



Nutrition Services Staff

Each day, as you do your job, you come in contact with students who have asthma. It may surprise you, but nearly one in 13 school-age children has this chronic, but manageable, disease.¹ Because children who have asthma spend so much of their day in school, it's vital for them to be with adults who understand some basic facts about asthma and how to deal with it. It is also essential for you to understand how food allergens and common pests can impact asthma and what you can do to help protect students with asthma.

“Approximately 6-8% of children who have asthma have food allergies that can trigger asthma symptoms.”²



Why Learning about Asthma is Important to Nutrition Services Staff

ASTHMA AND REACTION TO FOODS

Nutrition services staff need to be aware that food allergens can cause or trigger an asthma episode. Of course, anyone can have an allergic reaction to food and not have asthma, and not all asthma episodes are caused by allergies. Approximately 6-8% of children who have asthma have food allergies that can cause breathing problems.²





What Nutrition Services Staff Need to Know

What is Asthma?

Asthma is a chronic disease that causes broncho-constriction (tightening of the muscles around the airways) and swelling of the airways. During normal breathing, air flows freely in and out of the lungs. But, during an “asthma episode,” linings of the airways (bronchioles) swell, muscles around the airways tighten and mucus clogs the tiny airways, making breathing difficult. The airways become overly responsive (twitchy) to environmental changes, sometimes resulting in wheezing, coughing, breathlessness, or tightness in the chest. During an asthma episode a child may feel he/she can’t inhale enough air, but actually, his/her lungs are having trouble exhaling.

Asthma symptoms can vary greatly from hour-to-hour and day-to-day. Symptoms are often worse at night and in the early morning hours. The severity of asthma varies from child to child and the severity may worsen or improve depending on the child’s symptom control and amount of exposure to triggers or allergens. Some children have occasional symptoms (e.g., after strenuous exercise), while others have symptoms that interfere with their daily life, including concentration and participating in school.

Recognizing the Signs of an Asthma Episode

Children themselves are often the best source for identifying an asthma episode. Children who have asthma often learn to identify their own unique early warning signs — the physical changes that occur as their airways begin to close. These early warning signs usually begin long before the more serious symptoms appear and taking action quickly is paramount to preventing an asthma crisis. An asthma episode is easier to subdue if a child and school staff are aware of significant changes and the child is able to take medication quickly.

There should not be any delay once a child has notified school staff of a possible problem or developing asthma episode.

During the initial phase of an asthma episode a child may exhibit one or more of these signs:

Changes in breathing: Coughing, wheezing (a high pitched sound heard on exhalation), shortness of breath, breathing through the mouth, and or rapid breathing.

Verbal complaints: Often a child who is familiar with his/her asthma symptoms will know that an episode is about to happen. The child may tell school staff that his/her chest is tight, or hurts, or that he/she cannot catch a breath. Complaints may include “dry mouth” or a more general “I don’t feel well” or “I’m scared.”

Behavior changes and other signs: Clipped speech — a child may speak in very short, choppy sentences and appear to be gulping at air as he/she speaks. Some children may become very quiet (trying to control their breathing or simply out of fear) and subdued, while others may become highly agitated and panicky.

What Causes Asthma Episodes?

Children with asthma have airways that narrow more easily than children without asthma. They may be allergic or sensitive to inhaled (or even some ingested) irritants. A variety of factors can set off an asthma episode including viral infections (cold and flu season is especially difficult) and exposure to allergens or “triggers.” Each child with asthma reacts to a different set of factors.

What is a Food Allergy?

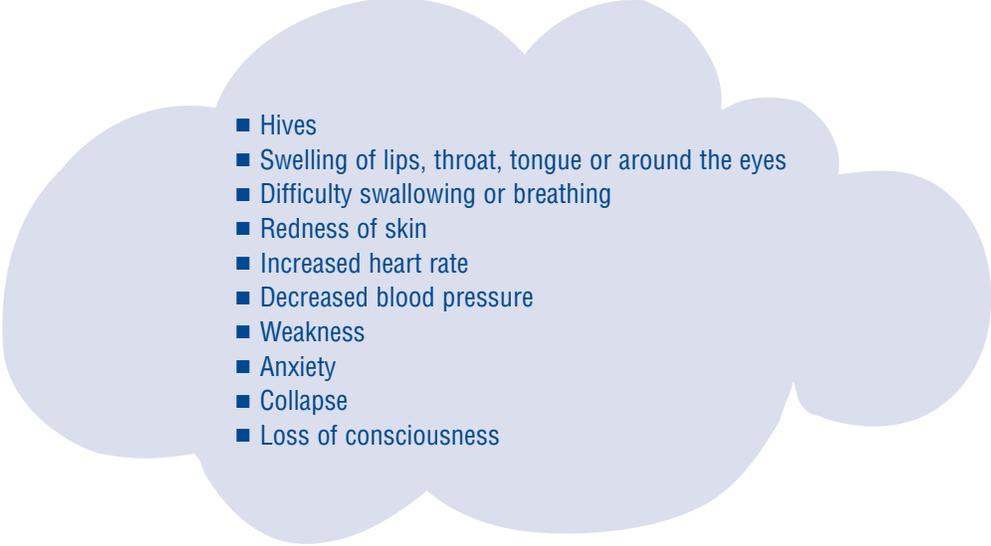
A food allergy is an adverse reaction or a negative response to a food or a food additive that is eaten. Both raw and cooked foods can cause allergic reactions. Allergic reactions to foods can occur within seconds to a few hours of eating the specific food. When a true food allergy occurs, a person’s immune system will react to food that would normally be harmless. The body’s immune system reacts to food proteins called allergens and tries to protect the person’s body from this ‘harmful’ food by producing increasing amounts of antibodies. Antibodies cause the person’s blood vessels to enlarge, smooth muscles to contract and affected skin areas to become red, itchy and swollen.

In children, eggs, milk, peanuts, soy and wheat are the main offenders. Children typically outgrow their allergies to milk, egg, soy and wheat while allergies to peanuts, tree nuts, fish, and shrimp usually are not outgrown.



What is Anaphylaxis?

Anaphylaxis is a sudden, severe, potentially life threatening, widespread allergic reaction that can involve many areas of the body (such as the skin, respiratory tract, digestive tract, and cardiovascular system). Symptoms occur within minutes to two hours after contact with the allergy-causing substance, but in rare instances may occur up to four hours later. Anaphylactic reactions can be mild to life-threatening and can include:

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- Hives
 - Swelling of lips, throat, tongue or around the eyes
 - Difficulty swallowing or breathing
 - Redness of skin
 - Increased heart rate
 - Decreased blood pressure
 - Weakness
 - Anxiety
 - Collapse
 - Loss of consciousness

The Importance of Controlling Pests

The use of pesticides in schools has generated considerable debate about how to manage pests while preventing unnecessary pesticide exposures. Children may be especially vulnerable to exposures to pesticides and other contaminants because their bodies are still growing and developing. Pests in schools also are a concern because they may spread disease, trigger asthma, and cause damage to school buildings and property. Pests (cockroaches, mice, rats, ants etc.) can invade school kitchens and lunchrooms when food droppings and crumbs are left out. The feces and leavings from these pests can also cause a child to develop asthma symptoms. Foods that are poorly covered when stored invite infestation and contamination. See the Custodial Section for further information.

Integrated Pest Management (IPM) practices are used to avoid exposure to these allergens. There are four key IPM methods for reducing exposure to pests in the school setting:

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- Look for signs of pests.**
 - Do not leave food, water, or garbage exposed.**
 - Remove pest pathways and shelters.**
 - Use pest control products such as poison baits, traps, and pesticide sprays, as needed.**

Asthma Medications

Asthma is treated based on how severe the child's symptoms are at any given time. Two types of medications are typically used to treat asthma: *quick relief (reliever) or rescue and controller or preventive medications.*

The most common asthma medications most school staff will come in contact with are the **quick relief or rescue medications**. These medications are taken when asthma symptoms flare up or a child is experiencing an "asthma episode." They quickly relieve symptoms, or help prevent exercise-related symptoms. You most frequently see a student use this medication in an inhaler form when symptoms are flaring up.

A note about inhaled corticosteroids: Inhaled corticosteroids are not the same steroids used by athletes to build muscles and do not have the same side effects. They are the most consistently effective controller medications available for asthma.

Remember that all medications have potential for side effects. Some common complaints with rescue medications are: ***nervousness, jitteriness, nausea*** and, in some cases, ***drowsiness***. If side effects are excessive or the child complains of not feeling well, promptly contact the school nurse for evaluation and follow-up and do not leave the child unattended.





What Nutrition Services Staff Can Do

Tips for Nutrition Services Staff

- ✓ Work with the school nurse to set up an emergency plan for caring for a child who develops an allergic reaction.
- ✓ Familiarize yourself with school district and FDA's requirements for food preparation, maintenance and Integrated Pest Management (IPM) policies.
- ✓ Partner with the school custodian to evaluate and repair/clean up areas that may allow pest infiltration. Cleaning supplies should be evaluated for potential allergen causing chemical substances and to make sure they meet FDA requirements for use in schools.
- ✓ Carefully read labels for hidden ingredients that may appear harmless.
- ✓ Talk with teachers about children who avoid certain foods and plan (when possible) healthy alternatives for those children.
- ✓ Respect confidentiality and privacy when children who have asthma and allergies are identified.

Anaphylaxis Care

Epinephrine is the drug of choice for treating an anaphylactic reaction. It works to reverse the symptoms of an anaphylactic reaction and helps prevent the progression of it. It is available via prescription as an EpiPen® or EpiPen® Jr. Epinephrine Auto-Injector. It is important to administer epinephrine as soon as one detects the symptoms of anaphylaxis. Children who have been prescribed epinephrine must carry it with them at all times because accidents are never planned.

The school nurse or other trained individual should administer medication for an allergic reaction.

Antihistamines, such as Benadryl, and steroids are often used to further improve the recovery of a person with an anaphylactic reaction. Antihistamines and asthma medications may be administered with epinephrine, but never instead of epinephrine because they cannot reverse many of the symptoms of anaphylaxis.

Consult your district schools policy regarding the administration of epinephrine via EpiPen.

FDA's policy on Allergens



Products that contain an allergenic ingredient by design must comply with section 403(i)(2) of the Federal Food, Drug, and Cosmetic Act (the Act), which requires each ingredient in a food to be declared. Processing aids that contain allergenic ingredients must be declared in accordance with 21 CFR 101.4(a)(1). Production practices that lead to unintentional addition of allergens to food may be considered unsanitary conditions that may render the food injurious to health and cause the food product to be adulterated under section 402(a)(4) of the Act.

The only exemption to labeling requirements is found in section 403(i)(2) of the Act and provides that spices, flavors, and certain colors used in food may be declared collectively without naming each. In some instances, these ingredients contain sub-components that are allergens. Therefore, FDA strongly encourages the declaration of any allergenic ingredient contained in a spice, flavor, or color.

Citations

¹ National Center for Health Statistics, National Health Interview Survey, 1999.

² "Update on Food Allergies and Asthma" by Hugh A Sampson, M.D. Food Allergy News, Volume 6, No. 1, October–November 1996.

Nutrition service staff should be aware of FDA requirements for additive and ingredient labeling. Note that some spices and colorings may not actually be labeled yet still be present in a food product. These types of omissions could potentially expose a child to a product or additive they may be allergic too. Read labels carefully and if you are unsure what a product actually contains, seek clarification of information.