

## When allergy is emergency child



### Understanding allergic reactions and anaphylaxis

An allergy occurs when the immune system reacts to a usually harmless substance, such as a food protein, insect venom, medication, latex, or environmental allergen. In a mild reaction, symptoms may remain limited to one area, for example a few hives around the mouth after contact with a food, itchy eyes after pollen exposure, or a small area of swelling where an insect sting occurred.

Anaphylaxis is different. It is a rapid, systemic hypersensitivity reaction that can impair breathing or circulation and can be fatal without prompt treatment. In children, anaphylaxis may present with skin changes, respiratory symptoms, gastrointestinal symptoms, cardiovascular signs, or neurological changes such as sudden drowsiness or collapse. Importantly, skin symptoms are common but not required; a child can have anaphylaxis without obvious hives.

Common triggers include peanuts, tree nuts, milk, egg, fish, shellfish, sesame, certain medications, and stinging insects. Exercise, infection, asthma, or delayed recognition may worsen severity in some children. A previous mild reaction does not guarantee future reactions will also be mild, so any known allergy should be discussed with a clinician who can assess risk and provide an

individualized plan.

### **Red flags that an allergy may be an emergency**

A child's allergy should be treated as an emergency when there is evidence of airway, breathing, or circulatory involvement, or when symptoms are progressing rapidly. Families should not wait for every possible sign to appear. The pattern and speed of change matter.

Severe warning signs include noisy breathing, wheeze, persistent cough, hoarse voice, difficulty speaking or crying, tight throat, tongue swelling, lip or facial swelling with breathing difficulty, blue or pale color, dizziness, fainting, limpness, confusion, or loss of consciousness. Repeated vomiting, severe abdominal pain, or diarrhea after exposure can also be part of anaphylaxis, especially when combined with hives, swelling, cough, or lethargy.

Many pediatric allergy action plans use a practical threshold: give epinephrine if there is one severe symptom, such as trouble breathing or collapse, or if there are two or more symptoms affecting different body systems, such as hives plus vomiting, or swelling plus cough. This approach helps families act quickly instead of losing time trying to decide whether symptoms are "bad enough." When in doubt, emergency services and the child's allergy clinician can guide next steps, but epinephrine should not be delayed when anaphylaxis is suspected.

### **What to do immediately while waiting for help**

If anaphylaxis is suspected, the priority is to use the child's prescribed epinephrine auto-injector promptly and call emergency medical services immediately afterward. Epinephrine is usually injected into the outer mid-thigh through clothing if necessary. Caregivers should follow the specific device instructions they have been taught, because auto-injectors differ in activation steps and hold times.

Positioning can support circulation and breathing. In many protocols, the child is laid flat with legs elevated if tolerated. If breathing is difficult, sitting upright may be safer and more comfortable. A child who is vomiting should be positioned to reduce aspiration risk. Avoid suddenly standing or walking the child, because this may worsen circulatory instability during

anaphylaxis.

Use the prescribed epinephrine auto-injector as soon as anaphylaxis is suspected.

Call an ambulance or local emergency number immediately after giving epinephrine.

Keep the child under close observation and note the time epinephrine was given. If symptoms persist or recur and emergency help has not arrived, follow the child's action plan regarding a second dose.

Do not offer food or drink during a severe reaction, especially if breathing, swallowing, or alertness is affected.

Families are often worried about giving epinephrine unnecessarily. However, in suspected anaphylaxis, medical guidance consistently emphasizes early use because delayed epinephrine is associated with worse outcomes. Side effects such as shakiness, pallor, or a fast heartbeat are expected and are usually far less dangerous than undertreated anaphylaxis.

### **Why antihistamines are not enough in anaphylaxis**

Antihistamines can reduce itching and hives in some mild allergic reactions, but they do not reverse airway swelling, bronchospasm, or shock. They also act more slowly than epinephrine and can create a false sense of security if they are used while severe symptoms are evolving. For this reason, antihistamines must not replace epinephrine when anaphylaxis is suspected.

Similarly, inhaled reliever medication may help wheeze in a child with asthma, but it does not treat the full systemic reaction. A child with food allergy and asthma deserves particular caution because respiratory symptoms can be difficult to interpret and may escalate quickly. If wheeze or coughing occurs after a likely allergen exposure, families should follow the emergency allergy plan, not assume it is only asthma.

Other medications used in medical settings, such as intravenous fluids, oxygen, nebulized bronchodilators, or corticosteroids, may be adjuncts depending on the child's condition. They are not substitutes for intramuscular epinephrine as first-line treatment. In hospital or ambulance care, clinicians rapidly assess airway, breathing, circulation, mental status, oxygenation, blood pressure, and

response to treatment.

### **After epinephrine: why medical observation matters**

A child who receives epinephrine for a suspected anaphylactic reaction should be assessed in an emergency setting, even if symptoms improve quickly. Improvement is reassuring but does not prove the reaction is over. Some children develop biphasic anaphylaxis, meaning symptoms recur after initial resolution without a new exposure. Observation commonly lasts at least four hours, and longer monitoring may be needed for severe reactions, persistent symptoms, asthma, delayed epinephrine, or need for multiple doses.

Emergency clinicians may monitor heart rate, blood pressure, oxygen saturation, respiratory effort, and level of alertness. They may provide additional epinephrine if symptoms continue, intravenous saline for hypotension, oxygen, bronchodilators, or other supportive care. The child's response and the suspected trigger should be documented carefully.

The period after an emergency is also emotionally intense. Children may feel scared, embarrassed, or exhausted, and caregivers may replay every decision. A calm debrief with clinicians can help clarify what happened, whether the action plan worked, and what should be adjusted before the child returns to school, childcare, sports, or social activities.

### **Preparing a child and family before an emergency happens**

Preparation reduces hesitation. Children at risk of anaphylaxis should have a written allergy action plan developed with their pediatrician, allergist, or other qualified clinician. The plan should identify confirmed or suspected allergens, early and severe symptoms, when to give epinephrine, when to call emergency services, and who should be notified. Copies should be available at home, school, childcare, relatives' homes, and activity settings.

Families are commonly advised to keep two epinephrine doses accessible because a second dose may be needed if symptoms persist or return before emergency care arrives. Devices should not be locked away or left in places where temperature extremes may damage them. Caregivers should check expiration dates and request training with a trainer device. Older children and adolescents may learn to

carry and use their auto-injector, but adult supervision and system-level planning remain important.

Schools and childcare providers should know where the medication is stored, who is trained to administer it, how emergency services are called, and how allergen exposure is reduced during meals, crafts, field trips, and celebrations. Adolescents need special attention because risk-taking, reluctance to disclose allergies, or forgetting medication can increase vulnerability. Supportive conversations work better than fear-based messages: the goal is not to make the child anxious, but to make safe actions automatic.

### **When to seek specialist follow-up**

Any child with suspected anaphylaxis should have follow-up with a healthcare professional, often including referral to an allergy specialist. Evaluation may include a detailed history, review of timing and exposures, assessment of asthma control, and selective testing when clinically appropriate. Testing should be interpreted in context because positive allergy tests do not always equal clinical allergy, and negative tests may not answer every question.

Specialist follow-up can help families understand avoidance strategies, label reading, cross-contact risk, emergency medication dosing, and whether oral food challenges or immunotherapy options are relevant. Medication doses may need review as a child grows. The action plan should also be updated after any reaction, new diagnosis, or change in school setting.

Parents sometimes worry that emergency preparedness will limit a child's life. In reality, a clear plan can expand safe participation. With informed adults, accessible epinephrine, and age-appropriate education, many children with significant allergies can attend school, travel, play sports, and join celebrations with confidence.