















Food Allergies for School Nutrition Managers and Staff

Participant's Workbook



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Time: 4 hours

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Key Area: 2

Code: 2600 (Food Safety and HACCP)

Institute of Child Nutrition

The University of Mississippi

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PURPOSE

Improve the operation of child nutrition programs through research, education and training, and information dissemination.

VISION

Lead the nation in providing research, education, and resources to promote excellence in child nutrition programs.

MISSION

Provide relevant research-based information and services that advance the continuous improvement of child nutrition programs.

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Table of Contents

| Introduction |
|--|
| Competencies, Knowledge, and Skills |
| Professional Standards |
| Training Objectives |
| Key Terms |
| Lesson 1: All About Food Allergies |
| Lesson 2: Reading Labels for Allergens |
| Lesson 3: Avoiding Cross-Contact |
| Lesson 4: Accommodating Children with Food Allergies |
| Appendix |
| References |

Introduction

According to the Centers for Disease Control and Prevention (CDC) *Voluntary Guidelines for Managing Food Allergies in Schools and Early Care and Education Programs*, food allergies are a growing food safety and public health concern (2013). The Food Allergy Research & Education organization estimates that food allergies affect about 5.6 million children in the United States (n.d.). The CDC also estimates that 16%–18% of children with food allergies experience a reaction at school from accidentally eating food allergens. Sicherer et al. found that 25% of the severe and potentially life-threatening reactions (anaphylaxis) reported at schools happened in children with no previous food allergy diagnosis (2001).

Section 112 of the Food and Drug Administration (FDA) *Food Safety Modernization Act (FSMA)*, Food Allergy and Anaphylaxis Management, provides guidance on voluntary food allergy and anaphylaxis management for schools and early childhood education programs (2018). The CDC published the *Voluntary Guidelines for Managing Food Allergies in Schools and Early Care and Education Programs* in 2013 to respond to FSMA expectations.

As explained in USDA's *Accommodating Children with Disabilities in the School Meals Programs – Guidance for School Food Service Professionals*, school nutrition programs are required to have a school food safety program based on HACCP principles to reduce or eliminate risks of food safety hazards; food allergens are considered a safety hazard (2017). The school food safety program applies to all settings in the school where food is stored, prepared, and served as part of USDA's child nutrition programs, including the cafeteria, classrooms, and other settings.

According to the USDA's guidance, any food allergy or food intolerance could be considered a disability (2017). Schools are required by Federal law to make a meal accommodation for a disability diagnosis made in writing by a state licensed healthcare professional.

Allergic reactions can be life threatening and have far-reaching effects on children and their families, as well as on the schools they attend. Staff in schools should follow plans for preventing an allergic reaction and responding to a food allergy emergency.

Competencies, Knowledge, and Skills

Competency 2.1: Maintains sanitation, safety, and security practices in compliance with local, state, and Federal policies, procedures, and regulations.

Competency 2.2: Maintains sanitation, safety, and security practices to protect the health and well-being of students, customers, and employees.

Source: Institute of Child Nutrition. (2018). *Competencies, knowledge, and skills for school nutrition managers.* Retrieved from ICN website: https://theicn.org/icn-resources-a-z/ckssnmanagers21

Professional Standards

FOOD SAFETY AND HACCP TRAINING - 2600

Employee will be able to effectively utilize all food safety program guidelines and health department regulations to ensure optimal food safety.

2620 – Practice general food safety procedures.

2630 – Practice Federal, State, and local food safety regulations and guidance.

2640 – Promote a culture of food safety behaviors in the school community (includes training on food allergens).

Key Area: 2

Training Objectives

- 1. Evaluate the impact that an allergic reaction incident may have on a school.
- 2. Describe a food allergy, its symptoms, and treatment methods.
- 3. Identify the eight major food allergens.
- 4. Distinguish between food allergy and food intolerance.
- 5. Demonstrate how to find the eight major food allergens in the ingredient statement on the food label.
- 6. Describe how to find allergens in the ingredient statement on the food label that are not among the eight major, are in bulk items, or are in USDA Foods.
- 7. Describe the procedures for reading ingredient statements.
- 8. Explain cross-contact.
- 9. Examine how cross-contact may occur, and develop strategies for preventing it.
- 10. Describe methods for supporting children with food allergies.
- 11. Determine strategies to manage food prepared and served outside of the cafeteria.

Key Terms

| Key Terms | Definition |
|---|--|
| 504 Plan | A written document that contains the services to be provided to a child with a disability, to comply with provisions in Section 504 of the Rehabilitation Act (1973) |
| Allergen | Usually harmless substance that can trigger an immune response in a person and cause an allergic reaction |
| Allergic Reaction | Immune system reacts abnormally to a usually harmless substance |
| Americans with Disabilities Act (1990) (ADA) | Prohibits discrimination and ensures equal opportunity for Americans with disabilities |
| Anaphylaxis | A severe allergic reaction with rapid onset that may cause difficulty breathing and death |
| Celiac Disease | An autoimmune disorder that affects the small intestine that is triggered by eating gluten and managed with a strict gluten-free diet |
| Cross-Contact | Occurs when an allergen is accidentally transferred from a food containing an allergen to a food or surface that does not contain an allergen |
| Cross-Contamination | Occurs when microorganisms from different sources contaminate food during preparation or storage |
| Epinephrine | Medicine (adrenaline) used to treat a serious allergic reaction |
| Family Educational Rights and Privacy Act (1974) (FERPA) | Federal program that protects the privacy of information entered into a student's record |
| Food Allergen Labeling and Consumer Protection Act (FALCPA) | Labeling law that mandates labels of foods containing the eight major allergens and disclosure of the allergen in plain language |
| Food Allergy | An immune-mediated adverse reaction to a food protein that could cause a life threatening response |
| Food Allergy Management Plan | A school-wide plan designed to reduce the risk of exposure to food allergens and procedures for food allergy emergencies |
| Food Intolerance | An abnormal response to eating a certain food; not life threatening and does not involve the body's immune system |

| Key Terms | Definition |
|--|---|
| Gluten | Protein found primarily in wheat, barley, and rye; can sometimes be found in oats from cross-pollination |
| Gluten Intolerance | A form of food intolerance that can cause digestive problems after eating gluten |
| Health Insurance Portability and Accountability Act (1996) (HIPAA) | Federal program that requires all medical records in any form to be kept confidential |
| Individualized Education Plan (IEP) | A written document that contains the program of special education provided to a child with a disability; to comply with provisions found in Part B of the Individuals with Disabilities Education Act 2006 (IDEA) |
| Individualized Healthcare Plan (IHP) | A written document that outlines the requirements of student healthcare services; developed by the school nurse |
| Individuals with Disabilities Education Act (IDEA) (1975, 2006) | Federal law that requires a free and appropriate public education be provided for children with disabilities |
| Lactose Intolerance | Food intolerance that causes digestive problems after eating or drinking lactose; individuals with lactose intolerance do not produce enough lactase enzymes in the small intestines |
| Phenylketonuria (PKU) | A rare condition in which a person cannot properly break down the amino acid phenylalanine |
| Rehabilitation Act of 1973 | Federal law that prohibits discrimination against qualified persons with disabilities |
| State Licensed Healthcare Professional | Individual who is authorized to write medical prescriptions under state law; examples include doctor, nurse practitioner, or physician's assistant |

Lesson 1: All About Food Allergies

Objectives:

- 1. Evaluate the impact that an allergic reaction incident may have on a school.
- 2. Describe a food allergy, its symptoms, and treatment methods.
- 3. Identify the eight major food allergens.
- 4. Distinguish between food allergy and food intolerance.

Reflection and Impact

| Instructions: Take one minute to reflect on the Caitlin Remembered video. | | |
|---|--|--|
| FEEL | How do I feel from what I've just seen in the video? | |
| THINK | What are the most important ideas I have heard from the group reflections? | |
| DO | How can I use this reflection knowledge? What will I do differently in the future? | |
| | | |

Food Allergy Fact Sheet

What is a food allergy?

An immune-mediated adverse reaction to a food protein that could cause a life threatening response

What are the symptoms?

One or more symptoms can occur and can be MILD to SEVERE. According to Food Allergy Research and Education (FARE), symptoms may include:

- Hives (reddish, swollen, itchy areas on the skin)
- Eczema (a persistent dry, itchy rash)
- Itchy, red rash
- Repetitive coughing
- · Hoarse voice
- Nausea & vomiting
- Diarrhea
- Abdominal cramping
- Swelling
- Stomach pain
- Nasal congestion or a runny nose
- Sneezing
- Slight, dry cough
- · Odd taste in mouth
- Trouble swallowing
- Shortness of breath
- Turning blue
- Drop in blood pressure (feeling faint, confused, weak, passing out)
- Loss of consciousness
- Chest pain
- A weak or "thready" pulse
- Sense of "impending doom"

How might a child describe an allergic reaction?

- · This food is too spicy.
- My tongue is hot (or burning).
- It feels like something is poking my tongue.
- My tongue (or mouth) is tingling.
- My tongue (or mouth) itches.
- · My mouth feels funny.
- · There is a frog in my throat.
- There's something stuck in my throat.
- My lips feel tight.
- My throat feels thick.
- It feels like there is a bump on the back of my tongue.

What is anaphylaxis?

A severe allergic reaction with rapid onset that may cause difficultly breathing and death

What are the treatment methods?

- Epinephrine
- Antihistamine, if ordered by healthcare provider
- Inhaler (bronchodilator), if ordered by healthcare provider

How to avoid an allergic reaction?

Total avoidance of allergen food protein

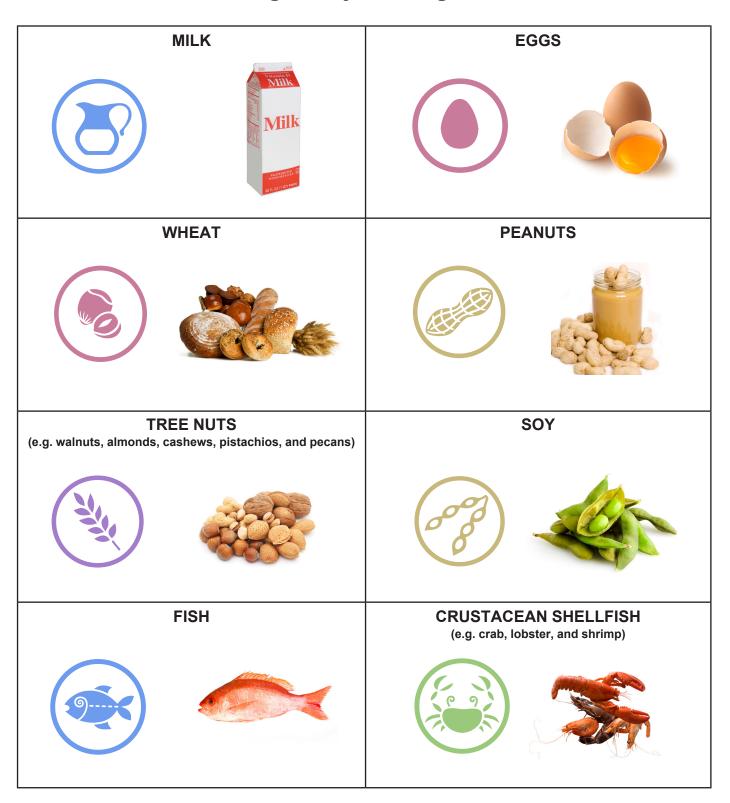
Source: Food Allergy Research and Education. (n.d.). *Symptoms of an allergic reaction to food.* Retrieved from https://www.foodallergy.org/life-with-food-allergies/food-allergy-101/symptoms-of-an-allergic-reaction-to-food

Food Allergy Emergency

Instructions: Answer the questions for your school's food allergy management plan. If you do not know the answer, check "Ask My Director" to remind yourself to find out the answer when you get back to your school.

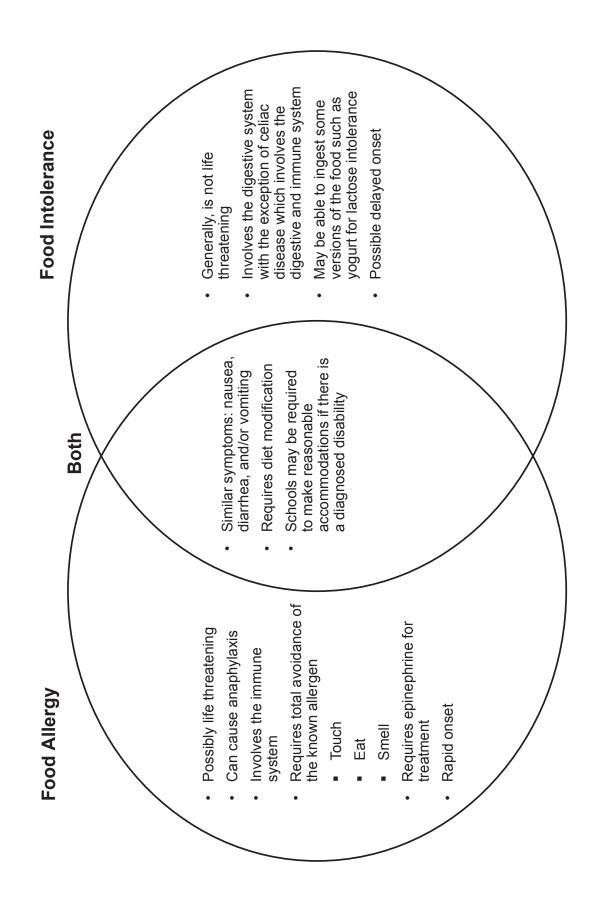
| Questions | Answers | Ask My Director |
|--|----------------------|--------------------|
| Emergency Reaction | | |
| A child has a reaction in the cafeteria, what do you do first? Who do you contact? | | |
| Who can administer epinephrine? Do you need to be trained to administer an auto-injector? Who is trained in your school? | | |
| Epiner | ohrine Auto-Injector | |
| What is the policy for a child with a known life-threatening food allergy for carrying an auto-injector? | | |
| Is the child's auto-injector in the nurse's office? Is the auto-injector available if the nurse is not in her/his office? | | |
| What if the child is having a first-time allergic reaction and there is no prescription auto-injector available? Who do you contact? | | |
| Responding to an Emergency | | |
| Is all staff trained on how to respond to an emergency? Do substitutes know how to respond? Part-time staff? Volunteers? | | |
| Do the phones near you get an outside line to call 911? | | |
| Will local EMS have epinephrine available for use when they arrive? | | |

Eight Major Allergens



Source: Food and Drug Administration. (2018). Food allergen labeling and consumer protection act of 2004 (FALCPA). Retrieved from https://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/Allergens/ucm106187.htm

Food Allergies and Food Intolerances



Lesson 2: Reading Labels for Allergens

Objectives:

- 1. Demonstrate how to find the eight major food allergens in the ingredient statement on the food label.
- 2. Describe how to find allergens in the ingredient statement on the food label that are not among the eight major, are in bulk items, or are in USDA Foods.
- 3. Describe the procedures for reading ingredient statements.

Reading Ingredient Statements for Food Allergens

Food Allergen Labeling

The Food Allergen Labeling and Consumer Protection Act of 2004 (FALCPA) is a Federal law that became effective January 2006 (2018). It mandates that manufacturers identify any of the eight major food allergens in plain language on the food label.

| Eight Major Allergens | | |
|-----------------------|----------------------|--|
| Egg | Crustacean Shellfish | |
| Fish | Soy | |
| Peanuts | Tree nuts | |
| Milk | Wheat | |

There are specifics on where and how the information is to be presented. The food ingredient MUST be written in one of three ways.

- 1. Written as the **common or usual name** of the major food allergen
 - · Example: "wheat flour"
- 2. **In parenthesis** following the ingredient that is not the common name
 - Example: "cream (milk)"
- 3. Listed after the ingredient statement in a "Contains" statement
 - Example: "Contains: wheat and soy"



INGREDIENTS: CHICKEN STOCK, WATER MODIFIED FOOD STARCH, WHEAT FLOUR, CHICKEN MEAT, CREAM (MILK), CONTAINS LESS THAN 2% OF: VEGETABLE SH. CARROT JUJOE CONCENTRATE, SALT, POTASSIUM CHLORIDE, FLAVORING, SOY PROTEIN CONCENTRATE, DEHYDRATED MECHANICALLY SEPARATED CHICKEN, YEAST EXTRACT, CHICKEN FAT, DISODIUM GUANYLATE, DISODIUM INOSINATE, SPICE, BETA CAROTENE FOR COLOR, SODIUM PHOSPHATE, SOY PROTEIN ISOLATE, MIXED TRIGLYCERIDES, LACTIC ACID, CELERY EXTRACT, DEHYDRATED CHICKEN, ONION EXTRACT.

INGREDIENTS: WHOLE WHEAT FLOUR, ENRICHED FLOUR (WHEAT FLOUR, NIACIN, REDUCED IRON, THIAMIN MONONITRATE [VITAMIN B1], RIBOFLAVIN [VITAMIN B2], FOLIC ACID), SUGAR, VEGETABLE OIL (SOYBEAN AND PALM OIL WITH TBHQ FOR FRESHNESS), HONEY, CONTAINS TWO PERCENT OR LESS OF CALCIUM CARBONATE, SALT, BAKING SODA, CINNAMON, MALTODEXTRIN, SOY LECITHIN, VITAMIN A PALMITATE, BHT FOR FRESHNESS

CONTAINS WHEAT AND SOY INGREDIENTS.

Precautionary Labeling

Precautionary labeling is NOT covered in the *Food Allergen Labeling and Consumer Protection Act*, so it varies widely from manufacturer to manufacturer. Some common types of precautionary labeling are the "May Contain," "Made on Equipment," and "Processed in Facilities" statements. According to FARE, products labeled with precautionary labeling are not safe for people with known food allergies (*How to Read Food Labels*, n.d.).

"May Contain" statement

• Example: "May contain traces of peanuts"

"May Contain" statement

 Example: "Made on equipment that makes products containing eggs and tree nuts"

"Processed in Facilities" statement

Example: "Processed in facilities that also process wheat"

Ingredients: Sunflower Seed, Sugar, Mono-Diglycerides to prevent separation, Salt, and Natural Mixed Tocopherols to preserve freshness.

Made on equipment that processes soybeans. Processed in a peanut and tree nut free facility.

Reading Ingredient Statements

Ingredient statements should be read when the product is received since suppliers may make product substitutions, formulas may change, or vendors could change. Check all labels carefully every time. Do not rely on specifications, fact sheets, or the last shipment. Read the label each time the product is received. Contact your director if you have any questions or are uncertain about the food item.

Holding Labels

It is recommended that labels of all products served be kept for 24 hours as a precaution so the label is available in case someone has an allergic reaction. Unlike a foodborne illness outbreak where the outbreak can occur days after a food is served, an allergic reaction will happen the day of service. If food is going to be served as leftovers or reused in another recipe, the label should be kept until all product is either consumed or disposed. Keeping a label library is a common practice; some keep the actual label, some schools can scan the label.

Sources:

Food Allergy Research and Education. (n.d.). *How to read food labels*. Retrieved from https://www.foodallergy.org/life-with-food-allergies/living-well-everyday/how-to-read-food-labels

Food and Drug Administration. (2018). Food allergen labeling and consumer protection act of 2004 (FALCPA). Retrieved from https://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/Allergens/ucm106187.htm

Hide and Seek Label Reading

Instructions: Read the assigned label ingredient statement on the wall and the FARE "Tips for Avoiding Your Allergen" handout. With your group, answer the activity questions for that label. Discuss the answers and your observations on label reading within your group. We will also discuss the answers as a class.

| QUESTIONS FOR LABEL A | ANSWERS |
|--|---------|
| Which allergens are listed in Label A? | |
| Does the product label meet the allergen requirements of the labeling law? | |

Label A

INGREDIENTS: CULTURED PASTEURIZED SKIM MILK, MILK, WHEY PROTEIN CONCENTRATE, SALT, WHEY, NATURAL FLAVOR, XANTHAN GUM, LOCUST BEAN GUM, GUAR GUM, VITAMIN A PALMITATE, SORBIC ACID AND CARBON DIOXIDE (TO MAINTAIN FRESHNESS).

CONTAINS: MILK

| QUESTIONS FOR LABEL B | ANSWERS |
|--|---------|
| Which ingredients in the statement cause the manufacturer to label the product: CONTAINS MILK? | |
| Can a child known to have a wheat allergy have this product? | |

Label B

INGREDIENTS: SALT, MONOSODIUM GLUTAMATE, MALTODEXTRIN, GARLIC, ONION, PARSLEY, SPICE, CARRAGEENAN, CALCIUM STEAROYL LACTYLATE, PARTIALLY HYDROGENATED CANOLA OIL, BUTTERMILK PRODUCT, TURMERIC (COLOR). CONTAINS: MILK

| QUESTIONS FOR LABEL C | ANSWERS |
|---|---------|
| Would you prepare and serve this product to a child with an egg allergy? | |
| Does this statement meet the requirements of the <u>labeling</u> <u>law</u> ? | |

Label C

Ingredients: Durum flour & semolina blend, fiber, niacin, iron (ferrous sulfate), thiamin mononitrate, riboflavin, folic acid. Information: has wheat ingredients and is manufactured in a facility that uses eggs.

| QUESTIONS FOR LABEL D | ANSWERS |
|---|---------|
| Can this product be served to a child with a known peanut allergy? | |
| Can this product be served to a child with known egg, wheat, and soy allergies? | |

Label D

Ingredients: Sunflower Seed, Sugar, Mono-Diglycerides to prevent separation, Salt, and Natural Mixed Tocopherols to preserve freshness. Made on equipment that processes soybeans. Processed in a peanut and tree nut free facility.

| QUESTIONS FOR LABEL E | ANSWERS |
|--|---------|
| How many of the eight (8) major allergens are in this product? List the allergens. | |
| Can this product be served to a child with shellfish allergies? | |

| INGREDIENTS: WATER, DISTILLED |
|---|
| VINEGAR, VEGETABLE OIL (SOYBEAN AND/ |
| OR CANOLA), CIDER VINEGAR, ROMANO |
| CHEESE (CULTURED MILK, SALT, ENZYMES), |
| SUGAR, GARLIC*, EXTRA VIRGIN OLIVE OIL, |
| CONTAINS LESS THAN 2% OF: OMEGA 3 [FISH |
| OIL AND FISH GELATIN (CONTAINS TILAPIA, |
| SARDINE, AND ANCHOVY)], ANCHOVY (FISH), |
| LEMON JUICE CONCENTRATE, SPICE, SALT, |
| FERMENTED WHEAT PROTEIN, YEAST |
| EXTRACT, MALTODEXTRIN, XANTHAN GUM, |
| PROPYLENE GLYCOL ALGINATE, POTASSIUM |
| SORBATE, SODIUM BENZOATE AND CALCIUM |
| DISODIUM EDTA AS PRESERVATIVES. *DRIED. |
| |

Label E

| QUESTIONS FOR LABEL F | ANSWERS |
|---|---------|
| Which allergen is listed in the ingredient statement but is not listed in the "Contains" statement? | |
| Would the missing information in the "Contains" statement be enough for the product to be recalled? | |

Label F BEEF, WATER, TEXTURED SOY PROTEIN, EGGS, DEHYDRATED ONION, GARLIC, SPICES, BREAD CRUMBS, WHEY ALLERGIES: CONTAINS EGGS, MILK, AND WHEAT

Tips for Recognizing Food Allergies in Bulk Items and USDA Foods

- Obtain the ingredient statement for the bulk product and identify any known allergens; retain the labeling on bulk packages.
- Use your Standard Operating Procedure for how bulk products will be handled.
 - Determine the number of bulk lots mixed in one storage container.
 - Ensure that the food product added has the same ingredient statement.
 - Prevent cross-contact from utensils and scoops. (For example, do not use flour scoop to scoop sugar.)
 - Clean the bulk storage container thoroughly to remove allergen residue before the container is used for a different product.
- If there is any doubt of the ingredients of bulk product, talk to your director.
- Always read USDA Foods product labels for allergens, product brands may change throughout the school year. Do not rely on USDA Foods Fact Sheets.
- · Build time in work schedule to read food labels.

Source: Institute of Child Nutrition. (2017). *Food safety fact sheets: Cleaning and sanitizing food contact surfaces.* Retrieved from www.theicn.org/foodsafety

Reading Food Labels

Instructions: Answer the questions for your school's food allergy management plan. If you do not know the answer, check "Ask My Director" to remind yourself to find out the answer when you get back to your school.

| Questions | Answers | Ask My Director | | |
|--|---------|--------------------|--|--|
| Procedures for Reading Food Labels | | | | |
| Who reads labels for food allergens? | | | | |
| If that person is out, who takes on that responsibility? | | | | |
| Could substitutes read the labels? | | | | |
| How often do you read labels for allergens? | | | | |
| Storing Food Labels | | | | |
| Do you keep food labels? | | | | |
| How long? | | | | |
| What do you do if you cannot find the food label? | | | | |
| How do you find ingredient information for food items where the labels are printed on the case, which is thrown away after stocking the shelves? | | | | |
| Where are food labels stored? | | | | |

| Questions | Answers | Ask My Director | | |
|--|---------|--------------------|--|--|
| Procedures for Changes in Food Labels | | | | |
| What would you do if a substitute product contains a food allergen, the product recipe has changed to contain an allergen, or the product now has a precautionary label? | | | | |
| What is your chain of command for communicating that a food label now contains a food allergen? | | | | |
| Who do you tell if you realize that you made a mistake reading a food label and it actually does contain a food allergen? | | | | |
| Communicating Food Allergy Information | | | | |
| How does your school district share food allergy information about menu items? | | | | |
| How do you communicate with a parent or guardian who is requesting additional food allergy information? | | | | |
| How do you communicate with other school employees, such as the school nurse, principal, or teacher, who are requesting additional food allergy information? | | | | |
| If you cannot answer the question, who do you tell that person to contact? | | | | |

Tips for Managing Food Labels

Reading Food Labels

- Check all labels carefully every time.
 - Read the label each time the product is received.
 - Suppliers may make product substitutions
 - Formulas may change
 - Vendors could change
 - Read labels before preparing food.
- Build time into the schedule for this procedure.
- Do rely on specifications, fact sheets, or the last shipment.

Storing Food Labels

- The CDC's Voluntary Guidelines for Managing Food Allergies in Schools and Early Care and Education Programs recommends that labels of all products served be kept for 24 hours.
 - This is a precaution so the label is available in case someone has an allergic reaction.
 - Unlike a foodborne illness outbreak where the outbreak can occur days after a food is served, an allergic reaction will happen the day of service.
- If food is going to be served as leftovers or reused in another recipe, the label should be kept until all product is either consumed or disposed.
- Methods for maintaining the label
 - Keep a label library.
 - Keep the actual label in a designated spot for service that day.
 - Scan or photograph the label.

Changes in Food Labels

- Knowing the chain of command for communicating that a food product now contains a food allergen can prevent an allergic reaction.
- Every school district should have a food allergy management plan
 - Clearly outline the chain of command.
 - Detail what actions employees should take if a food label is read incorrectly and contains a food allergen.
 - Contact your director.
 - Do not serve the food to the child with the allergy.
- Train employees on plan.

Communicating Food Allergies

- Methods for communicating
 - Electronic records can help share information on the district's website.
 - Prepare handouts.
 - Provide training for your staff or parents or guardians.
- If you communicate the school's food allergy management plan, families will understand what is being done to protect their child.
 - It is an important priority of the school nutrition department.
 - Precautions are being taken to keep children safe.
 - You have an emergency action plan if something unexpected occurs.

Sources:

Centers for Disease Control and Prevention. (2013). *Voluntary guidelines for managing food allergies in schools and early care and education programs*. Retrieved from www.cdc.gov/healthyyouth/foodallergies/

Food Allergy Research and Education. (n.d.). *How to read food labels*. Retrieved from https://www.foodallergy.org/life-with-food-allergies/living-well-everyday/how-to-read-food-labels

U.S. Department of Agriculture, Food and Nutrition Service. (2017). *Accommodating children with disabilities in the school meal programs – Guidance for school food service professionals*. Retrieved from https://www.fns.usda.gov/2017-edition-accommodating-children-disabilities-school-meal-programs

Lesson 3: Avoiding Cross-Contact

Objectives:

- 1. Explain cross-contact.
- 2. Examine how cross-contact may occur, and develop strategies for preventing it.

Cleaning and Sanitizing Fact Sheet

Introduction

Cleaning and sanitizing is an important prerequisite program for food safety in any school nutrition program. School nutrition employees who follow proper cleaning and sanitizing practices reduce the risk of cross-contamination, which can lead to foodborne illness, and cross-contact, which can contribute to an allergic reaction.

Here Are the Facts

Research conducted by the U.S. Food and Drug Administration (2009) shows that contaminated equipment is a risk factor for food safety in retail foodservice establishments, which include schools, hospitals, nursing homes, and restaurants. Cleaning and sanitizing is an area in which a high number of foodservice operations did not follow appropriate practices.

Application

Clean and sanitize work surfaces, equipment, and other food contact surfaces using proper procedures.

- Follow state and local health department requirements.
- Follow manufacturer's instructions regarding the use and cleaning of equipment.
- Follow manufacturer's instructions regarding the use of chemicals for cleaning and sanitizing food contact surfaces.
- Refer to the Safety Data Sheet (SDS) provided by the manufacturer if you have questions about the use of specific chemicals.
- Wash, rinse, and sanitize food contact surfaces of sinks, tables, utensils, thermometers, carts, and equipment:
 - Before each use.
 - Between uses when preparing different types of raw animal foods such as eggs, fish, meat, and poultry
 - Between uses when preparing ready-to-eat foods and raw animal foods such as eggs, fish, meat, and poultry
 - Any time contamination occurs or is suspected
 - After a food with a food allergen has been prepared and before preparing an allergenfree food
- Wash, rinse, and sanitize food contact surfaces using the following procedures:
 - Wash surface with detergent solution to clean.
 - Rinse surface with clean water to remove debris and detergent.
 - Sanitize surface using a sanitizing solution mixed at the concentration specified on the manufacturer's label.
 - Allow items to air dry.

Take corrective action to make sure that cleaning and sanitizing is done properly.

- Wash, rinse, and sanitize dirty food contact surfaces.
- Sanitize food contact surfaces if it cannot be determined if they have been sanitized properly.
- Discard food that comes in contact with food contact surfaces that have not been cleaned and sanitized properly.

Remember, follow state or local health department requirements.

Source: Institute of Child Nutrition. (2017). *Food safety fact sheets: Cleaning and sanitizing food contact surfaces.* Retrieved from www.theicn.org/foodsafety

Methods for Avoiding Cross-Contact

Cross-Contact: Occurs when an allergen is accidentally transferred from a food containing an allergen to a food or surface that does not contain the allergen.

Example: Using a knife to spread peanut butter for peanut butter and jelly sandwiches, and then using the same knife to cut a turkey sandwich without cleaning and sanitizing between uses.

How to Avoid It

- Wash hands before preparing foods that are allergy-free.
- Wear single-use gloves.
- Use a clean apron when preparing allergy-free food.
- Wash with hot, soapy water making sure to scrub, then rinse and sanitize all utensils, equipment, and food contact surfaces before and after each use.
- If possible, designate an allergy-free zone in the kitchen. When working with multiple food allergies, set up procedures to prevent cross-contact within the allergy-free zone.
- Prepare food items that do not contain allergens first.
 Label and store the allergy-free items separately.
- If possible, use clean potholders and oven mitts for allergy-free foods to prevent cross-contact.





Source: Institute of Child Nutrition. (2017). Serving safe food to students with food allergies (Sample SOP). Retrieved from www.theicn.org/foodsafety

Methods for Avoiding Cross-Contact, cont.

Examples for Avoiding Cross-Contact

| Problem | Solution |
|--|--|
| A knife used to spread peanut butter may also be dipped in the jelly jar, tainting the jelly with peanut protein. | Keep a separate jelly jar for the child with allergies. Use clean spoon to put jelly on bread. |
| positive proteins | Put jelly on first using a separate spoon. |
| You prepare an allergen (e.g. chopping walnuts on a cutting board) and then another food (e.g. slicing tomatoes) without properly cleaning. | Make the allergen-free food first. Clean foodservice equipment including the cooking area with hot, soapy water. |
| Ingredients from an allergenic food may splatter, splash, or spill into the allergen-free food when making a catering platter. | Prepare the allergen-free foods first, cover, and remove from the preparation area prior to preparing the foods for others. |
| You know that a student has a severe peanut allergy. You observe that another student in the dining room has a hand full of peanuts and is laughing with friends and pointing at the boy with the allergy. | Go to the student with the peanut allergy and escort him from the dining room. Make sure you know where his epinephrine auto-injector is located. Tell the principal about the situation, and sit in on the meeting with the students. |
| Allergen-free foods may come in contact with an allergen in storage, in the refrigerator, or the dry storage. | Designate a separate shelf in the refrigerator and cupboard for allergen-free foods. This shelf should be above the shelf that may store foods with potential allergens. Consider using stickers to identify "safe" foods. Discard anything that is suspected of cross-contact, or do not use it for the child with allergies. |
| Kitchens may slice various meats and cheeses on shared equipment. Meats could contain allergenic ingredients such as milk, soy, wheat or nuts. | Make sure staff are following Standard Operating Procedures to clean equipment. Slice allergen-free food first. |
| Cafeteria lines and buffets may have greater risk of cross-contact due to shared utensils and spills. | Have the school nutrition manager keep the safe food separate to prevent cross-contact. |

Avoiding Cross-Contact Plan

Instructions: For your school kitchen, write situations where cross-contact can occur during the flow of food process. Then, write what procedures your district uses to prevent that situation of cross-contact. Any questions you have for your director, write at the bottom.

| | Cross-Contact Occurs | Procedure for Avoiding It |
|---------|----------------------|---------------------------|
| Receive | | |
| Store | | |
| Prepare | | |
| Cook | | |
| Hold | | |
| Serve | | |
| Store | | |

| Ask My Director: | | |
|------------------|--|--|
| | | |
| | | |
| | | |

Lesson 4: Accommodating Children with Food Allergies

Objectives:

- 1. Describe methods for supporting children with food allergies.
- 2. Determine strategies to manage food prepared and served outside of the cafeteria.

Laws Related to Disabilities and Privacy

| | Federal Laws |
|--|---|
| Law | How It Relates to School Nutrition |
| Rehabilitation Act of 1973 | Prohibits discrimination against qualified persons with disabilities in programs or activities of any agency of the Federal government's executive branch or any organization receiving Federal financial assistance: • National School Lunch Program • School Breakfast Program • Fresh Fruit & Vegetable Program • After School Snack Program |
| Individuals with Disabilities Education Act (IDEA)1975, Part B 2006 | Requires a free and appropriate public education be provided for children with disabilities ages 3–21 IEP Plan derived from this law |
| Americans with Disabilities Act (ADA) 1990 and 2008 Amendments | Broadens and extends civil rights protection for approximately 50 million Americans with disabilities According to the ADA, all food allergies and intolerances have the potential to be considered disabilities. |
| The Health Insurance Portability & Accountability Act (HIPPA) 1996 | Requires all medical records disclosed be kept properly confidential Gives the patient rights to control how health information is used |
| Family Educational Rights and Privacy Act (FERPA) 1974 | Protects the privacy of health information entered into a student's record |

Source: USDA. (2017). *Accommodating children with disabilities in the school meal programs – Guidance for school food service professionals.* Retrieved from https://www.fns.usda.gov/2017-edition-accommodating-children-disabilities-school-meal-programs

Roles of School Nutrition Staff in Food Allergy Management

Some of the ways you do your part for the food allergy team are to:

- · Create an environment where children with food allergies will be safe.
- Read food labels carefully.
- Communicate and share with school staff, parents or guardians, and students the ingredient statement information.
- Prevent cross-contact of potential food allergens by following food safety SOP.
- Follow food allergy management plan set by school district.
- Ensure a safe school environment by reporting any discrimination or bullying.
- Have in place a system to identify students with food allergies without compromising privacy or confidentiality rights.
- Make food accommodations for students with food allergies according to their individual allergy plan.
- Know the emergency response protocol to respond to an allergic reaction incident.
- Train all your staff including substitutes on food allergies.
- Attend professional development on food allergies.

Source: Centers for Disease Control and Prevention. (2013). *Voluntary guidelines for managing food allergies in schools and early care and education programs*. Retrieved from www.cdc.gov/healthyyouth/foodallergies/

Reduce the Risk Possible

Instructions: Work in small groups to determine how to safely provide food from an outside source to a child with known life-threatening food allergies in the scenario you are assigned. Record the actions you would take to provide for the child on the chart paper. Select a spokesperson from your group to share and the actions your group would take to provide for the child.

| Group | Scenario | Actions to Provide |
|-------|--|--------------------|
| A | Xander has a wheat allergy. His eighth grade class does Breakfast in the Classroom. Pre-made omelets with cheese sauce are on the menu. The cheese sauce contains wheat. | |
| В | Ashlee is going on a field trip with her fourth grade class. The students will get lunch from a local fast food restaurant with fried fish. Ashlee is allergic to fish. | |
| С | Chris, age 7, is allergic to wheat and soy. You are serving food from a local Mexican restaurant to celebrate Cinco de Mayo. | |
| D | Jasmine has a history of anaphylaxis in response to milk. Jasmine goes to the afterschool program where snacks are prepared by the cafeteria staff and served by the program staff. Snacks from donations are served, too. | |
| E | Rachel, age 12, tells the cafeteria monitor, "My throat is sore." The teacher notices that Rachel is flushed and developing hives. Rachel has no history of a food allergy. The school nurse is at another school today. | |

Food Allergy Resources

Manuals

Centers for Disease Control and Prevention. (2013). Voluntary guidelines for managing food allergies in schools and early care and education programs. Retrieved from https://www.cdc.gov/healthyschools/foodallergies/index.htm

Food Allergy Research & Education. (2017). Your food allergy field guide. Retrieved from https://www.foodallergy.org/sites/default/files/migrated-files/file/field-guide.pdf (please add)

U.S. Department of Agriculture, Food and Nutrition Service. (2017). Accommodating children with disabilities in the school meal programs – Guidance for school food service professionals. Retrieved from https://www.fns.usda.gov/school-meals/2017-edition-accommodating-children-disabilities-school-meal-programs

Website Resources

Centers for Disease Control and Prevention

http://www.cdc.gov/healthyyouth/foodallergies/

Food Allergy Research and Education (FARE)

http://www.foodallergy.org/

Institute of Child Nutrition

- Food Allergy Resources including fact sheets and mini-posters: www.theicn.org/foodsafety
- Food Allergies for School Nutrition Programs: www.theicn.org/elearning
- · Food Safety Standard Operating Procedures: www.theicn.org/foodsafety

NEA Health Information Network

- English: http://healthyfutures.nea.org/wpcproduct/food-allergy-book-what-school-employees-need-to-know-english/
- Spanish: http://healthyfutures.nea.org/wpcproduct/food-allergy-book-what-school-employees-need-to-know-spanish/

United States Department of Agriculture, Food and Nutrition Service

https://www.fns.usda.gov/ofs/food-safety

Appendix

Hide and Seek Label Reading Answers

Instructions: Read the assigned label ingredient statement on the wall and the FARE "Tips for Avoiding Your Allergen" handout. With your group, answer the activity questions for that label. Discuss the answers and your observations on label reading within your group. We will also discuss the answers as a class.

| QUESTIONS FOR LABEL A | ANSWERS |
|--|---------|
| Which allergens are listed in Label A? | Milk |
| Does the product label meet the allergen requirements of the labeling law? | Yes |

Label A

INGREDIENTS: CULTURED PASTEURIZED SKIM MILK, MILK, WHEY PROTEIN CONCENTRATE, SALT, WHEY, NATURAL FLAVOR, XANTHAN GUM, LOCUST BEAN GUM, GUAR GUM, VITAMIN A PALMITATE, SORBIC ACID AND CARBON DIOXIDE (TO MAINTAIN FRESHNESS).

CONTAINS: MILK

| QUESTIONS FOR LABEL B | ANSWERS |
|--|-------------|
| Which ingredients in the statement cause the manufacturer to label the product: CONTAINS MILK? | Buttermilk* |
| Can a child known to have a wheat allergy have this product? | Yes |

*Calcium stearoyl lactylate does not contain milk protein and is safe for those with milk allergies to consume. This shows the importance of looking up

unknown ingredients.

Lahel R

INGREDIENTS: SALT, MONOSODIUM GLUTAMATE, MALTODEXTRIN, GARLIC, ONION, PARSLEY, SPICE, CARRAGEENAN, CALCIUM STEAROYL LACTYLATE, PARTIALLY HYDROGENATED CANOLA OIL, BUTTERMILK PRODUCT, TURMERIC (COLOR). CONTAINS: MILK

| QUESTIONS FOR LABEL C | ANSWERS |
|--|--|
| Would you prepare and serve this product to a child with an egg allergy? | No, risk of cross- contact with eggs. |
| Does this statement meet the requirements of the <u>labeling law</u> ? | No, it does not declare the allergen wheat correctly. Statement should be in "Contains", in parenthesis, or in usual name. |

Label C

Ingredients: Durum flour & semolina blend, fiber, niacin, iron (ferrous sulfate), thiamin mononitrate, riboflavin, folic acid. Information: has wheat ingredients and is manufactured in a facility that uses eggs.

Hide and Seek Label Reading Answers

| QUESTIONS FOR LABEL D | ANSWERS |
|---|---|
| Can this product be served to a child with a known peanut allergy? | Yes, it is stated that it is made in a peanut and tree nut free facility. |
| Can this product be served to a child with known egg, wheat, and soy allergies? | No, there is a risk of cross-contact with soy. |

| QUESTIONS FOR LABEL E | ANSWERS |
|--|------------------------------|
| How many of the eight (8) major allergens are in this product? List the allergens. | 4: soy, milk, fish, wheat |
| Can this product be served to a child with shellfish allergies? | Yes |

| Label E |
|---|
| INGREDIENTS: WATER, DISTILLED VINEGAR, |
| VEGETABLE OIL (SOYBEAN AND/OR CANOLA), |
| CIDER VINEGAR, ROMANO CHEESE (CULTURED |
| MILK, SALT, ENZYMES), SUGAR, GARLIC*, |
| EXTRA VIRGIN OLIVE OIL, CONTAINS LESS |
| THAN 2% OF: OMEGA 3 [FISH OIL AND FISH |
| GELATIN (CONTAINS TILAPIA, SARDINE, AND |
| ANCHOVY)], ANCHOVY (FISH), LEMON JUICE |
| CONCENTRATE, SPICE, SALT, FERMENTED |
| WHEAT PROTEIN, YEAST EXTRACT, |
| MALTODEXTRIN, XANTHAN GUM, PROPYLENE |
| GLYCOL ALGINATE, POTASSIUM SORBATE, |
| SODIUM BENZOATE AND CALCIUM DISODIUM |
| EDTA AS PRESERVATIVES. *DRIED. |
| |

| QUESTIONS FOR LABEL F | ANSWERS |
|---|---|
| Which allergen is listed in the ingredient statement but is not listed in the "Contains" statement? | Soy |
| Would the missing information in the "Contains" statement be enough for the product to be recalled? | Yes, it is one of the major eight and is required to be declared. |

Label F BEEF, WATER, TEXTURED SOY PROTEIN, EGGS, DEHYDRATED ONION, GARLIC, SPICES, BREAD CRUMBS, WHEY ALLERGIES: CONTAINS EGGS, MILK, AND WHEAT

Reduce the Risk Possible Answers

Instructions: Work in small groups to determine how to safely provide food from an outside source to a child with known life-threatening food allergies in the scenario you are assigned. Record the actions you would take to provide for the child on the chart paper. Select a spokesperson from your group to share and the actions your group would take to provide for the child.

| Group | Scenario | Actions to Provide |
|-------|--|--|
| A | Xander has a wheat allergy. His eighth grade class does Breakfast in the Classroom. Pre-made omelets with cheese sauce are on the menu. The cheese sauce contains wheat. | Determine an appropriate substitute for Xander that does not contain wheat. Prepare the substitute so that cross-contact does not occur. Wrap, label, and separate Xander's food to prevent cross-contact. |
| В | Ashlee is going on a field trip with her fourth grade class. The students will get lunch from a local fast food restaurant with fried fish. Ashlee is allergic to fish. | Coordinate with the school staff to provide an appropriate substitution such as a meal from the School Nutrition Program. |
| С | Chris, age 7, is allergic to wheat and soy. You are serving food from a local Mexican restaurant to celebrate Cinco de Mayo. | Obtain a copy of the restaurant's menu and speak to the restaurant manager about what allergens are in the foods. Make some wheat and soy free menu options. Assist child to select wheat and soy free menu choices. Have servers serve the food to prevent cross-contact from utensils or if the risk is too great, make a plate for the child when the food arrives; keep food separate and in a warmer. |
| D | Jasmine has a history of anaphylaxis in response to milk. Jasmine goes to the afterschool program where snacks are prepared by the cafeteria staff and served by the program staff. Snacks from donations are served, too. | Train afterschool staff to manage food allergies. Ensure donations come with ingredient statements to look for allergies. Train the children in the afterschool program on the importance of no food sharing. Be sure Jasmine's auto-injector is available during the afterschool program. Have SOP for managing food allergies for afterschool program. |
| E | Rachel, age 12, tells the cafeteria monitor, "My throat is sore." The teacher notices that Rachel is flushed and developing hives. Rachel has no history of a food allergy. The school nurse is at another school today. | Follow emergency food allergy action plan. Immediately call 911 for emergency medical services to come to the school; tell them an allergic reaction is suspected and to bring epinephrine. Notify parents or guardians. Notify school nurse or district nurse of the situation. |

References

- American Academy of Allergy Asthma and Immunology. (n.d.). *Anaphylaxis*. Retrieved from https://www.aaaai.org/conditions-and-treatments/library/allergy-library/anaphylaxis
- Celiac Disease Foundation. (n.d.). What is celiac disease? Retrieved from https://celiac.org/about-celiac-disease/what-is-celiac-disease/
- Centers for Disease Control and Prevention. (2013). Voluntary guidelines for managing food allergies in schools and early care and education programs. Retrieved from www.cdc.gov/healthyyouth/foodallergies/
- Food Allergy Research and Education. (n.d.). *Facts about food allergy bullying*. Retrieved from https://www.foodallergy.org/sites/default/files/migrated-files/file/bullying-facts.pdf
- Food Allergy Research and Education. (2015). FARE recognize and respond to anaphylaxis. Retrieved from https://www.foodallergy.org/sites/default/files/migrated-files/file/common-symptoms-poster.pdf
- Food Allergy Research and Education. (2019). *Food allergy and anaphylaxis emergency care plan*. Retrieved from https://www.foodallergy.org/life-with-food-allergies/food-allergy-anaphylaxis-emergency-care-plan
- Food Allergy Research and Education. (2019). *Food allergy facts and statistics for the U.S.*Retrieved from https://www.foodallergy.org/sites/default/files/2018-04/FARE-Food-Allergy-Facts-Statistics.pdf
- Food Allergy Research and Education. (2014). *Food allergies: Frequently asked questions*. Retrieved from https://www.foodallergy.org/sites/default/files/migrated-files/file/food-allergy-faqs.pdf
- Food Allergy Research and Education. (2019). *How a child might describe a reaction*. Retrieved from https://www.foodallergy.org/life-with-food-allergies/newly-diagnosed/how-a-child-might-describe-a-reaction
- Food Allergy Research and Education. (n.d.). *How to read food labels*. Retrieved from https://www.foodallergy.org/life-with-food-allergies/living-well-everyday/how-to-read-food-labels
- Food Allergy Research and Education. (n.d.). *Symptoms of an allergic reaction to food.* Retrieved from https://www.foodallergy.org/life-with-food-allergies/food-allergy-101/symptoms-of-an-allergic-reaction-to-food
- Food Allergy Research and Education. (2019). *Tips for avoiding your allergen.* Retrieved from https://www.foodallergy.org/media/973
- Food Allergy Research and Education. (n.d.). *Treating severe allergic reaction*. Retrieved from https://www.foodallergy.org/life-with-food-allergies/epinephrine/treating-severe-allergic-reactions
- Food Allergy Research and Education. (n.d.). *What is a food allergy?* Retrieved from https://www.foodallergy.org/life-with-food-allergies/food-allergy-101/what-is-a-food-allergy

- Food Allergy Research & Education. (2017). Your food allergy field guide. Retrieved from https://www.foodallergy.org/sites/default/files/migrated-files/file/field-guide.pdf
- Food and Drug Administration. (2018). Food allergen labeling and consumer protection act of 2004 (FALCPA). Retrieved from https://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/Allergens/ucm106187.htm
- Food and Drug Administration. (2019). FDA Food Safety Modernization Act (FSMA). Retrieved from https://www.fda.gov/food/guidance-regulation-food-and-dietary-supplements/food-safety-modernization-act-fsma
- Food Engineering Magazine. (2019). *A look back at 2018 food recalls*. Retrieved from https://www.foodengineeringmag.com/articles/97168-food-product-recalls-in-2017
- Institute of Child Nutrition. (2017). *Managing food allergies in school nutrition programs*. University, MS. Author.
- Institute of Child Nutrition. (2017). Food safety fact sheets: Cleaning and sanitizing food contact surfaces. Retrieved from www.theicn.org/foodsafety
- Institute of Child Nutrition. (2017). Serving safe food to students with food allergies (Sample SOP). Retrieved from www.theicn.org/foodsafety
- Kristen D. Jackson, LaJeana D. Howie, and Lara J. Akinbami. (2013). *Trends in allergic conditions among children: United States, 1997–2011*. Retrieved from http://www.cdc.gov/nchs/data/databriefs/db121.pdf
- Sauer, K. & Center of Excellence for Food Safety Research in Child Nutrition Programs (Producers). (2017). Caitlin Remembered [Video File]. Retrieved from http://cnsafefood.k-state.edu/resources/videos.html
- Sicherer S.H., Furlong T.J., DeSimone J., and Sampson H.A. (2001). The US peanut and tree nut allergy registry: Characteristics of reactions in schools and day care. *Journal of Pediatrics*. 138(4), 560-565.
- U.S. Department of Agriculture, Food and Nutrition Service. (2017). *Accommodating children with disabilities in the school meal programs Guidance for school food service professionals*. Retrieved from https://www.fns.usda.gov/2017-edition-accommodating-children-disabilities-school-meal-programs
- U.S. Department of Health and Human Services Public Health Services, Food and Drug Administration. (2017). *FDA food code*. Retrieved fromhttps://www.fda.gov/Food/GuidanceRegulation/RetailFoodProtection/FoodCode/ucm595139.htm
- U.S. Food and Drug Administration. (2017). FReport on the occurrence of foodborne illness risk factors in fast food and full-service restaurants 2013-2014. Retrieved from https://www.fda.gov/food/retail-food-protection/retail-food-risk-factor-study



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