When Anaphylaxis Looks Like Asthma

Early food allergy symptoms can be mistaken for asthma symptoms.

Using epinephrine early can save lives.

BY ANNA McCARTNEY

On September 29, 2003, Sabrina Shannon ate lunch at her high school cafeteria. She ordered a plate of French fries. Because she was allergic to milk, peanuts and tree nuts, Sabrina had checked at the start of the school year to be sure the ingredients in the fries and the oil in the deep fryer were safe.

About half an hour after lunch, Sabrina started to feel ill. She had trouble breathing, which she thought was due to her asthma, so she took several puffs from her inhaler. Sabrina went to the school office to call her mother, but her condition got worse before her mother could arrive. When a student told the school staff about Sabrina's food allergies, they called 911 and the operator dispatched an ambulance. A teacher ran to Sabrina's locker to get her auto-injectable epinephrine, but Sabrina collapsed into unconsciousness and stopped breathing. School staff started CPR and administered Sabrina's EpiPen®.

Sabrina arrived at the hospital just 30 minutes after she went to the school office with breathing problems. She died the next day. Although her symptoms started with bronchospasm, the cause of death was anaphylaxis. Sabrina was 13 years old.

People with asthma are at risk for more severe anaphylaxis symptoms.

Sabrina Shannon mistakenly thought her breathing problems were due to asthma.

What Do Your Symptoms Say?

Thirty million people in the United States have asthma. Many of them also have food allergies and are at risk of anaphylaxis – a potentially life-threatening allergic reaction. (Experts estimate that about 10 percent of children with asthma have food allergies too.) Symptoms of anaphylaxis can include hives, facial swelling, difficulty swallowing, abdominal cramps, vomiting, diarrhea, a drop in blood pressure, breathing problems and unconsciousness. However, according to Hugh Sampson, MD, Director and Division Chief, Pediatric Allergy and Immunology, Jaffe Food Allergy Institute, Mt. Sinai School of Medicine in New York, "Patients experiencing anaphylaxis may not have all these symptoms during a reaction." In addition, early food allergy symptoms can be mistaken for asthma symptoms. "When skin symptoms are not present and the patient is having difficulty breathing," adds Sampson, "it can look and feel like an asthma attack."

To further complicate the issue, people with asthma are at risk for more severe anaphylaxis symptoms. "Individuals with food allergy who have underlying asthma are at an increased risk of more severe food-induced reactions because they frequently will have bronchospasm (tightening of the muscles in the airways) as a component of their reaction," says Mary Farrington, MD, an allergist at Virginia Mason Medical Center in Seattle, WA. "They may not initially realize that they are having an allergic reaction to an accidental ingestion of their food allergen, but rather think they are having a sudden, severe 'asthma attack.' This confusion can lead to a delay in epinephrine use, which is critical for the adequate treatment of anaphylaxis. If patients with food allergy and asthma have sudden onset of severe asthma symptoms following food ingestion, they should presume that they had an accidental ingestion of their food allergen and immediately use their epinephrine."

Dr. Farrington adds, "After epinephrine is used, patients need to be immediately evaluated in the

emergency department for ongoing treatment of anaphylaxis. Some individuals will have a second episode of significant anaphylaxis symptoms following an initial improvement after epinephrine use."

Unpredictable Anaphylaxis

Emily Vonder Meulen, also 13 years old, died from anaphylaxis on April 13, 2006. She was shopping with her mother and sister at a local mall. They stopped to get a sandwich at a restaurant where Emily had eaten before. Emily checked that the ingredients were safe for her peanut allergy and then ate her sandwich. After eating, Emily felt a little tight in her chest, so she took two puffs of her asthma inhaler and thought she was fine. She then went to the restroom, leaving her mother and sister looking at clothes.

A few minutes later, Emily's mom got a call on her cell phone from a passer-by stating that Emily was having a bad asthma attack. Emily's mother rushed to the restroom and found Emily gasping for air. Emily tried to use her inhaler again, and her mother called 911. They tried CPR, but Emily died at the scene. Doctors told Emily's parents that Emily had died of anaphylaxis, not asthma. The apparently safe sandwich that Emily had eaten contained traces of peanuts.

Emily was very careful about checking ingredients. She'd never had any close calls with anaphylaxis, so she didn't always carry auto-injectable epinephrine with her. Instead, she relied on her body's "early warning system" – an itchy feeling in her mouth before a reaction started – to tell her if she'd accidentally eaten something with peanuts in it. Emily's family knew that her allergy was serious – that it could make her very sick – but they didn't think of it in terms of life or death.

"Even if an individual has had only mild food-induced allergic reactions in the past," says Dr. Farrington, "they may have a more severe life-threatening reaction with accidental ingestion in the future. This is particularly true for peanut allergic individuals. Because we can't predict who these at-risk patients are, we stress that all food allergic individuals carry epinephrine with them at all times. Early administration of epinephrine for severe allergic reactions can mean the difference between life and death."

Inhalers won't stop anaphylaxis. If in doubt, use epinephrine.

Emily Vonder Meulen's family didn't think of her peanut allergy as potentially life threatening.

Emily's father, Paul Vonder Meulen, says, "Emily knew the dangers of her peanut allergy. She would never take chances, and if she accidentally came in contact with foods that contained traces of nuts, her tongue would itch and she would immediately expel the food. Because Emily knew what she could not eat and because of the itch sensation, we did not carry her epinephrine with us at all times. That was a mistake. But even on that dreadful day in April, when Emily died, we're not sure she or we would have known to use the epinephrine if she had it. From all the signs, we thought she was having an asthma attack. By the time we realized it was more than that, it was too late. If your food-allergic child is having any kind of reaction shortly after eating, we recommend using epinephrine right away. A few seconds could mean the difference between life and death."

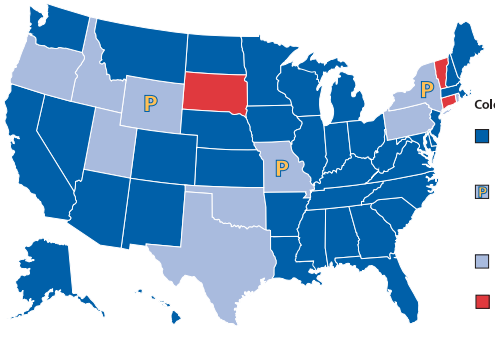
When In Doubt, Use Epinephrine

If allergic individuals (or their caregivers) are knowledgeable about and prepared for an allergic emergency, the risk of dying from anaphylaxis is extremely remote. If you or your child has both food allergy and asthma, talk to your doctor about an emergency action plan and ask what to do in case of sudden, severe asthma-like symptoms after eating.

Reading ingredient labels and being careful about what you eat is crucial, but it is not enough. Accidents happen. Whether your food allergy reactions in the past have been mild or severe, it is important to have emergency medication on hand at all times and to know how (and not hesitate) to use it. If your child carries auto-injectable epinephrine with her at school, make sure she knows to keep it on her at all times and keeps a spare in the nurse's office.

According to Dr. Sampson, "When we reviewed a series of fatal anaphylactic reactions to food and compared it to nonfatal cases, one factor that stood out was the delay in getting epinephrine and medical care in most of the fatal cases. Inhalers won't stop anaphylaxis, but epinephrine will stop either an asthma attack or anaphylaxis. So if in doubt, use epinephrine and cover your bases." ■

Anna McCartney is cofounder of Food Allergy Action (www.foodallergyaction.org), a grassroots organization for parents of food allergic kids. The organization was instrumental in successful passage of the Food Allergen Labeling and Consumer Protection Act, which requires manufacturers to mark on product labels – in plain language – any of the 8 major food allergens (milk, egg, peanut, tree nut, fish, shellfish, wheat, soy) a product may contain.



States That Need Inhaler Laws (Red)	States That Need Auto-Injectable Epinephrine Laws (Red and Light Blue)	
Connecticut	Connecticut	Rhode Island
South Dakota	Idaho	South Dakota
Vermont	Missouri (Pending)	Texas
	New York (Pending)	Utah
	Oklahoma	Vermont
	Oregon	Wyoming (Pending)
	Pennsylvania	

Thirteen states still don't have laws protecting students' right to carry and self-administer their prescribed auto-injectable epinephrine at school. Visit AANMA's Web site at *www.breatherville.org/cityhall* and click on "Students and Medication at School" to check the status of your state's law and download approved or pending legislation.

If your child's school isn't aware of new state laws, share a copy of the legislation with the principal and school board, then work together to create a safe environment for your child. If your state is one of the 13 that don't have anaphylaxis laws, contact AANMA's Sandra Fusco-Walker at 800.878.4403 x105 or *sfwalker@aanma.org* for tips on working with state legislators.