



## FOOD ALLERGY AND ANAPHYLAXIS IN INFANTS AND YOUNG CHILDREN

Only 3% of elementary aged children and 2% of adults have proven food allergies yet most people sometimes have an *unpleasant reaction or intolerance* to a food. A true food allergy is an abnormal immune system response to a food: food intolerance is sensitivity, not an immune system reaction. Those with true food allergies must identify the foods they're allergic to, and, to prevent an allergic reaction, always avoid that food. Food allergy reactions can be extremely dangerous, even causing death through anaphylaxis.

**Common Allergens:** One can be allergic to almost any food but children are most commonly allergic to cow's milk, hen's eggs, peanuts (a legume, not a nut), tree nuts (like pecans, almonds, walnuts), soybeans (also a legume) and wheat. The incidence of peanut allergy in the US has doubled between 1997 and 2002 and is the food allergy that can most often lead to death through anaphylaxis. Sometimes children can "outgrow" or become "tolerant" to some of their allergies to milk, eggs, wheat and soybeans.

**Testing Techniques:** Blood tests are generally used to determine true food allergies along with symptom observation, but these tests aren't always accurate because they might indicate allergy when it is only intolerance - a false positive. A food "challenge" might be used to 1) determine if there is a real food allergy or 2) to determine if a child has "outgrown" a food allergy. In a challenge, the patient eats a tiny amount of the allergic food and then is observed for allergic reactions. Potentially dangerous, these challenges can only be done in a physician's office under medical supervision in case a bad reaction does occur. Food challenges are generally used with children when there is better than a 50-50 chance that the allergy no longer exists and is usually used to test milk, egg and peanuts. If the child "passes" the challenge, they might be able to eat the suspected foods without danger of an allergic reaction.

The **symptoms of food allergy** reaction usually happen right after eating the food and **may include:**

- skin that turns red
- hives
- itching skin or mouth
- swollen lips or eyelids
- tightness in the throat; wheezing
- difficult breathing
- coughing
- vomiting
- diarrhea

**Food intolerance** might cause similar reactions, so if any of these symptoms are evident, it is important to be tested to determine if it is an intolerance or sensitivity to the food or a true allergy to that food. More common than allergy, food intolerance can be a one time event, caused by a bacterial or toxin contamination, or it can be constant, caused by foods with high levels of histamine - cheese, wines, tuna or mackerel. 1 in 10 people have lactose intolerance meaning their gut doesn't have enough lactase to digest most milk products, causing gas, bloating, stomach pain or diarrhea. Many people are intolerant to food additives including yellow dye #5, mono-sodium glutamate or the sulfites that are used to give foods color, improve taste or prevent molds from growing. These additives can cause symptoms such as hives, flushed skin, headaches, a warm feeling, facial pressure or chest pains – but usually someone has to eat a lot of these additives to have these symptoms.

Often for severe allergies, doctors will advise patients to *avoid foods similar to their allergic food*; if allergic to shrimp, for example, they will probably advise not to eat crab or lobster because of this cross-reactivity.

**Infant Food Allergy:** Diagnosis techniques for all illness in infants and young children is challenging due to the lack of communication skills and this is also true for diagnosing and recognizing food allergy in infants and young children. Food allergy in infants can take various forms with the major difference being between immediate anaphylactic reactions (severe allergic reaction) and those with non-anaphylactic reactions.

Non-anaphylactic food allergy reactions (mild reactions) can show up in infants as *eczema, itchy skin, chronic hives, chronic nasal congestion or asthma* and even *recurrent sinus or ear infections*. Some *gastrointestinal diseases* typified by inflammation in the colon, small bowel or esophagus can result from food allergy, too. There may be little or no relation to eating the food allergen and the appearance of symptoms, especially if the food is eaten frequently (more than 3X per week). In this situation the degree of allergy is usually low and wouldn't normally cause an anaphylactic (life-threatening) reaction. If the suspected food is removed from the diet for at

least 2 weeks and symptoms improve then return when that food is re-introduced, it might indicate an allergy to that food.

But how can a parent or caregiver know if the infant or toddler's food allergy has triggered an anaphylactic reaction? Anaphylactic food reactions (life-threatening) should show symptoms within the first hour after eating the allergic food, usually within 30 minutes and often immediately within 1-5 minutes.

*Some symptoms can be difficult to interpret as anaphylaxis:*

- behavioral changes (crying, fussing, irritability, inappropriate drowsiness or fright)
- flushing (a reddish tint to the face or body)
- hoarseness or change in vocal sounds from throat swelling (may also see drooling)
- spitting up or vomiting
- loose stool or diarrhea
- colicky or abdominal pain

*Some symptoms may be more obvious for anaphylaxis:*

- hives or skin rash (urticaria)
- swelling of the face or hands or feet
- trouble breathing with wheezing, coughing or choking
- sudden profuse vomiting
- cardiovascular collapse with sweating
- pale tint or blue tint to skin
- unresponsiveness

It is important to realize that only one or any combination of the above symptoms may show up during a reaction. Infants can have immediate vomiting or colic after eating a food they are severely allergic to, with no other symptoms. At times anaphylactic reactions may manifest as immediate spitting out of the food and gagging. Obviously, some of the symptoms listed above, while consistent with an anaphylactic reaction to a food don't amount to a true full blown anaphylactic reaction requiring treatment with epinephrine. However, in these circumstances if enough food is ingested and stays down, then a full blown anaphylactic reaction is likely and an epinephrine injection is required immediately.

**Young Children and Food Allergies:** Many young children won't or can't verbally express all their symptoms for a severe allergic reaction. Supervising adults have to learn body language and "child-speak" and then act quickly to save a life. The Food Allergy & Anaphylaxis Network (FAAN) has assembled some "signals" of a child in allergy distress:

- very young children MIGHT put their hands into their mouths, or pull or scratch at their tongues when experiencing an allergic reaction
- sometimes a child's voice might change, getting squeaky or hoarse, even slurring their words because the tongue is swelling
- a child old enough to verbalize might say something as innocent as "this food is too spicy"
- other things they may say is that their tongue (or mouth) feels hot, or even burning, or something is poking their tongue or its tingling or itches or feels like it has hair on it, feels funny, heavy, or full
- other phrases a child might use is that it feels like there's a frog in their throat, or something is stuck in their throat or his lips feel tight, or his throat feels thick, or they have a bump or lump on the back of the tongue or in their throat
- sometimes a child will start scratching or pulling at their ears and say it feels like there are bugs in their ears

**If you see any of these signs** after a child is exposed to their allergic trigger, **follow emergency procedures.**

If a child has any of the allergies likely to lead to anaphylaxis, it is vital to have an epinephrine auto-injector ready, especially if traveling. Sometimes it's necessary to have more than one dose of epinephrine to counteract anaphylaxis due to biphasic reactions; ask the healthcare provider to prescribe accordingly. An auto-injector duo should be kept with the patient. No one knows when or where a severe allergic reaction can occur.

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