

Food Allergies - Lesson Plan

Goal: To educate students on food allergies, specifically symptoms and reactions to certain types of food.

Objectives

- At the end of the lesson students will be able to:
- Describe the difference between a food allergy and a food intolerance
 - Identify the eight most common food allergies
 - Describe the body's allergic reactions
 - Explain the diagnostic tests used to determine food allergies.

Quiz (located at the end of the lesson plan)

Vocabulary

Anaphylaxis: immune system causes shock, symptoms include drop in blood pressure, swelling of throat sometimes blocking airways

Food allergy: occurs when even a small amount of a food triggers an abnormal immune system response, often causing severe symptoms

Food intolerance: occurs when eating a food causes discomfort, usually in the digestive system

Immune system: helps protect you from sickness and disease by attacking bacteria, viruses, and fungi

Inflammation: when a part of the body becomes swollen, reddened, hot, and painful

Lesson Plan

1. Introduction

- Over 50 million Americans have an allergy of some kind.
- Food allergies affect about 5% of adults and 8% of children according to the CDC (Center for Disease Control and Prevention)
- The percentages of people with food allergies are on the rise.
- Food allergies are most common in babies and children, however food allergies can occur at any age.
- It's possible to develop an allergy to foods that have previously been eaten for years without a problem.
- Food allergies can often run in families.

2. What is a food allergy?

- It's a condition in which the body has an abnormal immune response triggered by certain foods.
- The immune system helps protect you from sickness and disease by attacking bacteria, viruses, and fungi.
- When you have an allergy, the immune system incorrectly identifies some of the proteins in food as harmful and goes on the attack, releasing chemicals such as histamines, which cause inflammation.

3. Symptoms of Food Allergies

- Food allergies can be mild to severe.
- Symptoms happen anywhere from a few minutes to a few hours after the food is consumed.
- Symptoms can happen when even a tiny amount of food is consumed.

4. The 8 most common food allergies

Common Food Allergy # 1 - Cow's Milk

- An allergy to cow's milk most often occurs when a baby or young child is exposed to cow's milk younger than 6 months old.
- 2-3% of babies and toddlers have a cow's milk allergy.
- Most (90%) of children outgrow this allergy by the time they are 3 years old.

Symptoms

- Vomiting
- Constipation
- Diarrhea
- Swelling
- Rashes
- Hives
- Anaphylaxis (blood pressure drops, throat swells sometimes blocking airway)

Treatment

Once a diagnosis to cow's milk is made, the only treatment is to avoid the following foods:

- Milk
- Milk powder
- Butter
- Margarine
- Cheese
- Cream
- Ice cream
- Yogurt

Note:

Breastfeeding mothers who have a baby with this allergy may need to eliminate the foods made from cow's milk from their diets.

Babies who are not breast-fed can be fed a milk-alternative formula recommended by their doctors.

Common Food Allergy # 2 - Eggs

- Egg allergies are the second most common food allergy in children
- Children usually outgrow this allergy by the age of sixteen.

Symptoms

- Stomach ache
- Hives or rash
- Respiratory issues
- Anaphylaxis (rare)

Treatment

The treatment for an egg allergy is to avoid eggs in the diet.

- Some foods with eggs as an ingredient can be tolerated (check with doctor).
- 70% of children with an egg allergy were found to be able to eat baked foods containing eggs.

Note:

It is possible to be allergic to just egg whites or just egg yolks. The reason being that egg whites and egg yolks have different types of protein. Egg white allergies are more common.

Common Food Allergy # 3 - Tree Nuts

- This allergy comes from nuts and seeds that grow on trees.
- 1% of the U.S. population has a tree nut allergy.
- Tree nuts include:
 - Brazil nuts
 - Almonds
 - Cashews
 - Macadamia nuts
 - Pistachios
 - Pine nuts
 - Walnuts
- A tree nut allergy also includes foods that contain nuts and oils made from nuts..

Symptoms

- Abdominal pain, cramps
- Nausea/vomiting
- Diarrhea
- Difficulty swallowing
- Itching in the mouth, throat, eyes or skin
- Nasal congestion or runny nose
- Shortness of breath
- Anaphylaxis

This allergy can be severe. Tree nut allergies contribute to about 50% of anaphylaxis related deaths.

Many people with tree nut allergies carry what is called an epi-pen. The epi-pen can be used to inject a shot of adrenaline. This hormone can reverse the effects of the allergy and save the person's life.

Treatment

The treatment for a tree nut allergy is to avoid tree nuts and foods that contain them.

Common Food Allergy # 4 - Peanuts

- The allergy can cause severe allergic reactions.
- People with a tree nut allergy are often allergic to peanuts as well.
- Most at-risk are people with a family history of peanut allergies.
- Research has shown that introducing peanuts early can protect a child from developing the allergy.
- Peanut allergies affect 4-8% of children and 1-2% of adults.
- 15-22% of children with a peanut allergy find that by the teen years they are no longer allergic.

Symptoms

- Hives
- Itching, tingling in or around the mouth
- Diarrhea
- Stomach cramps
- Nausea
- Vomiting
- Throat tightening
- Shortness of breath
- Runny nose

Treatment

The effective treatment for a peanut allergy is to avoid peanuts and foods that contain peanuts or are manufactured around (exposed to) peanuts.

Common Food Allergy # 5 - Shellfish

- A shellfish allergy is caused by the body attacking proteins in the shellfish.
- Shellfish include: Shrimp
 Prawns
 Crayfish
 Lobster
 Squid
 Scallops
 Crabs

Symptoms

- Vomiting
- Stomach cramps
- Indigestion

- Diarrhea
- Wheezing
- Difficulty breathing
- Tightness of the throat
- Weak pulse
- Hives
- Swelling of tongues and lips
- Dizziness
- Confusion

Treatment

A person with a shellfish allergy will not outgrow it. It is rare for the allergy to resolve over time. Most people with this allergy must always avoid shellfish in their diet.

Common Food Allergy # 6 - Wheat

- Wheat allergies are caused by eating wheat products and, often, other foods in the wheat family such as barley, rye, triticale, farina, einkorn, emmer (farro), spelt, Kamut, bulgur, and wheat berries.
- The reaction to wheat can be severe.
- Wheat allergies affect children the most but they usually outgrow it by the age of ten.
- A wheat allergy is different from gluten intolerance.

Symptoms

- Digestive distress
- Hives
- Vomiting
- Rashes
- Swelling
- Anaphylaxis

Treatment

People with a wheat allergy need to avoid wheat.

Common Food Allergy # 7 - Soy

- Soy allergies affect 0.4% of children. Soy allergies are mostly seen in babies and children under three.
- A soy allergy can be triggered by a protein in soybeans and products that contain soybeans.
- 70% of children with a soy allergy outgrow it.

Symptoms

- Itchy, tingly mouth
- Runny nose
- Rash
- Breathing difficulties

Treatment

People with a soy allergy need to read food labels carefully. They need to avoid soy products in their diet.

Common Food Allergy # 8 - Fish

- 2% of adults have this common allergy.
- 40% of adults that have this allergy develop it later in life.
- A fish allergy may cause a serious and possibly fatal allergic reaction.

Symptoms

- Vomiting
- Diarrhea
- Anaphylaxis

Treatment

An epi-pen may be carried by those with severe fish allergy. Fish allergies can sometimes be confused with a reaction to a contaminant, such as bacteria, viruses, or toxins in fish. If a person does have a fish allergy they need to eliminate fish from their diets.

Testing for food allergies

- Detailed questions and medical history.
- Skin-prick tests can provide information in a short time. A liquid containing the food allergen is placed just under the skin of the back. A small sterile prick on the skin allows the liquid to seep under the skin. If a raised bump (similar to a mosquito bite) appears, it is considered positive.
- Blood tests can also determine a food allergy.

Summary

- For the management and treatment of food allergies the primary way is to avoid consuming the food.
- Reading food labels and asking questions about ingredients used in restaurants are excellent practices.
- Some food allergies are permanent while others may slowly diminish over time.
- There are eight common food allergies.
- Reactions vary from mild to severe.
- An allergist can diagnose food allergies by testing.

Quiz

1. Every time I drink a glass of milk, I get a little bloated and have mild diarrhea. I probably have a (circle one)
 - a) food intolerance
 - b) food allergy
2. Every time I drink a glass of milk, my blood pressure drops and my throat tightens so I feel like I can't breathe. I probably have (circle one)
 - c) a food intolerance
 - d) a food allergy
3. What are four of the eight common food allergies?
4. Which of the following are allergic reactions? Circle all that apply.
 - a. itchy tingly mouth
 - b. dizziness and vomiting
 - c. swelling of tongue and lips
 - d. having mild digestive discomfort
5. What are two procedures used to diagnose a food allergy?

Answers

1. b. food allergy
2. a. food intolerance
3. Cow's milk
Eggs
Tree nuts
Peanuts
Shellfish
Wheat
Soy
Fish
4. a, b, and c
5. Medical history
Skin pricks
Blood tests