



Food Allergies: Protecting Your Patients

Peak Development Resources, LLC
P.O. Box 13267
Richmond, VA 23225

Phone: (804) 233-3707
Fax: (804) 233-3705
Email: editor@peakdev.com

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After reading the newsletter, the nursing assistant should be able to:

1. Describe how allergic reactions occur in the body.
2. Identify foods that commonly cause allergic reaction.
3. Identify the risk factors and signs of allergic reaction.
4. Discuss prevention and care of food allergy reactions in patients.

Mrs. Duke, a 62-year old patient, was eating a fish taco for dinner and remarked to her nursing assistant, Shauna, that it was very good. Within seconds, however, Mrs. Duke was covered in red hives and gasped to Shauna, "I'm so dizzy and sick!" Shauna pressed the emergency alarm and stayed with Mrs. Duke, lowering the head of her bed and raising her legs. The nursing staff assessed Mrs. Duke, administered epinephrine and notified the rapid response team. Thanks to Shauna's quick action, Mrs. Duke received immediate treatment for her severe allergic reaction.



When the topic of food allergies comes up, many people think mainly about allergies in children. In fact, food allergies occur in all age groups, and can be very severe in adults and aging adults. Food allergies may continue into adulthood from a childhood allergy, or may develop for the first time in adulthood, as did Mrs. Duke's shellfish allergy. Food allergies affect 2-3% of adults in the US, and can develop at any time. All healthcare staff should be alert for possible allergies in their patients.

This newsletter will discuss food allergies in adult patients, including how and why allergies occur, common food allergens and medical treatment. The nursing assistant's role in helping to prevent and manage allergic reactions caused by food will also be covered.

How Allergies Occur

Allergies result from activation of the body's immune system. The immune system serves to protect the

body from foreign "invaders", such as bacteria, by attacking and destroying them. A very important function of the immune system is to know the difference between a real threat and substances that pose no threat, such as the body's own tissues or food that is eaten. In some cases, the immune system is unable to do this, and mounts an attack on substances such as bee venom, latex, or various foods.

To attack invaders, the immune system creates antibodies. These cells attack specific allergenic substances, called antigens. In order for an allergic reaction to occur, the antigen, such as a specific food, must first enter the body. The immune system then makes antibodies to attack that substance. These antibodies are proteins called immunoglobulin E (IgE). There is no allergic reaction the first time the substance enters the body, since antibodies have not yet been formed. But the next time the antigen enters the body, the antibodies are ready to attack. During this attack, chemicals such as histamine are released, causing dilation of blood vessels, constriction of smooth muscles of the airway, and inflammation of the skin. This response produces the signs of allergic reaction, such as itching, hives, wheezing and low blood pressure.



Common Food Allergies

The most common food allergens are cow's milk, eggs, fish, shellfish, soy, wheat, peanuts and tree nuts, such as pecans, walnuts and almonds.

These foods account for 90% of food allergy reactions. Allergic cross-reactions with some of these foods are common. For example, a person who is allergic to shrimp is also likely to be allergic to other shellfish, such as crab. Cross-reactivity can also occur between foods and non-food substances. Approximately half of those with latex allergy also have certain food allergies, especially to avocados, bananas and kiwi fruit.



Allergies to milk, eggs, wheat and soy are most common during childhood. These are also the least likely allergies to continue into adulthood, usually resolving before adolescence. Childhood allergies to peanuts, tree nuts, fish and shellfish are the most likely to continue to adulthood. When adults develop food allergies for the first time, tree nuts, fish and shellfish are the most common allergens. Adults are also most likely to develop oral allergy syndrome. This is an allergic cross-reaction between pollen allergy and certain raw fruits and vegetables, such as apples, strawberries, peaches and carrots. In most cases, this results in only mild symptoms, such as itching of the mouth, throat and lips. If the fruits and vegetables are cooked, such as applesauce or steamed carrots, the structure changes and no allergic reaction occurs.

Risk Factors and Signs & Symptoms

While anyone can develop food allergies, some people are more likely than others. Genetics play a role, so a family history of food allergies increases the risk. People with other allergies, such as to latex or pollen, are more likely to have food allergies. And, those with conditions such as asthma and eczema are also more likely to develop food allergies. People with asthma tend to have the most severe and/or fatal food allergy reactions.

Allergic reactions can range in severity from mild to extremely serious, even resulting in death. Signs of allergic reaction can occur minutes to hours after exposure to the food. Signs of mild allergic reaction are usually limited to one area of the body and often include localized signs and symptoms, such as rash, itching, swelling, runny nose, watery eyes, blisters, hives, and/or redness. Severe reactions, called anaphylaxis, occur throughout the whole body, and typically involve the respiratory system. These signs may include:

- shortness of breath
- increased heart rate
- decreased blood pressure
- noisy respirations, cough or hoarseness
- difficulty speaking or swallowing
- swelling of the eyes, face, lips, tongue, or throat
- diarrhea
- dizziness/fainting
- nausea/vomiting

Diagnosis and Treatment

Current guidelines recommend use of the oral food challenge if diagnosis of a specific food allergy

is necessary. In this test, the person eats or drinks small but increasing amounts of the suspected food allergen under careful medical supervision. If a reaction occurs, the food allergy is confirmed. Other tests, such as measuring the serum IgE, may be used to help confirm the diagnosis.

There is currently no cure for food allergies. The only ways to manage them are by strict avoidance of the food and treatment of allergic symptoms if they occur. For mild reactions, antihistamines may be ordered, such as Benadryl. Severe reactions require immediate use of epinephrine to help reverse the symptoms and promote normal breathing and blood pressure. Epi-pen is a prefilled quick injector that should be readily available for anyone who has serious allergic reactions. IV fluids and oxygen may also be required, along with transport to a hospital.

Protecting Your Patients

The first step in protecting your patients from food allergy reactions is to have accurate knowledge of any allergies they have. Keep this information in mind, particularly when meals and snacks are served. Also, be familiar with how patients having food allergies are identified in your facility. This may include signs on the door or over the bed, an allergy bracelet, and/or a notice on the front of the chart.

When patients with food allergies have meals or snacks, check the meal ticket before serving or feeding it, to ensure that it is for the correct patient and has been prepared allergen-free for that patient. If an item in the patient's meal contains a food that he/she is allergic to, the entire meal should be returned to the kitchen before the patient touches it. Because the meal was not prepared for someone with this food allergy, small amounts of the allergen could have been transferred to other foods on the tray.



And remember, food allergies can develop at any time in life, so be watchful of all patients. If your patient shows any signs of allergic reaction, stay with him/her and notify the nurse immediately, as seconds count. Based on patient condition and facility policy, the rapid response team may also be notified. Position the patient lying flat with legs raised to improve blood pressure and circulation, if he/she can tolerate it. If there is shortness of breath, however, you may need to raise the patient's head to promote breathing. Do not give the patient anything to eat or drink. The nurse is responsible for assessing the patient, notifying the doctor and administering ordered medication. For milder reactions, the patient can usually be treated with oral antihistamines and comfort measures, such as cool compresses.

By maintaining awareness and knowing what to do, you can help to prevent food allergy reactions and promote early treatment if they occur.