Allergy & Asthma NETWORK

Allergy & Anaphylaxis

A Practical Guide for Schools and Families

- Allergy 101
- School Safety Guidance for Allergy Management
- Educational Resources for Student & Staff Instruction

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Who We Are

Allergy & Asthma Network is the leading nonprofit patient outreach, education and advocacy organization for people with asthma, allergies and related conditions. Our patient-centered network unites individuals, families, healthcare professionals, industry and government decision makers to improve health and quality of life for millions of people affected by the conditions.

An innovator in encouraging family participation in treatment plans, Allergy & Asthma Network specializes in making accurate medical information relevant and understandable to all while promoting standards of care that are proven to work. We believe that integrating prevention with treatment helps reduce emergency healthcare visits, keep children in school and adults at work, and allow participation in sports and other activities of daily life.

Our Mission

To end needless death and suffering due to asthma, allergies and related conditions through outreach, education, advocacy and research.

Allergy & Asthma Network is a 501(c)(3) organization.

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This guide intended to be used as a tool for allergy management in the school setting. The information, recommendations and content are based on best practices. Each school, school nurse and medical director must exercise independent professional judgment when practicing in accordance with their state's practice acts as well as applicable school district policies and procedures.

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A Practical Guide for Schools and Families

Allergy 101

Anaphylaxis: It's New to Me

Anaphylaxis – a severe, life-threatening allergic reaction usually to food, insect venom, medication or latex – is common in the United States. Research shows it occurs in about 1 in 50 people, although many believe the rate is higher.

Symptoms typically involve more than one organ system and can include:

- Skin: itching, redness, swelling, hives
- Mouth: itching, swelling of lips, tongue
- Stomach: vomiting, diarrhea, cramps
- Respiratory: shortness of breath, wheezing, coughing, chest pain and/or tightness
- Heart: weak pulse, dizziness, faintness
- Headache, nasal congestion, watery eyes, sweating
- Confusion, feeling of impending doom
- Loss of consciousness

Anaphylaxis can start within seconds of exposure to allergens, such as an insect sting or eating a peanut, or may not appear until hours later such as with red meat allergy. This makes identifying the cause of anaphylaxis a little tricky.

Symptoms can be different each time a person experiences anaphylaxis and vary in severity each time – but once they start they usually progress quickly.

While skin symptoms such as itchy rashes or hives are common with anaphylaxis, they do not always occur – 10-20 percent of cases have no skin symptoms.

Rules To Remember

• Epinephrine is the ONLY medication that can reverse the life-threatening symptoms of anaphylaxis. It is the first line of treatment. Administer epinephrine as soon as anaphylaxis symptoms occur.

• People at risk for anaphylaxis should carry two epinephrine auto-injectors at all times, use it at the first sign of symptoms and seek follow-up medical care right away. Thirty percent of people who experience an anaphylactic reaction need more than one dose of epinephrine to relieve symptoms.

Average time to respiratory or cardiac arrest due to anaphylaxis:

Source: *Clinical & Experimental Allergy*, Volume 30, Issue 8

You've Got Questions…

Whether you're a parent, teacher, school nurse or school administrator, you may be asking yourself, "How do I know whether an allergic reaction is life-threatening or if it's non-life-threatening?" And, "How do I reduce the risk of anaphylaxis from happening again?"

The answer lies with getting an accurate diagnosis, understanding how to avoid allergens, making sure students at risk for anaphylaxis carry two doses of epinephrine everywhere, every day, and being prepared to use it right away in case of an emergency.

Top 8 Food Allergens

(Account for 90% of all food allergy reactions in the United States)

Tree Nuts

Almonds, brazil nuts, cashews, hazelnuts, macadamia nuts, pine nuts, pistachio, trail mix or mixed nuts, walnuts

Peanuts

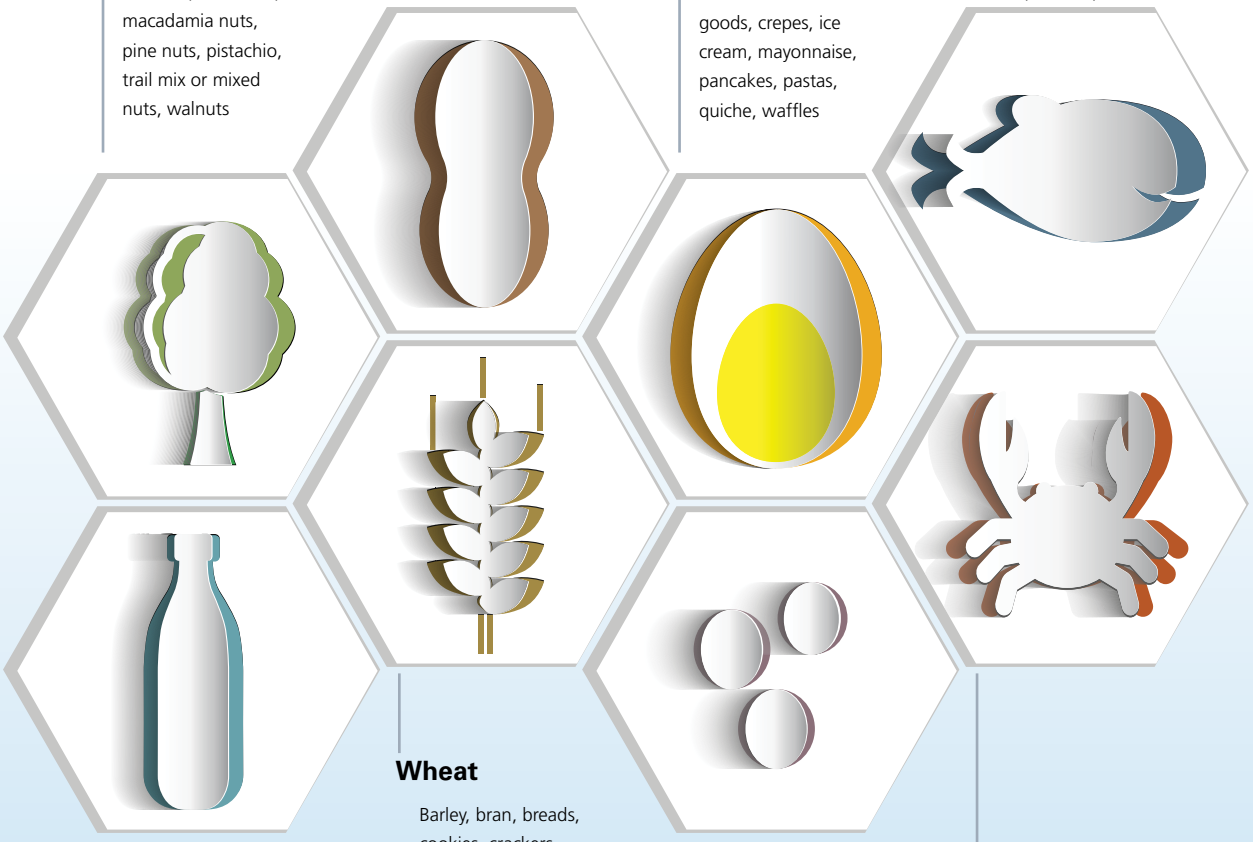
Peanut butter, trail mix or mixed nuts

Eggs

Batter-fried foods, breads and baked goods, crepes, ice cream, mayonnaise, pancakes, pastas, quiche, waffles

Fish

Anchovies, catfish, cod, salmon, tuna



Dairy

Cheese, cow's milk, creams, custard, ice cream, pudding, yogurt

Wheat

Barley, bran, breads, cookies, crackers, croutons, doughnuts and muffins, pancakes, pizza, rye, waffles, wheat-based cereals, flour and pastas

Soy

Edamame, soy milk, soy sauce, tofu

Shellfish

Crab, lobster, shrimp

* Food allergens may appear in more food items than those listed. Check ingredients and read food labels to confirm. When in doubt, call the manufacturer to determine if a food is allergy safe.

Sesame – the 9th food allergen?

Sesame allergy is on the rise in the United States. It's common in Middle Eastern, Indian and Asian cuisines and shows up in salad dressing, hummus, granola bars and on hamburger buns.

Less common food allergens include corn, garlic, gelatin, meat, mustard, sunflower seeds and poppy seeds.

The Food Allergy-Asthma Connection

Research shows 35-50 percent of people with food allergy also have asthma. And it's suspected many people with asthma don't know food allergies are affecting their asthma flares.

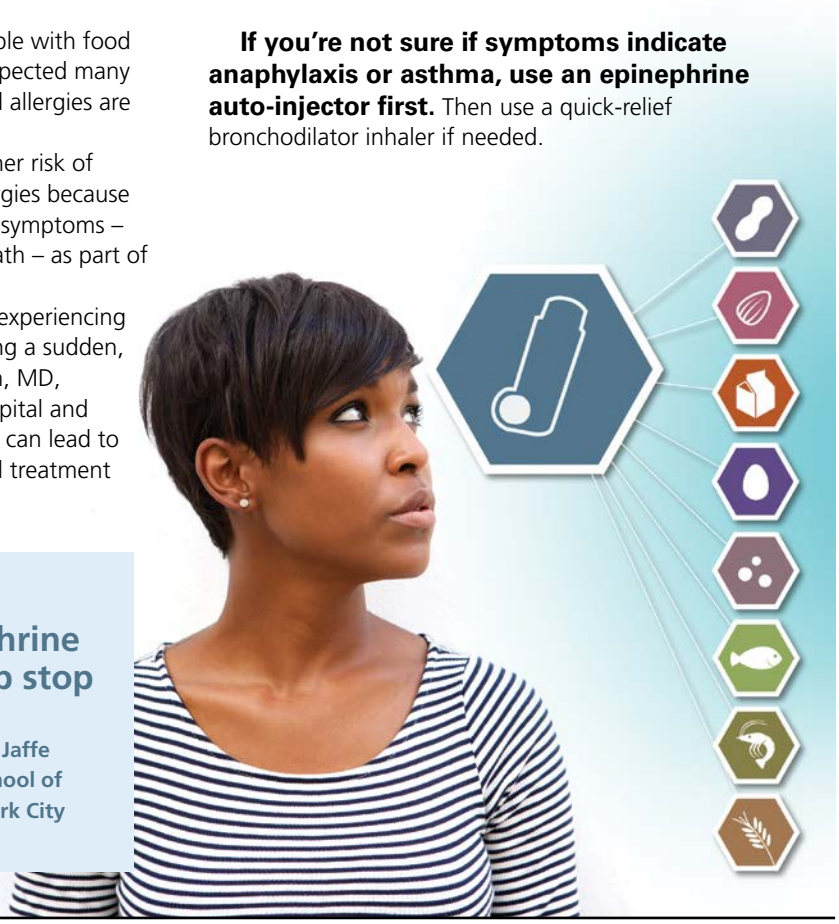
People with both conditions are at higher risk of anaphylaxis than those with just food allergies because they frequently will experience respiratory symptoms – coughing, wheezing and shortness of breath – as part of their reaction.

"They may not initially realize they are experiencing anaphylaxis but rather think they are having a sudden, severe asthma flare," says Mary Farrington, MD, pediatric allergist with Virginia Mason Hospital and Medical Center in Seattle. "This confusion can lead to a delay in epinephrine use, which is critical treatment for life-threatening anaphylaxis."

"An inhaler won't stop anaphylaxis, but epinephrine will, and it may also help stop an asthma flare."

— Hugh Sampson, MD, director of Jaffe Food Allergy Institute, Icahn School of Medicine at Mt. Sinai in New York City

If you're not sure if symptoms indicate anaphylaxis or asthma, use an epinephrine auto-injector first. Then use a quick-relief bronchodilator inhaler if needed.



Avoiding Cross-Contact

When an unsafe food allergen comes into contact with a food that's safe for you, it's called "cross-contact."

It happens more often than you think. Dipping a knife in the jelly jar after using it to spread peanut butter; using the same grill or pan to cook a hamburger after it was just used to cook salmon steak; chopping almonds on a cutting board and then slicing a tomato without cleaning the cutting board first. And removing walnuts from a salad won't fully eliminate traces of the tree nut allergen.

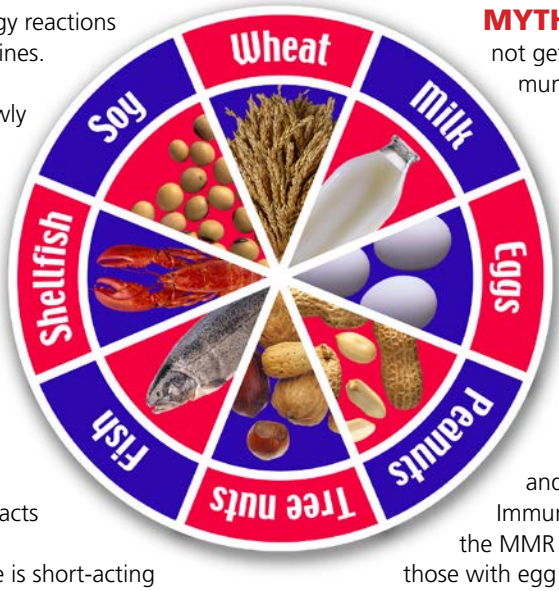
What to Do

- Wash hands in soap and water before preparing a meal. Commercial hand wipes will also help; studies show hand sanitizers do not.
- Wash cutting boards, dishes, pots, pans and countertops thoroughly with hot, soapy water after preparing food items. Cook the allergen-safe meal first to minimize risk.
- Designate a separate shelf in the refrigerator and cupboard for allergen-safe foods. Use stickers to identify them as "allergen safe."
- At restaurants, after informing the wait staff and chef of your food allergy, ask that your food be prepared with clean and separate pans, utensils and cooking area. This includes deep fryers.
- Never share food, utensils or drinks.
- Avoid buffets or cafeterias, which have a greater risk of cross-contact due to shared utensils and spilled foods.

5 Myths About Food Allergies

MYTH: Severe food allergy reactions can be treated with antihistamines.

FACT: Antihistamines slowly relieve non-life-threatening allergic reactions, such as mild hives. When symptoms intensify to include shortness of breath, tightness in the throat, severe hives or heart or digestive problems, it's a life-threatening situation called anaphylaxis that should be treated immediately with an epinephrine auto-injector. Epinephrine is the first line of treatment for anaphylaxis and acts quickly to relieve symptoms.



Remember that epinephrine is short-acting and allergic emergencies can last for hours, so be sure to seek immediate medical attention for a severe food allergy reaction.

Talk with your healthcare team about carrying two epinephrine auto-injectors to ensure your protection.

MYTH: Children younger than 3 years old can't be tested for food allergies.

FACT: The American Academy of Pediatrics says there is no specific age limit for food allergy testing. Infants younger than 6 months of age are not commonly given skin prick allergy tests, however.

If you think your child has a food allergy, consult a board-certified allergist who will take a full history of symptoms and recommend options for testing.

MYTH: Parents should not introduce common food allergens into their child's diet before age 3.

FACT: The American Academy of Pediatrics says parents can begin introducing solid foods to children as young as 4-6 months – including foods that are common allergens such as peanut, eggs and fish. Doing so may even help build a tolerance to those allergens.

If there are food allergies in your family or your child has an allergic disease like asthma or eczema, talk with your pediatrician or allergist about the appropriate time to introduce solid foods that include common allergens.

MYTH: Children with egg allergy should not get the flu shot or the MMR (measles, mumps, rubella) vaccine.

FACT: Children who have had mild reactions to eggs – such as hives – may receive the regular flu shot, according to the U.S. Centers for Disease Control and Prevention (CDC), but should be monitored in a doctor's office for 30 minutes after receiving the injection. Those with severe egg allergies should discuss all options with an allergist.

The American Academy of Pediatrics and the Advisory Committee on Immunizations Practices (ACIP) of CDC says the MMR vaccine can be safely administered to those with egg allergies.

MYTH: Gluten is a food allergen and eliminating it from my diet will help me feel better.

FACT: Gluten is not a food allergen; it is a protein composite found in wheat, barley and rye. Some people experience gastrointestinal problems from eating gluten, but that is an intolerance, not an allergy. An allergy is an immune system response while intolerance is a digestive issue.

People with celiac disease must avoid gluten because it causes a serious autoimmune response – but again, that is not an allergy. Gluten-free diets eliminate many nutritious foods that are high in fiber, vitamin B, zinc and iron, so talk with your doctor before taking this step.

Truth Be Told

A food allergy is an immune response to proteins in certain foods. Severe reactions, called anaphylaxis, can be life-threatening, so early recognition and treatment are critical.

If you think you or your child might be allergic to a certain food, consult a board-certified allergist who is trained to test and diagnose food allergies. Then, avoid the offending foods, develop an Allergy and Anaphylaxis Emergency Plan, learn to read food labels, and keep two epinephrine auto-injectors with you at all times in case you experience a severe allergic reaction.

Is It Food Intolerance or Food Allergy?

Your child drinks milk and soon afterward says it gave them a stomachache and made them feel "yucky." Is it an allergy? Maybe; maybe not. Often it's an intolerance. It's important for parents to know the distinction.

Food Intolerance

A food intolerance involves the child's digestive system. Due to enzyme deficiency or chemicals in the food, the meal is not "broken down" correctly and causes stomach distress.

The child's discomfort comes on gradually and may include nausea, stomach pain, diarrhea or vomiting. Occasionally, the child may have gas, cramping, headache, heartburn – or just be short-tempered.

With a food intolerance, children may be able to eat small amounts of the food, but have problems when they eat a lot of the food.

Food Allergy

A food allergy affects your child's immune system and is a very serious condition. The reaction usually comes on very quickly and while symptoms can be mild, they can also quickly turn life-threatening. The body recognizes the food as an "intruder" and mounts an "attack" to defend the body. The immune system overreacts and releases

	Food Intolerance	Food Allergy
Where reaction takes place	Digestive system	Immune system
Intensity of reaction	Mild to moderate discomfort	Can be life-threatening
Symptoms	Gastrointestinal	Multiple body systems: skin, respiratory, heart and/or gastrointestinal
Reaction time	May be delayed	Usually immediate (within 30-60 minutes)
Action to take	See healthcare provider	Call 911 if anaphylaxis occurs

antibodies, called IgE, and the allergic reaction begins.

Symptoms of an allergic reaction usually involve more than one body system. You may see your child appear short of breath, or begin to wheeze and cough. Children may appear pale and have trouble breathing and swallowing. They often develop hives (a skin rash) over their body and their eyes, throat and lips may swell. Ninety percent of allergic reactions have skin involvement – rash, flushing, itching – so this can be an important clue in determining whether it's an allergic reaction or not.

They can share nausea, stomach pain, diarrhea and vomiting symptoms of the child with a food intolerance, but they also appear confused and have a sense that something is very wrong. They can also be dizzy and lose consciousness.

Reactions to foods can be unpredictable – and sometimes appear after eating even a tiny amount of food. With some foods, anaphylaxis can occur simply by inhalation or contact with the food. Parents should be aware that even if a child's reactions to a food have been mild, there is always a risk that each reaction can become more serious, even life-threatening.

Common Food Intolerances and Allergies

The most common food intolerance is lactose – a sugar found in milk and other dairy products. Some people are also intolerant of sulfites or food additives.

Eight food categories cause 90 percent of the allergic reactions to foods: peanuts, tree nuts, fish, shellfish, eggs, cow's milk, soy and wheat.

Many people talk about gluten allergy, but this is not always a true IgE-mediated allergy. It's most often related to celiac disease, which is an autoimmune condition triggered by eating cereal grains (especially wheat). It's diagnosed through a blood test, and an intestinal biopsy may be required. There is a more classic IgE-mediated gluten allergy which we diagnose by skin or blood allergy testing.

If you suspect you have celiac disease, it is important to be evaluated by an allergist and a gastroenterologist. Some may not have celiac disease but simply have a food intolerance.

Discomfort vs. Anaphylaxis

Children with food intolerance can be very uncomfortable and should see their healthcare provider for guidance. There are some medications and digestive enzymes that can help.

A child with a food allergy faces a possibly life-threatening situation. This is called anaphylaxis and requires immediate action. The initial treatment for anaphylaxis is an injection of epinephrine – given as soon as possible – and transportation to an emergency room for further treatment and care. Epinephrine comes in easy to use auto-injectors so it can be given at home, at school or anywhere a child may experience a life-threatening allergic reaction.

What You Can Do

If there are allergies in your family, speak with your healthcare provider before introducing new foods into your child's diet. Children don't necessarily have the same allergies that parents or siblings have, and may have none at all.

If your child does have a food allergy, it's important to avoid the food that causes the allergy.

However, if your child experiences any signs of a life-threatening allergic reaction, use an epinephrine auto-injector, call 911 and have your child taken to the emergency room.

The American Academy of Allergy, Asthma and Immunology (AAAAI) suggests that you see an allergist if:

- You think your child might have a food allergy.
- You have limited your child's diet based on a possible food allergy.
- You need diagnosis, treatment and avoidance measures for food allergy.

Caring for a Child with a Food Allergy

Talk with anyone and everyone who cares for your child at daycare, school, activities, and home (as well as at the homes of babysitters and grandparents) so that they understand how important it is to keep the food allergen away from the child.

Make sure there are always two epinephrine auto-injectors available to treat symptoms and teach caregivers how and when to use them.

There is no cure for a food allergy so it's important for everyone to work together to keep the child safe.

Written by Purvi Parikh, MD, an allergist and immunologist with Allergy & Asthma Network. She practices in New York City at Allergy and Asthma Associates of Murray Hill and New York University School of Medicine.

✔ Practical Points

Food intolerance

- ❑ Usually stomach distress
- ❑ Mild to moderate discomfort
- ❑ May be delayed

Food allergy

- ❑ An immune response
- ❑ SERIOUS
- ❑ Can be life-threatening
- ❑ Usually immediate

Stinger Shock

THWACK! Too late. The hornet stung 7-year-old Antonio on the basketball court during recess, and he immediately raced over to his teacher, Ms. Rose.

His classmates stopped and stared. Antonio held his arm out to show the insect sting. A red splotch covered the sting area. Then he got dizzy and dropped to the ground. His lips and face swelled and he was struggling to breathe.

Ms. Rose knew what to do. She pulled out an epinephrine auto-injector from Antonio's backpack. She removed the cap and pressed it to his thigh, holding it there as it delivered life-saving medication into his body. Then she told one of the students to get the school nurse and tell her to call "911."

Antonio would be okay because he and Ms. Rose were prepared and acted appropriately.

Sting Basics

For most people, bee or other insect stings simply hurt or itch or cause a lump where the sting happened. This is called a local reaction. It responds well to ice and the itch is relieved by an oral antihistamine.

When the venom causes a reaction other than where the sting happened, it is called a systemic reaction or anaphylaxis. This signals a medical emergency that requires immediate treatment with appropriate medication.

Emergency Treatment

Epinephrine is the first line of treatment for anaphylaxis. If you're at risk for anaphylaxis from insect sting venom, carry two epinephrine auto-injectors at all times. Following treatment, report to the nearest emergency department for observation, additional treatment and instructions. A second, late-phase reaction – called biphasic – can suddenly appear and may be more intense than initial reactions.

Follow-Up Care

Report reactions to your primary care doctor and board-certified allergist. If you do not have an allergist, ask your primary care physician for a referral. An allergist can offer venom immunotherapy as an effective long-term solution to protect against life-threatening reactions in the future.

What to do if stung

- Flick the insect away from your skin.
- Walk (don't run) away from the area. Some insects will be threatened by quick movements and running may increase your body's absorption of the venom.
- If a stinger is left in the skin (the telltale mark of a honeybee), scrape it off with a flat surface, like a credit card; do not use tweezers or your fingertips, as that could squeeze more venom into the sting area.
- Apply ice to reduce swelling.
- Expect local redness and swelling.
- Watch for these symptoms indicating an anaphylactic reaction:
  - Hives or generalized itching other than at the site of the sting
  - Swelling of the throat or tongue
  - Difficulty breathing
  - Dizziness
  - Severe headache
  - Stomach cramps, nausea or diarrhea

These symptoms indicate need for immediate treatment with an epinephrine auto-injector, followed by medical assistance at an emergency facility.

Yellow Jackets

Part of the wasp family, these black and yellow insects swarm around picnic areas and trash cans. Peaking in late summer, they build their nests underground or in fallen logs; some nest in the walls of houses.

Paper Wasps

Longer and slimmer than bees or hornets, paper wasps drag their long legs behind them as they fly. Their color ranges from reddish brown to black with yellowish rings. Paper wasps build their nests on and around homes and small buildings. The nests sometimes hang from trees or under eaves and look like paper mache, upside-down umbrellas.

Hornets

Hornets are slightly larger than yellow jackets – the size of a bumble bee but with a narrow waist – and most are black with white or yellow stripes. Nests are usually found in a tree or under the eaves of a building. It can become as large as a football, always with the opening facing down.

Bees

Honeybees are fat, dark brown, slightly hairy insects often found hovering around bright flowers or feasting on clover. Their cousins, the bumble bees, look very similar. Bees build their hives in holes in the ground or on compost piles.

Fire Ants

Red and black imported fire ants are found mostly throughout southern regions of the United States. Fire ants build nests that are large, dome-shaped mounds of crumbly earth up to 18 inches across and 8-12 inches high. The nests do not have visible openings, but if you step on one, fire ants will swarm up onto your feet and legs.

The Latex Files

It happened at a classroom birthday party. Balloons were everywhere, and 8-year-old Sidney grabbed one and tied the string tightly around her wrist. A short time later, the teacher noticed that her wrist was blistered and bleeding. The balloon — make with latex — was clearly the culprit. A visit to a board-certified allergist confirmed Sidney had a latex allergy.

ALLERGY MYTH

MYTH: **I experience only mild itchiness when wearing latex gloves, so I'm not seriously allergic.**

TRUTH: Many people with latex allergy will experience only a hand rash when wearing latex gloves – but this can be a progressive condition. The longer you wear latex gloves, the more likely it is you may develop problems. Reactions to latex can become more severe with repeated exposures.

What is Latex Allergy?

Latex allergy is a reaction to proteins from the Hevea brasiliensis rubber tree sap, the milky fluid used to manufacture more than 40,000 products, including surgical gloves and helium balloons.

Symptoms range from skin irritation to respiratory symptoms to life-threatening anaphylaxis – and there's no way to predict which will occur if exposed.

While latex allergy is rare, affecting up to 6 percent of the general population, it is much more common in employees who work in the medical or dental health field. In fact, 33.8 percent of dental care workers, 10-17 percent of healthcare workers and 17 percent of restaurant workers have been diagnosed with latex allergy. In addition, people who undergo multiple surgeries – such as spina bifida patients – are at increased risk for latex allergy.

The only way for people with latex allergy to prevent symptoms is strict avoidance of latex.

Allergy & Asthma Network supports policies where latex gloves are prohibited from use in healthcare and dental facilities, schools, food establishments, and by emergency responders. Many facilities have responded by switching to latex-safe gloves and medical products and supplies.

Learn more about latex allergy, including a list of common latex products, at: *AllergyAsthmaNetwork.org/latex-allergy*

Where In the World Is Latex?

- Balloons
- Rubber gloves
- Condoms
- Elastic bands, physical therapy bands, rubber bands
- Dental dams
- Stethoscopes and blood pressure cuffs
- Spandex
- Pacifiers and baby bottle nipples
- Mouse pads
- Goggles
- Bath mats
- Garden hoses
- Certain mattresses

How is It Diagnosed?

If you suspect you have a latex allergy, consult an allergist. Be prepared with as much medical history as possible, including where you were when you experienced a reaction and what latex products you came into contact with.

Since there isn't an FDA-approved skin test for latex allergy, the diagnosis is made by medical history and physical exam. There is a blood test (ImmunoCap) available, but the sensitivity of the test is not 100 percent.

If you experience contact dermatitis after using a product made with latex, it may not be the latex but rather an additive or accelerant in the product. Talk with an allergist about getting a patch skin test to determine what is causing the reaction.

Navigating Restaurants

When kitchen staff uses latex gloves to prepare meals, latex proteins inside the gloves are transferred to the food. Patrons cannot see, taste or smell these particles, so it can be difficult for latex allergy patients to avoid a reaction when dining out.

Restaurants often use latex balloons – not latex-safe Mylar® balloons – for parties or in banquet rooms, creating another potential exposure.

Call the restaurant, ask for the manager or host, and discuss your latex allergy. Ask if the kitchen staff uses latex gloves during any part of food preparation. Emphasize the severity of your latex allergy and the potential consequences if you are exposed – you want to grab their attention, says Michael Zacharisen, MD, board-certified allergist in Bozeman, Montana.

Cross-Reactive With Food

Many people don't realize that latex can cross-react with foods that have similar proteins, especially fruits such as banana, avocado, chestnut and kiwi. When eating these cross-reactive foods, people with latex allergy may experience an allergic reaction. For a complete list of cross-reactive foods, visit *AllergyAsthmaNetwork.org/latex-allergy.*

If You're Allergic...

- Always carry two epinephrine auto-injectors to treat a severe allergic reaction, or anaphylaxis.
- Notify your family, friends, school, employer and co-workers, medical and dental providers, and paramedics and EMTs about your latex allergy.
- Wear Medical Alert identification at all times.
- Check all product labels for latex. Contact the manufacturer if you're uncertain.

Latex Allergy: Fact Sheet

Allergy to Latex may be confusing and complex to diagnose and treat. There are three types of clinical reactions that occur to a finished natural rubber product.

1. **IgE mediated allergic reactions** (Type I) – This allergy may be life threatening and is the clinical problem that clinicians and patients are most concerned about preventing. This reaction is mediated by allergic antibody called IgE directed against retained proteins in latex products. This reaction is triggered by direct skin contact, mucosal surface contact or inhalation. Symptoms include hives, angioedema, rhinitis, conjunctivitis, asthma, or anaphylaxis with or without death.
2. **Cell mediated contact dermatitis** (Type IV) – This allergy is not life-threatening but is a major concern for clinicians and patients. This reaction is usually limited to the skin where contact occurs with rubber products. Multiple chemicals used in the manufacturing of latex products may be retained in the finished product. These chemicals include thiuram, carbamate, and mercaptobenzothiazole classes of compounds which are used to accelerate the cross-linking of isoprene in the manufacturing process. This contact dermatitis is a delayed type immune reaction mediated by T-cell lymphocytes that occurs with exposure to these chemicals and may take 24-48 hours to develop from the time of exposure to reaction. Symptoms of a rash with erythema, papules, vesiculation, and oozing are characteristic. Because the contact is usually repetitive, the rash may develop into a chronic problem and may even extend beyond the site of contact. It is important to note that this delayed-type contact allergy to chemicals may occur concurrently with IgE mediated allergic latex allergy.
3. **Irritant dermatitis** – Individuals who use rubber products frequently (e.g. health care workers who wear gloves) are subject to developing irritant dermatitis. This dermatitis is different from contact dermatitis. It is not mediated by an immune system sensitization and reaction. Rather, it is caused by frequent skin washing, sweating, and/or irritation from powder lubricants from persistent irritant contact. This rash may be itchy but most commonly is dry, erythematous, and accompanied by skin cracking. There are rarely papules, vesiculation, or oozing of the skin. It never extends beyond the point of contact with the offending irritant.

Diagnosis: The diagnosis of latex allergy, contact dermatitis, and/or irritant dermatitis is made by a licensed independent medical provider who uses a medical history, physical exam and various laboratory and clinical tests. Laboratory testing alone is insufficient to make a diagnosis.

- Latex specific IgE antibody can be detected in a patient by skin testing or by blood tests. Latex skin testing reagents have not been cleared by the Food and Drug Administration (FDA). Because skin testing has small but significant risk of adverse reactions in patients, careful consideration of the use of this technique for confirming a diagnosis of latex allergy is necessary when using uncharacterized skin test reagents.

✔ Practical Points

Common sources of latex at school:

- ❑ Balloons
- ❑ Latex gloves
- ❑ Elastic or rubber bands
- ❑ Erasers
- ❑ Goggles
- ❑ Rubberized sports equipment and mats

- IgE antibody can be detected by blood serum testing. The sensitivity of the FDA-cleared tests has been between 75-90%. The specificity of these serological tests has ranged from 90-98% based on testing in subjects known to have latex allergy. When using this method to confirm a clinical diagnosis made by history and physical exam, the clinician must note that one of every four patients with latex allergic symptoms may have a false negative serology test. In contrast, when a history and physical exam are compatible with latex allergy and the serum test is also positive, then 95% of those subjects will have clinical symptoms with latex exposure. One of the major concerns about the serum assays is their ability to accurately detect latex allergic subjects as opposed to sensitized but asymptomatic individuals. The performance characteristics of the assays have been evaluated using subjects with known latex allergy. Assay performance may have more false positive tests if the population studied has a very low prevalence (such as 1%).
- Contact dermatitis is confirmed by the use of patch testing to the offending chemical.
- Irritant dermatitis is made by a medical history and physical examination alone.

Unexpected clinical manifestation of IgE-mediated latex allergy: One of the unexpected manifestations of latex allergy has been the clinically evident allergic responses after ingestion or contact with select fruits and vegetables. It appears that as many as half of those individuals with primary latex allergy may develop clinical symptoms following ingestion of select foods (e.g., avocado, banana, kiwi). These reactions should not be surprising given the established laboratory cross reactions seen between latex proteins and some food proteins. The converse appears to be true as well, in that those individuals with specific primary food allergies to certain fruits and vegetables may have allergic reactions to latex. This is estimated to occur in approximately 10% of food allergic individuals.

Treatment: Therapy for each of these conditions is individualized but essentially involves avoidance of the offending source that causes the reaction. In the case of IgE mediated allergy, personal contact with rubber products should be eliminated and a change of environment may be necessary if there is airborne exposure causing asthma. This is most prominent in settings that use cornstarch powdered latex gloves. Cornstarch powder serves as a carrier for allergenic proteins from latex. It may become airborne when the product is used. This may result in inhalation and a subsequent allergic response in a sensitized patient. It is most important to note that latex products most likely to cause a reaction are those made by a dipping method (e.g. gloves, condoms, balloons) where the sulfur heat vulcanization process is relatively short and performed at a lower temperature. This allows the allergenic proteins to remain intact.

Written by Kevin J. Kelly, MD, a pediatric allergist and immunologist in North Carolina. Dr. Kelly is an internationally renowned authority on latex allergy and has expertise in pediatric asthma and allergic diseases.

✔ Practical Points

Foods that are cross-reactive to latex:

- ❑ Apple
- ❑ Avocado
- ❑ Banana
- ❑ Carrot
- ❑ Celery
- ❑ Chestnut
- ❑ Kiwi
- ❑ Melons
- ❑ Papaya
- ❑ Potato
- ❑ Tomato

Anaphylaxis Unknown

With anaphylaxis, the cause is often obvious: the unexpected peanuts in the cookie; the shellfish mixed into soup; the latex balloons at the party table. But what if there's no obvious or apparent cause of a reaction? This is called idiopathic anaphylaxis.

What do patients need to know about idiopathic anaphylaxis? We talked with **Dana Wallace, MD**, a board-certified allergist in Hollywood, Florida.

Q. What should someone do if the cause of an anaphylactic reaction is unknown?

A. After you have been treated for anaphylaxis, write down a list of all recent activities, especially foods, beverages and medications encountered or consumed within the previous 24 hours.

If the severe reactions occurred after a meal, get a detailed ingredient list of all food consumed. If your meal was eaten at a restaurant, ask the manager for the ingredients; for home-cooked foods, keep all labels and the remaining food product, if possible, especially if it is a newly opened package or is very old. With each episode of anaphylaxis, these lists can be compared to identify similarities or patterns.

Then write down a detailed description of your symptoms and when they occurred. Ask a friend or relative who was with you to jot down their observations as well.

If you went to the emergency department for treatment or observation, your allergist will need to review those medical records as well.

Whether it's a first-time anaphylactic reaction or a recurrence, you should consult with a board-certified allergist for an in-depth evaluation to identify what caused the allergic reaction. When the cause is not obvious, the evaluation will likely take several visits, extensive discussion and allergy testing.

Q. What type of testing is involved?

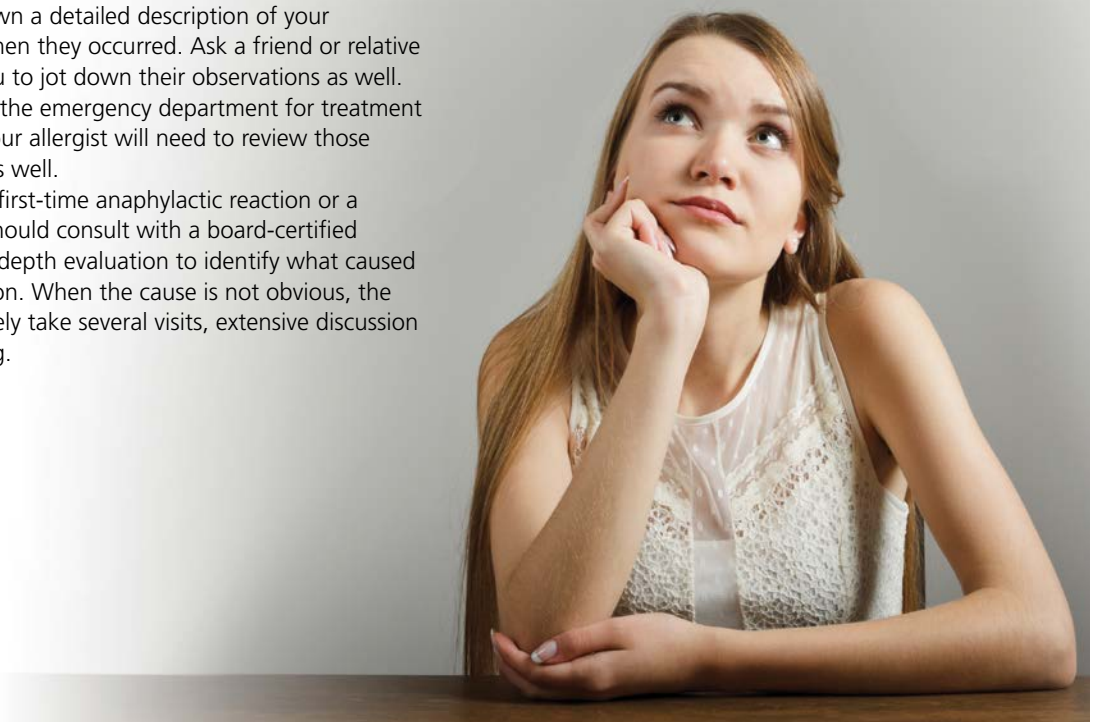
A. Your allergist will test for a wide range of foods and other allergens, including specific foods you may be asked to supply, such as spices, packaged food, or even leftover restaurant food.

Both skin and blood tests might be ordered and lab tests obtained. The allergist will also test for underlying diseases that mimic anaphylaxis.

Q. Is there a treatment plan?

A. While the allergist searches for a cause, patients with frequent anaphylaxis episodes – six or more times per year – may be placed on daily antihistamines or short courses of oral corticosteroids to minimize possible reactions. Patients with infrequent reactions – less than five episodes per year – do not usually need daily medications, but this may vary depending on previous reactions.

Anyone at risk for anaphylaxis – whether the cause is known or not – should always carry two epinephrine auto-injectors.



When Medicine Makes You Sick

What if that spoonful of sugar helped the medicine go down — but the medicine's effect was anything but delightful? If medications make your skin bloom with hives, cause light-headedness, nausea or stomach cramps, and make your throat clamp shut, the diagnosis may be drug-induced anaphylaxis. Symptoms can begin within moments of ingesting a medication or up to several hours later.

Medications that most often cause anaphylaxis include:

- Antibiotics
- Aspirin and non-steroidal anti-inflammatory drugs (NSAIDs) like ibuprofen
- Drugs used in anesthesia
- Insulin (rarely)

Penicillin, an antibiotic, is the most common cause of drug-induced anaphylaxis. It causes approximately 400 deaths per year.

The most severe allergic reactions to medications usually happen when the medication is given as a shot or intravenously (directly into a vein).

If you develop flushing or hives within a few hours of taking a medication, call a board-certified allergist to talk about next steps. If symptoms are severe and involve multiple body organs – a skin rash, respiratory problems and/or digestive issues – call 911 and go to the emergency department immediately. Then you'll need to schedule a visit with the allergist and get tested for the drug allergy.

If the diagnosis is confirmed, ask the allergist to prescribe you two epinephrine auto-injectors, make a list of safe medications and work with you to create an Anaphylaxis Emergency Action Plan for treating as well as preventing future reactions.

Allergic to Exercise?

Exercise-induced anaphylaxis is rare, but it can be life-threatening. It happens most often to people exercising at a good clip — the heart rate is up and lungs are supercharging muscles with oxygen.

In addition to common anaphylaxis symptoms, exercise-induced anaphylaxis may include extreme fatigue, wheezing and difficulty breathing, gut-wrenching stomach pain and diarrhea.

Experts aren't quite sure what causes exercise-induced anaphylaxis, but some see an association between eating food or taking medications and exercise, even with a few hours between the two.

When talking with an allergist about your symptoms, report the food you ate and medication you took the day symptoms occurred. Explain what you did to make symptoms go away.

Quick Tips

- Get a prescription for two epinephrine auto-injectors and keep them with you when exercising – do not leave them in a locker or gym bag.
- Wait to exercise 4-6 hours after eating food or taking a medication your doctor suspects is causing exercise-induced anaphylaxis.
- Exercise with a friend who can recognize symptoms of anaphylaxis and can help administer epinephrine if necessary.
- If symptoms occur, do not continue exercising. Use an epinephrine auto-injector and call 911. See an allergist.

Growing Up with Severe Allergies

When and how should children begin taking responsibility for managing their severe allergies? Self-care begins from the moment of diagnosis, and is learned in small steps, a little at a time, throughout childhood.

Children learn a foundation of self-care in stages as their own physical, emotional and intellectual abilities develop. They initially depend completely on their parents, but a shift occurs as they learn new lessons, such as:

- they are separate from their parents and others around them;
- their body is uniquely their own and different from others;
- they can trust themselves, and others;
- how to follow directions and communicate well with others;
- how to use words to express their feelings;
- how to assert themselves;
- how to take responsibility.

How Dependence Becomes Independence

The balance of responsibility for allergy management gradually shifts as the child matures. At first it is heavily weighted on the side of the parents, who slowly but steadily guide children through life lessons and teach specific skills needed for self-care.

In a collaborative partnership, parents and children work together toward the same goal of managing the condition, though the specifics of who does what changes over time. Parents provide the scaffolding for self-care by helping children master and take responsibility for basic tasks, and then adding more complex skills, until the skill sets are strong.

With time and encouragement, responsibility for self-care comes to rest primarily, if not completely, on the shoulders of older teens and young adults.

By the time children leave home, they should be able to manage their condition on their own. However, they still may need parental guidance and reinforcement.

Written by Mary Klinnert, PhD, a licensed pediatric psychologist at National Jewish Health in Denver.

Age-Appropriate Self-Care Skills

At each stage of development, children learn new skills, adding to those previously learned and taking more responsibility for self-care. Age ranges are guidelines only; children develop at their own pace.

Infancy/toddlerhood (0-3 years): Parents/caregivers provide all care, including administering medications, recognizing symptoms and managing flares.

Self-care skill: learn to cooperate with parents/caregivers.

Preschool (3-5 years): Parents provide care, helping the child to learn about his or her body, unique issues (e.g., breathing trouble) and routines of daily life.

Self-care skill: notice symptoms, tell parents or responsible adults and follow their instructions.

Early elementary school (6-7 years): Parents and adult caregivers (e.g., teachers) help the child navigate separation from parents.

Self-care skill: learn to trust, communicate and cooperate with other caregivers.

Upper elementary school (8-11 years): As children focus on peers and establishing friendships, parents clarify child's responsibilities outside the home, such as following safety guidelines and social etiquette.

Self-care skill: recognize symptoms and independently request or use quick-relief medications appropriately.

Middle school (12-14 years): Parents provide framework for increased independence and learning life skills, discussing how to develop strategies for more complex tasks.

Self-care skill: develop daily medication routine with parent supervision.

Teens (15-17 years): Parents assist teens in making choices about managing symptoms.

Self-care skill: take responsibility for daily medications (overseen by parents).

Older teens (18-19 years): Parents support teens in practicing complete self-care, while remaining available for guidance or reinforcement.

Self-care skill: demonstrate the ability to independently manage daily care, asthma flares, medication supply and doctor appointments.

Allergy & Asthma Network

Allergy & Anaphylaxis

A Practical Guide for Schools and Families

School Safety Guidance for Allergy Management

Components of Allergy Management at School

Allergy management at school is a natural extension of the health care that students receive in the clinic or private provider setting.

As we move to talking about allergy management in the school setting, it's important to note that safe and effective management of allergies and anaphylaxis in schools requires a collaborative, multidisciplinary team approach.

School districts must have a clear, concise, all-inclusive policy in place to address the management of allergies in the school setting – the policy needs to be consistent with federal and state laws, nursing practice standards and established safe practices in accordance with evidence-based information and include development of a developmentally appropriate Individualized Healthcare (IHP) and Emergency Care Plan (ECP).

We face a challenge when we discuss nursing care delivered on a national basis as each state has a unique Nurse Practice Act as well as laws and regulations that are specific to each state. Nursing professionals are responsible for knowing their practice guidance and parameters – including issues related to medication administration and delegation of nursing tasks.

Four major components:

- ✓ Planning & Coordination of Care
- ✓ Educating Staff, Students & Parents
- ✓ Providing a Safe Environment
- ✓ Prompt Emergency Response

Planning and Coordination of Care

One of the vital roles of school nurses is to serve as care coordinator – often the school nurse is the one that is "holding all of the pieces" between home, school and the medical home.

School nurses need to identify students with life-threatening allergies and get a written statement of diagnosis from the student's healthcare provider. There can be some confusion with parents as to whether the student has a true allergy or a food intolerance, and having a diagnostic statement avoids confusion and helps direct care. Also, for food allergies, many food service departments require a diagnosis before substitutions can be made.

In an ideal world, every student at risk for anaphylaxis would have an Emergency Care plan, or ECP, written before the first time they walk through the doors of the school, but the school nurse works to get this in place as soon as possible. If appropriate, an Individualized Healthcare Plan, or IHP, is developed as well.

The school nurse can provide referrals to parents as needed and is in the perfect position to assess the student's abilities to both self-medicate and self-manage their allergy and any reaction that may occur.

Educating Staff, Students and Parents

One of the most important things that a school nurse can do is to keep up to date on what is considered to be "best practice" in the allergy management arena. The school needs to utilize evidence-based information in all

aspects of care and in allergy management as well. This encourages the school staff to learn what the research and credible resources have to say and combine that with the student's experience and nursing expertise to make the best student healthcare decisions possible.

There is much misinformation on the web – some reliable and some misleading, so one aspect of education is to help those around you to know where to go to get the best available tools and resources.

Staff should receive education on the signs and symptoms of an allergic reaction and be taught that each student's reaction may look a little different and that each reaction that an individual has might be different from their last reaction. It is valuable to post a chart available that outlines the signs and symptoms in each classroom. (This resource is available on page C9.)

All school staff who work with students need to know prevention strategies to avoid exposures, including knowing and avoiding allergens and avoiding cross contact or contamination. Another key point to cover in educating staff is to be able to follow the ECP in the event a student with a known allergy has a reaction or a student without a known allergy experiences a life-threatening allergic reaction.

It is also imperative that the school nurse help staff to understand the Family Education Rights and Privacy Act law or FERPA. Information can only be shared on a need to know basis and children have the right to have their health information protected. Remind staff that health-related conversations should occur in private – not in school hallways or public areas.

Education continues with students, parents and guardians. Students need to understand how to self-manage their allergy – from understanding the pathophysiology in a developmentally appropriate manner to learning how to avoid their allergen. As they understand their own symptoms of an allergic reaction, it's important to teach them how to self-medicate as well. Students also need guidance as to when to notify an adult that they need help – and with younger children, they may need help even knowing how to ask for help.

Parents and guardians live with food allergy issues 24 hours a day, 7 days a week and need to find a real partner in their school staff. Look for ways to work together because that ultimately benefits the student. Parent and Guardians of students with allergies appreciate opportunities to get together and share their stories and successes – and look to each other for help. Developing strong communication with parents also helps them to understand school policies and practices.

Providing a Safe Environment

School nurses work to keep the school environment safe for students with allergies. It's important to continually assess the school environment to be sure that all areas are as "allergen safe" as possible.

It's vital for the school nurse to be in the school to assist staff in identifying potential allergens and to discuss specific prevention strategies for each area of the school. And while the student's physical health is obviously at risk when we're talking about anaphylaxis, it's also important for the school nurse to work with counseling staff, teachers, administrators and others to provide emotional support to our students with food allergies.

Prompt Emergency Response

The school nurse is the ideal person to be a leader in developing a school wide emergency response plan with specific roles assigned to members of the staff. It's valuable to have a "table top drill" with school staff that are likely going to need to respond if an emergent event occurs. (Allergy & Asthma Network offers this tool.)

Staff need to be willing and able to administer the ECP – it's important to ask a staff member to talk through how they would react in an emergency. They need to know where a student's epinephrine is – or where stock epinephrine is in states that allow it – and how to administer it. The school nurse needs to store this emergency medication where it is accessible and have a mechanism in place to monitor the expiration dates of the medication to be sure that everyone is prepared in the event of an emergency.

When we use the term "stock epinephrine," we are referring to an undesignated epinephrine auto-injector that can be used in the event that a student with no history of an allergy has a first anaphylactic episode at school. Be sure you know your state laws and regulations about who can give this life-saving medication dose.

Following an emergency, the school staff should always have a debriefing meeting with all involved in the incident. It allows non-medical staff to express their feelings and concerns and helps to evaluate the incident and improve outcomes as you move forward.

✔ Practical Points

Questions to ask about stock epinephrine:

- ❑ Who can give this medication at your school? Nurse? Trained staff member?
- ❑ Where is stock epinephrine stored? Is it in an unlocked but secure location?
- ❑ Who checks the expiration date?

Education of School Staff

School nurses, staff, students, parents and guardians need to be able to point to material and resources that are based on evidence. All school staff, particularly those responsible for students with severe allergies, should receive allergy education that is evidence-based. It should be emphasized that no two reactions are alike – students experience different reactions and even individual reactions will vary from one episode to the next.

School staff should receive education on the signs and symptoms of an allergic reaction and be taught how to respond if it's an emergency.

The Centers for Disease Control and Prevention (CDC) suggests the following (these can be applied to all types of allergies):

✔ Practical Points

Education of school staff can be held at a school-wide faculty meeting to teach signs and symptoms of allergies and generalized allergy care.

Specific, individualized instruction should be provided to staff supervising a student with a known allergy who is at risk for anaphylaxis.

- How to respond to an allergy emergency.
- Information about federal laws that could apply, such as the ADA, Section 504, and FERPA. Information about any state laws, including regulations, or district policies that apply.
- How to administer epinephrine with an auto-injector (for those formally delegated to do so).
- How to help children treat their own allergy episodes.
- Effects of food allergies on children's behavior and ability to learn.
- Importance of giving emotional support to children with food allergies and to other children who might witness a severe food allergy reaction (anaphylaxis).
- Common risk factors, triggers, and areas of exposure to food allergens in schools.
- Specific strategies for fully integrating children with allergies into school and class activities while reducing the risk of exposure to allergens in classrooms, during meals, during nonacademic outings, on field trips, during official activities before and after school programs, and during events sponsored by schools programs that are held outside of regular hours. These strategies could address (but are not limited to) the following:
    - o Special seating arrangements when age and circumstance appropriate (e.g., during meal times, birthday parties).
    - o Plans for keeping foods with allergens separated from foods provided to children with food allergies.
    - o Rules on how staff and students should wash their hands and clean surfaces to reduce the risk of exposure to food allergens.
    - o The importance of not sharing food.
    - o How to read food labels to identify food allergens.
    - o Any food in the classroom should have ingredents listed on a label; no home-baked treats. Twenty-five percent of first-time allergic reactions occur in the school setting.

Special Note: It is imperative that the school nurse helps staff understand the Family Education Rights and Privacy Act law, or FERPA. Information can only be shared on a need-to-know basis and children have the right to have their health information protected. Remind staff that health-related conversations should occur in private – not in school hallways or public areas.

Centers for Disease Control and Prevention (CDC). (2013). Voluntary guidelines for managing food allergies in schools and early care and education programs. Washington DC: US Department of Health and Human Services.

Allergy Emergency Response at School

Strong prevention strategies can help prevent an emergency, but school must always be prepared in the event that anaphylaxis occurs. The school nurse is the leader in developing a school-wide emergency response plan with specific roles assigned to members of the staff. The school nurse is also responsible for writing an Emergency Care Plan to direct non-medical staff to respond to an allergy emergency as necessary.

Develop a School-Wide Emergency Response – Assign Roles to Staff

Most schools have an emergency response plan and it can be revised to include allergy emergencies. Each building and staff are unique, but a possible approach to staff response in an emergency could include:

- School nurse – Directs emergency care, calls 911 for EMS (emergency medical services)
- School administrator – Provides support, directs students to appropriate location
- School counselor – Provides emotional support to witnesses, classmates
- School office staff – Calls parent, copies student personal information for EMS responders

Response and Administration of Emergency Care Plan

Staff need to be willing and able to administer an Emergency Care Plan. Training and reinforcement of the training should occur every 6 months. Staff needs to know:

- Signs and symptoms of an allergic reaction (see resource section for chart)
- Location of student's epinephrine and/or school stock epinephrine – and how to administer it.
  - o Epinephrine should be accessible and there should be a process in place to monitor the expiration dates of the medication to be sure everyone is prepared in the event of an emergency.

The term "stock epinephrine" refers to an undesignated epinephrine auto-injector that can be used in the event that a student with no history of an allergy has a first anaphylactic episode at school. All 50 states now allow it – be sure you know your state laws and regulations about who can give this life-saving medication dose.

Debriefing the Emergency Incident

Following an emergency, a debriefing meeting with all involved in the incident provides valuable assessment of the event as well as emotional support for those involved.

Consider using a "table top drill" with school staff that will likely respond if an anaphylactic emergency occurs. Sample drills are included in this guide on pages B13-B16.

✔ Practical Points

Suggested agenda for a debriefing meeting:

- ✓ What caused the allergic reaction?
- ✓ Who responded and what was the outcome?
- ✓ How did the student and classmates feel the response went?
- ✓ Did staff respond appropriately?
- ✓ Was staff comfortable with their roles?
- ✓ What can be done better the next time?

The Role of the School Nurse in Allergy Management

The role of the school nurse is a complex one that encompasses many aspects of allergy care. The National Association of School Nurses has outlined the role in a 2015 document titled, "Framework for 21st Century School Nursing Practice™". This document outlines the principles of school nursing that incorporate the school nurse role in allergy management as well.

3-Prong Approach

- Work to develop a school-wide emergency response – Assign roles to staff
- Plan the school response and administration of the Emergency Care Plan
- Meet to debrief any emergency response

Care Coordination

The school nurse acts as a case manager for chronic disease management in the care of students with allergies. As each case is different, the school nurse must use nursing assessment skills to direct and provide care for each individual student. Coordinating care also includes being a good communicator among all members of the collaborative care team. The school nurse educates the student and family as well as school staff members. School nurses are also responsible for the development of emergency care plans and individualized health care plans as well as providing support for a Section 504 plan as needed.

Leadership

It is vital that school nurses assume a leadership role for students who are at risk for anaphylaxis. As change agents and lifelong learners, school nurses need to stay current with guidelines-based practices and share their knowledge with their school community. School nurses drive policy development and systems-level leadership in collaboration with school administration to keep students safe at school.

Quality Improvement

Documentation and data collection are a part of quality nursing practice and this extends to allergy management and care. Documentation will assist the school nurse and school administration in evaluating individual care as well as school district wide policy and protocol, resulting in positive health and academic outcomes for each student.

✔ Practical Points

Framework for 21st Century School Nursing Practice™

From the National Association of School Nurses

- ✓ Standards of Practice
- ✓ Care Coordination
- ✓ Leadership
- ✓ Quality Improvement
- ✓ Community/Public Health

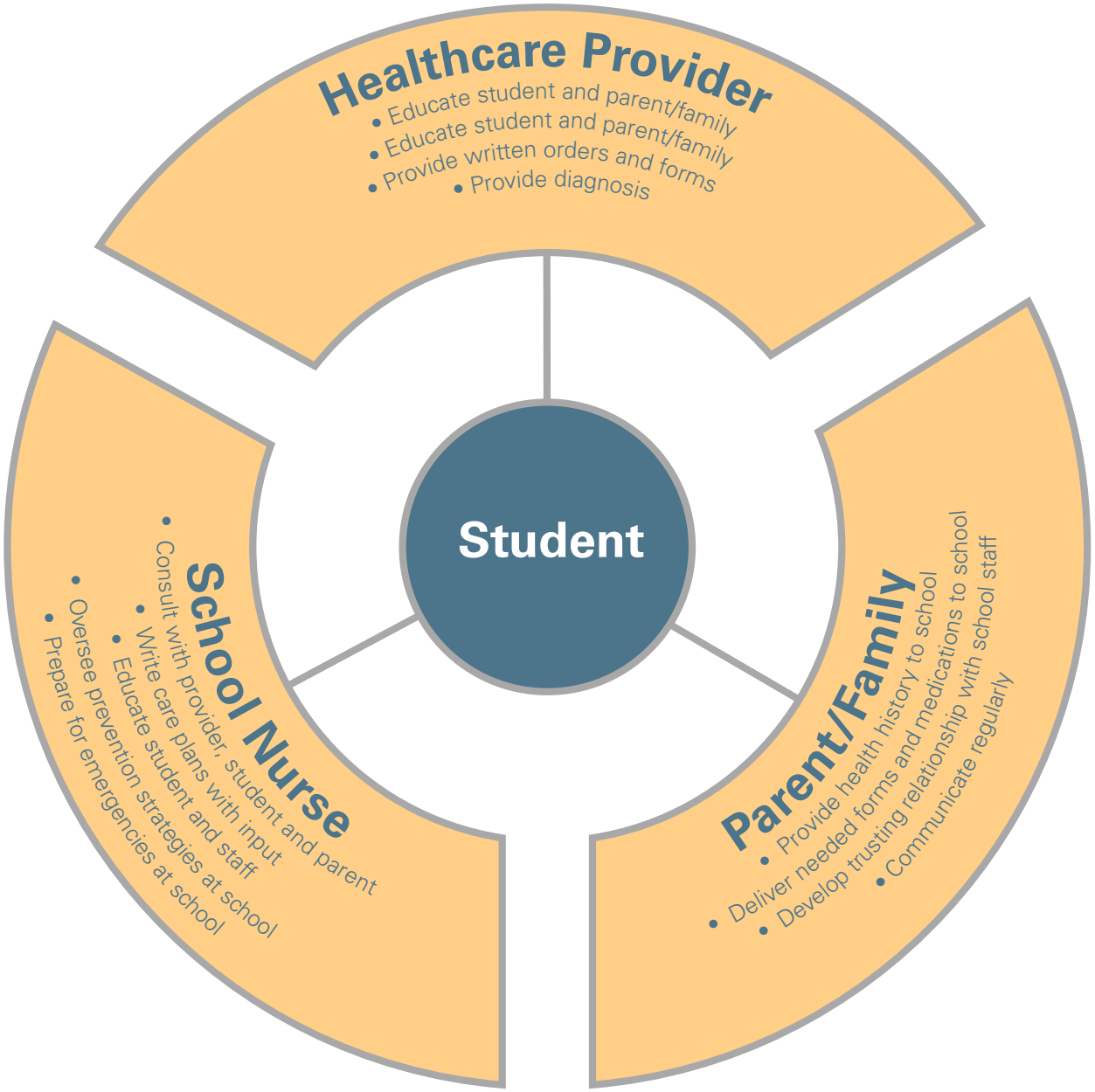
Community/Public Health

Students who are at risk for anaphylaxis benefit from health education that includes cultural sensitivity and addresses social determinants of health. Prevention strategies and careful emergency care planning can result in reduced risks for students in the school setting.

Framework for 21st Century School Nursing Practice™ – retrieved from *NASN.org/Framework*

Allergy Care is a Shared Responsibility

It is vital that we put the student at the center of allergy management at school. Each member of the school community must work together to prevent exposures and respond in the event of an anaphylactic emergency. The graph below shows some important contributions each healthcare provider contributes to the care of a student with a severe allergy.



Sample Classroom Letter

School Name

Date

Dear Parents and Guardians,

There is a student in your child's classroom with a severe allergy. It is important as a classroom and a school community to come together to prevent this student from having an exposure to the allergen. Even a small amount of allergen can produce a life-threatening allergic reaction.

We are asking for your help in keeping this, and every, student safe at school.

[Add any specific information here pertinent to the student's specific allergy or allergies. Do not name the student in the letter as this is a violation of the student's right to confidentiality under the Family Education Rights and Privacy Act, or FERPA.]

Thank you for your support and thoughtful consideration for our school's students. Please contact our school nurse or principal with any questions or concerns.

Sincerely,

[Your Name]

NEW! Download at *aap.org*

Allergy and Anaphylaxis Emergency Plan

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN®

Attach child's photo

Child's name: _____ **Date of plan:** _____

Date of birth: ____/____/_____ **Age** _____ **Weight:** _____kg

Child has allergy to _____

Child has asthma. ☐ Yes ☐ No (If yes, higher chance severe reaction)
Child has had anaphylaxis. ☐ Yes ☐ No
Child may carry medicine. ☐ Yes ☐ No
Child may give him/herself medicine. ☐ Yes ☐ No (If child refuses/is unable to self-treat, an adult must give medicine)

IMPORTANT REMINDER
Anaphylaxis ia a potentially life-threatening, severe allergic reaction. If in doubt, give epinephrine.

For Severe Allergy and Anaphylaxis
What to look for

If child has ANY of these severe symptoms after eating the food or having a sting, **give epinephrine.**

- Shortness of breath, wheezing, or coughing
- Skin color is pale or has a bluish color
- Weak pulse
- Fainting or dizziness
- Tight or hoarse throat
- Trouble breathing or swallowing
- Swelling of lips or tongue that bother breathing
- Vomiting or diarrhea (if severe or combined with other symptoms)
- Many hives or redness over body
- Feeling of "doom," confusion, altered consciousness, or agitation

☐ **SPECIAL SITUATION**: If this box is checked, child has an extremely severe allergy to an insect sting or the following food(s):_____. Even if child has MILD symptoms after a sting or eating these foods, **give epinephrine.**

Give epinephrine!
What to do

1. Inject epinephrine right away! Note time when epinephrine was given.
2. Call 911.
   - Ask for ambulance with epinephrine.
   - Tell rescue squad when epinephrine was given.
3. Stay with child and:
   - Call parents and child's doctor.
   - Give a second dose of epinephrine, if symptoms get worse, continue, or do not get better in 5 minutes.
   - Keep child lying on back. If the child vomits or has trouble breathing, keep child lying on his or her side.
4. Give other medicine, if prescribed. Do not use other medicine in place of epinephrine.
   - Antihistamine
   - Inhaler/bronchodilator

For Mild Allergic Reaction
What to look for

If child has had any mild symptoms, **monitor child.**
Symptoms may include:

- Itchy nose, sneezing, itchy mouth
- A few hives
- Mild stomach nausea or discomfort

Monitor child
What to do

Stay with child and:

- Watch child closely.
- Give antihistamine (if prescribed).
- Call parents and child's doctor.
- If symptoms of severe allergy/anaphylaxis develop, use epinephrine. (See "For Severe Allergy and Anaphylaxis.")

Medicines/Doses

Epinephrine, intramuscular (list type):_____ Dose: ☐ 0.15 mg ☐ 0.30 mg (weight more than 25 kg)
Antihistamine, by mouth (type and dose): _____
Other (for example, inhaler/bronchodilator if child has asthma): _____

_____ _____ _____ _____
Parent/Guardian Authorization Signature **Date** **Physician/HCP Authorization Signature** **Date**

 Your child's doctor will tell you to do what's best for your child. This information should not take the place of talking with your child's doctor.

FIGURE 1
AAP Allergy and Anaphylaxis plan.

Student Healthcare Plan Overview

There are four major types of care plans used in the school setting to meet the needs of students with chronic conditions, including those at risk for anaphylaxis.

Individualized Healthcare Plan (IHP)

- A document written in nursing language for nurses to utilize. It must be written by a registered nurse.
- Should be filed as "part of the student's permanent health record"
- Based on nursing process – assessment, nursing diagnosis, goals, outcomes, interventions and evaluation
- Reviewed at least annually – a fluid document that changes with the student's needs

Emergency Action or Care Plan (ECP)

- A document for school staff written in lay language to guide non-medical staff to respond to an emergency – written by the school nurse
- Should be distributed to all staff that has supervisory responsibility for a student at risk for anaphylaxis
    - o Every student with an order for epinephrine should have an ECP
    - o School nurse must train staff to administer plan – reinforce at least every 6 months
- Outlines the steps to take in an anaphylactic emergency - based on healthcare provider's orders
- Review and renew annually

Section 504 Plan

- A legally binding plan written in educational language to ensure accommodations at school for a student with a chronic health condition – includes allergies and risk for anaphylaxis
- Should be filed in student's educational record
- Written by healthcare team – initiated and overseen by the school district's 504 Coordinator
- Formalizes accommodations needed to make it through the school day

Individualized Education Plan (IEP)

- A written statement of the special education program designed to meet a child's individual needs
- Usually only used for food allergies when other disabilities exist
    - o If a student who is having a plan written for a learning disability also has a food allergy, it may be included in the plan
- Would be listed under the heading "Other Health Impaired"

Does Peanut-Free Equal Certainty?

Since schools began implementing peanut-free policies, questions have emerged about their effectiveness and practicality. Matthew Greenhawt, MD, and Michael Pistiner, MD, two leading food allergy experts, discuss steps schools and parents can take to help protect students with peanut allergies.

Peanut-Free Is Not Risk-Free

By Matthew Greenhawt, MD

The prevalence of food allergy is rising in the United States, stirring public debate on the need for peanut-free policies in schools. Though allergic reactions to peanut can occur (and have occurred) at school, they are unlikely to happen without the child physically ingesting a peanut-containing product.

Peanut-free school policies may not be effective in preventing reactions – no data actually support that nut-free policies do so. In fact, a 2008 University of Michigan study found that nearly 20 percent of 409 reported reactions occurred in a described "nut-free" setting.

More to the point, the risk of reactions occurring at schools is often misunderstood. Studies have shown that:

- Peanut residue is easily cleaned from hands with soap and from surfaces with commercial products.
- Smelling peanut butter does not cause allergic reactions.
- Peanut dust does not become airborne (according to two separate studies published in *The Journal of Allergy and Clinical Immunology*) but may accumulate on surfaces where peanut is eaten regularly.

It's understandable to want to protect a peanut-allergic child at school or other public venue, but the child's age should guide the accommodations, given some are more appropriate for younger children (for example, nut-free classrooms).

Remember, many non-allergic families consider peanut-free policies unfair. Schools must optimize proven strategies such as hand/mouth washing, no sharing of food, and increasing awareness of a child's dietary restrictions.

With better implementation of such strategies and understanding of the actual risk, more mutually acceptable protective policies can be developed.

Matthew Greenhawt, MD, MBA, MSc, is associate professor of pediatrics at the University of Colorado School of Medicine and pediatric allergist and co-director of the Food Challenge Unit at Children's Hospital Colorado.

Avoiding Accidental Exposures At School

By Michael Pistiner, MD

The goal for schools is to prevent children with food allergies from coming into contact with the food they are allergic to – and potentially having a severe allergic reaction.

Simply stating that a school is "peanut free" does not mean the appropriate food allergy management program is in place. Also, these designations can decrease vigilance if adequate training does not occur.

Preventing allergic reactions and supporting children with food allergies require all school staff and all school parents to be educated and mindful of food allergy avoidance and emergency preparedness. School staff responsible for caring for children with food allergies should be trained to identify food allergy reactions and how to use an epinephrine auto-injector. They will need to understand the developmental capabilities of students and ways to avoid exposure to allergens.

Preschool or kindergarten children who often eat their snacks and lunch in the same area where they learn and play may be messy eaters and frequently put their hands and objects in their mouths. It can be a challenge for teachers to prevent cross-contact and potential ingestion of a food allergen. These factors should go into deciding whether or not to restrict certain foods from the classroom.

In schools where older children eat in a cafeteria instead of a classroom, the available resources as well as the developmental age of the kids allow for the implementation of appropriate cleaning strategies to remove food allergens. In those situations, risk of cross-contact and accidental exposure is considerably lower.

Michael Pistiner, MD, MMSc is a pediatric allergist at Harvard Vanguard Medical Associates, co-author of "Living Confidently With Food Allergy" and co-creator of allergyhome.org.

Anaphylaxis Emergency Procedures

Epinephrine When You Need It

Epinephrine is the treatment of choice when responding to an anaphylactic emergency. Sometimes a student or school staff member needs epinephrine within minutes, so epinephrine should be accessible at all times. In addition to stock epinephrine at schools, federal law allows schoolchildren to self-carry epinephrine auto-injectors.

When addressing epinephrine policies at school, consider the following:

- Anyone that might need to administer epinephrine should be trained and know where it is stored at all times
- The school should identify who can administer both prescription and stock epinephrine
- Policies and procedures should be in place to guide administration (sample policies and protocols can be accessed from the National Association of School Nurses (NASN) at *NASN.org/ToolsResources/FoodAllergyandAnaphylaxis/EpinephrinePoliciesProtocolsandReporting*.

Storage tips

Epinephrine should be stored in an unlocked cabinet (safe and secure) location during school hours. Each school should review their site plan and unique circumstances to determine where epinephrine should be stored. Several vendors offer unlocked epinephrine cabinets for sale. Some schools use a "shoe bag" for storage.

Store your epinephrine auto-injectors as close to room temperature as possible. Leaving them in extremely hot or cold temperatures can make the epinephrine ineffective or cause the injector to malfunction. Do not store them in your car or in a refrigerator.

When outside, you need to keep your epinephrine auto-injector close at hand, so pack it in a purse or backpack.

Keep your epinephrine auto-injectors out of direct sunlight; this can cause the epinephrine to oxidize (combine with oxygen, changing the makeup of the drug) and become ineffective. Oxidized epinephrine will appear dark or have solid particles in it. Epinephrine can also oxidize on its own over time, so check your device regularly to be sure the liquid inside is clear.

Epinephrine auto-injectors have an expiration date and they should be replaced as soon as they expire. (However, if all you have is an outdated auto-injector in an emergency, use it as it may provide some benefit.) Check the date on your devices regularly, including backups that may be in a school nurse's office or at a family member's house.

Calling an Ambulance

School staff should be taught how to call an ambulance – minutes count and it's important to be calm and prepared to answer questions posed by an emergency dispatcher.

Be prepared to provide:

- Your name
- Where you are calling from – have the address in front of you and have the dispatcher repeat this back to you to avoid errors (you want the ambulance at YOUR school – not one down the road)
- Your phone number
- The student's name, age and general condition
- State the following:
    - o "I am requesting an ambulance for a child experiencing a severe allergic reaction and is having trouble breathing. Be sure the ambulance has epinephrine."
- Time of first reported symptoms
- The time the first dose of epinephrine was given
- The time a second dose of epinephrine was given (if applicable)
- Have someone meet the ambulance and bring the responders to the student
- Have someone photocopy the student's contact information and bring to the responders
- Alert the parent and if there's time, ask them which hospital they want their child to go to. Send a school staff member in the ambulance to stay until the parent arrives.

It is helpful to have a laminated card with simple instructions next to each phone in the school building.

Some schools choose to announce a "stay in place" drill when an ambulance responds to keep hallways clear for first responders.

Table Top Drill – School Nurse Notes

Allergic reactions may occur anytime/anywhere. If the school nurse is not available, who is trained to respond? Does your school have an Emergency Response Team?

Each table top drill is designed to be led by the school nurse or health care designee in the school setting. The staff invited to participate in the drill should include the school administrator, teachers, support staff, special area teachers and anyone who supervised students at risk for anaphylaxis.

Review each scenario with school staff.

Questions to ask following each scenario are found on the table top drill pages.

Review school staff member roles – have each staff member describe the action that they would take in the scenario.

Notes on scenarios:

Elementary

Olivia is exhibiting signs and symptoms of an anaphylactic reaction – likely to a food. Does she have a known allergy? You can move through the scenario with a known allergy or an unknown allergy:

- **For a known allergy:** Follow student Emergency Care Plan. Administer Olivia's prescribed epinephrine auto-injector as soon as possible.
- **For an unknown allergy:** Follow school district protocol. Administer stock epinephrine

Middle School

Trevor has signs and symptoms of a Type 1 latex allergy – likely from touching a balloon. The PE teacher should not leave him alone and should start care based on his Emergency Care Plan. If Trevor carries epinephrine, it should be given without delay. If not, the school nurse should respond with an epinephrine auto-injector.

Secondary School

Jacklyn is exhibiting anaphylaxis after getting stung by a bee. The teacher on the field should call for help and keep Jacklyn calm while the school nurse or designee respond. Follow the student's Emergency Care Plan. Administer Jacklyn's prescribed epinephrine auto-injector as soon as possible.

General thoughts:

- Consider having staff member call ambulance in earshot of the nurse to free the nurse to provide direct care.
- Remove the allergen from the student or the student from the allergen as soon as possible.
- How do students gain access to epinephrine during related activities, including athletic trainings or events and filed trips?

Notes on Emergency Care for all Anaphylactic Emergencies

GIVE EPINEPHRINE WITHOUT DELAY – EPI FIRST, EPI FAST

- Follow the student's Emergency Care Plan.
- Monitor the student; do not have him/her rise to an upright position.
- If no improvement occurs or if symptoms return or worsen in five or more minutes, administer a second dose of epinephrine.
- Send used auto-injector to the hospital with the student.
- Alert parents and transport to hospital by ambulance. If parents are not present, have school staff member accompany the student to the hospital and stay until a parent arrives.

Table Top Drill – Elementary School

Olivia, a second grade student begins coughing in the classroom. The teacher notes there is some swelling around Olivia's eyes and lips. The teacher keeps Olivia calm and calls the school nurse. Olivia begins to wheeze and starts grabbing her neck. She is gasping for air and cannot speak.

- What do you see? What signs and symptoms of anaphylaxis are present?
- What do you do first?
- What steps should you follow next?

School Staff Member Roles in an Anaphylaxis Emergency

School Nurse or designee	Lead the emergency response – call 911 (EMS – Emergency Medical Services) Provide direct care; administer epinephrine as needed
School Administrator	Report to the scene of the emergency to provide support Reroute students as needed – contact parents Designate staff member to accompany student to hospital as needed
Teacher	Move class from the scene of the emergency Provide support to witnesses
School Counselor (Mental Health Staff)	Support students who witnessed the emergency event Provide counseling to students who are upset
School Secretary	Photocopy student contact information Alert parents as to where to meet child (ask for preferred hospital) Greet and direct EMS to site of the emergency to aid quick response

Adjust roles as appropriate for your school's unique staffing pattern and school layout

Questions for Consideration

- Is there an Emergency Care Plan for this student? If so, always initiate the plan immediately.
- Reactions happen away from the school health office → Who is trained in your school to respond to an allergic emergency?
- How is your school prepared for responding to students who exhibit signs and symptoms of anaphylaxis but have no previously known allergy?
- Is epinephrine immediately available?
    - o Does your school have stock epinephrine?
    - o Where is the student's epinephrine stored?
    - o Who in your school can administer epinephrine?

Table Top Drill – Middle School

Seventh-grade student Trevor is playing basketball in the gym. The physical education (PE) teacher calls the school nurse on the walkie-talkie and says that Trevor has hives on his hands and face and reports feeling "itchy." The PE teachers thinks that he's trying to get out of playing and wonders if he needs to send him to the nurse. While talking, Trevor begins to wheeze and gasp for air.

- What do you see? What signs and symptoms of anaphylaxis are present?
- What do you do first?
- What steps should you follow next?

School Staff Member Roles in an Anaphylaxis Emergency

School Nurse or designee	Lead the emergency response – call 911 (EMS – Emergency Medical Services) Provide direct care; administer epinephrine as needed
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Adjust roles as appropriate for your school's unique staffing pattern and school layout

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- How is your school prepared for responding to students who exhibit signs and symptoms of anaphylaxis but have no previously known allergy?
- Is epinephrine immediately available?
    - o Does your school have stock epinephrine?
    - o Where is the student's epinephrine stored?
    - o Who in your school can administer epinephrine?

Table Top Drill – Secondary School

Jacklyn, a 10th Grader, has an insect venom allergy and while she is out on the athletic field, a bee stings her. There is swelling at the sight of the sting. She starts wheezing and grabs her neck, saying, "My chest feels tight and I can't breathe! I have epinephrine, but it's in the school in my locker."

- What do you see? What signs and symptoms of anaphylaxis are present?
- What do you do first?
- What steps should you follow next?

School Staff Member Roles in an Anaphylaxis Emergency

School Nurse or designee	Lead the emergency response – call 911 (EMS – Emergency Medical Services) Provide direct care; administer epinephrine as needed
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Adjust roles as appropriate for your school's unique staffing pattern and school layout

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    - o Does your school have stock epinephrine?
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    - o Who in your school can administer epinephrine?

Allergy & Asthma NETWORK

Allergy & Anaphylaxis

A Practical Guide for Schools and Families

Educational Resources for Student & Staff Instruction

How to Use an Epinephrine Auto-Injector

Epinephrine is an adrenaline hormone your body produces naturally in response to stressful situations – often called the "fight or flight" response. The epinephrine you take as a medication to treat anaphylaxis has a similar effect on your body.

When administered, epinephrine increases your heart rate and blood pressure, relaxes muscles in your airways, reverses swelling and suppresses your immune system's response to allergens – temporarily halting the life-threatening effects of an anaphylactic reaction.

Epinephrine is the ONLY drug that will reverse anaphylaxis and should be given as soon as symptoms appear. Any delay greatly increases the chance of hospitalization – fatal reactions are often associated with either delaying the use of epinephrine or not using it at all.

Epinephrine auto-injectors contain a premeasured dose of epinephrine. Two different strengths are available for treating different body weights.

Step-by-Step Instructions:

Epinephrine auto-injectors are easy to use and come with clear instructions. The device's needle sits protected inside the device until you inject it. Ask your doctor for training on how to correctly use an epinephrine auto-injector; manufacturers' websites may also provide detailed steps and how-to videos.

1. Pull off the safety cap and/or needle end-cap.
2. Inject the epinephrine into the outer thigh; avoid the buttocks area. The needle is designed to go through clothing if necessary. Hold the leg and keep it steady while you inject the epinephrine.
3. Once injected, follow the device's instructions for how long to keep it in place — usually several seconds — until all the epinephrine is delivered.
4. Remove the device and massage the injection site for 10 seconds.
5. Call 911 immediately. Tell the dispatcher you just used epinephrine to treat a suspected anaphylactic reaction. Make arrangements for transport to an emergency department for additional treatment.

Side effects may include uncontrollable shaking or twitchiness and feelings of panic or anxiety. These should subside within a few minutes or an hour.

Epinephrine and Other Medical Conditions

Epinephrine is the only medication that has no contraindication when treating anaphylaxis — meaning there is no medical condition or factor that serves as a reason to withhold it, says Christopher Randolph, MD, board-certified allergist in Waterbury, Connecticut. While doctors and patients should be aware of and discuss the potential impact epinephrine may have on other medical conditions, such as heart disease, "It doesn't matter what other medical condition is present, because anaphylaxis is a life-threatening situation and epinephrine is the only treatment — there is no alternative," Dr. Randolph says.

Allergist Q & A with Martha White, MD

Epinephrine Or Antihistamines?

Q: "I'm a school nurse. One parent of a child with peanut allergy insists that antihistamines such as Benadryl® are the first line of treatment if her child accidentally eats a peanut. I can't convince her otherwise. What do you suggest?"

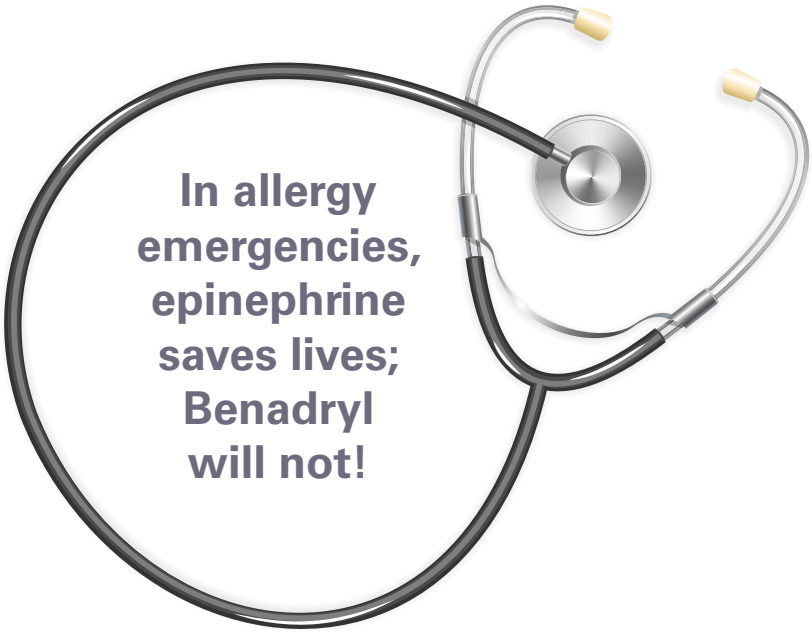
Dr. White: This is a very important issue and could be a matter of life or death. Epinephrine is the only medication proven to stop anaphylaxis, a life-threatening allergic reaction.

Decades ago, before we understood as much about anaphylaxis as we do now, Benadryl (diphenhydramine) was the recommended treatment. However, we now know that diphenhydramine, which is an antihistamine, only treats a few of the minor symptoms associated with anaphylaxis – and it takes about 30 minutes or more to take effect, which is far too long.

On average, fatalities from anaphylaxis occur 30 minutes after ingesting a food allergen, and 15 minutes after bee stings. Fatal reactions can start out with mild symptoms then quickly escalate, and the vast majority of people experiencing severe systemic allergic reactions have only had mild symptoms in the past.

Many parents are hesitant to give their child epinephrine. They often cite fear of traumatizing the child (or themselves) as the primary reason, saying the child has never had what they considered to be a dangerous allergic reaction before. So they use Benadryl first, thinking it is a more gentle approach. However, anybody at risk for anaphylaxis can have a life-threatening allergic reaction – even if previous reactions have been mild. Any delay in administering epinephrine greatly increases the chance of hospitalization due to anaphylaxis and delaying or failing to use it has been associated with fatalities.

I strongly urge using an epinephrine auto-injector as the first treatment for any sign of a life-threatening allergic reaction. A dose of epinephrine for a relatively mild reaction does not harm a patient in any way.



In allergy emergencies, epinephrine saves lives; Benadryl will not. And you certainly don't want to wait until a child stops breathing or loses consciousness to provide lifesaving treatment.

So, as a school nurse, what can you do? Address your concerns with the child's doctor, continue to work with the parents, and suggest she reach out to patient education organizations such as Allergy & Asthma Network. You might also contact the Network's Anaphylaxis Community Experts (ACE) program at *ace@allergyasthmanetwork.org* to set up an anaphylaxis presentation at your school.

Martha White, MD, is a board-certified allergist at the Institute of Asthma and Allergy in Wheaton, Md.

How to Read a Food Label

In 2006, the Food Allergen Labeling and Consumer Protection Act took effect, making it easier for people with food allergies to avoid packaged products that contain their food allergens.

What You Need to Know

1. The law mandates that labels of food packages containing a Top 8 food allergen (see the infographic on the opposite page) list the allergen in clear language, either in the ingredients or in a "Contains" statement placed immediately after or next to the ingredients.
2. The law applies to any food flavoring, spice, coloring or processing aid that contains a Top 8 food allergen.
3. The law does not apply to meat or poultry, certain whole egg products governed by the U.S. Department of Agriculture, sesame and other seeds and gluten-containing grains other than wheat.
4. Molluscan shellfish, such as clams, oysters, mussels and scallops, are not considered a major food allergen under the labeling laws.
5. Food manufacturers are not required to list highly refined peanut, tree nut or soy oils because processing separates the allergen protein from the oil and they are considered safe.

Safety Tips

- "First look for the 'Contains' statement, and if your allergen is listed, put the product back on the shelf," says Rhonda Kane, a registered dietitian and consumer safety officer with the U.S. Food and Drug Administration (FDA). "If there's no 'Contains' statement, it's still important to read the full ingredient list to see if your allergen is present. If you see its name even once, it's back to the shelf for that food, too."
- Avoid foods with advisory statements on allergens, such as "May contain," "Produced in a facility that," or "Manufactured on shared equipment with" – this means there's a chance the food allergen is present in the product or it was made using equipment that made other foods containing an allergen. Discuss this with your allergist if you have questions.
- Food manufacturers can change ingredients without notice, so even if a food was previously "safe," recheck the ingredient list every time.
- "If you're unsure about whether a food contains any ingredient to which you are sensitive, don't buy the product, or check with the manufacturer first to ask what it contains," Kane says.

HIDE & SEEK

Ingredients derived from common food allergens can be listed under many different names on the food label.

Dairy
- Casein
- Curds
- Ghee
- Lactalbumin
- Sodium caseinate
- Tagatose
- Whey

Egg
- Albumin
- Lysozyme
- Meringue
- Ovalbumin
- Surimi

Peanut
- Cold-pressed peanut oil
- Goobers
- Legumes
- Marzipan
- Nut meat
- Nougat

Sesame
- Benne
- Gingilly
- Sesamol
- Sim Sim
- Tahini

Soy
- Miso
- Natto
- Shoyu
- Soya
- Tamari
- Tempeh
- Textured vegetable protein

Wheat
- Farro
- Food starches
- Graham flour
- Malt
- Semolina
- Spelt

Latex-Free School Product List

Always confirm that products are latex-free before using. This is not meant to be an all-inclusive list.

Adhesives	3M (800-494-3552) - Scotch Magic Tape, Post-Its, 3650 Storage Tape, (#2120) Transparent Duct Tape (regular duct tape is NOT latex free), Command Poster Strips, Command Interlocking Fasteners, Scotch Adhesive Putty, Scotch Glue Stick
Calculator Buttons	Texas Instruments calculators are latex free.
Drawing Pencils	Crayola (800-272-9652) - Crayola Colored Pencils, Crayola Watercolor Pencils RoseArt (800-272-9667) – Colored pencils
Erasers	Baumgarten's (800-247-5547) – Neon erasers Faber-Castell (800-642-2288) – All eraser products are latex-free and PVC free EXCEPT Perfection Pencil Eraser Jakks Pacific (877-875-2557) – Latex Free Erasers Pental - Click Erasers RoseArt (800-272-9667) - All erasers are latex free Sanford (800-323-0749) – All eraser products are latex-free EXCEPT Design Kneaded Rubber Eraser & Pink Pearl Eraser, Soap erasers
Glue/Paste	3M (800-494-3552) – Scotch glue sticks Avery (800-462-8379) – All glue sticks, labels, T-shirt transfers Crayola (800-272-9652) – All glue Elmer's (888-435-6377) – All glue EXCEPT rubber cement, Sno-Drift paste Note: Envelope and stamp glue may contain natural rubber latex. Use a moist rag to wet glue rather than licking.
Modeling Clay	Crayola (800-272-9652)- Crayola Dough, Crayola Modeling Clay, Model Magic, Silly Putty Hasbro (800-327-8264) – Play-Doh (*Hasbro packaging will state if latex is included in the product) Polyform Products Co. (847-427-0020) – Granitex, Sculpey, Sculpey III, Super Elasticlay, Super Sculpey
Mouse Pads	Crayola (800-272-9652)- Crayola Dough, Crayola Modeling Clay, Model Magic, Silly Putty Hasbro (800-327-8264) – Play-Doh (*Hasbro packaging will state if latex is included in the product) Polyform Products Co. (847-427-0020) – Granitex, Sculpey, Sculpey III, Super Elasticlay, Super Sculpey
Paint	Crayola (800-272-9652) - All Crayola Paints including Artista II, Watercolors, Washable Paint, Finger Paint, Powder Paint, and Liquid Tempera Paint
Pen/Pencil Grips	Hoyle Products, Inc. (800-345-1950) – All Hoyle grips are made of vinyl and are latex-free including adjustable rulers, curves for drafting use
Pens	Paper Mate (630-481-2200) – ZeZe Ball Point Pens, Silhouette Ball Point Pens, Comfort Grip Pens, Dynagrip Pens, Flexgrip Pens RoseArt (800-272-9667) – All pens Sanford (800-323-0749) – All Pens
Rubber Bands	Alliance Rubber Company (800-626-5940) – Latex free, anti-microbial line of rubber bands Baumgarten's (800-247-5547) – Plasti Bands Latex-free bands can be ordered through Home Depot, Office Max & Staples
Chair Pads	Acoustic Resources (716-868-1123) Quiet FeetT pads are latex free. These are adhered to chair legs to reduce noise, scratching of flooring
Headphones/Ear Buds	Acoustic Resources (716-868-1123) Quiet FeetT pads are latex free. These are adhered to chair legs to reduce noise, scratching of flooring

Latex-Free Sports Equipment List

Always confirm that products are latex-free before using. This is not meant to be an all-inclusive list

Bike/Ski Helmets	Boeri Sport
Bungee Cords	Avoid direct contact with skin
Goggles	Use silicone or vinyl goggles: Speedo (888-477-3336) – Hydrospex, Vanquisher goggles are latex free. Latex-free replacement strap can be bought separately for other Speedo goggles. LifeGuard® TYR (800-252-7878) – Racetech Reveal Goggles NOTE: Some latex-allergic individuals may react to chlorine and/or latex proteins released from swimsuits and pool items due to chlorine.
Handles - Ping Pong Paddles, Golf Clubs, Baseball Bats, Rackets, Ski Poles, Bikes	Use vinyl or leather handles, or cover with tape or cloth
Mouth Guards	Shock Doctor – Silicone, SafeTGard®, UA ArmourFit®
Basketballs, Footballs, Soccer Balls, Baseballs	Please check with manufacturer BSN MacGregor (800-527-7510) Spalding (800-772-5346) Rawlings (866-660-4151) Wilson (773-714-6400)
Playground Markers, Cones, Baseball Bases	Gopher Sport (800-533-0446)
Protective Eyewear	Flinn Scientific (800-452-1261), Liberty Sport (800-444-5010) - Rec Specs are latex free Scott (800-292-5874) - Ski goggles: Foam around eyes is latex free, but head strap DOES CONTAIN natural rubber latex
Rubber Balls **Tennis Balls**	Gopher Sport (800-533-0446) has latex-free balls, including volleyballs, physioballs, foam balls and Gator Skin Balls. WARNING: Do not use: ALL Koosh products contain natural rubber latex. Do not use: Balzac Balloon Balls or Omnikin, as these contain natural rubber latex balloon bladders. Master Play Indoor Foam & Training tennis balls are latex free. Some allergic individuals can use any tennis balls that are new and completely covered. Bladders of tennis balls are natural rubber latex. DO NOT CUT IN HALF!
Swim Cap	Use silicone swim caps Nike – (800-806-6453) – Swift cap silicone swim caps – Dual Durometer, Dome Molded Swim Cap (#N999) Snap-Cap (Shiffler Equipment Sales: 800-547-1539) Speedo (888-4SPEEDO) – Silicone Flag Swim Cap TYR (800-252-7878) – Warmwear Swim Cap, Lycra Swim Cap DO NOT USE: USA Flag Latex Swim Cap, Canada Swim Cap these contain latex.
Water Toys	Use PVC or plastic toys
Wet Suits, Scuba/ Snorkel Masks	Patagonia (800-638-6464) ScubaBoard,

No Bully Zone

Bullying can take many forms. Sometimes it's a subtle remark; other times it's more overt.

In Michigan, a 10-year-old boy with peanut allergy was singled out by classmates and even some teachers as the reason their school banned treats that contain nuts. In Maryland, an 8-year-old boy with milk allergy was taunted by a classmate waving a milk chocolate candy bar wrapper.

Thirty percent of children and teens with food allergies report being bullied specificaly because of their condition; the figure rises to 50 percent in grades 6-10, according to the Jaffe Food Allergy Institute at Mount Sinai School of Medicine in New York City.

Bullying harms a child's social development and self-esteem and is linked to underachievement in school, depression and chronic stress, says Ralph "Gene" Cash, PhD, a licensed psychologist and board-certified school psychologist in Fort Lauderdale, Florida and an Anaphylaxis Community Experts (ACE) volunteer for Allergy & Asthma Network.

"While verbal abuse is the most common form of bullying, there are bullies who will deliberately try to expose victims to their food allergen," he says.

It's Good 2 Talk

Jennifer LeBovidge, PhD, pediatric psychologist and allergy specialist at Boston Children's Hospital, discusses how parents can address bullying with their children:

Q: What are ways parents can ask their child about bullying at school?

A: A good way to start the conversation is to ask whether bullying is something that happens, and what kids do when it happens. Check in on things such as what lunchtime is like at school, and which classmates the child sits with at the lunch table. Or ask about good or bad things that happened at school each day.

Q: What are some proactive steps parents can take?

A: Parents and children can practice language for handling common questions, such as "Why is your snack different?" It's important to remember most kids are just curious. Role-play to practice assertive – but not aggressive – language children can use to stand up for themselves. For example, a response to, "This ice cream is so good, I bet you wish you could have some," could be, "Why would I want to eat something that is going to make me sick? I'll stick with my food."

See the Signs

Many children don't report bullying because they feel embarrassed, worry about retaliation, or think they can handle it themselves. How do parents recognize when their child is bullied? Signs include:

- Sudden reluctance or fear of going to school
- Unexplained depression or anxiety
- Changes in sleep patterns
- Weight loss
- Full lunchbox brought home from school

Talk regularly with your child about bullying but ask in a casual way so it sparks a dialogue. Get involved if you think bullying is occurring. Research shows when parents know their child is being bullied, the child's quality of life is better.

Instill a sense of confidence in your child. Projecting confidence in self-managing food allergies, for example, can help ward off bullying before it starts.

School Culture

Schools with strong anti-bullying programs establish a culture of support and respect. Including food allergy education as part of a lesson plan not only increases social awareness but also instills compassion and care for peers.

"When students are presented with scientific information about food allergies, why some people have it and some don't, why a student carries an epinephrine auto-injector – they understand," says Carolyn Duff, MS, RN, a school nurse in Columbia, South Carolina and former president of the National Association of School Nurses. "Students are more knowledgeable, compassionate and accepting. They even want to help."

When Teasing Becomes Bullying… and What to Do About It

Teasing is not usually harmful when done in a playful, friendly and mutual way and both children find it funny. When teasing becomes hurtful, unkind and constant, it crosses the line into bullying and needs to stop.

The unfortunate truth is that children with food allergies are at greater risk of being victims to bullying.

What Parents Can Do

- If you suspect bullying but your child is reluctant to open up, find opportunities to bring up the issue in a roundabout way. Identify a situation on a TV show and use it as a conversation starter by asking, "What do you think that person should have done?" This might lead to a question like, "Have you ever experienced this?"
- Let your children know that if they're bullied or harassed – or see it happening to someone else – it's important to talk about it, whether it's with you, another adult (a teacher or school counselor) or a sibling. Praise your child for being brave enough to discuss it and offer unconditional support.
- **Plan ahead for school celebrations that involve food. Ask the teacher or offer suggestions for safe alternatives to treats so that food-allergic children don't feel left out.**
- Talk about how to stand up to kids who bully. A child's best defense may be to remain calm, ignore hurtful remarks, tell the bully to stop, and simply walk away.
- Don't try to fight the battle yourself. Sometimes talking to a bully's parents can be constructive, but it's best to do so in a setting where a school official can mediate.

What Schools Can Do

- Build a sense of responsibility for the school community by helping students take ownership of anti-bullying policies. Depending on age level, children can help develop the code of conduct, determine where and how it is displayed, and participate in peer mediation and conflict resolution.
- Teach specific skills and values in the classroom. Target those areas identified as universally important to children, such as empathy or taking a stand. Teaching children how to solve their own problems helps develop leadership skills.
- **Develop lesson plans involving food allergies so these health conditions are not considered unusual or odd.**
- Establish and enforce consequences for bullying. These should combine sanctions with supportive interventions that encourage positive behaviors.

Written by Joy Goldberg, PhD, an assistant professor of pediatrics and pediatric neuropsychologist at National Jewish Health in Denver.

Allergy & Asthma Network

Anaphylaxis At a Glance

Anaphylaxis Community Experts

Anaphylaxis is a life-threatening allergic reaction that affects more than one organ system.

Allergens that can set off anaphylaxis

FOOD

- Peanuts
- Tree nuts: almonds, pecans, cashews, walnuts
- Shellfish
- Cow's milk products
- Hen's eggs
- Fish
- Soy
- Wheat

VENOM

- Yellow jackets
- Wasps and hornets
- Honeybees
- Fire ants
- Spiders

LATEX

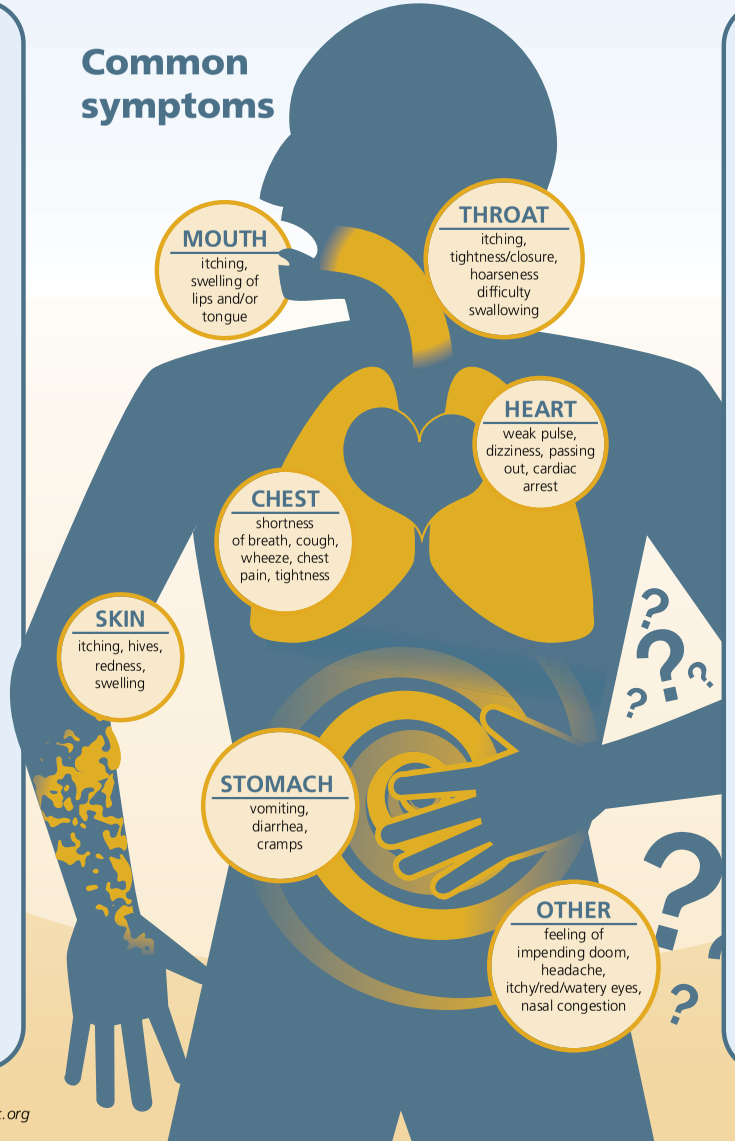
- Balloons
- Rubber gloves
- Condoms
- Elastic bands (i.e., physical therapy bands/rubber bands)
- Dental dams

Foods with cross-reactive proteins to natural rubber: banana, avocado, chestnut and kiwi

MEDICATION

- Penicillin
- Aspirin, ibuprofen and other NSAID pain relievers

Common symptoms



Epi Everywhere! Every Day! Right Away!

RECOGNIZE THE SEVERITY

Anaphylaxis is life-threatening, unpredictable, presents in multiple ways and can progress quickly. If symptoms appear refer to your Emergency Care/Action Plan.

USE EPINEPHRINE IMMEDIATELY

!

Epinephrine is the **first line** of treatment to stop the progression of anaphylaxis. Use your epinephrine auto-injector at the **first sign of symptoms** – don't wait to see what happens!

CALL 911

911

Always call for emergency medical assistance and go to the emergency room for follow-up observation and treatment.

CARRY TWO AUTO-INJECTORS

2

Keep two epinephrine auto-injectors on hand, in case symptoms recur before emergency medical assistance is available. Up to 35% of people will require more than one dose.

FOLLOW UP

Consult a board-certified allergist for accurate diagnosis and prevention/treatment plan.

Allergy & Asthma Network


Peanut Safe Zone

LATEX-SAFE ENVIRONMENT

Latex (rubber) is invisible and odorless. Latex does not warn of its presence. It is present on specific identifiable items such as rubber balloons, rubber gloves, rubber balls and rubber bands. It is present in the air and therefore considered airborne. When someone with a latex sensitivity/allergy inhales the air contaminated with the latex particles they can develop respiratory (breathing) distress. This can occur without warning and could be fatal within minutes.

It is the responsibility of each and every one of us to maintain our school as a safe environment for everyone.

Educational Resources for Staff Training

AllergyHome.org: Schools

- *allergyhome.org/schools/*
- School Staff Training Module - A 30-minute module to assist the school nurse in training school staff to manage life-threatening allergic reactions and increasing food allergy awareness. Consistent with the CDC's Voluntary Guidelines for Managing Food Allergies in Schools and Early Care and Education Programs.
    - o School Staff Quiz - A certificate of completion is available to be printed or emailed after passing the exam.
    - o Label Reading Handout
    - o Preventing Cross-contact Handout
    - o Be Prepared to R.E.A.C.T.
    - o AllergyHome Resource Flyer for School Nurses

FAME – Food Allergy Management and Education

- *stlouischildrens.org/health-resources/advocacy-outreach/food-allergy-management-and-education/food-allergy-management-and*
- Education/Training
    - o Food Allergy Information
    - o Food Allergies and Social Factors
    - o Cross-contamination and Cross-contact poster
    - o How to Read a Food Label
    - o Food Allergy Questionnaire
    - o Epinephrine Auto-injector Checklists

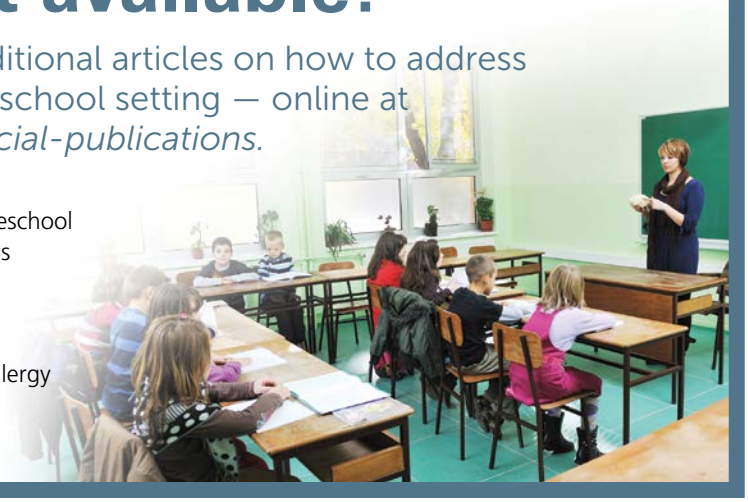
NASN – National Association of School Nurses

- Get Trained - *NASN.org/ToolsResources/FoodAllergyandAnaphylaxis/GetTrained*
- Trainer Preparation
    - o Presentation Slides
    - o School Nurse Trainer Notes
    - o Training Program Checklist
- Training Tools
    - o Presentation: Get Trained for School Staff
    - o Presentation Handouts
    - o Handout: Preventing Allergic Reactions
    - o Scenarios for School Staff
- Additional Resources
- Epinephrine Policies and Protocols - *NASN.org/nasn/nasn-resources/models-samples/epinephrine*

Bonus content available!

Download this guide — and additional articles on how to address allergies and anaphylaxis in the school setting — online at *AllergyAsthmaNetwork.org/special-publications.*

- School Nursing Article List
- What to Consider When Choosing a Preschool
- Food Allergy Symptoms: Mild vs. Serious
- It Takes a Hero
- Thank You For Being a Friend
- Creating a Latex-Safe School
- What You Should Know About Latex Allergy
- Latex Gloves Becoming History
- Latex Allergy Article List



Breathe Better Together!

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Join at no cost to you by visiting ***AllergyAsthmaNetwork.org/join.***

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