# Food Safety for Child Nutrition Programs

Supplemental Lesson: Food Allergies and Intolerances

July 9, 2013

Slide 1:

**Narrator:**

Welcome to the supplemental lesson about food allergies and intolerances.

Slide 2:

**Narrator:**

The purpose of this lesson is to explore food allergies and food intolerances.

Slide 3

**Narrator:**

The lesson competency is as follows: on completion of this lesson, the participant will develop an understanding of the causes and symptoms of food allergies and intolerances, and the responsibilities of food service establishments in preventing life-threatening reactions.

Slide 4

**Narrator:**

At the end of this lesson, you will be able to do the following things:

* Describe the differences between food allergies and intolerances.
* Identify the eight common food allergens.

Slide 5

**Narrator:**

* Identify school nutrition program responsibilities and requirements for accommodating children with food allergies or special dietary needs.
* Demonstrate methods for managing food allergies.

Slide 6

**Narrator:**

Now let’s review some vocabulary.

A food allergy is an abnormal response to a food caused by the immune system.

An allergen is a substance that causes an allergic reaction.

An antibody is a protein in the body that reacts and attaches to specific substances.

Antigens are the proteins or other substances that antibodies attach to.

Slide 7

**Narrator:**

Mast cells are a type of immune system cell found in body tissues.

Basophils are a type of immune system cell found in the blood.

Immunoglobin E, also called IgE, is a type of antibody found on basophils and mast cells.

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

Slide 8

**Narrator:** A food intolerance is a sensitivity to a food that does not involve IgE.

Celiac disease is an immune system reaction to gluten that causes damage to the lining of the intestine.

Lactose intolerance is the inability to digest lactose.

Slide 9

**Narrator:**

A medical statement to request special meals and/or accommodations is the required form when meal accommodations are made to insure they are reimbursable.

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

Slide 10

**Narrator:**

Before we can talk in more detail about food allergies, we need to talk a little bit about the immune system.

The immune system is the part of the body that fights infection. Things like bacteria, virus, fungi, and parasites, as we have learned in the previous lessons, can invade our bodies and cause harm. Our immune system helps prevent these from invading, and it fights them when they do invade. One way our immune system does this is through antibodies. Our bodies make many different antibodies, and each different antibody attaches, or binds, to a different kind of antigen.

Slide 11

**Narrator:**

When a bacteria, virus, or parasite invades, they encounter basophils (in the blood) and mast cells (in tissue). On the surface of mast cells are antibodies known as Immunoglobin E, or IgE. The IgE attaches, or binds, to the antigen. This tells the mast cell to release immune system chemicals, like histamine. Histamine, and other immune system chemicals cause the immune system to do several things that help fight an invasion.

Slide 12

**Narrator:**

When someone has a food allergy, they make antibodies that bind to an antigen found in that food. When an allergic person eats that food, the antigen is absorbed into their bodies, and the immune system overreacts and causes an immune response like it is been invaded by a pathogen. Unfortunately, this immune response can be very unpleasant, and in some cases, life-threatening. Because IgE is involved in this type of allergic response, it is often called an IgE-mediated allergy.

Slide 13

**Narrator:**

Food allergies can have a variety of symptoms and it can take from a few minutes to a few hours to develop symptoms.

Slide 14

**Narrator:**

It will often start with itching or swelling of the mouth, because this is the first part of the body that encounters the allergen. If it is inhaled, it can cause symptoms like a runny nose or congestion. The most common symptoms of a food allergy are a red rash and hives. Food allergies can cause vomiting, or hives, and in most severe cases, anaphylaxis.

Slide 15

**Narrator:**

Anaphylaxis is the most serious allergic response, as it can result in death if not treated quickly. It is particularly dangerous because a constricted airway can cause difficulty breathing.

Slide 16

**Narrator:**

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

Slide 17

**Narrator:**

Treatment for anaphylaxis includes an injection of epinephrine (sometimes called adrenaline). Those with severe food allergies often carry with them epinephrine auto-injectors called EpiPens. When someone has an anaphylactic reaction, injection with one of these is necessary, followed by a visit to the emergency department to make sure symptoms don’t return.

Slide 18

**Narrator:**

While almost any food or ingredient can cause a food allergy, some food allergies are more common than others. The most common food allergies, which account for 90 percent of food allergies are:

* Milk
* Eggs
* Peanuts
* Tree nuts (such as almonds, cashews, walnuts)
* Fish (such as bass, cod, flounder)
* Shellfish (such as crab, lobster, shrimp)
* Soy
* Wheat

Food labels are required to list when products contain any of these, or when they are processed in shared facilities.

Slide 19

**Narrator:**

In addition to food allergies, people can also have what are called food intolerances. A food intolerance is when someone has a reaction to a food that is not an IgE-mediated allergy. Two intolerances that you may encounter in your program are celiac disease, and lactose intolerance.

Slide 20

**Narrator:**

Celiac disease is an intolerance to gluten, which is found in wheat, rye, and barley. When a person with celiac disease eats gluten, it results in their immune system attacking the lining of their gut. This leads to damage to the lining of the intestine that causes pain, diarrhea, gas, bloating. If the damage becomes bad enough, it can lead to inability to absorb nutrients, which can lead malnutrition.

The only treatment for celiac disease is to remove gluten from the diet.

Slide 21

**Narrator:**

An easy way to remember the grains to avoid is the acronym WROB – Wheat, Rye, Oats, Barley. While oats do not contain gluten, they contain a protein called avenin, which those with celiac disease may be sensitive to. In addition, oats are often contaminated with gluten during processing, so those with celiac disease will need to avoid oats as well.

Slide 22

**Narrator:**

Lactose intolerance is the inability to digest a sugar known as lactose, which is found in milk and dairy products. Almost all babies are able to product a digestive enzyme, known as lactase, which breaks down lactose so that it is able to be absorbed by the body. Many people lose the ability to make lactose as they get older, or they only make small amounts. As a result, lactose isn’t broken down and absorbed and passes through to the large intestine. Bacteria in the large intestine will digest the lactose, which can result in gas, bloating, and diarrhea.

Those with lactose intolerance need to avoid with lactose in order to avoid symptoms. There are also products available on the market that contain the enzyme lactase, such as the over-the-counter supplement Lactaid, that those with lactose intolerance can use to enable them to eat lactose containing products.

Slide 23

**Narrator:**

US Department of Agriculture regulations requires that substitutions or modifications in National School Lunch Program and School Breakfast Program are made for children whose disabilities restrict their diet. You can find more information about this from Title 7, Code of Federal Regulations, sections 15.3(b) and 210.10(g).

Slide 24

**Narrator:**

The USDA requires a written medical statement to request special meals and/or accommodations to ensure that the child’s meal is reimbursable. You can find this medical statement form on the CDE website. This form must be signed by a recognized medical authority.

Slide 25

**Narrator:**

For a child with a disability, USDA requires that this person be a licensed physician. For a child without a disability, but with a special dietary need, this person can be a licensed physician, physician assistant, or nurse practitioner.

Slide 26

**Narrator:**

In 2008, the American with Disabilities Act Amendments Act expanded the definition of disability to include “Major Bodily Functions”, such functions of the immune system, normal cell growth, digestive, bowel, bladder, neurological, brain, respiratory, circulatory, cardiovascular, endocrine, and reproductive functions.

This may mean that more children in your program could be identified as having a food-related disability.

Slide 27

**Narrator:**

The USDA 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” to reflect the broadened definition.

More information about the ADAAA can be found in the USDA FNS Memo SP 36-2013, CACFP 10-2013, SFSP 12-2013.

Slide 28

**Narrator:**

Generally, those with food allergies do not have a disability as defined by the legislation mentioned earlier. However, if a food allergy results in a severe, life-threatening reaction, this is considered a disability.

The expanded definition of a disability may now also include celiac disease.

Slide 29

**Narrator:**

For other food allergies or intolerances, agencies may, but are not required to make accommodations. These accommodations will still need to be supported by a written medical statement, signed by a recognized medical authority.

Slide 30

**Narrator:** Let’s discuss the following scenario. A child’s parent brings a note signed by a licensed vocational nurse that states the child has an intolerance to beans. Is this enough to make an accommodation?

Slide 31

**Narrator:** No. It does not meet the requirements for two reasons. The first is that a license vocational nurse is not one of the recognized medical authorities that can sign a medical statement. The second is that a signed not is a not a Medical Statement to Request Special Meals and/or Accommodations.

Slide 32

**Narrator:** Developing a Food Allergy Management Plan is the first step to keeping children with food allergies safe in your facility. Some questions to consider when developing a food allergy management plan are:

Who will be responsible for answering questions regarding menu items? Who will be responsible for checking ingredients used in menu items?

What steps should kitchen staff follow to avoid cross contact?

How should staff members handle an allergic reaction?

Slide 33

**Narrator:**

The Food Allergy Research and Education organization has the following guidelines for schools managing food allergies in the cafeteria. We will discuss each of them in turn.

Slide 34

**Narrator:**

First, know what to avoid and substitute. It is important to communicate with parents in order to find out what foods are safe, and what needs to be avoided. Ask for a detailed list of food ingredients. Once you have this list, don’t rely on “safe” pre-packaged food, as a food that is safe one day, may have allergens the next, as food formulations can change without notice. Partner with your vendors to ensure your products are allergen-free. Include allergen information on your recipes to help identify which menu items may cause a reaction.

Slide 35

**Narrator:**

Because some foods can contain unexpected or hidden allergens, always read labels to determine if the foods that will be served contain an allergen. Learn alternate names for ingredients.

Slide 36

**Narrator:**

For example, peanut oil is sometimes called arachis oil. Hot dogs and luncheon meat may have ingredients derived from milk. Enchilada sauce or hot sauce might contain peanuts.

The National Food Service Management Institute has a helpful fact sheet on reading labels for food allergens, which can be found at the following website. The Food Allergy Research and Education website is an excellent resource for learning more about food allergies. A list of common allergens can be found on their website.

Slide 37

**Narrator:**

The first step in preparing the kitchen and cafeteria is to designate allergy-free areas. In the kitchen, this will mean an area where allergy-free meals can be prepared, and will be kept free of all ingredients and foods allergic students need to avoid. In the cafeteria, this means allergy-free tables for students who need them.

Slide 38

**Narrator:**

In order to make sure students with food allergies receive the allergen-free food prepared for them, a way to identify students in the cafeteria line is needed. This could mean the student has a special sticker on their lunch card, or a photo of the student at the cashier’s station so that the student is easily recognized.

Slide 39

**Narrator:**

To make sure that allergy-free tables remain allergy-free, designate a person that is responsible for ensuring lunch tables and surrounding areas are thoroughly cleaned before and after lunch. Use a designated sponge or cleaning cloth for these allergy-free tables.

Slide 40

**Narrator:**

Could this happen in your school? Geneva is a child in the third grade who has a milk allergy. Her parents are very careful to keep milk products out of their house, and always send Geneva to school with a sack lunch. Geneva’s school has two lunch periods, and Geneva’s class eats during the second one.

One day, Geneva sits down at her usual table to eat her lunch, and then develops a rash on her hands and wrists.

Slide 41

**Narrator:** What do you think is the cause of Geneva’s rash? How could this be prevented?

Slide 42

**Narrator:** Her rash was caused by milk residue left on the table, because it wasn’t properly cleaned between lunch periods.

This could be prevented by washing the lunch tables between lunch periods with hot soapy water, or other cleaners that remove allergens.

Having a designated table for children with allergies and making sure it is cleaned thoroughly is a good way to keep children with allergies from inadvertently coming into contact with allergens.

What do you do in your school?

Slide 43

**Narrator:**

Preventing cross contact is also of utmost importance. Cross contact is when a food that is allergen-free comes into contact, directly or indirectly, with foods that contain allergens and the allergens are transferred to the previously safe food. It could be invisible to the naked eye. For example, a knife used to spread peanut butter is wiped clean, but is not washed. That knife, when dipped into a jar of jam can spread peanut protein that is invisible to the naked eye to the jam, making it unsafe for a child with a peanut allergy to eat.

Slide 44

**Narrator:**

To avoid cross contact, clean surfaces, equipment, pans, and utensils with hot, soapy water before preparing allergen-free foods. Use a separate cutting board for allergen-free foods. Before touching allergen-free foods, wash hands thoroughly with soap and water. Alcohol-based hand-sanitizers are not effective in removing allergens from hands.

Slide 45

**Narrator:**

Use soap or commercial cleaning agents to remove allergens from table tops. If you are preparing several foods, prepare allergen-free foods first, and keep them covered and away from other foods that are being prepared. If you have handled any foods with allergens, wash hands thoroughly before serving allergen-free meals.

Slide 46

**Narrator:**

Hazard Analysis Critical Control Points, or HACCP, which we learned about in previous lessons, can be adapted for use with food allergies.

Slide 47

**Narrator:**

The steps for HACCP are:

1. Identify hazards
2. Identify control points
3. Establish critical limits
4. Establish monitoring procedures
5. Establish corrective actions
6. Establish verification procedures
7. Establish record-keeping procedures

Lets look at each of the steps and how they apply to food allergies.

Slide 48

**Narrator:**

The first step of HACCP is to identify hazards. Go through the foods and menu items you prepare and serve and identify allergens.

Slide 49

**Narrator:**

Next, identify control points. These are points at which you can control and prevent allergens from coming into contact with allergen-free foods.

First, in receiving and storage, make sure that allergen-free foods are not stored near allergen-containing foods before they reach you. You likely need to work with your vendors to insure this. Once you have the foods, store them away from foods that contain allergens.

When preparing food, use a special prep, and designate cutting boards, knives, etc. just for allergen-free foods to prevent cross-contact.

When cooking, use clean equipment that has not been used to cook other foods. Cook allergen-free foods first.

Slide 50

**Narrator:**

When holding foods before and during service, keep allergen-free foods covered and away from other foods.

When serving food, wash hands thoroughly before serving allergen-free meals.

Slide 51

**Narrator:**

The next step of HACCP is to establish critical limits. When it comes to food allergens, there are NO safe limits. Even microscopic food particles are enough to cause a reaction.

Slide 52

**Narrator:**

When establishing monitoring procedures, establish who will monitor each critical control point, to make sure safe foods are used and no cross contact occurs, and establish when how this person will monitor the control point.

Slide 53

**Narrator:**

Establish what actions a monitor should take if a critical control point is not met. Some examples of this are communicating changes to ingredients to all staff members, and discarding foods that have come in contact with foods are that not allergen-free.

Slide 54

**Narrator:**

Establish how you will verify the HACCP plan is eliminating food allergy hazards.

Slide 55

**Narrator:**

Establish record-keeping procedures to determine if the HACCP plan is working. Decide what records need to be kept to prevent ingredients or foods that contain allergens from being served to those with allergies. You may want to document the critical control points, as well as when a child has a reaction.

Slide 56

**Narrator:**

Now let’s do an activity. The following is a list of ingredients included in a breakfast burrito served in a school. Look over this list, and identify which of these may be one of the eight common food allergens.

Slide 57

**Narrator:**

The fresh large eggs, low-fat 1% milk, reduced fat cheddar cheese, and flour tortillas all contain common allergens.

Slide 58

**Narrator:**

Now let’s look at this ingredient list again. Where might there be hidden allergens?

Slide 59

**Narrator:**

If you said hot pepper sauce, you’re correct. Always carefully read the ingredient list to determine if hidden allergens are present.

Slide 60

**Narrator:**

Now let’s look for where cross-contact might occur.

Slide 61

**Narrator:**

Fresh green peppers, fresh onions, fresh tomatoes may all be cross contact concerns. Using a specially designated cutting board and knife can help prevent cross contact.

Slide 62

**Narrator:**

Now let’s go over some review questions. Question 1: Which of the following is one of the most common food allergies?

a. Gluten

b. Strawberries

c. Wheat

d. MSG

Slide 63

**Narrator:**

The correct answer is c. Wheat.

Slide 64

**Narrator:**

Question 2: Food allergies are mediated by which of the following?

a. Immunoglobin E or IgE

b. Immunoglobin G or IgG

c. Histamine

d. Epinephrine.

Slide 65

**Narrator:**

The correct answer is a. Immunoglobin E.

Slide 66

**Narrator:**

Question 3: Which of the following is NOT a symptom of a food allergy?

a. Itchiness in the mouth

b. Rash or hives

c. Runny nose

d. Fever.

Slide 67

**Narrator:**

The correct answer is d. Fever.

Slide 68

**Narrator:**

Question 4: Which of the following statements about anaphylaxis is true?

a. It is a symptom of celiac disease

b. It is only caused by peanut allergies

c. It can result in death if not treated

d. It is treated with antihistamines.

Slide 69

**Narrator:**

The correct answer is c. It can result in death if not treated.

Slide 70

**Narrator:**

Question 5: People with celiac disease need to avoid which of the following?

a. Wheat, Rice, Oats, and Barley

b. Wheat, Rye, Oats, and Barley

c. Rye, Rice, Oats, and Lactose

d. Wheat, Lactose, Casein, and Whey

Slide 71

**Narrator:**

The correct answer is b. Wheat, Rye, Oats, and Barley.

Slide 72

**Narrator:**

Question 5: Which of the following can sign a Medical Statement to Request Special Meals and/or Accommodations?

a. Registered nurse

b. Registered dietitian

c. Licensed pharmacist

d. Licensed physician.

Slide 73

**Narrator:**

The correct answer is d. Licensed physician.

Slide 74

**Narrator:**

Which of the following is true about accommodating food allergies and intolerances?

a. Agencies are required to make accommodations for all allergies and intolerances

b. Accommodations for food intolerances do not require a signed medical statement

c. A food allergy that results in a severe, life-threatening reaction is considered a disability

d. A note on a physician’s letterhead can substitute for a signed medical statement

Slide 75

**Narrator:**

The correct answer is c. A food allergy that results in a severe, life-threatening reaction is considered a disability.

Slide 76

**Narrator:**

Question eight. What is it called when a food that does not contain an allergen comes into contact with a food that does?

a. Cross contact.

b. Cross contamination.

c. Hidden allergen.

d. Control point.

Slide 77

**Narrator:**

The correct answer is a. Cross contact.

Slide 78

**Narrator:**

Now let’s review the performance standards.

Slide 79

**Narrator:**

Describe the differences between food allergies and intolerances.

Slide 80

**Narrator:**

* A food allergy is an immune system reaction to a food that is mediated by Immunoglobin E (IgE).
* A food intolerance is a reaction to a food that is not IgE mediated.
* A food allergy can cause life-threatening anaphylaxis, while a food intolerance can not.

Slide 81

**Narrator:**

Identify the eight common food allergens.

Slide 82

**Narrator:**

The eight most common food allergens are

* Milk,
* Eggs,
* Peanuts,
* Tree nuts,
* Fish,
* Shellfish,
* Soy,
* Wheat.

Slide 83

**Narrator:**

Identify school nutrition program responsibilities and requirements for accommodating children with food allergies or intolerances.

Slide 84

**Narrator:**

* Schools must accommodate children with disabilities, and a life-threatening reaction to a food is considered a disability.
* For all other allergies and intolerances, schools may choose to make accommodations.
* Accommodations require a written medical statement signed by a medical authority.

Slide 85

**Narrator:**

Demonstrate methods for managing food allergies in the kitchen or cafeteria.

Slide 86

**Narrator:**

* Know what to avoid and substitute.
* Read labels.
* Prepare the kitchen and the cafeteria.
* Identify the students.
* Develop cleaning procedures.

Slide 87

**Narrator:**

Congratulations. You have completed the supplemental food allergies and food intolerances lesson. If you have any questions about the materials covered, ask your supervisor.