultant (CNC), Northern SNP Unit, by phone at 916-445-1261 or by e-mail at aosterman@cde.ca.gov or Lori Porter, CNC, Southern SNP Unit, by phone at 916-322-1454 or by e-mail at lporter@cde.ca.gov.

Questions: Nutrition Services Division | 800-952-5609

Last Reviewed: Monday, February 8, 2016

Food Safety Certification Requirements

Nutrition Services Division Management Bulletin

Purpose: Policy, Beneficial Information

To: National School Lunch Program and School Breakfast Program Sponsors

Number: SNP-12-2016

Attention: Food Service Directors

Date: April 2016

Reference: California Health and Safety Code, Part 7; California *Retail Food Code*, Section 113947

Supersedes: MB 99-808: Food-Safety Certification

Subject: Food Safety Certification Requirements

This Management Bulletin (MB) provides School Nutrition Program sponsors with current guidance regarding food safety certification requirements and contains up-to-date information pertaining to owner or employee certification, examination organization accreditation, and food safety certificate renewal. This MB supersedes California Department of Education MB 99-808: Food-Safety Certification (April 1999).

The following regulations are set forth by California *Retail Food Code* (*CalCode*), Section 113947 as it pertains to food safety certification:

1. Food facilities, except temporary food facilities, that prepare,

handle, or serve nonprepackaged potentially hazardous food shall have an owner or employee who has successfully passed an approved and accredited food safety certification examination as specified in sections 113947.2 and 113947.3.

2. There shall be at least one food safety certified facility owner or employee at each food facility. No food safety certified employee at a food facility may serve at any other food facility as the person required to be certified pursuant to this subdivision. However, the certified owner or employee need not be present at the food facility during all hours of operation.

3. Food safety certification required pursuant to *CalCode*, Section 113947.1 shall be achieved by a food facility employee successfully passing an examination from an accredited food protection manager certification organization. The certification organization shall be accredited by the American National Standards Institute (http://www.ansi.org) as meeting the requirements of the Conference for Food Protection's "Standards for Accreditation of Food Protection Manager Certification Programs." Those food facility employees who successfully pass an approved certification examination shall be issued a certificate by the certifying organization. The issuance date for each original certificate issued pursuant to this section shall be the date when the individual successfully completes the examination. Certificates shall be valid for five years from the date of original issuance.

Please note that the definitions/terms used in this MB are outlined in *CalCode*, which is available for viewing at http://www.cdph.ca.gov/services/Documents/fdbRFC.pdf

If you have any questions regarding this MB, please contact Ashley Osterman, Child Nutrition Consultant (CNC), Northern School Nutrition Programs Unit (SNPU), by phone at 916-445-1261 or by e-mail at aosterman@cde.ca.gov, or Lori Porter, CNC, Southern SNPU, by phone at 916-322-1454 or by e-mail at lporter@cde.ca.gov.

Questions: Nutrition Services Division | 800-952-5609

Last Reviewed: Monday, June 27, 2016

Modifications to Accommodate Disabilities

Nutrition Services Division Management Bulletin

Purpose: Policy, Beneficial Information

To: School Nutrition Program Operators

Attention: Food Services Directors

Number: SNP-02-2017

Date: March 2017

Reference: U.S. Department of Agriculture Food and Nutrition Service Policy Memorandum SP 59-2016

Supersedes: FNS Instruction 783-2, Rev. 2, Meal Substitutions for Medical or Other Special Dietary Reasons in the School Meal Programs; Management Bulletin CNP-10-2015: Accommodating Children with Special Dietary Needs

Subject: Modifications to Accommodate Disabilities in the School Meal Programs

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This Management Bulletin (MB) provides information and policy that supersedes Food and Nutrition Service (FNS) Instruction 783-2, Rev. 2, Meal Substitutions for Medical or Other Special Dietary Reasons for the School Meal Programs. The U.S. Department of Agriculture (USDA) has provided updated guidance based on their grouping of the child nutrition programs and the level of accommodation whether for a disability or special dietary needs. **This MB provides important updates to requirements related to**

accommodating children with disabilities and only affects school food authorities (SFA) participating in the National School Lunch Program (NSLP), School Breakfast Program (SBP), Special Milk Program, and Fresh Fruit and Vegetable Program. This policy memo is available on the USDA FNS School Meals Policy Web page at http://www.fns.usda.gov/school-meals/policy.

It is important that SFAs continue to have the option to accommodate children with special dietary needs that are not considered a disability. This includes those accommodations related to religious or moral convictions or personal preference. The USDA will issue separate guidance on accommodating special dietary needs and preferences that are not considered a disability.

The California Department of Education (CDE) MB CNP-10-2015, Accommodating Children with Special Dietary Needs, remains in effect for the Child and Adult Care Food Program and Summer Food Service Program until further guidance is issued. This MB provides guidance on accommodating children, with and without disabilities, who have special dietary needs. It is available on the CDE MB CNP-10-2015 Web page at http://www.cde.ca.gov/ls/nu/sn/mbcnp102015.asp.

Background on Federal Statutes

For more information on the federal laws which dictate program guidance, refer to USDA SP 59-2016: Modifications to Accommodate Disabilities in the School Meal Programs on the USDA FNS School Meals Policy Web page at http://www.fns.usda.gov/school-meals/policy.

Individualized Education Program

One federal act that affects the modifications required to accommodate disabilities in the School Nutrition Programs (SNP) is the Individuals with Disabilities Education Act of 1990 (IDEA). This act requires an Individualized Education Program (IEP) which is defined as a plan or program developed in accordance with IDEA to ensure that a child who has a disability receives specialized instruction and related services. An IEP does not supersede a state licensed healthcare professional's written medical statement. It

supports the medical statement to reiterate a child's nutritional needs. A written and signed medical statement must support the child's IEP.

For instance, the IEP may require breakfast to be served in a school that does not participate in the SBP. While these meals may not be claimed for federal reimbursement, funds from the nonprofit school food service account may be used to cover the cost associated with providing a meal required by the IDEA.

SFAs may use the same food service facilities or food service management company to provide the meals required under an IEP as it uses to provide SNP meals. The U.S. Department of Education (USDE) is responsible for the administration and enforcement of the IDEA. SFAs should direct inquiries regarding IDEA requirements to the USDE IDEA Web page at http://idea.ed.gov.

School Nutrition Program Regulations

The USDA regulations under Title 7, *Code of Federal Regulations* (7 *CFR*), sections 15b and 15b.26(d), implements Section 504 of the Rehabilitation Act of 1973 (Section 504) nondiscrimination requirements on recipients of federal financial assistance, such as SFAs, to serve special meals at no extra charge to children with disabilities. In addition, 7 *CFR*, sections 210.10(m) and 220.8(m), require SFAs to make substitutions or modifications in the NSLP and SBP for children whose disabilities restrict their diets.

These regulations require SFAs to ensure that breakfast, lunch, snacks, or milk (meals) offered through the SNPs meet the respective meal pattern requirements established in the program regulations.

Children with Disabilities

The Americans with Disabilities Act (ADA) Amendments Act has simplified what determines a disability and it should no longer require extensive analysis. SFAs and local educational agencies (LEA) should not be involved in analyzing documentation to determine whether a particular physical or mental impairment is severe enough to qualify as a disability. The ADA Amendments Act amended the definition of disability, broadening it to cover most physical and mental impairments, and the goal is to ensure equal opportunity to participate in or benefit from the SNPs.

Section 504, the ADA, and 7 *CFR*, Section 15b, define a person with a disability as any person who has a physical or mental impairment which substantially limits one or more major life activities, has a record of such impairment, or is regarded as having such impairment. Major life activities are broadly defined and include, but are not limited to, caring for oneself, performing manual tasks, seeing, hearing, eating, sleeping, walking, standing, lifting, bending, speaking, breathing, learning, reading, concentrating, thinking, communicating, and working. Major life activities also include **the operation of a major bodily function**, including but not limited to, functions of the immune system, normal cell growth, digestive, bowel, bladder, neurological, brain, respiratory, circulatory, endocrine, and reproductive functions.

A physical or mental impairment does not need to result in a severe, life-threatening reaction to be considered a disability. It is sufficient that the impairment limits a major life activity. For instance:

- Digestion is an example of a bodily function that is a major life activity. A child whose digestion is impaired by a lactose intolerance may have a disability regardless of whether or not consuming milk causes the child severe distress. A modification in this case is appropriate.

- An allergic reaction that is controlled by taking medication should not be considered in determining whether the allergy is a disability. A modification in this case is appropriate.

- Dietary preference that a child eat a gluten-free diet because a parent believes it is better for the child, does not constitute a disability and does not require accommodation.

A physical or mental impairment that constitutes a disability must be on a case-by-case basis. The determination must be made without regard to whether mitigating measures may reduce the impact of the impairment.

Substitutions and other Reasonable Modifications

In many cases, reasonable dietary modifications for a child with a disability are managed within the meal pattern requirements when a well-planned variety of nutritious foods are available. However, the needs of a child with a disability may involve requests for accommodations that do not meet the meal pattern requirements.

Requiring a Medical Statement

SFAs are required to make substitutions to meals for children with a disability that restricts the child's diet on a case-by-case basis and only when supported by a written medical statement from a state licensed healthcare professional. **The CDE only permits the following state licensed healthcare professionals to complete and sign a written medical statement for a disability: licensed physicians, physician assistants, or nurse practitioners.**

California does not recognize other medical authorities as authorized to sign a written medical statement to determine a child's diet. Physician assistants and nurse practitioners both work under the direction of a licensed physician. This will safeguard program integrity while allowing appropriate flexibility for those families who do not have access to a licensed physician.

California allows electronic signatures. A written medical statement that is e-signed by the designated state licensed healthcare professional can also be considered an acceptable signature.

Medical statements must:

- Describe the physical or mental impairment sufficiently in order for the SFA to understand how it restricts a child's diet

- Explain what must be done to accommodate a child's disability

- Identify food or foods to be omitted from a child's diet

- Recommend food or choice of foods that must be substituted in a child's meals

If a written medical statement is unclear or lacks sufficient detail, the SFA must obtain appropriate clarification to ensure a proper and safe meal is provided to the child. SFAs may consider the services of a registered dietitian, when available, to assist in implementing meal modifications. SFAs may also contact the CDE for guidance.

The CDE developed a Written Medical Statement to Request Special Meals and/or Accommodations form to identify the information required to implement a sound nutrition plan for children

with dietary restrictions. The medical statement form is available on the CDE SNP Forms Web page at http://www.cde.ca.gov/ls/nu/sn/fm.asp.

SFAs may choose to accommodate requests related to a disability that are not supported by a written medical statement if the requested modifications meet the meal pattern requirements.

Assessing Requests for Substitutions and other Modifications

SFAs may consider expense and efficiency in choosing an appropriate approach to accommodate a child's disability. SFAs are not required to provide the specific substitution or other modification requested, but must offer a reasonable modification that effectively accommodates the child's disability and provides equal opportunity to participate in or benefit from the program.

SFAs are not required to provide a specific brand name food item that may be requested or identified on the written medical statement. Instead, the child affected by an allergy must be offered the appropriate food substitution which does not contain the allergen that adversely affects the child.

SFAs should consider the age and maturity of the child when determining what is appropriate during the decision-making process. For instance, younger children may need more assistance with selecting and eating their meals, while older children may be able to take more responsibility for some of their dietary decisions.

SFAs are not required to provide modifications that would fundamentally alter the nature of the program; however, this should rarely be the case. Instead, the emphasis should be on working with the parents and guardians to develop an approach that will meet the child's needs.

Serving Meals in an Integrated Setting

SFAs must provide all meal services in the most integrated setting appropriate to meet the needs of the child. Exclusion of any child from the environment is not considered an appropriate or reasonable modification. For instance, a child may not be excluded from the classroom and required to sit in the hallway during the

service of breakfast in the classroom. A separate table available for children to control exposure to a severe food allergy may be an appropriate safeguard, yet it cannot simultaneously be used to segregate children as punishment for misconduct.

Reimbursement

Regardless of the meal accommodation, reimbursement for modified meals served to children with disabilities that restrict their diet is at the appropriate rate based on the child's eligibility for free, reduced-price, or paid meals for the applicable program. These meal modifications do not have to meet the program meal pattern requirements in order to be claimed for reimbursement if they are supported by a signed written medical statement. However, SFAs should ensure that the meal modifications meet the nutritional needs of the child.

Any instruction or services included in a child's IEP related to a child's nutritional needs that are deemed necessary for the child to receive a free and appropriate public education must be provided at public expense and at no cost to the parents or guardians. SFAs should direct inquiries regarding funding and requirements pertaining to Part B of IDEA to the USDE IDEA Web page at http://idea.ed.gov.

Accessibility

SFAs and LEAs are responsible for the accessibility of food service areas and for ensuring the provision of food service aides, where needed, to assist in preparing and serving meal accommodations.

SNPs will not receive additional reimbursement for these types of accommodations. However, any additional costs for adaptive feeding equipment for aides are considered allowable costs for the nonprofit school food service account. Special education funds could be a source of supplemental funding if specified in the child's IEP or the LEA's general fund.

Procedural Safeguards

LEAs must work with the school food service staff to implement procedures for parents or guardians to request modifications to meal service for children with disabilities and to resolve grievances.

Procedures in place to address requests to accommodate students with disabilities in the classroom in compliance with Section 504 or the IDEA may be used to fulfill this requirement. At minimum, the LEA must:

- Notify parents and guardians of the process for requesting meal modifications to accommodate a child's disability

- Arrange for an impartial hearing process to resolve grievances related to requests for modifications based on a disability

- Include the opportunity for the child's parent or guardian to participate, be represented by counsel, and examine the record

- Provide notice of the final decision and a procedure for review

LEAs that employ 15 or more individuals must designate at least one person to coordinate compliance with disability requirements. This position is often referred to as the Section 504 coordinator. The Section 504 coordinator is responsible for addressing requests for accommodations in the classroom which may also include ensuring compliance with disability requirements related to meals and the meal service. It is not required to designate a separate Section 504 coordinator responsible only for meal modifications. However, LEAs should ensure that school food service staff understand the procedures for handling requests for meal modifications and know how to contact the Section 504 coordinator.

Team Approach

A team approach to providing modifications for children with disabilities is strongly encouraged. Develop a team that includes the Section 504 coordinator, school administration staff, school medical personnel, and school food service staff. The most effective team will include:

- School food service staff
- Principal or program director
- School nurse
- School nutritionist

Any request for a modification related to the meal or meal service should be forwarded to the Section 504 coordinator and reviewed by the 504 team.

The Section 504 team will work with the child's parents or guardian to review the request and develop a solution as quickly as possible. The Section 504 team is encouraged to develop policies and practices that allow for the disabilities they most commonly encounter to be quickly and consistently addressed. The team should be advised that any medical information obtained must be kept confidential.

The Health Insurance Portability and Accountability Act of 1996 (HIPAA) safeguards the release of personal health information. SFAs will need to consult with an appropriate school official or seek legal counsel around HIPAA requirements.

Contact Information

If you have any questions regarding this subject, please contact Lori Porter, Child Nutrition Consultant (CNC), Southern School Nutrition Programs Unit (SNPU), by phone at 916-322-1454 or by e-mail at lporter@cde.ca.gov, or Ashley Osterman, CNC, Northern SNPU, by phone at 916-445-1261 or by e-mail at aosterman@cde.ca.gov.

Questions: Nutrition Services Division | 800-952-5609

Last Reviewed: Monday, April 10, 2017

This institution is an equal opportunity provider.
Esta institución es un proveedor que ofrece igualdad de oportunidades.

Appendix H – USDA School Meals Policy Memos Related to Food Safety

Memo Code: SP 11-2012, CACFP 05-2012. SFSP 07-2012

Subject: Guidance on the Food Donation Program in Child Nutrition Programs
Date: February 3, 2012
Web link: https://www.fns.usda.gov/guidance-food-donation-program-child-nutrition-programs

Memo Code: SP 31-2013

Subject: Salad Bars in the National School Lunch Program
Date: March 27, 2013
Web link: https://www.fns.usda.gov/salad-bars-national-school-lunch-program

Memo Code: SP 36-2013, CACFP 10-2013, SFSP 12-2013

Subject: Guidance Related to the ADA Amendments Act
Date: April 26, 2013
Web link: https://www.fns.usda.gov/guidance-related-ada-amendments-act-0

Memo Code: SP 37- 2013

Subject: Enhancing the School Food Safety Program Frequently Asked Questions (FAQ)
Date: April 26, 2013
Web link: https://www.fns.usda.gov/enhancing-school-food-safety-program-faqs

Memo Code: SP 01-2016, CACFP 01-2016, SFSP 01-2016

Subject: Procuring Local Meat, Poultry, Game, and Eggs for Child Nutrition Programs
Date: October 22, 2015
Web link: https://www.fns.usda.gov/procuring-local-meat-poultry-game-and-eggs-child-nutrition-programs

Memo Code: SP 41-2016, CACFP 13-2016, SFSP 15-2016

Subject: The Use of Share Tables in Child Nutrition Programs
Date: June 22, 2016
Web link: https://www.fns.usda.gov/use-share-tables-child-nutrition-programs

Memo Code: SP 59-2016

Subject: Modifications to Accommodate Disabilities in the School Meal Programs

Date: September 27, 2016

Web link: https://www.fns.usda.gov/policy-memorandum-modifications-accommodate-disabilities-school-meal-programs

Memo Code: SP 26-2017

Subject: Accommodating Disabilities in the School Meal Programs: Guidance and Questions and Answers (Q&As)

Date: April 25, 2017

Web link: https://www.fns.usda.gov/school-meals/accommodating-disabilities-school-meal-programs-guidance-and-qas

USDA

United States Department of Agriculture	DATE: February 3, 2012
Food and Nutrition Service 3101 Park Center Drive Alexandria, VA 22302-1500	MEMO CODE: SP 11-2012, CACFP 05-2012, SFSP 07-2012

DATE: February 3, 2012

MEMO CODE: SP 11-2012, CACFP 05-2012, SFSP 07-2012

SUBJECT: Guidance on the Food Donation Program in Child Nutrition
                   Programs

TO: Regional Directors
                   Special Nutrition Programs
                   All Regions

                   State Directors
                   Child Nutrition Programs
                   All States

On November 18, 2011, the Consolidated and Further Continuing Appropriations Act, 2012 (P.L. 112-55) amended the Richard B. Russell National School Lunch Act (NSLA) by adding paragraph (l), the Food Donation Program at the end of Section 9. The amendment provides clear statutory authority for current Food and Nutrition Service (FNS) food recovery and donation policy in use by schools and institutions participating in the Child Nutrition Programs, the National School Lunch and School Breakfast Programs, Child and Adult Care Food Program (CACFP), and Summer Food Service Program (SFSP).

Food donation has been a longstanding policy in all Child Nutrition Programs and the current amendment to the NSLA clarifies the policy through statute. Although, FNS does not believe this amendment will require change in current food recovery practices, this memorandum provides updated and consolidated guidance on this issue; therefore, the following existing memoranda relating to this issue are rescinded: SP 29-2009, SFSP 04-2009, CACFP 07-2009, Excess Summer Meals, June 26, 2009.

The statute clarifies that any program food not consumed may be donated to eligible local food banks or charitable organizations. The amendment defines the terms "eligible local food banks or charitable organizations" to mean any food bank or charitable organization which is exempt from tax under section 501(c)(3) of the Internal Revenue Code of 1986 (26 U.S.C. 501(c)(3)). It also extends protections against civil and criminal liability for persons or organizations when making food donations to the extent provided under the Bill Emerson Good Samaritan Food Donation Act, found in section 22 of the Child Nutrition Act.

Food Donation Policy

FNS is committed to preventing hunger and to responsible stewardship of Federal dollars. Child Nutrition Program policy aims first to limit food waste and unnecessary costs. If a school, CACFP institution, or SFSP sponsor has leftover food on a frequent basis, menu planning and production practices should be adjusted to reduce leftovers.

Nevertheless, because of unforeseen circumstances, occasionally there will be leftover food. All alternatives permitted by Program regulations and State and local health and sanitation codes should be exhausted before discarding food. Options may include using leftovers in subsequent meal services, offering "sharing tables," or transferring food to other sites. (*See attached: Donation of Leftover Foods From School Cafeterias, June 11, 1996*). Where it is not feasible to reuse leftovers, excess food may be donated to a non-profit organization, such as a community food bank, homeless shelter, or other nonprofit charitable organizations.

As a result of the Department's Food Recovery and Gleaning Initiative of 1997, a "Best Practice" manual was created which highlighted measures to provide unused food to needy organizations. In addition, the "Citizen's Guide to Food Recovery" was developed as a resource guide on food recovery programs for businesses, community-based organizations, private citizens, and public officials and describes some of the food recovery activities taking place at that time and suggestions for new efforts. These publications can be found at: http://www.fns.usda.gov/fdd/gleaning/besthome.htm and http://www.usda.gov/news/pubs/gleaning/five.htm. FNS will review these resources and determine if they require updating or if additional materials are required to assist schools and local educational agencies in the donation of food.

FNS will continue to support food donation as outlined above. State agencies should direct any questions to their FNS Regional Office.

Original Signed

Cynthia Long
Director
Child Nutrition Division

Attachment

SUBJECT: Donation of Leftover Food from School Cafeterias

TO: Regional Directors
    Special Nutrition Programs
    All Regions

We frequently receive inquiries from schools and the general public concerning the donation of extra foods prepared for the National School Lunch and School Breakfast Programs. It appears that many school food service managers believe that the program regulations prohibit them from donating leftovers to organizations which feed the needy.

As you know, schools may claim reimbursement for only one lunch served per child per day, and schools are expected to plan and prepare sufficient amounts of food to achieve this goal. When the food actually prepared exceeds the amount needed for the reimbursable meal service, schools may dispose of the extra food as they wish as long as they comply with applicable State and local health standards. Thus, schools may donate leftover foods to appropriate nonprofit institutions such as soup kitchens or homeless shelters provided this practice is not prohibited by State or local laws or regulations. The Department of Agriculture strongly encourages them to consider this option whenever it is feasible. This policy is in keeping with Secretary Glickman's active promotion of local gleaning and donation programs to feed the poor and homeless.

Please remind your States of this longstanding policy and request that they ensure that their local schools are aware of this option.

ALBERTA C. FROST
Director
Child Nutrition Division

USDA

United States
Department of
Agriculture

Food and
Nutrition
Service

3101 Park
Center Drive
Alexandria, VA
22302-1500

DATE: March 27, 2013

MEMO CODE: SP 31-2013

SUBJECT: Salad Bars in the National School Lunch Program

TO: Regional Directors
                  Child Nutrition Programs
                  All Regions

                  State Directors
                  Child Nutrition Programs
                  All States

This memorandum supersedes the January 21, 2011, policy memo SP 02-2011, "Salad Bars in the National School Lunch Program". This revision includes updates based on the revised nutrition standards for school meals and includes questions and answers. This memorandum continues to provide State agencies with information on how salad bars can effectively be used in the service of reimbursable meals and includes information on portion size, point of service, nutrient analysis, and food safety for school meals.

Background

USDA encourages the use of salad bars in the school meal programs. The 2010 Dietary Guidelines for Americans and the Institute of Medicine's (IOM) report, "The School Meals Building Blocks for Healthy Children" encourages the consumption of vegetables and fruits. The IOM report cites a 2007 study that determined that "salad bar programs in public schools indicate positive effects on fruit and vegetable consumption".

Additional data from the School Nutrition Dietary Assessment Study (SNDA) –II, SNDA-III and SNDA-IV describes the benefits of utilizing salad bars in the National School Lunch Program; schools with salad bars offer a wider variety of vegetables and fruits than other schools. Salad bars have the potential to improve nutrition and encourage the consumption of fruits, vegetables and legumes. In addition to the nutritional benefits, salad bars may lower plate waste in school feeding programs. While we recognize the many benefits of salad bars, we are cognizant that salad bars are not always a viable option in some school food service operations. We encourage school food authorities (SFAs) to incorporate salad bars into their school food service operations when possible, and to explore other creative options when salad bars are not an option.

There are many ways that salad bars can be incorporated into the reimbursable meal. Salad bars can feature a special fruit and vegetable theme, a baked potato bar, or a side salad. Salad bars can be set-up in a variety of ways, including pre-portioned and pre-packaged foods to emulate the grab-and-go concept to accommodate a high volume of students in a short period of time.

Portion Size

We have received numerous questions asking to clarify how the menu planner determines the planned portion size. The planned portion size should be an amount that is reasonable for that menu item. For instance, a cup of lettuce would be reasonable, but a cup of radish would be more than a child would normally consume.

When planning a salad bar as *part* of a reimbursable meal, the minimum portion sizes must be consistent with the meal pattern for the age-grade group. For example, when choosing fruits or vegetables from the salad bar to meet the fruit or vegetable component, a menu planner might determine that ½ cup of two or more different fruit or vegetables from the salad bar is the minimum for grades K-5, and grades 6-8, and ¾ cup of two or more different fruit or vegetables is the minimum for grades 9-12.

Salad bars can also be used to serve one or multiple food components. It is important to remember that at least 1/8 cup of fruit or vegetable must be served to count towards the fruit or vegetable component, including those served on the salad bar.

One of the challenges of a salad bar is to ensure that students actually take the minimum required portion size. Pre-portioning food items is one way that can assist staff in quickly identifying portion sizes. If not pre-portioning, then the cashier must determine if the food/menu item can count toward a reimbursable meal. Schools should consider placing signage as a visual aid to help students determine what a minimum portion is for self-service items, particularly in the case of leafy greens.

Point of Service

Salad bars can serve as the complete reimbursable lunch (except for milk) or as a food or menu item that is part of a reimbursable lunch, depending on the food items available and how it is structured. It is critical to consider the location of the salad bar in relation to the Point of Service (POS). To ensure that each student's selections from the salad bar meet the required portions for a reimbursable meal, the POS should be stationed after the salad bar. If a school is not able to position the salad bar in a location prior to the POS, State agencies may authorize alternatives to the POS lunch counts, such as stationing staff at the end of the salad bar, to ensure each student leaves with a reimbursable meal. It is important to note that un-monitored salad bars after the POS are considered extra food that cannot contribute toward the reimbursable meal. It is also important to remember that schools must identify, near or at the beginning of the serving line(s), the food components that constitute the reimbursable school meal(s). Schools have the discretion to determine the best way to present this information, including how to clarify which foods must be selected from the salad bar in order to select a reimbursable meal.

State agencies are encouraged to issue guidance which clearly identifies acceptable POS alternatives and instructions for proper implementation. SFAs may select one of the State agencies approved alternatives without prior approval. In addition, on a

case-by-case basis, State agencies may authorize SFAs to use other alternatives to the POS lunch count. Any such request to use an alternative lunch counting method must be submitted in writing to the State agencies for approval.

Nutrient Analysis

SFAs are not required to conduct a nutrient analysis, however, many SFAs do monitor the nutrients provided in their menus and it can be a helpful tool to determine the nutrient composition of all the foods offered in the salad bar by considering the foods together as a "recipe". A standardized recipe is a recipe that has been carefully adapted and tested to ensure that it will produce a consistent product every time it is used. Standardized recipes can be helpful when developing recipes for food bars because they promote consistent food quality, predictable yield, control food costs and help with inventory control. Creating a standardized recipe will also simplify the nutrient analysis process. The standardized recipe should be constructed based on a typical day.

To develop a standardized recipe for a salad bar, the menu planner would first determine the planned serving size. Second, the number of servings the recipe produces must be established. Finally, the menu planner must determine the amount of each food ingredient in the recipe by:

- Measuring the amount of each ingredient placed on the food bar on a typical day.
- Measuring the amount of each ingredient left over on the food bar at the end of the meal service; and
- Subtracting the amount left over from the amount placed on the food bar for each ingredient to determine the amount of each ingredient to enter for the recipe.

Food Safety

Schools must implement food safety standards and best practices on all foods served in the meal programs, to minimize the risk of food-borne illness among students. It is important to control contamination from all sources and maintain appropriate food temperatures to ensure food safety. The National Food Service Management Institute's *Best Practices: Handling Fresh Produce in Schools* fact sheet provides specific food safety recommendations for produce.

The NSF International (formerly the National Sanitation Foundation), (NSF) is an independent, not-for-profit, non-governmental organization that develops standards for foodservice equipment to promote sanitation and protect public health. NSF standards

are recommended, but not required by the Food and Nutrition Service. The NSF standards **do not** preclude salad bars in elementary schools. Instead, the NSF standards provide two possible options when salad bars are provided to elementary school children (grades K-5):

1. All food should be pre-wrapped when used at a self service bar.

2. Students may be served from an open salad bar, with a solid food shield barrier between the students and the food. This option requires a server to portion the choices made by the student and pass the portioned items over the food shield to the student.

Resources

Please refer to the following technical assistance resources referring to salad bars for more information:

- **Nutrient Analysis Protocols: How to Analyze Menus for USDA's School Meals Programs.** http://www.fns.usda.gov/tn/Resources/nutrientanalysis.html

- **Reviewer's Guide to SMI Nutrition Reviews and Technical Assistance.** Provides policies, procedures, and guidance for State agency personnel who conduct the nutrition standard reviews.

- **School Lunch Salad Bars** – Executive Summary**.** http://www.fns.usda.gov/ora/menu/Published/CNP/FILES/saladbar.pdf

- **Fruits and Vegetables Galore.** Includes diagrams of salad bar setups and recipes for salads-to-go and salad shakers in the *Tricks of the Trade: Preparing Fruits and Vegetables* booklet. http://teamnutrition.usda.gov/Resources/fv_galore.html

- **Several Strategies May Lower Plate Waste in School Feeding Programs Report.** http://www.ers.usda.gov/publications/FoodReview/Sep2002/frvol25i2g.pdf

- **Best Practices: Handling Fresh Produce in Schools -** The National Food Service Management Institute's fact sheet provides specific food safety recommendations for produce. http://www.fns.usda.gov/fns/safety/pdf/best_practices.pdf

- **Fruit and Vegetable Safety-** Food safety resources that provide food safety information specifically for produce. http://healthymeals.nal.usda.gov/nal_display/index.php?info_center=14&tax_level=2&tax_subject=231&topic_id=1195

- **Let's Move Salad Bars To Schools** - A public health effort to support salad bars in schools. http://saladbars2schools.org/

State agencies are reminded to distribute this memo to program operators immediately. SFAs should contact their State agencies for additional information. State agencies may direct any questions concerning this guidance to the appropriate Food and Nutrition Service Regional Office.

Original Signed

Melissa A. Rothstein
Acting Director
Child Nutrition Division

Attachment

Q&As: Salad Bars in the National School Lunch Program

1. **What resources are available to assist school foodservice directors in implementing salad bars in elementary schools?**
   USDA encourages the use of fresh fruits and vegetables in school meals. Self service salad bars are one approach that can be successfully included in the meal service when monitored closely to ensure safety. It is critical to review food safety resources and provide training for food service staff and students. Resources that might be particularly useful include:

   - *Best Practices: Handling Fresh Produce in Schools,* a USDA and National Food Service Management Institute fact sheet that provides specific food safety recommendations for produce. Available at http://www.fns.usda.gov/fns/safety/pdf/best_practices.pdf

   - *Program Information Manual, Retail Food Protection: Recommendations for the Temperature Control of Cut Leafy Greens during Storage and Display in Retail Food Establishments.* Available at: http://www.fda.gov/Food/FoodSafety/RetailFoodProtection/ucm218750.htm

   - *Program Information Manual:* Retail Food Protection Storage and Handling of Tomatoes. Available at: http://www.fda.gov/Food/FoodSafety/RetailFoodProtection/IndustryandRegulatoryAssistanceandTrainingResources/ucm113843.htm

   - *Retail Food Safety Program Information Manual:* Safe Handling Practices for Melons. Available at: http://www.fda.gov/Food/FoodSafety/RetailFoodProtection/ucm217290.htm

   - *Fruits and Vegetables Galore: Helping Kids Eat More,* a USDA publication that contains information on how to train students on salad bar etiquette. Available at: http://teamnutrition.usda.gov/Resources/fv_galore.html

2. **Are self-service salad bars allowed in elementary schools?**
   Yes, self-service salad bars may be used in elementary schools. It is critical to ensure that all schools with salad bars follow their food safety program to ensure safe foods for students. Factors such as layout and space available in the serving area, equipment available to protect the food on the salad bar from contamination, staffing available to monitor the salad bar during meal service, and training for staff and students must be considered in determining how to safely incorporate a salad bar into a school meals program.

   The use of food guards or shields is one way to protect food on a salad bar from contamination. NSF International Standard/American National Standard (NSF/ANSI) 2 for Food Equipment provides a standard that establishes the minimum food protection and sanitation requirements for the materials, design, fabrication, construction, and performance of food shields for use in elementary schools.

1

Because food service codes and regulations vary among local jurisdictions and states, it is important to check with your local or state health department to determine if there are specific guidelines that must be followed in your jurisdiction for the installation and use of salad bars.

3. **Are the NSF/ANSI Standards required?**
Meeting the NSF/ANSI standards is not a federal requirement. It is important to check with your local health inspector to determine what serving methods are acceptable in order to be in compliance with local or state requirements.

4. **Must salad bars be monitored for food safety?**
Self service of ready-to-eat foods such as occurs with salad bars can pose a food safety risk that can be reduced by supplying clean utensils and dispensers and by employee monitoring of the salad bar during the meal service to ensure that the utensils and dispensers are properly used. Trained food service staff members should monitor the salad bar, keep all surface areas clean, (e.g., quickly clean up spills), and ensure that students follow good food safety practices (e.g., using tongs and staying above the sneeze guard). Keeping the salad bar clean and safe is essential for students' safety.

It is important to check with your local or state health department to determine the specific guidelines that must be followed in your jurisdiction when monitoring a salad bar. Some jurisdictions adopt the 2009 FDA Food Code and use it as the basis of their state and local food safety regulations. The 2009 FDA Food Code has provisions that address consumer self-service operations such as salad bars. Paragraph 3-306.13 (C) specifically addresses what foods can be offered for consumer self-service, effective dispensing methods, and monitoring by food employees trained in safe operating procedures.

5. **What if we can't afford additional labor costs to have food service staff monitor the salad bar?**
Keeping a salad bar safe and appealing requires monitoring. If a school is not able to provide food service staff or well-trained volunteers to monitor the salad bar during the meal service, pre-wrapped salad bar components may be an option to improve food safety.

6. **What steps can be taken to help students follow good food safety practices when using a salad bar?**
It is important to teach students about salad bar etiquette. This includes teaching children proper handwashing techniques and how to control transmission of harmful organisms by using tongs and staying above the sneeze guard. In addition to handwashing, students should be supervised to make sure they use good food handling practices while serving themselves at a salad bar. Reminder signs could be posted on the salad bar to reinforce good food handling practices.

7. **Will pre-wrapped salad bar components increase waste?**
   If schools serve pre-wrapped salad bar components that students like and are packaged in appropriate portions, food waste will be minimized. To reduce packaging waste, reusable or recyclable containers may be used.

8. **Will pre-wrapped (Grab 'n Go) options ignore the importance of student choice?**
   Pre-wrapped (Grab 'n Go) options can be offered in a variety of ways (both portion sizes and product combinations) to provide students choices, i.e. selecting from a variety of pre-wrapped salad bar items.

9. **Are meals containing food from the salad bar reimbursable?**
   Yes, if foods from the salad bar are served in the minimum amounts required and contribute to an eligible reimbursable meal, that meal will be reimbursed.

10. **Are schools that offer salad bars required to use specific size serving utensils to meet quantity requirements?**
    Schools are not required to use specific serving size utensils but may do so to encourage children to take appropriate food amounts. However, regardless of the serving utensils used, food service staff must ensure that the portions on the student's tray meet the meal pattern requirements. This may be done by training the cashiers to visually identify the correct *portions, or by pre-portioning the food items.*

11. **May a school offer a daily salad bar line that offers multiple vegetable subgroups every day as a way to meet the weekly vegetable subgroup requirement?**
    Yes, this is acceptable if the salad bar is available to all children each day and offers all of *the required weekly subgroups over the course of the week.*

12. **Do the vegetable subgroups offered on a daily salad bar need to be itemized on the production records?**
    Yes. Section 210.10(a)(3) of the regulations requires that production records and menu records for the meals show how the foods offered to help meet the meal component and quantity requirements. These records must be examined by the State agency during the administrative review to ensure the meals offered are reimbursable.

13. **May a school offer an un-monitored salad bar and count the vegetables toward meeting the subgroup requirements, if the student leaves the Point of Service (POS) with a reimbursable meal?**
    An un-monitored salad bar after the POS is considered extra food that is not part of the reimbursable meal, but counts toward the dietary specifications. The students must select all the components for a reimbursable meal, including vegetable subgroups, from the meal line before the POS. However, salad bars after the POS are acceptable in appropriate circumstances approved by the State agency. In this scenario, for the vegetable subgroups to count, the school has to establish some monitoring mechanism to ensure that students are getting the required components and amounts for a reimbursable meal.

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14. **What are the approved alternatives to placing salad bars after the point of service/sale?**
   State agencies are encouraged to issue guidance that clearly identifies acceptable placement of salad bars relative to the point of sale.

15. **How does offer versus serve (OVS) work with salad bars?**
   Schools that offer salad bars must follow the OVS requirement. To ensure that students actually take the minimum required portion sizes from a salad bar, foods may be pre-portioned to allow staff to quickly identify if the student has a reimbursable meal under OVS. If not pre-portioning, then the cashier must be trained to judge accurately the quantities of self-serve items on student trays to demine if the food item can count toward a reimbursable meal.

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<table>
<tr><td>**United States Department of Agriculture**</td><td>DATE:</td><td>April 26, 2013</td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td>Food and Nutrition Service</td><td>MEMO CODE:</td><td>SP 36-2013, CACFP 10-2013, SFSP 12-2013</td></tr>
<tr><td></td><td>SUBJECT:</td><td>Guidance Related to the ADA Amendments Act</td></tr>
<tr><td>3101 Park Center Drive Alexandria, VA 22302-1500</td><td>TO:</td><td>Regional Directors
Special Nutrition Programs
All Regions

State Directors
Child Nutrition Programs
All States</td></tr>
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The purpose of this memorandum is to provide schools, institutions, facilities, sites, and sponsors participating in the Child Nutrition Programs (CNP) with additional clarifications on making dietary accommodations for children with disabilities as required under Section 9(a) of the Richard B. Russell National School Lunch Act, 42 USC 1758(a), CNP regulations and in accordance with the Americans with Disabilities Act Amendments Act of 2008 (ADAAA), P.L. 110-325. The ADAAA, as explained in further detail in the next paragraph below, amended the Federal definition of disability, broadening it to cover additional individuals. Because of this broader definition, it is reasonable that CNP operators may see more children identified by their licensed physician as having a food-related disability than were identified previously. Program operators should note, however, that the process for identifying children with disabilities requiring an accommodation has not changed. The CNPs continue to require that participants seeking an accommodation for a disability that is food-related must provide a statement from a licensed physician (as defined by the State) identifying the food-related disability and indicating the required meal accommodation.

The ADAAA broadened the list of "Major Life Activities" for purposes of identifying individuals with disabilities and added a new category called "Major Bodily Functions", 42 USC 12102(2)(B). This law continues to include as "Major Life Activities": "caring for oneself, performing manual tasks, seeing, hearing, eating, sleeping, walking, standing, lifting, bending, speaking, breathing, learning, reading, concentrating, thinking, communicating and working." As amended by the ADAAA, Major Life Activities now also includes "Major Bodily Functions" such as: "functions of the immune system, normal cell growth, digestive, bowel, bladder, neurological, brain, respiratory, circulatory, cardiovascular, endocrine, and reproductive functions." It is important to point out that individuals who take mitigating measures to improve or control any of the conditions recognized as a disability, are still considered to have a disability and require an accommodation.

Regional Directors
State Directors
Page 2

The Food and Nutrition Service is working to update the guidance, *Accommodating Children with Special Dietary Needs in the School Nutrition Programs, Guidance for School Food Service Staff* (http://www.fns.usda.gov/cnd/guidance/special_dietary_needs.pdf), to reflect the broadened definition of disabilities. Institutions participating in the CACFP and SFSP should also refer to this resource until more specific guidance is made available. State agencies are reminded to distribute this information to Program operators immediately. Program operators should direct any questions regarding this memorandum to the appropriate State agency. State agency contact information is available at http://www.fns.usda.gov/cnd/Contacts/StateDirectory.htm. State agencies should direct questions to the appropriate FNS Regional Office.

Original Signed

Melissa Rothstein
Acting Director
Child Nutrition Division

USDA

United States Department of Agriculture

Food and Nutrition Service

3101 Park Center Drive Alexandria, VA 22302-1500

DATE: April 26, 2013

MEMO CODE: SP 37- 2013

SUBJECT: Enhancing the School Food Safety Program
                Frequently Asked Questions (FAQ)

TO: Regional Directors
                Special Nutrition Programs
                All Regions

                State Directors
                Child Nutrition Programs
                All States

This memorandum and its attachment supersede SP-37-2011, *Child Nutrition 2010: Enhancing the School Food Safety Program.* Attached are Questions and Answers (QAs) regarding the school food safety requirements for schools participating in Food and Nutrition Service (FNS) Child Nutrition Programs. The QAs provide additional clarification regarding the enhancements to the school food safety program.

The Healthy, Hunger-Free Kids Act of 2010 (the Act), Public Law 111-296, strengthens the existing food safety requirements in the National School Lunch Program (NSLP), School Breakfast Program (SBP) and all other Food and Nutrition Service (FNS) programs operated in a school. The purpose of this memorandum is to provide guidance on the implementation of the statutory requirement.

Section 302 of the Act amends section 9(h)(5) of the Richard B. Russell National School Lunch Act (42 U.S.C. 1758(h)(5)) by requiring that the school food safety program based on Hazard Analysis and Critical Control Point (HACCP) principles be applied to any facility or part of a facility in which food is stored, prepared or served for the purposes of the NSLP, SBP or other FNS program. The school food safety program, required since 2004, addresses food safety in all aspects of school meal preparation, ranging from procurement through service. FNS anticipates that only minor modifications to existing food safety programs will be needed in order to meet this requirement.

Food safety programs must be reviewed to ensure that standard operating procedures for safe food handling are updated to include any facility or part of a facility where food is stored, prepared, or served, such as on school buses, in hallways, school courtyards, kiosks, classrooms, or other locations outside the cafeteria. This requirement applies to school breakfast or lunch meals, and Special Milk, the Fresh Fruit and Vegetable Program and afterschool snack or supper programs.

Regional Directors
State Directors
Page 2

Proper implementation of this requirement should not be burdensome because current procedures for food served in the cafeteria can be applied. FNS will continue to review and develop as needed practical food safety guidance to help State and local operators achieve the goals of this legislation.

State agencies are reminded to distribute this memo and attachment to their program operators immediately. School Food Authorities should contact their State agencies for additional information. State agencies may direct any questions concerning this guidance to the appropriate Food and Nutrition Service Regional Office.

Original Signed

Melissa Rothstein
Acting Director
Child Nutrition Division

Attachment

Enhancing the School Food Safety Program

Frequently Asked Questions (FAQ)

In 2005 FNS published, *Guidance for School Food Authorities: Developing a School Food Safety Program Based on the Process Approach to HACCP Principles.* This guidance identifies the minimum elements that must be included in a school food safety program based on HACCP principles and provides sample Standard Operating Procedures (SOPs) and documentation forms. The principles in the guidance still are in effect and apply to the new requirements that extend the school food safety program to the storage, preparation, or service of foods in locations outside of the school cafeteria. You can download the guidance document at: http://www.fns.usda.gov/fns/safety/pdf/HACCPGuidance.pdf

The source of information for the questions below is the 2009 FDA Food Code. Always follow your State and local food safety regulations because they may differ from the 2009 FDA Food Code.

1. **Which FNS Child Nutrition Programs are included in the expanded HHFKA food safety requirement?**

   The following FNS Child Nutrition Programs are included in the expanded HHFKA food safety requirement:
   - National School Lunch Program (including Seamless Summer Option)
   - School Breakfast Program
   - Fresh Fruit and Vegetable Program
   - NSLP Afterschool Snack Program
   - Special Milk Program operated by schools
   - Summer Food Service Program operated by schools
   - Child and Adult Care Food Program operated by schools

   The new requirement does not apply to food sold or served in schools that is not part of an FNS Child Nutrition Program, such as food served at sporting events.

2. **Which locations are affected by the new requirement?**

   The new requirement applies to all locations outside of the cafeteria where program meals or snacks are prepared or served as part of the FNS Child Nutrition programs noted in question #1. These locations may include but are not limited to classrooms, school buses, school courtyards, kiosks, vending machines used to dispense reimbursable meals, or field trip sites.

   Also included in this new requirement are warehouses that store foods for FNS Child Nutrition Programs and are under the control of the SFA. The National Food Service Management Institute (NFSMI) developed sample SOPs that relate to warehouse activities:
   - Receiving Deliveries:
     http://sop.nfsmi.org/HACCPBasedSOPs/ReceivingDeliveries.pdf

1

- Preventing Cross-Contamination during Storage and Preparation: http://sop.nfsmi.org/HACCPBasedSOPs/PreventingCrossContaminationDuringStorageandPrep.pdf
- Transporting Food to Remote Sites: http://sop.nfsmi.org/HACCPBasedSOPs/TransportingFoodtoRemoteSites.pdf
- Holding Hot and Cold Potentially Hazardous Foods: http://sop.nfsmi.org/HACCPBasedSOPs/HoldingHotandColdPHF.pdf
- Cleaning and Sanitizing Food Contact Surfaces: http://sop.nfsmi.org/HACCPBasedSOPs/CleaningandSanitizingFoodContactSurfaces.pdf

3. Does the existing school food safety plan need to be modified?

To determine whether the existing school food safety plan is adequate you should ask whether it addresses the following questions:
- Does it include all of the programs listed above that are operated in your school?
- Does it include the locations where FNS Child Nutrition Program food is stored, prepared, or served outside of the cafeteria?

If you have not included all of the FNS Child Nutrition Programs that your school operates, or the locations where food is stored, prepared, or served as part of those programs, you will need to modify your plan to address food safety concerns in those areas.

4. What food safety practices are recommended when food is served outside of the cafeteria?

If you serve similar food items, both in the cafeteria and at other school locations, you may be able to extend your plan to these additional service sites with minimal modification of your plan. Many of the recommended food safety practices for service in the cafeteria also apply to food served in classrooms or other places. The following food safety practices are recommended:

- Maintain time and temperature control. Remember that potentially hazardous foods must be kept out of the temperature danger zone. Cold foods must be held at an internal temperature of 41°F or below. Hot foods must be held at an internal temperature of 135°F or above.
- Prevent cross contamination. For example, use serving utensils, or single-use disposable gloves when serving students; or portion and wrap items before service.
- Clean and sanitize food contact surfaces, including desks and tables in classrooms. Refer to NFSMI's sample SOPs for more information on cleaning and sanitizing food contact surfaces: http://sop.nfsmi.org/HACCPBasedSOPs/CleaningandSanitizingFoodContactSurfaces.pdf
- Encourage school volunteers, and students to wash their hands before and after service. For recommended hand washing procedures, refer to question 8.

- Monitor food storage conditions, such as temperature, cleanliness, etc., if food is stored in locations outside of the kitchen or cafeteria.
- Avoid potential pest problems by removing all leftover food and food waste from classrooms, or other locations, immediately after service.

5. **How can food safety be managed when food is served by school staff other than foodservice employees, such as teachers, classroom aides, or volunteers?**

The following items are examples of strategies that you can use to manage food safety when food is served by other school staff or volunteers:
- Select single-serve items that have been portioned and wrapped and can be served easily in a classroom, or another location.
- Use equipment that will maintain safe temperatures when transporting potentially hazardous hot or cold foods. For example, use coolers with ice packs to keep cold foods at 41°F or below.
- Check the ambient temperature of holding equipment and the internal temperature of potentially hazardous food before delivery to classrooms, or other locations. For more information, refer to NFSMI's SOP on hot and cold holding of potentially hazardous foods: http://sop.nfsmi.org/HACCPBasedSOPs/HoldingHotandColdPHF.pdf
- Advise school staff and volunteers to wash their hands properly before handling or serving food. For recommended hand washing procedures, refer to question 8.
- Provide serving utensils, or single-use disposable gloves.
- Minimize the amount of time that food is held in classrooms, or other locations. For example, drop food off as close to service time as possible and pick food up immediately after service.
- Provide basic food safety training in-house, or in conjunction with others, such as your local health department, or Cooperative Extension staff.

6. **Can leftover food be saved and served again?**

Determining whether leftovers may be served again involves many factors. Contact your local health department to discuss whether, and how, to handle leftovers.

The following suggestions may help you limit the amount of leftovers:
- Forecast the amount of food that you will need. Accurate planning will help minimize leftovers and manage food waste.
- Consider food quality when determining whether a leftover food item should be saved. Some food items may not be appealing when served again.

7. **What food safety requirements should be followed when donating food from FNS Child Nutrition Programs?**

3

FNS Child Nutrition Programs may donate food to any food banks or charitable organizations that are considered tax-exempt under section 501(c) (3) of the Internal Revenue Code. Refer to the FNS guidance on this topic for more information: www.fns.usda.gov/cnd/governance/Policy-Memos/2012/SP11_CACFP05_SFSP07-2012os.pdf

Always follow State and local food safety regulations related to food donations.

8. **Do students and staff need to wash their hands before serving or eating food in the classroom (or other serving site)?**

The Centers for Disease Control and Prevention (CDC) recommends that everyone wash their hands before preparing or eating food to avoid food borne illness and spreading germs to others. Foodservice staff must follow all State and local food safety regulations when preparing or serving food, including those that address hand washing. When food is handled and served in the classroom, or other serving sites, teachers, students, other school staff, and volunteers also may handle food and should have clean hands.

CDC recommends the following procedures for proper hand washing:
   o Wash hands with soap and water, if available.
   o Wet hands with clean, running water (warm or cold) and apply soap.
   o Rub your hands together to make a lather and scrub them well; be sure to scrub the backs of your hands, between your fingers, and under your nails.
   o Continue rubbing your hands for at least 20 seconds. Need a timer? Hum the "Happy Birthday" song from beginning to end, twice.
   o Rinse your hands well under running water.
   o Dry your hands using a clean towel, or air-dry them.

According to CDC, an alcohol-based hand sanitizer that contains at least 60% alcohol is the best alternative when soap and water are not available. Alcohol-based sanitizer can reduce the number of germs on hands, but it does not eliminate all types of germs.

Source: www.cdc.gov/handwashing

9. **Are resources available to support the implementation of this requirement?**

Many of the standard operating procedures (SOPs) posted on the National Food Service Management Institute's website (http://sop.nfsmi.org/) will help you meet the requirement, and already may be in place in your operation. Related SOPs include:

1. Cleaning and Sanitizing Food Contact Surfaces
2. Holding Hot and Cold Potentially Hazardous Foods
3. Personal Hygiene
4. Preventing Contamination at Self-Service Bars
5. Serving Food

4

6. Transporting Food to Remote Sites (Satellite Kitchens)
7. Using and Calibrating Thermometers
8. Handling Ready-to-Eat Foods
9. Washing Fruits and Vegetables
10. Washing Hands

In addition, FNS has a resource for classroom teachers and aides who handle fresh produce in classrooms. It is available at:
http://nfsmi.org/documentlibraryfiles/PDF/20110822025614.pdf

USDA

United States Department of Agriculture	DATE: October 22, 2015
	MEMO CODE: SP 01-2016, CACFP 01-2016, SFSP 01-2016
Food and Nutrition Service	SUBJECT: Procuring Local Meat, Poultry, Game, and Eggs for Child Nutrition Programs
3101 Park Center Drive Alexandria, VA 22302-1500	TO: Regional Directors Special Nutrition Programs All Regions

Recently, FNS has received a number of questions related to buying local meat, poultry, game, and eggs; this memorandum seeks to clarify the regulatory requirements related to food safety and answer specific questions related to these products with a series of questions and answers included as an attachment.

Three agencies within the Federal Government are responsible for establishing the rules and regulations that govern the sale and use of meat, poultry, game, and eggs in the Child Nutrition Programs (CNPs): the U.S. Department of Agriculture (USDA) Food Safety and Inspection Service (FSIS), the Department of Health and Human Services (DHHS) Food and Drug Administration (FDA), and the USDA Food and Nutrition Service (FNS). Together these agencies establish rules and regulations to ensure that all products, served in CNP meals and otherwise, are safe, wholesome, and correctly labeled and packaged.

In turn, State and local governments adopt Federal regulations and guidelines and often tailor the rules to address specific issues. As such, the FDA Food Code and Federal food safety regulations are a baseline from which State, local, and Tribal authorities build their food safety regulatory programs. CNP operators must meet the conditions of the permit which has given them authority to operate as a food service establishment. State, local and Tribal governments issue these permits. It is critical that program operators, ranchers, farmers, and community stakeholders understand the relationship between Federal, State, local, and Tribal regulations.

<u>FEDERAL GOVERNMENT</u>

An overview of the Federal food safety regulations related to products served in CNPs is provided below.

TO: State Directors
Child Nutrition Programs
All States

USDA Food and Nutrition Service

FNS administers several programs that provide healthy food to children under the authority of the Richard B. Russell National School Lunch Act (42 U.S.C. 1751 et. seq.) and the Child Nutrition Act of 1966 (42 U.S.C. 1771 et. seq.). These programs include the National School Lunch Program, the School Breakfast Program, the Child and Adult Care Food Program, the Summer Food Service Program, the Fresh Fruit and Vegetable Program, and the Special Milk Program, which are collectively known as the Child Nutrition Programs (CNP). As it relates to meat, poultry, game, and eggs, FNS aligns its guidance with the Federal food safety agencies identified below.

USDA Food Safety and Inspection Service (FSIS)

The USDA's FSIS is the public health regulatory agency responsible for ensuring that the United States' commercial supply of meat, poultry, and egg products (liquid, frozen and dried) is safe, wholesome, and correctly labeled and packaged. FSIS draws its authority from the Federal Meat Inspection Act of 1906 (FMIA), the Poultry Products Inspection Act of 1957 (PPIA), and the Egg Products Inspection Act of 1970 (EPIA). If a food item falls outside of those statutes FSIS is not authorized to regulate its sale or use. FSIS is authorized to provide voluntary inspection of species not covered in FMIA or PPIA under the USDA Agricultural Marketing Act of 1946 (AMA).

DHHS Food and Drug Administration (FDA)

The FDA, part of the Department of Health and Human Services (DHHS), regulates products from animals *not* covered by FMIA, EPIA, and PPIA, such as game animals, shell eggs, and seafood. This authority is conferred by the Federal Food Drug and Cosmetic Act (FFDCA). If meat is offered for sale as human food, it is subject to the provisions of the FFDCA, which requires that food must be prepared from sound, wholesome, raw materials, and must be prepared, packed, and held at all times under sanitary conditions.

As mentioned above, the FDA publishes the Food Code, a *model*, which assists food control jurisdictions at all levels of government by providing a scientifically sound technical and legal basis for regulating the retail and food service segment of the industry (restaurants, grocery stores, and institutions, such as schools, hospitals, and nursing homes). State, local, and Tribal regulators use the FDA Food Code as a model to develop or update their own food safety statutes and regulations for retail and foodservice operations and to maintain consistency with national food regulatory policy. States are under no obligation to adopt all provisions in FDA's model code.

STATE GOVERNMENTS

States follow Federal rules and regulations and, in some cases, tailor programs to meet their needs. Two State-run programs, described below, are operated through agreements with FSIS that allow for State-level inspection of meat, poultry, and game.

State Meat and Poultry Inspection (MPI) Programs

State Meat and Poultry Inspection (MPI) programs are an integral part of the nation's food safety system. States hold cooperative agreements with FSIS in order to operate MPI programs, which must enforce requirements "at least equal to" those imposed under the FMIA and the PPIA. Products produced under State inspection are generally limited to intrastate commerce. MPI products may be shipped between States if a State opts into the Cooperative Interstate Shipment (CIS) program described below.

More than half of the States in the U.S. operate MPI programs. In States without MPI programs, the only option for meat and poultry inspection is USDA inspection. For more information on which States have State Meat and Poultry Inspection (MPI) programs, visit the Food Safety and Inspection Service's Web site.

The Cooperative Interstate Shipment (CIS) Program

The Cooperative Interstate Shipment (CIS) program promotes the expansion of business opportunities for State Meat and Poultry Inspection (MPI) facilities. The CIS program allows facilities already participating in a State MPI program to operate as Federally-inspected facilities and ship products in interstate commerce. Products sold from a CIS program bear the Federal mark of inspection. For more information on which States participate in the CIS program, visit the Food Safety and Inspection Service's Web site.

LOCAL GOVERNMENTS

Local governments must abide by State and Federal regulations. However, some local health jurisdictions (county health departments, etc.) use State rules and regulations as a guide to develop specific local program rules. This means that food codes and other applicable regulations may vary from locality to locality.

TRIBAL NATIONS

We have received several questions specifically about products served in CNPs located in Tribal communities and have summarized the work of the Indian Health Service (IHS) and FNS as it relates to Tribal issues.

DHHS Indian Health Service (IHS)

The IHS is part of the Division of Environmental Health Services (DEHS), within DHHS, which provides direct environmental health services and consultation to American Indian and Alaska Native Tribal governments, including the establishment and management of local Tribal Food Codes. DEHS uses the most recent edition of the FDA Food Code for non-regulatory consultation and evaluation of Tribal programs. DEHS also works with Tribal councils to pass local food code rules and encourages partnership with State and local entities to provide a comprehensive food safety program. Tribal Nations may implement their own food codes to support or supplant State and local food codes. However, Tribal Nations are encouraged to collaborate with State and local regulators.

Food and Nutrition Service and Traditional Foods

The USDA understands the importance of serving traditional foods and encourages Tribal Nations, along with all operators of CNPs, to source locally grown and raised foods. To support these efforts, two recently published documents outline how donated traditional foods can be used in CNPs and clarify how traditional foods can credit towards a reimbursable meal.

As described in the *Service of Traditional Foods in Public Facilities* memorandum (SP 42-2015, CACFP 19-2015, SFSP 21-2015), Section 4033 of the Agricultural Act of 2014 (Farm Bill) allows for the use of donated traditional foods, including wild game, at public and nonprofit facilities that primarily serve Indians. As allowed by this provision, wild game may be donated and served in CNPs. Additionally, the *Child Nutrition Programs and Traditional Foods* memorandum (TA 01-2015), clarifies that traditional foods may be served in CNPs and includes examples of how several traditional foods may contribute towards a reimbursable meal.

The attached questions and answers seek to help CNP operators better understand applicable food safety requirements and aid them in purchasing from local ranchers and producers as much as possible.

State agencies are reminded to distribute this memorandum to Program operators immediately. Local educational agencies, school food authorities, and other Program operators should direct any questions concerning this guidance to their State agency. State agencies with questions should contact the appropriate Food and Nutrition Service Regional Office.

Original Signed   Original Signed

Angela Kline   Deborah J. Kane
Director   Director
Policy and Program Development Division   Office of Community Food Systems
Child Nutrition Programs   Child Nutrition Programs

Attachment

Food Safety Clarifications for Child Nutrition Programs
Questions and Answers

Part I – Meat and Livestock

1. **How is livestock defined?**

    According to 9 CFR 301.2, livestock include cattle, sheep, swine, or goat and these animals are subject to the regulations within the Federal Meat Inspection Act of 1906 (FMIA).

2. **Do livestock need to be *slaughtered* under the U.S. Department of Agriculture (USDA) or State-inspection in order to be served in the Child Nutrition Programs (CNPs)?**

    Yes, all livestock sold for commercial consumption, including for service in CNPs, must be slaughtered under USDA or State inspection in either traditional brick and mortar facilities or mobile slaughter units. There are no exemptions from inspection for the slaughter of livestock to be sold as articles of commerce.

3. **Do meat and meat food products such as spaghetti sauce with cooked meat need to be *processed* in USDA or State-inspected facilities in order to be served in the CNPs?**

    Not always. The further preparation of the Federal or State-inspected livestock into meat and meat food products must be done under inspection, unless exempted from inspection. The exemptions from inspection of Federal or State-inspected meat and meat food products are found in 9 CFR 303.1.

4. **Can livestock slaughtered, and meat or meat food products processed in a Cooperative Interstate Shipment (CIS) facility or State Meat and Poultry Inspection (MPI) facility be served in the CNPs?**

    Yes, livestock slaughtered in and meat or meat food products processed under inspection in a USDA, MPI or CIS facility may be served in CNPs. These facilities may be traditional brick and mortar facilities or mobile slaughter units. Livestock and meat food products from amenable animals (meaning, species subject to the regulations found in the FMIA or the PPIA) inspected at State MPI facilities are only eligible for intrastate distribution. Animals slaughtered in and meat food products processed in CIS facilities, regardless of where the animal was raised, can be sold in interstate commerce.

5. **Do livestock and meat food products donated to CNPs need to follow all inspection and processing requirements?**

    Yes, Food Safety and Inspection Service (FSIS) inspection and processing requirements must be followed for donated livestock and livestock products. The producer must have the livestock animal slaughtered, under Federal or State inspection. The processing must be done under inspection, unless exempted from FSIS inspection requirements. Exemptions for meat food products are found in 9 CFR 303.1(d).

PART II- Poultry

1. **How is poultry defined?**

   According to [9 CFR 381.1](#) domesticated poultry are chickens, turkeys, ducks, geese, guineas, ratites, or squabs and these animals are subject to the regulations of the [Poultry Products Inspection Act of 1957](#) (PPIA).

2. **What are the inspection requirements for poultry?**

   Poultry sold for commercial consumption must be inspected at a USDA facility, a MPI program facility, or a CIS program facility in either a traditional brick and mortar plant or a mobile slaughter unit, unless exempted from inspection requirements. Unlike livestock, poultry exemptions do allow poultry slaughter and processing to occur without benefit of Federal or State inspection, within the limitations described in [9 CFR 381.1](#). Poultry produced under a poultry exemption are restricted to intrastate commerce only, meaning CNP operators cannot serve poultry products from neighboring States that are exempt from inspection.

3. **Can CNP operators purchase poultry from a producer that operates under a poultry exemption?**

   While it is recommended that poultry come from USDA inspected facilities, State MPI, or CIS facilities, CNP operators may purchase poultry from producers that are exempt from inspection, unless restricted by State or local requirements. For example, the Illinois State Department of Agriculture does not allow uninspected poultry slaughtered or processed under a poultry exemption to be served in Illinois schools.

4. **Can animals raised by Future Farmers of America, 4H Clubs, student clubs and/or culinary programs on school campuses be used in CNPs?**

   Yes, as long as the applicable inspection requirements are met. Additional requirements from State or local authorities may apply.

PART III - GAME ANIMALS

1. **How are game animals and game birds defined and/or classified?**

   There are two types of game animals and game birds; wild and domesticated. Game animals are non-amenable, meaning they are not subject to the regulations found in the FMIA or the PPIA.

2. **What are wild game animals and game birds?**

   Wild game animals and wild game birds are animals and birds that are live-caught or hunter-harvested. Wild game animals may include free ranging animals such as bison, antelope, caribou, deer, elk, moose, reindeer, snake, alligator, rabbit, squirrel and beaver. As noted in [9](#)

CFR 362, wild birds include any migratory water fowl or non-domesticated game bird such as pheasant, grouse, quail, turkey, geese and ducks.

FSIS views "wild boar" as feral swine and amenable to the FMIA. To receive inspection, feral swine typically are captured, fed for a short time, receive ante mortem inspection, and are then slaughtered as any domestic swine.

3. **What are domesticated game animals?**

Domesticated game animals are raised (typically on a farm or reservation), slaughtered, and commercially sold. Examples of common domesticated game animals are bison and deer. Note that domesticated birds such as turkeys, ducks and geese fall under the jurisdiction of the PPIA and are not considered game animals.

Note: The term animal(s) will be used from this point forward to describe wild or domesticated game birds and/or wild or domesticated game animals collectively.

4. **What is voluntary inspection?**

Voluntary inspection is when an animal, not covered by FMIA and PPIA (non-amenable animals), is voluntarily slaughtered under inspection and processed under the supervision of inspectors at a USDA or State inspected facility. Since wild and domesticated game animals are not amenable to Federal inspection laws, the ranchers bringing such animals for inspection must pay for voluntary inspection. Voluntary inspection includes an inspection for wholesomeness of each animal and verification by FSIS inspectors that products are produced in a sanitary manner. Voluntary inspection is a value-added service provided by FSIS to facilitate the movement of safe wholesome food not subject to the FMIA or the PPIA in commerce.

States can expand the definition of amenable species. For example, South Dakota considers bison to be amenable; therefore, all bison slaughtered within the State are subject to mandatory State inspection.

Regardless of its origin, an animal killed outside of a State or Federal facility cannot be presented for voluntary or mandatory Federal or State inspection; voluntary inspection requires ante and post mortem inspection of animal carcasses by trained veterinarians. For example, hunter-harvested wild turkeys, ducks and geese that are not live caught and slaughtered at an inspection facility cannot be inspected.

5. **What options are available to voluntarily inspect wild and domesticated game animals?**

The two options available to have game animals voluntarily inspected are described below:

Option 1: Voluntary inspection at USDA facilities

FSIS provides voluntary inspection of domesticated and wild game animals on a fee-for-service basis at USDA facilities, upon request. Businesses, ranchers or hunters must request voluntary inspection from the appropriate USDA FSIS Office of Field Operations District Office and pay an hourly fee for the inspection service. The mark of inspection received from USDA voluntary inspection is different than the circular USDA Federal mark of inspection.

Option 2: Voluntary inspection at State Meat and Poultry Inspection (MPI) facilities

MPI facilities may also offer voluntary inspection for domesticated and wild game animals. Some State MPI programs have expanded their definition of amenable animals to include bison and deer. Therefore, the inspection of such animals is mandatory in those States and the business or rancher does not have to pay for inspection services. Voluntary inspection of game animals can occur at a mobile slaughter facility operating a MPI program.

6. **Must domesticated and wild game animals be voluntarily inspected in State MPI or USDA facilities to be served in CNPs?**

    Yes, domesticated and wild game animals must be inspected at State or USDA facilities in order to be purchased for and served in CNPs. Note that State or local restrictions may apply and an exemption was added by section 4033 of the Farm Bill.[1]

7. **The Food Buying Guide (FBG) States that "game meat must be from [a] USDA inspected establishment;" will this language change?**

    The FBG footnote will be amended to reflect that purchased wild and domesticated game animals that are USDA *or* State inspected can be served in CNPs. The FBG will also clarify that donated, uninspected wild game served by certain program operators which primarily serve Indians is creditable in CNPs as allowed by section 4033 of the Farm Bill.

8. **Can CNP operators use Federal funds to purchase and serve wild and/or domesticated game meat?**

    Yes, CNP operators can buy wild and domesticated game meat with Federal funds as long as the animals are slaughtered and inspected in a Federal inspected facility or State inspected program. Please note that State and local authorities may have stricter regulations, preventing the service of domesticated and wild game animals.

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[1] As described in the *Service of Traditional Foods in Public Facilities memo (SP 41-2015, CACFP 19-2015, SFSP 21-2015)*, Section 4033 of the Farm Bill allows for the use of donated traditional foods, including wild game, at public and nonprofit facilities that primarily serve Indians.

9. **Can game meat inspected at either a State or Federal facility cross State lines and be served in CNPs in neighboring States?**

Yes. Domesticated and wild game animals processed in State MPI facilities and Federal facilities via voluntary inspection can enter interstate commerce. Unlike other amenable livestock (cattle, swine, sheep, and goat) processed in MPI facilities eligible only for intrastate distribution, non-amenable animals (as defined Federally, regardless of State definition) are not subject to the FMIA or PPIA.

PART IV- Eggs

1. **What is the definition of an egg?**

As defined by the Food and Drug Administration (FDA) Food Code, "Egg" means the shell egg of avian species such as chicken, duck, goose, guinea, quail, ratites or turkey. "Egg Product" means all, or a portion of, the contents found inside eggs separated from the shell and pasteurized in a food processing plant, with or without added ingredients, intended for human consumption, such as dried, frozen or liquid eggs." Shell eggs come under the jurisdiction of the FDA and have to meet FDA guidelines. Liquid, frozen and dried egg products are regulated by FSIS. Only whole eggs (shell, liquid, frozen or dried) can be credited in CNPs

2. **What egg products need to be inspected in order to be served in the CNPs?**

Liquid, frozen and dried egg products used in CNPs are required to be USDA inspected. Before entering commerce, liquid, frozen and dried egg products must meet the regulatory requirements found in 9 CFR 590, which include the requirement to be pasteurized and be found negative for salmonella, before entering commerce.

3. **Do shell eggs need to be pasteurized in order to be served in CNPs?**

No, shell eggs are not required to be pasteurized to be used in CNPs. As outlined by the FDA Food Code, it is recommended that shell eggs meet at least grade B standards. Information regarding the grade B standards can be found in the U.S. Standards, Grades, and Weight Class for Shell Eggs.

Before using unpasteurized shell eggs in CNPs, program operators are advised to check with their State agency and/or local health department and to review local health codes as there may be stricter State, local and/or school district restrictions regarding unpasteurized shell eggs. For example, some State agencies require shell eggs come from "approved sources," some have shell egg handling rules, and some do not allow unpasteurized shell eggs to be served to highly susceptible populations such as very young children.

United States Department of Agriculture

Food and
Nutrition
Service

Park Office
Center

3101 Park
Center Drive
Alexandria
VA 22302

DATE: June 22, 2016

MEMO CODE: SP 41-2016, CACFP 13-2016, SFSP 15-2016

SUBJECT: The Use of Share Tables in Child Nutrition Programs

TO: Regional Directors
                  Special Nutrition Programs
                  All Regions

                  State Directors
                  Child Nutrition Programs
                  All States

Using "share tables" is an innovative strategy to encourage the consumption of nutritious foods and reduce food waste in the National School Lunch Program (NSLP), School Breakfast Program (SBP), Child and Adult Care Food Program (CACFP), and Summer Food Service Program (SFSP). This memorandum provides a reminder of the opportunities presented by share tables, extends the use of share tables to the at-risk afterschool component of the CACFP, and gives an overview of the food safety requirements Child Nutrition Program (CNP) operators must follow when choosing to include share tables in their meal service. CNP operators include school food authorities, local educational agencies (LEAs), CACFP institutions, and SFSP sponsors.

The Food and Nutrition Service (FNS) encourages State agencies to support CNP operators in their efforts to increase consumption of nutritious foods and minimize food waste in their programs. As a reminder, all CNP operators must plan, prepare, and order food with the goal of providing one meal per child at each meal service. If a school, CACFP institution, or SFSP sponsor has leftover or unusable foods on a frequent basis, menu planning and production practices should be adjusted to reduce leftovers or unusable foods.

Share Table Overview

FNS regulations require participating schools, CACFP institutions, and SFSP sponsors to provide reimbursable meals that meet specific meal pattern requirements outlined in 7 CFR 210.10, 220.8, 226.20, and 225.16, respectively. However, FNS recognizes that, for various reasons, children may not always want to consume certain food or beverage items included in their meal. "Share tables" are tables or stations where children may return whole food or beverage items they choose not to eat, if it is in compliance with local and State health and food safety codes. These food and beverage items are then available to other children who may want additional servings.

Regional Directors
State Directors
Page 2

Share tables allow food or beverage items to be reused in a number of ways, depending on the Program's preference:

- Children may take an additional helping of a food or beverage item from the share table at no cost;
- Food or beverage items left on the share table may be served and claimed for reimbursement during another meal service (i.e., during an afterschool program when leftover from a school lunch); and/or
- Food or beverage items may be donated to a non-profit organization, such as a community food bank, homeless shelter or other non-profit charitable organization (see SP 11-2012, CACFP 05-2012, SFSP 07-2012, *Guidance on the Food Donation Program in Child Nutrition Programs,* http://www.fns.usda.gov/sites/default/files/SP11_CACFP05_SFSP07-2012os.pdf).

FNS Instruction 786-6 provides FNS the authority to allow the use of share tables and the recycling of food and beverage items in CNPs. The Instruction allows milk (when the milk carton is unopened and the proper temperature is maintained) and other meal components that are served to be retrieved for re-service if such a practice is permitted under local and State health and food safety codes. The Instruction also states that food or beverage items should only be reused in situations where it is necessary to prevent food waste. It is important to note that when using a share table, CNP operators are able to claim the reimbursable meal at the point of service even if a child then puts one or more of the meal components on the share table. When food items are left on the share table at the end of the meal service, that food can be used in later meals that are claimed for reimbursement.

As always, CNP operators should take steps to encourage consumption of the meal, including preparing appealing meals and serving them in a convenient manner. For example, CNP operators are encouraged to promote meal consumption by including an option of cut up whole fruit to make it easier to eat, and engaging children through taste tests, student advisory committees, and nutrition education. These practices help ensure children get the most out of the food assistance programs.

Food Safety Requirements for Share Tables

As with all foods and beverages prepared for the NSLP, SBP, CACFP, and SFSP, CNP operators choosing to use share tables must follow the food safety requirements outlined in 7 CFR 210.13, 220.7, 226.20(l), and 225.16(a), respectively. In addition, CNP operators must be aware of all applicable local and State health and food safety codes to ensure their use of share tables does not violate any of those codes. It is important to keep in mind that local and State health and food safety codes may be more restrictive than the FNS requirements, or may place specific limitations on which food or beverage items may be reused. To ensure compliance with food safety requirements, CNP operators should discuss plans for a share table with their local health department and State agency prior to implementation. Further, schools must ensure that their policies for saving and sharing food or beverage items are consistent with the LEA's Hazard Analysis and Critical Control Point (HACCP) plan.

Regional Directors
State Directors
Page 3

Please see section 3-306.14 of the 2013 the Food and Drug Administration (FDA) Food Code for more information about food safety considerations when re-serving food (available at: http://www.fda.gov/Food/GuidanceRegulation/RetailFoodProtection/FoodCode/). In addition, see the attachment for a list of food safety requirements and other best practices to consider when establishing a share table.

Other Strategies to Reduce Food Waste

FNS has additional resources available to Program operators interested in reducing food waste in the CNPs:
- Creative Solutions to Ending School Food Waste: http://www.fns.usda.gov/school-meals/creative-solutions-ending-school-food-waste
- Join the Food Waste Challenge: http://www.usda.gov/oce/foodwaste/join.htm
- The Smarter Lunchroom Movement: http://smarterlunchrooms.org/
- SP 41-2014, *Clarification of the Policy on Food Consumption Outside of Foodservice Area,* http://www.fns.usda.gov/sites/default/files/SP41-2014os.pdf

State agencies are reminded to distribute this information to Program operators immediately. Program operators should direct any questions regarding this memorandum to the appropriate State agency. State agency contact information is available at http://www.fns.usda.gov/cnd/Contacts/StateDirectory.htm. State agencies should direct questions to the appropriate FNS Regional Office.

Original Signed

Angela Kline
Director, Policy and Program Development Division
Child Nutrition Programs

Attachment

Attachment: Share Tables Food Safety Requirements and Other Best Practices

This resource provides a list of food safety requirements and other best practices to consider when establishing a share table.

Step 1 (REQUIRED): Follow Federal, State, and local health and food safety requirements:
• Comply with FNS food safety requirements outlined in 7 CFR 210.13, 226.20(l), and 225.16(a).   • Comply with all local and State health and food safety codes, including storage of reused items.   • Schools only: Ensure policies for saving and sharing food or beverage items are consistent with the local educational agency's Hazard Analysis and Critical Control Point (HACCP) plan.
Step 2: Establish clear guidelines for food components that may and may not be shared or reused as part of a later reimbursable meal:

• *Food components FNS recommends sharing:*
     o Unopened pre-packaged items, such as a bag of baby carrots or sliced apples stored in a cooling bin.
     o Whole pieces of fruit, such as apples or bananas.
     o Unopened milk, if immediately stored in a cooling bin maintained at 41°F or below.
	• *Food components FNS does not recommend sharing:*
	     o Unpackaged items, such as a salad bowl without a lid.
	     o Packaged items that can be opened and resealed.
	     o Open items, such as an opened bag of baby carrots or sliced apples.
	     o Perishable foods, when a temperature control mechanism is not in place.

Step 3: If sharing items that require cooling is permissible under local and State laws, establish strict food safety guidelines to prevent the risk of foodborne illness:
• Maintain proper temperature (and temperature logs) *(41 degrees Fahrenheit or colder)* by storing food components in a temperature controlled storage bin, such as an ice tub or cooler.   • Make note of expiration dates on packaged foods, and do not intermix reused items with items that have not yet been prepared and served yet.   • Decide how many times a food item can be re-used (recommended just once).
Step 4: Supervise the share table at all times to ensure compliance with food safety requirements:
• Ask supervisors to make sure packaging of items placed on the share table is not open, punctured, or otherwise compromised.   • If cooling bins are used, have supervisors monitor the bin to ensure that time and temperature control requirements are met.   • Invite children to participate as "share table helpers," or assistant monitors, teaching them about the importance of food safety and recycling.
Step 5: Promote the share table to children and families:
• Provide children and families with information about share table guidelines.   • Ask for input from parents and guardians, and make sure families are comfortable with their children participating in the share table option.   • Explain the share table concept to children, taking care to emphasize the importance of healthy eating and trying new foods whenever possible.   • Display signage outlining share table "rules" and encouraging recycling.

USDA

United States Department of Agriculture

Food and Nutrition Service	DATE:	September 27, 2016
Park Office Center	SUBJECT:	Policy Memorandum on Modifications to Accommodate Disabilities in the School Meal Programs
3101 Park Center Drive Alexandria VA 22302	TO:	Regional Directors Special Nutrition Programs All Regions
		State Directors Child Nutrition Programs All States

The attached policy memorandum, "*Modifications to Accommodate Disabilities in the School Meal Programs,*" includes important updates to requirements related to accommodating children with disabilities participating in the School Meal Programs. Previous Food and Nutrition Service (FNS) guidance on this issue was included in FNS Instruction 783-2, Rev. 2, *Meal Substitutions for Medical or other Special Dietary Reasons*. The attached memorandum supersedes that Instruction as it relates to the National School Lunch Program, School Breakfast Program, Special Milk Program for Children, and the Fresh Fruit and Vegetable Program. Instruction 783-2, Rev. 2 remains in effect for the Child and Adult Care Food Program and the Summer Food Service Program until further guidance is issued, at which time Instruction 783-2 will be rescinded.

The Americans with Disabilities Act (ADA) Amendments Act of 2008 made important changes to the meaning and interpretation of the term "disability." The changes demonstrated Congress's intent to restore the broad scope of the ADA by making it easier for an individual to establish that he or she has a disability. After the passage of the ADA Amendments Act, most physical and mental impairments constitute a disability. Therefore, rather than focusing on whether or not a student has a disability, schools should focus on working collaboratively with parents to ensure an equal opportunity to participate in the School Meal Programs and receive program benefits. The attached memorandum clarifies changes made by the ADA Amendments Act and reflects the position FNS will take in compliance reviews and enforcement actions.

Of note, the memorandum retains previous requirements regarding submission of a note from a State licensed healthcare professional documenting the disability. However, the policy memorandum clarifies that any person who is authorized to write medical prescriptions under State law qualifies as a State licensed healthcare professional. For example, in many States, this will include licensed nurse practitioners as well as licensed physicians.

The memorandum also explains procedural safeguards required to ensure parents and children have notice of the procedure for requesting meal modifications and the process for resolving disputes. Use of approved existing procedures designed to address requests to accommodate students with disabilities in the classroom will meet these requirements. The memorandum also notes that school food service staff must be made aware of the procedures for handling requests for meal modifications.

State agencies are reminded to distribute this memorandum to Program operators immediately. Local educational agencies, school food authorities, and other Program operators should direct any questions concerning this guidance to their State agency. State agencies with questions should contact the appropriate FNS Regional Office.

Original Signed   *Original Signed*

Angela Kline   Roberto Contreras
Director   Director
Policy and Program Development Division   Civil Rights Division
Child Nutrition Programs

Attachment

USDA
United States Department of Agriculture

Food and Nutrition Service	DATE:	September 27, 2016
	MEMO CODE:	SP 59-2016
Park Office Center	SUBJECT:	Modifications to Accommodate Disabilities in the School Meal Programs
3101 Park Center Drive Alexandria VA 22302	TO:	Regional Directors Special Nutrition Programs All Regions
		State Directors Child Nutrition Programs All States

This memorandum outlines the requirements for school food authorities (SFAs) and local educational agencies (LEAs) participating in the National School Lunch Program, School Breakfast Program, Special Milk Program for Children, or the Fresh Fruit and Vegetable Program (School Meal Programs) to provide reasonable modifications to Program meals or the meal service to accommodate children with disabilities. This memorandum supersedes FNS Instruction 783-2, Rev. 2, *Meal Substitutions for Medical or other Special Dietary Reasons* for the School Meal Programs. Instruction 783-2, Rev. 2 remains in effect for the Child and Adult Care Food Program and the Summer Food Service Program until further guidance is issued, at which time Instruction 783-2 will be rescinded.

This guidance only addresses modifications required to accommodate disabilities. However, SFAs have the option to accommodate special dietary needs that do not constitute a disability, including those related to religious or moral convictions or personal preference. Additional guidance on accommodating special dietary needs and preferences that are not related to a disability will be provided separately.

Program regulations require SFAs to ensure that breakfast, lunch, snack, or milk (meals) offered through the School Meal Programs meet the respective meal pattern requirements established in the Program regulations. Federal law and USDA regulations further require SFAs to make reasonable modifications to accommodate children with disabilities. This includes providing special meals, at no extra charge, to children with a disability when the disability restricts the child's diet.

SFAs are required to make substitutions to meals for children with a disability that restricts the child's diet on a case-by-case basis and only when supported by a written statement from a State licensed healthcare professional, such as a physician, who is authorized to write medical prescriptions under State law (State licensed

healthcare professional). The American with Disabilities Act Amendments Act of 2008, P.L. 110-235 (ADA Amendments Act) clarified that Congress intends the term disability to be broad and inclusive.

GOVERNING STATUTES

Section 504 of the Rehabilitation Act of 1973, as amended (Section 504) prohibits discrimination on the basis of disability in programs and activities that receive Federal financial assistance, such as the Child Nutrition Programs. Title II of the Americans with Disabilities Act of 1990, as amended (ADA) prohibits discrimination based on disability in the provision of State and local government services, such as public schools. Title III of the ADA prohibits discrimination based on disability by private entities that provide public accommodations, including private schools. The ADA applies regardless of whether or not a school receives Federal financial assistance. Section 504, Title II, and Title III require recipients of Federal financial assistance, such as SFAs and LEAs, to make reasonable modifications to accommodate children with disabilities, including reasonable modifications to meals and the meal service.

SFAs and LEAs should also be aware that the Individuals with Disabilities Education Act of 1990, as amended (IDEA) imposes requirements on States which may affect them, including the service of meals, even when such service is not required by the School Meal Programs. For example, the individualized education program (IEP) developed for a child under the IDEA may require a breakfast to be served in a school that does not participate in the School Breakfast Program. While these meals may not be claimed for Federal reimbursement because the school does not participate in the program, funds from the non-profit school food service account may be used to cover the cost associated with providing a meal required by the IDEA.

Additionally, the SFA may use the same food service facilities or food service management company to provide the meals required under an IEP as it uses to provide Program meals. Inquiries regarding the IDEA's requirements should be directed to the U.S. Department of Education, which is the agency responsible for the IDEA's administration and enforcement.

PROGRAM REGULATIONS

USDA regulations at 7 CFR 15b, "Nondiscrimination on the Basis of Handicap in Programs and Activities receiving Federal Financial Assistance" implements Section 504's nondiscrimination requirements. 7 CFR 15b.26(d) requires recipients of Federal financial assistance, such as SFAs, to serve special meals at no extra charge to children with disabilities. In addition, Program regulations at 7 CFR 210.10(m) and 220.8(m) require SFAs to make substitutions to meals to accommodate children with disabilities that restrict their diet.

Regional Directors
State Directors
Page 5

I. Children with Disabilities

The question of whether a child has a disability for purposes of this memorandum has been simplified by the ADA Amendments Act, and should no longer require extensive analysis. SFAs and LEAs should not be engaged in weighing medical evidence against the legal standard to determine whether a particular physical or mental impairment is severe enough to qualify as a disability. After the passage of the ADA Amendments Act, most physical and mental impairments will constitute a disability. The central concern for SFAs should be ensuring equal opportunity to participate in or benefit from the program

Section 504, the ADA, and Departmental Regulations at 7 CFR part 15b define a person with disability as any person who has a physical or mental impairment which substantially limits one or more "major life activities," has a record of such impairment, or is regarded as having such impairment." (*See* 29 USC § 705(9)(b); 42 USC § 12101; and 7 CFR 15b.3.) "Major life activities" are broadly defined and include, but are not limited to, caring for oneself, performing manual tasks, seeing, hearing, eating, sleeping, walking, standing, lifting, bending, speaking, breathing, learning, reading, concentrating, thinking, communicating, and working. "Major life activities" also include the operation of a major bodily function, including but not limited to, functions of the immune system, normal cell growth, digestive, bowel, bladder, neurological, brain, respiratory, circulatory, endocrine, and reproductive functions. (*See* 29 USC § 705(9)(b) and 42 USC § 12101.)

A physical or mental impairment need not be life threatening to constitute a disability. It is enough that it limit a major life activity. For example, digestion is an example of a bodily function that is a major life activity. A child whose digestion is impaired by lactose intolerance may be a person with a disability regardless of whether or not consuming milk causes the child severe distress. Further, an impairment may be covered as a disability, even if medication, or another mitigating measure may reduce the impact on the impairment. For example, the fact that a child may be able to control an allergic reaction by taking medication should not be considered in determining whether the allergy is a disability. General health concerns, such as a preference that a child eat a gluten-free diet because a parent believes it is better for the child, are not disabilities and do not require accommodation.

Whether a physical or mental impairment constitutes a disability must be determined on a case-by-case basis. The determination must be made without regard for whether mitigating measures may reduce the impact of the impairment.

II. Substitutions and other Reasonable Modifications

SFAs must make reasonable modifications to the meal, including providing special meals at no extra charge, to accommodate disabilities which restrict a child's diet.

Some disabilities may require modifications to the service provided at meal time. For example, a child with diabetes may require help tracking what he or she eats at each meal. SFAs may consider taking steps to design a meal plan within the Program meal pattern to accommodate common disabilities. In many cases, disabilities can be managed within the Program meal pattern requirements when a well-planned variety of nutritious foods is available to children. In other cases, however, the needs of a Program participant with a disability may involve requests for accommodations that result in the service of meals that do not meet the Program meal pattern.

A. Requiring a Medical Statement

Program regulations require SFAs to provide modifications for children with disabilities on a case-by-case basis only when requests are supported by a written statement from a State licensed healthcare professional, such as a physician or nurse practitioner (medical statement). *See* 7 CFR 210.10(m), and 220.8(m). In addition, meals that do not meet the Program meal pattern are not eligible for reimbursement unless supported by a medical statement. However, SFAs may choose to accommodate requests related to a disability that are not supported by a medical statement if the requested modifications can be accomplished within the Program meal pattern.

The medical statement should include a description of the child's physical or mental impairment that is sufficient to allow the SFA to understand how it restricts the child's diet. It should also include an explanation of what must be done to accommodate the disability. In the case of food allergies, this means identifying the food or foods to be omitted and recommending alternatives. In other cases, more information may be required. For example, if the child would require caloric modifications or the substitution of a liquid nutritive formula to accommodate a disability, this information must be included in the statement.

When SFAs believe the medical statement is unclear, or lacks sufficient detail, they must obtain appropriate clarification so that a proper and safe meal can be provided. SFAs may consider using the services of a Registered Dietitian, when available, to assist in implementing meal modifications, as appropriate. SFAs may also contact their State administering agency for guidance.

B. Assessing Requests for Substitutions and other Modifications

SFAs may consider expense and efficiency in choosing an appropriate approach to accommodate a child's disability. SFAs are not required to provide the specific substitution or other modification requested, but must offer a reasonable modification that effectively accommodates the child's disability and provides equal opportunity to participate in or benefit from the program

For example, a child with an allergy to a specific ingredient found in a menu item may request that the SFA provide a particular brand name version as a substitute. Generally, the SFA is not required to provide the brand name item identified, but must offer to provide a substitute which does not contain the specific allergen that affects the child.

When determining what is appropriate, the age and maturity of the child should factor into all decisions. For instance, younger children may need greater assistance with selecting and eating their meals, whereas older children may be able to take a greater level of responsibility for some of their dietary decisions.

SFAs are not required to provide modifications that would fundamentally alter the nature of the program; however, this should very rarely be the case. SFAs concerned that a requested modification would fundamentally alter the nature of the program should contact their State agency for assistance. Instead, generally, the emphasis should be on working with parents and guardians to develop an approach that will be effective for the child.

C. Serving Meals in an Integrated Setting

SFAs must provide all meal services in the most integrated setting appropriate to the needs of the disabled child. *See* 7 CFR part 15b.26(d). Exclusion of any child from the Program environment is not considered an appropriate or reasonable modification. For example, a child may not be excluded from the classroom and required to sit in the hallway during the service of "breakfast in the classroom" as this is not an appropriate or reasonable modification. Similarly, while it may be appropriate to require children with very severe food allergies to sit at a separate table to control exposure, it is not appropriate to simultaneously use this table to segregate children as punishment for misconduct.

III. Reimbursement

Reimbursement for modified meals served to children with disabilities that restrict their diet is at the appropriate rate based on the child's eligibility for free, reduced price, or paid meals for the applicable Program, regardless of the meal modification. As noted above, these meal modifications do not have to meet the Program meal pattern requirements in order to be claimed for reimbursement if they are supported by a medical statement. However, SFAs should ensure that meal modifications meet the nutritional needs of the child.

Any instruction or services included in a child's IEP related to a child's nutritional needs that are deemed necessary for the child to receive a "free appropriate public education" must be provided at public expense and at no cost to the parents or guardians. Part B of IDEA funds may be used for this purpose. Inquiries regarding the

IDEA's requirements should be directed to the U.S. Department of Education, http://idea.ed.gov.

IV. Accessibility

7 CFR 15b.26(d)(2) provides: "Where existing food service facilities are not completely accessible and usable, recipients may provide aides or use other equally effective methods to serve food to handicapped persons." SFAs and LEAs are responsible for the accessibility of food service areas and for ensuring the provision of food service aides, where needed, to assist in preparing and serving meal accommodations.

No additional School Meal Program reimbursement is available for these types of accommodations. However, any additional costs for adaptive feeding equipment or for aides are considered allowable costs for the nonprofit school food service account. Sources of supplemental funding may include special education funds if specified in the child's IEP or the LEA's general account.

V. Procedural Safeguards

LEAs must work with the school food service staff to implement procedures for parents or guardians to request modifications to meal service for children with disabilities and to resolve grievances. *See* 7 CFR 15b.25 and 15b.6(b). Procedures in place to address requests to accommodate students with disabilities in the classroom in compliance with Section 504 or the IDEA may be used to fulfill this requirement.

At a minimum, the LEA must notify parents and guardians of the process for requesting meal modifications to accommodate a child's disability and arrange for an impartial hearing process to resolve grievances related to requests for modifications based on a disability. The hearing process must include the opportunity for the child's parent or guardian to participate, be represented by counsel, and examine the record. It must also include notice of the final decision, and a procedure for review.

LEAs that employ 15 or more individuals must designate at least one person to coordinate compliance with disability requirements. *See* 7 CFR part 15b.6. This position is often referred to as the Section 504 Coordinator. The Section 504 Coordinator who is responsible for addressing requests for accommodations in the classroom may also be responsible for ensuring compliance with disability requirements related to meals and the meal service. A separate 504 Coordinator responsible only for meal modifications is not required. However, LEAs should ensure that school food service staff understand the procedures for handling requests for meal modifications and know how to contact the Section 504 Coordinator.

VI. Team Approach

When implementing the guidelines in this memorandum, a team approach to providing modifications for children with disabilities is strongly encouraged. Developing a team that includes the Section 504 Coordinator, representation from schools and school medical personnel, such as a school nurse, as well as school food service staff will help ensure consistent decisions and implementation and tracking of meal modifications. The most effective team will include school food service staff, a principal or Program Director, a school nurse, and others with training in this area, such as a school nutritionist. Any request for a modification related to the meal or meal service should be forwarded to the Section 504 Coordinator, and reviewed by the 504 team.

The 504 team will work with the child's parents or guardian to review the request and develop a solution as quickly as possible. The 504 team is encouraged to develop policies and practices that allow for the disabilities they most commonly encounter to be quickly and consistently addressed. The team should be advised that any medical information obtained must be kept confidential.

State agencies are reminded to distribute this memorandum to Program operators immediately. LEAs, SFAs, and other Program operators should direct any questions concerning this guidance to their State agency. State agencies with questions should contact the appropriate FNS Regional Office.

Original Signed

Original Signed

Angela Kline
Director
Policy and Program Development Division
Child Nutrition Programs

Roberto Contreras
Director
Civil Rights Division

USDA

DATE: April 25, 2017

MEMO CODE: SP 26-2017

SUBJECT: Accommodating Disabilities in the School Meal Programs:
               Guidance and Questions and Answers (Q&As)

TO: Regional Directors
               Special Nutrition Programs
               All Regions

               State Directors
               Child Nutrition Programs
               All States

This Question and Answer (Q&A) memorandum is designed to provide practical
guidance related to accommodating disabilities in the School Meal Programs, which
are the National School Lunch Program (NSLP), the School Breakfast Program (SBP),
the Fresh Fruit and Vegetable Program (FFVP), the Special Milk Program (SMP), and
the NSLP Afterschool Snacks Program. This Q&A discusses relatively common
situations which have raised questions in the past. These examples illustrate certain
principles and give general direction on what local educational agencies (LEAs),
school food authorities (SFAs), and schools must do to comply with Federal law and
ensure children with disabilities have an equal opportunity to participate in the School
Meal Programs.

The attached questions have been grouped under the following headings: General
Information; What is a Disability?; Procedural Safeguards; Requesting a Modification;
Making a Meal Modification; Reimbursement for Modified Meals; Accommodations
to the Meal Service; Non-Disability Situations; and Miscellaneous. The Food and
Nutrition Service (FNS) of the United States Department of Agriculture (USDA) will
revise this Q&A as needed to address other questions as they arise.

With the release of this guidance, the following memorandum is rescinded with regard
to the School Meal Programs only. The memorandum still applies with regard to the
Child and Adult Care Food Program and the Summer Food Service Program:

- SP 36, CACFP 10, SFSP 12-2013: *Guidance Related to the ADA Amendments
  Act*, April 26, 2013.

Recent Guidance on Accommodating Disabilities

On September 27, 2016, USDA-FNS issued SP 59-2016: *Policy Memorandum on Modifications to Accommodate Disabilities in the School Meal Programs* to update Departmental requirements related to accommodating children with disabilities participating in the NSLP and SBP. This Q&A memorandum is a companion piece to SP 59-2016. To view SP 59-2016, please see: http://www.fns.usda.gov/policy-memorandum-modifications-accommodate-disabilities-school-meal-programs.

The question of whether a child has a disability for purposes of making modifications to Program meals has been simplified by the ADA Amendments Act of 2008 (P.L. 110-325; September 25, 2008) and should no longer require extensive analysis. After the passage of the ADA Amendments Act, most physical and mental impairments will constitute a disability. The central concern for SFAs should be ensuring equal access to Program benefits for children with disabilities.

Circumstances often vary, even when a disability diagnosis may be the same. The nature of the disability and age of the child should be considered when developing appropriate modifications. Each situation should be treated on a case-by-case basis. SFAs and schools should direct specific questions to the State agency if they are unsure how to proceed.

State agencies are reminded to distribute this information to Program operators immediately. Program operators should direct any questions regarding this memorandum to the appropriate State agency. State agency contact information is available at https://www.fns.usda.gov/school-meals/school-meals-contacts. State agencies should direct questions to the appropriate FNS Regional Office.

Original Signed

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Angela Kline
Director
Policy and Program Development Division
Child Nutrition Programs

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2

General Information

1. **How has the Americans with Disabilities Act (ADA) changed since the Food and Nutrition Service (FNS) last issued guidance on meal modifications?**

   The ADA Amendments Act of 2008 made important changes to the meaning and interpretation of the term "disability" under the ADA and under Section 504 of the Rehabilitation Act of 1973. The ADA Amendments Act simplified the question of whether a child has a disability by requiring a broad interpretation of what constitutes a disability. Under the ADA, anything that substantially limits a major life activity (most physical and mental impairments) constitutes a disability. This includes conditions that impair immune, digestive, neurological, and bowel functions, as well as many others.

   School food authorities (SFAs) and local educational agencies (LEAs) should not be engaged in weighing medical evidence against legal requirements in order to determine if a medical or physical condition is severe enough to meet the definition of a disability. Rather, the focus should be on what can be done to ensure equal opportunity to participate in or benefit from the Programs. A discussion of the legal definition of disability can be found on page 5 of SP 59-2016: *Policy Memorandum on Modifications to Accommodate Disabilities in the School Meal Programs,* http://www.fns.usda.gov/policy-memorandum-modifications-accommodate-disabilities-school-meal-programs.

   The process of providing modified meals for children with disabilities should be as inclusive as possible. It is essential that SFAs work collaboratively with parents and guardians to ensure children receive a safe meal and have an equal opportunity to participate in the School Meal Programs. FNS recommends using a team approach that includes parents and guardians and (as age-appropriate) the child, when providing modified meals. If a team (Individualized Education Plan (IEP) or 504) already exists, the SFA may use this team to address a child's nutritional needs.

2. **How does an SFA know if a child's condition meets the definition of a disability and requires a meal modification?**

   According to the ADA, most physical and mental impairments will constitute a disability. This includes conditions that impair immune, digestive, neurological, and bowel functions, as well as many others. General health concerns, such as a parent's preference that a child eat a gluten-free diet because the parent believes it is healthier for the child, are not disabilities and do not require a modification. All disability considerations must be viewed on a case-by-case basis. A more comprehensive discussion can be found on page 5 of SP 59-2016.

3

SFAs must require a written medical statement in order to receive reimbursement for meals served to children with disabilities that do not meet Program meal pattern requirements. SFAs will be reimbursed for a modified meal that is within the meal pattern, regardless of whether they have obtained a written medical statement. SFAs may, however, choose to request a written medical statement from a State licensed healthcare professional in support of a request for a modification in all cases. For more information, please see "Reimbursement for Modified Meals," questions 30 through 32.

What is a Disability?

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3. Is a food allergy considered a disability?

A food allergy will generally be considered a disability. Under the definition of disability in the ADA, a food allergy does not need to be life-threatening or cause anaphylaxis in order to be considered a disability. A non-life-threatening allergy may be considered a disability and require a meal modification, if it impacts a major bodily function or other major life activity (such as digestion, respiration, immune response, skin rash, etc.).

4. Is a food intolerance recognized as a disability?

A food intolerance may be considered a disability if it substantially limits a major life activity. For example, if a child's digestion (a major bodily function) is impaired by gluten intolerance, their condition may be considered a disability regardless of whether or not consuming wheat causes severe distress.

5. Is autism considered a disability?

Autism is considered a disability, and may require a reasonable modification if it substantially limits a major life activity, such as the activity of eating. For example, some children with autism will eat only certain foods due to their repetitive and ritualistic behavior patterns. Any physical or mental impairment preventing a child from consuming a meal is considered a disability.

6. Is obesity considered a disability?

Obesity is recognized by the American Medical Association as a disease and may be considered a disability if the condition of obesity substantially limits a major life activity.

7. **Are phenylketonuria (PKU), diabetes, and celiac disease considered conditions that require modifications to Program meals?**

   Yes. All three conditions are considered disabilities and may require reasonable modifications.

8. **How is a temporary or episodic disability addressed?**

   If a disability is episodic, and when active substantially limits a major life activity, the child must be provided a reasonable modification.

   The question of whether a temporary impairment is a disability must be resolved on a case-by-case basis, taking into consideration both the duration (or expected duration) of the impairment and the extent to which it actually limits a major life activity of the affected individual. Even if the condition is temporary, but severe and lasts for a significant duration, SFAs must provide a reasonable modification for the duration of the condition. For example, if a child was involved in a serious accident and is unable to consume food for a significant period of time unless the texture is modified, the school must make an accommodation for the child, even though the child is not "permanently" disabled. On the other hand, a cold, the flu, or a minor broken bone are generally not considered conditions that require a reasonable modification to Program meals.

9. **Can a school food service professional assume a child's condition is not a disability because it is not listed under "categories of disease and conditions" in the ADA?**

   No. As noted in the law, the "categories of diseases and conditions" are not all inclusive. Therefore, there are more conditions that meet the definition of disability than are listed in the law. In addition, when a modification request is supported by a medical statement, the written medical statement does not need to provide a specific diagnosis by name or use the term "disabled" or "disability" (though statements that use these terms are sufficient). If an SFA has questions regarding the information provided in the medical statement, the SFA should request the parent or guardian seek clarification from a State licensed healthcare professional.

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Procedural Safeguards

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10. **What are Procedural Safeguards?**

    The Procedural Safeguards process, codified at 7 CFR 15b, requires LEAs to provide notice and information to parents and guardians regarding how to request a reasonable modification and their procedural rights, which include the right to:
    - File a grievance if they believe a violation has occurred regarding the request for a reasonable modification,

<div align="center">5</div>

- Receive a prompt and equitable resolution of the grievance,
- Request and participate in an impartial hearing to resolve their grievances,
- Be represented by counsel at the hearing,
- Examine the record, and
- Receive notice of the final decision and a procedure for review, i.e., right to appeal the hearing's decision.

Information on this requirement can be found in USDA's regulation, *Non Discrimination on the Basis of Handicap in Programs or Activities Receiving Federal Financial Assistance*, at 7 CFR 15b.25, "Procedural Safeguards," at 7 CFR 15b.6(b), "Adoption of Grievance Procedures," and in SP 59-2016.

11. **Can LEAs use procedures already in place to address the educational needs of children with disabilities to comply with the Procedural Safeguards process for meal modifications?**

Yes. Procedures in place to address requests to accommodate children with disabilities in the school, in compliance with Section 504 of the Rehabilitation Act of 1973 or the Individuals with Disabilities Education Act (IDEA), may be used to fulfill the requirement to maintain a Procedural Safeguards process for meal modifications. (IDEA was enacted by Congress in 1975 to ensure children with disabilities have the opportunity to receive a free appropriate public education, just like other children.)

LEAs employing 15 or more individuals must ensure their Procedural Safeguards process provides for a prompt and equitable resolution of grievances, and must designate at least one person to coordinate compliance with disability requirements. This individual is often referred to as the Section 504 Coordinator (see: 7 CFR 15b.6). In many cases, the 504 Coordinator is responsible for addressing requests for accommodations in the school in general. As part of their general responsibilities, this individual may also be responsible for ensuring compliance with disability requirements related to meal modifications and the meal service. Regardless of whether the coordinator is a school food service employee, the coordinator must ensure school food service professionals understand the procedures for handling meal accommodation requests.

12. **Who should work with the Section 504 Coordinator to manage accommodations to the meal and meal service?**

The process of providing modified meals for children with disabilities should be as inclusive as possible. It is essential that school food service professionals work together with the child's parent or guardian to ensure their child receives a safe meal and has an equal opportunity to participate in the School Meal Programs. LEAs are strongly encouraged to develop a Section 504 Team to discuss best practices and develop a more holistic plan to create a safe learning environment for all children.

6

The most effective team will include school food service staff, school administrators, school medical personnel, parents or guardians, children (when age-appropriate), and other school officials with relevant experience, such as school nutritionists. Using a "team approach" ensures information is shared consistently throughout the school environment and will help to protect children in situations where food is served outside the cafeteria, such as during classroom parties. Additionally, involving parents and guardians early in the process allows school employees to develop rapport with the family, and this prevents any miscommunication or misunderstanding about their child's needs.

Requesting a Modification

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13. What is considered a "reasonable modification"?

A reasonable modification is a change or alteration in policies, practices, and/or procedures to accommodate a disability that ensures children with disabilities have equal opportunity to participate in, or benefit from, a program. A request for a reasonable modification must be related to a child's disabling condition. Federal law and USDA regulations at 7 CFR 15b.13 require that schools make reasonable modifications to accommodate children with disabilities. Reasonable modifications to effectively accommodate children with disabilities must be made on a case-by-case basis. A meal modification must be related to the disability or limitations caused by the disability. Further discussion of "reasonable modifications" can be found on pages 5-7 of SP 59-2016.

14. What are examples of modification requests an SFA might receive?

A household may request a modification to the meal or the meal service to accommodate a disability. For example, if a child has a food allergy, a meal accommodation may require the SFA to ensure no food item offered to the child contains substances that may trigger an allergic reaction, and also to ensure adherence to proper food safety protocol to prevent cross-contamination with other allergen-containing foods. For example, if a child has a peanut allergy, the SFA must ensure no foods served to the child contain peanuts or include peanuts as an ingredient.

If a modification request indicates a brand name item, in most instances, a generic brand is sufficient, unless the brand name item is medically necessary. This can be determined through the inclusive process with the parent(s) or guardian(s).

Modifications to the meal service may involve ensuring facilities and personnel are adequate to provide necessary services. In certain situations, disability accommodations may require additional equipment; separate or designated storage/preparation areas, surfaces, or utensils; and specific staff training and/or expertise. For example, some children may require the physical assistance of a food

7

service aide to consume their meal, while other children may need assistance tracking their dietary intake (e.g., carbohydrate intake for children with diabetes).

15. When is a medical statement required?

SFAs must obtain a written medical statement from a State licensed health care professional in order to receive reimbursement for meal modifications when the modified meal does not meet the Program meal pattern requirements (7 CFR 210.10). In most States, a nurse practitioner or physician's assistant may write medical prescriptions and therefore could write the medical statement. In some cases, it may be appropriate and helpful for the State licensed health care professional to provide a written referral to a registered dietitian or other qualified professional. The dietician could provide recommendations for substitutions and additional assistance with meal modifications.

The State agency may not require that the written medical statement provide a specific diagnosis by name or use the term "disabled" or "disability" (though statements that use these terms are sufficient). For further discussion of the written medical statement, please see page 6 of SP 59-2016.

Schools may receive reimbursement for a meal modification request without a medical statement when the accommodation can be made within the Program meal pattern. For example, if a child has a common allergy to one fruit or vegetable, the school food service can simply substitute another fruit or vegetable. FNS encourages schools to use flexibilities whenever possible. In situations where the SFA does not obtain a medical statement, FNS encourages SFAs to make note of the actions taken in acknowledging children's accommodations. Doing so helps to safeguard children in all areas of the school environment.

16. Who is authorized to sign a medical statement?

A State licensed healthcare professional authorized to write medical prescriptions can sign the medical statement. This may include a doctor, a nurse practitioner, or a physician's assistant. FNS guidance refers to individuals authorized to sign the medical statement as "State licensed healthcare professionals." For more information, see: SP 32 CACFP 13 SFSP 15-2015: *Statements Supporting Accommodations for Children with Disabilities in the Child Nutrition Programs*, March 30, 2015, https://www.fns.usda.gov/statements-supporting-accommodations-children-disabilities-cnp.

8

17. In situations where a medical statement is necessary, what must be included in the medical statement?

The medical statement must include the following:
- Information about the child's physical or mental impairment that is sufficient to allow the SFA to understand how it restricts the child's diet;
- An explanation of what must be done to accommodate the child; and
- The food or foods to be omitted and recommended alternatives, if appropriate.

In some cases, more information may be required. For example, if the child requires caloric modifications or the substitution of a liquid nutritive formula to accommodate a disability, this information must be included in the statement.

SFAs should not deny or delay a requested modification because the medical statement does not provide recommended alternatives. When necessary, SFAs should work with the child's parent or guardian to obtain a supplemental medical statement.

18. How did the medical statement change in the revised guidance?

The written medical statement is no longer required to identify the specific disability, or to use the terms "disability" or "disabled" (though statements that use these terms are sufficient). Instead, the medical statement need only include a description of the child's physical or mental impairment that is sufficient to allow the SFA to understand how it restricts the child's diet. The medical statement should also include a description of what must be done to accommodate the child's impairment.

When SFAs believe the medical statement is unclear, or lacks sufficient detail, they must obtain appropriate clarification so that safe meals can be provided. However, SFAs should not allow requests for additional information to delay meal modifications. Further discussion of the written medical statement can be found on page 6 of SP 59-2016.

19. If a child has an IEP that includes information about a necessary meal modification due to a disability, must the SFA also obtain a medical statement for the child before making the modification?

If the child's IEP or 504 Plan includes the same information required in the medical statement, as described in question 17, or if the required information is obtained by the school during the development or review of the IEP or 504 Plan, it is not necessary for the SFA to obtain a separate medical statement. Using a team approach can help LEAs ensure the IEP or 504 Plan will include the information needed to fulfill FNS requirements for the medical statement. Clear communication about the requirements for the medical statement can help reduce the burden for families, school food service professionals, and LEA officials working to accommodate children in the school setting.

20. Can an SFA decline to provide a requested meal modification?

It is almost never appropriate for an SFA to decline to provide an effective meal modification to accommodate a child's disability, if the modification request is related to the child's disabling condition. The exception would be a modification request that would fundamentally alter the nature of the Program (see page 7 of SP 59-2016). If an SFA has concerns about a request, the SFA is responsible for working with the parent or guardian to develop an appropriate modification and, as applicable, suitable alternatives for the child.

If an SFA declines a request, the SFA must ensure that the child's parent or guardian understands their rights under the Procedural Safeguards process. Please see "Procedural Safeguards," questions 10 through 12, for more information on these requirements.

21. Can the Offer versus Serve (OVS) provision be used to accommodate a meal modification?

No. Schools operating OVS must ensure children with disabilities have the opportunity to select all required food components for the meal. For example, a child who has Celiac disease or a gluten intolerance must have a choice of a bread/grain item that is gluten-free. The SFA may not use OVS to eliminate a specific food component for a child with a disability; in this case, the SFA must offer a grain substitute for a child who cannot consume gluten.

22. In situations where a medical statement is necessary, how often must the medical statement be updated?

FNS does not require SFAs to obtain updated medical statements on a regular basis. When SFAs receive updated medical information, they must ensure that medical statements on file reflect the current dietary needs of participating children. SFAs may require updates as necessary to meet their responsibilities, but should carefully consider the burden obtaining additional medical statements could create for parents and guardians when establishing such requirements.

23. If the medical statement does not provide sufficient information for the SFA to accommodate the child's disability, what should the SFA do?

When an SFA receives a medical statement signed by a State licensed healthcare professional requesting a meal modification to accommodate a child's impairment, the SFA must provide a reasonable modification to Program meals. If a medical statement is provided and does not fully explain the modification needed, the SFA should immediately contact the child's parent or guardian for guidance and ask the family to provide an amended medical statement as soon as possible. However, clarification of the medical statement should not delay the SFA from providing a

meal modification. SFAs should follow the portion of the medical statement that is clear and unambiguous to the greatest extent possible, while obtaining additional information. For more information, see question 31.

24. If a child no longer needs a meal modification, can the SFA stop providing meal modifications without the State licensed healthcare professional's approval?

FNS does not require SFAs to obtain written documentation from a State licensed healthcare professional rescinding the original medical order prior to ending a meal modification. FNS recommends, however, that SFAs maintain documentation when ending a meal accommodation. For example, an SFA could ask the child's parent or guardian to sign a statement indicating their child no longer needs a meal accommodation before ending the accommodation.

Making a Meal Modification

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25. Does a meal modification request due to an allergy extend only to the specific allergen (e.g., peanuts), or does the request also extend to food products including a derivative of the allergen as an ingredient?

The SFA must provide the child with a safe meal and a safe environment to consume the meal. School food service professionals must ensure all meals and snacks they provide meet the prescribed guidelines and are free of all ingredients suspected of causing an allergic reaction. The SFA must ensure proper storage, preparation, and cleaning techniques are used to prevent exposure to allergens through cross contamination. The Section 504 Team should develop a strategy or a food allergy management plan for the daily management of food allergies for individual children. The FNS Office of Food Safety links to a number of food allergy resources to help SFAs in this effort: https://www.fns.usda.gov/ofs/food-safety-resources.

Sometimes, it may be advisable to prepare a separate meal "from scratch" using ingredients allowed on the special diet rather than serving a meal using processed foods. The general rule in these situations is to exercise caution at all times. SFAs must not serve foods to children at risk for allergic reactions if the food's ingredients are unknown.

26. What if the information needed to provide a child with a safe meal is not available on a food label?

If a food label does not provide adequate information, it is the responsibility of the SFA to obtain the information necessary to ensure a safe meal. This can be accomplished by contacting the supplier or manufacturer or checking with the State agency. Private organizations may also be consulted for information and advice.

27. If a child with a disability must have a breakfast each morning, is the SFA required to provide a breakfast for this child when the school does not operate the School Breakfast Program (SBP)?

FNS guidance does not require the SFA to provide meals to children with disabilities beyond the meals provided to other children. For instance, if the school does not have a breakfast program, FNS guidance does not require the SFA to begin participating in the SBP or to initiate a program exclusively for children with disabilities. However, schools may have additional obligations to students with disabilities under the ADA, IDEA, and Section 504 beyond the scope of FNS guidance. For instance, an IEP may require a school to provide a breakfast meal, and the school may choose to have the SFA handle this responsibility. Please see page 4 of SP 59-2016 for more information.

28. If a State licensed healthcare professional prescribes portion sizes exceeding the minimum quantity requirements set forth in Program regulations, is the SFA required to provide these additional quantities?

Yes. The SFA must provide the child food portions exceeding the minimum quantity requirements, if specifically prescribed in the medical statement. In other situations, a medical statement may prescribe portion sizes below the minimum quantity requirements set forth in Program regulations. In this situation, the SFA is also required to follow the direction of the medical statement, and provide smaller quantities.

29. If a child has a disability and a specific brand name substitute is requested, does the SFA have to provide the brand name requested?

Generally, SFAs are not required to provide the specific brand requested, unless the brand name item is medically necessary. Instead, the SFA must provide a reasonable modification that accommodates the child's disability and provides equal opportunity for the child to participate in and benefit from the Program. In situations where the requested substitute is very expensive or difficult to procure or obtain, it would be reasonable for the SFAs to follow up with the family to see if a different substitute would be safe and appropriate for the child. For example, if the medical statement lists a specific brand of lactose-free milk, the SFA could check with the family to see if it would be safe and appropriate for the SFA to provide a different brand. In this instance, the family could then affirm the brand-name change.

12

30. Can SFAs receive Federal reimbursement for modified meals that do not meet the Program meal pattern requirements?

Modified meals that do not meet the Program meal pattern requirements served to a child due to a disability are eligible for reimbursement. However, in order to receive reimbursement for such meals, the school must obtain and keep on file written documentation of the medical statement that supports the meal modification. The documentation must be signed by a State licensed healthcare professional.

Modified meals that meet the Program meal pattern requirements are eligible for reimbursement regardless of whether the school obtains a medical statement. FNS does not require a medical statement for meal modifications within the Program meal pattern.

31. May schools claim a meal outside the regular meal pattern for reimbursement while waiting for the child's parent or guardian to submit a medical statement?

Yes. Schools should not unduly delay a child's meal modification while waiting for the family to submit a medical statement. In this situation, school officials must document the initial conversation with the family where school officials first learned of the child's need for an accommodation. School officials should follow up with the family if the school does not receive the requested medical statement as anticipated and maintain a record of this contact. School officials should diligently continue to follow up with the family until a medical statement is obtained or the request is rescinded.

32. Will SFAs receive additional reimbursement to cover the costs of providing modified meals or accommodations to the meal service?

No. SFAs will not receive additional reimbursement to cover the extra costs sometimes associated with providing a reasonable modification; however, SFAs may use funds from the non-profit school food service account, the general fund, or special education funds (if specified in the child's IEP) to cover the additional food or food service costs.

33. Must an SFA provide nutrition information for all food available each day for children who need to track their dietary intake?

The SFA is not necessarily required to provide all of the nutrition information for all Program meals, as it would be very burdensome to provide this information. For example, if a child with diabetes must track their carbohydrate intake, the SFA would not be required to provide nutrition information for all food choices available during the lunch and/or breakfast meal service. The SFA could instead develop a cycle menu with input from the child's parent or guardian, medical professionals, the school nutritionist and nurse, and other members of the Section 504 Team as appropriate. The SFA would only have to provide nutrition information for the foods on the planned cycle menu for the child with a disability, as opposed to all foods offered through the Programs.

34. May an SFA serve meals to children with disabilities in an area separate from the cafeteria where the majority of the school children eat?

Federal civil rights legislation, including Section 504 of the Rehabilitation Act of 1973, IDEA, and Titles II and III of the ADA, requires that in providing nonacademic services, including meals, school districts must ensure children with disabilities participate along with children without disabilities to the maximum extent appropriate. This allows children to interact with and learn from other children with backgrounds different from their own.

However, under some circumstances it may be appropriate to require children with certain special needs to sit at a separate table. For example, if a child requires a large amount of assistance from an aide in order to consume their meals, it may be necessary for the child and the aide to have more space during the meal service.

Additionally, SFAs may determine a separate, more isolated eating area would be best for children with severe food allergies. Prior to developing a special seating arrangement, the SFA should determine, with input from the child's family and physician, if this type of seating arrangement would truly be helpful for the child. If the SFA does develop a special seating arrangement, other children should be permitted to join the child with the food allergy, provided they do not bring any foods that would be harmful to the child.

SFAs may not, however, segregate children from the regular meal service due to their disability simply as a matter of convenience, and it is not appropriate to simultaneously use a separate table to segregate children who are being punished for misconduct.

14

Non-Disability Situations

35. Are SFAs required to accommodate a meal modification request for a child who does not have a disability but has a food preference?

No. However, SFAs may make meal modifications for children who do not have disabilities. When providing a substitution for a child without a disability, the substitution must be consistent with the meal pattern requirements specified in Program regulations in order for the meal to be reimbursable (see: 7 CFR 210.10 (m)(3)). When a modification is made within the meal pattern, SFAs are not required to obtain a medical statement.

36. If an SFA provides meal modifications for non-disability reasons (e.g., food preferences for religious reasons or a child's vegetarianism) are the modified meals eligible for Federal reimbursement?

FNS encourages schools to provide a variety of foods for children to select from in order to accommodate food preferences. Meal modifications to accommodate a food preference or for religious, ethnic, moral, or other reasons may be reimbursed, provided these meals adhere to the standards found in Program regulations (see 7 CFR 210.10 (m)(3)).

Miscellaneous

37. Is a Food Service Management Company (FSMC) that contracts with an SFA to operate the school's food service obligated to accommodate children with disabilities?

Yes. SFAs must make reasonable modifications for children with disabilities, regardless of whether the school district operates the food service or contracts with a FSMC. As applicable, modifications for children with disabilities should be included in the FSMC contract. SFAs that do not need dietary accommodations at the time a FSMC bid is prepared should still include sufficient information in the bid to ensure the FSMC is aware that dietary accommodations may be required during the term of the contract.

15