Food Allergy News™

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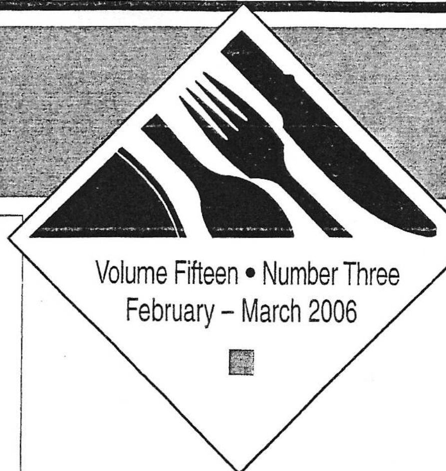

Food Allergy Testing: When, Why, and What Does It Mean?

by Hugh A. Sampson, M.D.

When evaluating for food allergy or other allergic problems, it is not uncommon for an allergist to test for foods that a patient has never knowingly eaten or is eating without obvious problems. This is especially true in children with moderate to severe atopic dermatitis (eczema) or asthma, where acute symptoms may not be readily apparent following eating, or in children with a known food allergy.

For example, infants with milk or egg allergy develop other food allergies in about 35% of cases, and children with peanut allergy will develop allergy to at least one tree nut in about one-third of cases.

Negative tests are very reassuring that the food can be ingested safely, except in allergic disorders that are not due to IgE (allergic) antibodies, such as certain types of food allergies that cause symptoms limited to the gut (abdominal pain, vomiting, and diarrhea). The problem arises when a child tests positive to a food that he or she is eating with no apparent problem.

Although no diagnostic test in medicine is 100% accurate, nowhere does the discrepancy between a positive laboratory test and the absence of clinical symptoms seem more apparent than in the various tests used to diagnose food allergy. In large part, this stems from a misinterpretation or "over-interpretation" of what the test can actually do.

A positive prick skin test to egg or milk simply indicates that a person has IgE antibodies to milk or egg — that the patient is "sensitized" to milk or egg. The positive prick skin test does *not* necessarily mean that the patient will experience an allergic reaction to milk or egg.

Overall, less than one-half of individuals with a positive skin test to a food will develop allergic symptoms if they eat that food. The larger the skin test wheal (raised area), the more likely it is that someone will react to the food, but no skin test size is 100% definitive.

Many Factors

When determining whether someone is likely to react to a food, the allergist must weigh a number of factors, including a detailed history, prick skin test results, and food-specific IgE antibody levels. Even after considering all these factors, the allergist may still not know whether a patient will react to a specific food, and a food challenge may be recommended.

Many parents wonder how their children can have positive skin tests or blood tests to foods that they have never eaten, since you cannot make IgE antibodies against something that your immune system has never seen.

Because many foods are made up of related proteins (i.e., botanically related, such as legumes — peanuts, peas, green beans, lentils, etc.), the skin test or blood test may not fully discriminate between various members of food families. Consequently many of the tests will appear to be positive,

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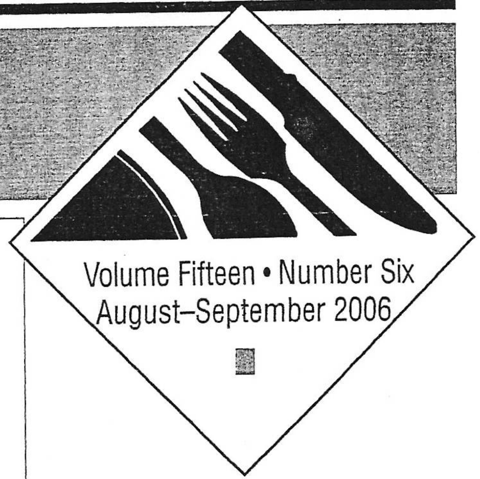
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More Anaphylaxis Questions Answered

by Robert A. Wood, M.D.

Once again, it is my great pleasure to answer more questions that we have received about anaphylaxis and its treatment.

Q. Can you give a second epinephrine dose sooner than 10-15 minutes after the first one if symptoms do not improve?
A. This would be an option if the reaction was clearly worsening. However, there could be some risk to this much epinephrine so this should only be reserved for the worst reactions.

Q. Do you need to take special precautions to care for your epinephrine auto-injectors when on vacation, out on the beach, or out in the heat for long periods of time?
A. This has never been studied in any detail, so it is difficult to make any firm recommendations. My personal belief, however, is that the epinephrine will be O.K. except with extremes of temperature. For example, I think that the auto-injector could safely sit in your beach bag on a summer day. Keeping it in the glove compartment of your car, when temperatures can reach extreme levels, would not be safe.

Q. How long do you hold an epinephrine auto-injector in the leg?
A. It is recommended that you hold the injector in the leg for 10 seconds, or at least a slow count to 10. This applies to both of the devices currently on the market.

Q. Is it better to call 911 or drive to the hospital myself?
A. It is always safest to call 911, and this is clearly the only option if you are alone. In some instances, however, when two adults are present; the hospital is close by; the traffic and weather are not an issue; and a reaction is mild, I have recommended that the family could drive to the emergency room on their own.

Q. Some people in our support group say that they can tell if a food is safe or not by touching it to their tongue and seeing if they feel anything. Does this really work, and how safe is it?
A. This kind of advice is absolutely frightening. While local reactions in the mouth do occur with many food reactions, they certainly cannot be depended on to tell if a food is safe. Let me give you three scenarios showing how this might fail.

First, you might not react in your mouth immediately and could get a huge dose of allergen before you know it. Second, you might do your taste test on the part of the food—let's say a cookie—that does not contain the allergen. And third, if you are very allergic even the tiniest taste may be enough to cause a reaction. There was actually a fatal reaction recently where this taste test method failed!

Q. Are the self-dissolve tablets of antihistamine acceptable to use? Are any slower or faster than liquid?
A. There are no studies comparing these different preparations, but I do believe that self-dissolve tablets should work about as quickly as liquid. We do not recommend regular pills or capsules because they may be hard to swallow and may take longer to be absorbed. People have been known to throw up the pills hours after they were taken during a reaction.

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Q. Do you have any suggestions for getting a young child (a 3- to 4-year old boy) to wear a Medic-Alert® bracelet?
A. As with everything else with a child of this age, negotiation and positive feedback are the keys. Thankfully, they have made the bracelets much more appealing in the past few years, especially for little (and big) boys.

Q. Can I use the nebulizer with albuterol for a respiratory reaction, instead of epinephrine?
A. The simple answer is NO. Albuterol will do nothing to reverse swelling of the throat, which is often the most dangerous part of a reaction. Albuterol can be used in addition to, but never in place of, epinephrine.

Q. Does a "watering it down" strategy work after something containing an allergen is consumed? For example, drinking fluids to water down the allergens consumed?
A. This is unlikely to be of any benefit. The only thing that is most likely to really matter is the amount of the food protein in your system.

Q. For a 45-pound child, is it more risky to get too little epinephrine (junior dose) or to get too much epinephrine (adult dose)?
A. There is not complete agreement on this question, and the final decision needs to be made individually. In reality, the 0.15 mg dose is perfect for 33 pounds, and although the 0.3 mg dose is not approved for use under 66 pounds, a child between 33 and 66 pounds will be under-dosed more and more as they grow. Most experts recommend changing to the adult-strength device somewhere between 45 and 55 pounds, where the risk of giving too low a dose likely would outweigh the risk of getting too much.

Q. Should someone responsible for the administration of an epinephrine auto-injector also be trained in CPR?
A. This would be ideal but certainly is not a necessity. Remember, if the epinephrine is used promptly, the odds of needing CPR are extremely small. I have taken care of thousands of reactions and have never had to resort to CPR, except in a few cases where the epinephrine was not given until too late.

Q. I understand that epinephrine can stop respiratory and circulatory reactions. What role does it play in gastrointestinal (GI) reactions? Is it administered in the case of GI reactions just to prevent other systemic reactions?
A. It is really given for both reasons. In fact, some of the most dramatic improvements after giving epinephrine occur in people having severe GI reactions.

Much of the stomach pain experienced in an allergic reaction is in fact likely due to swelling in the intestine due in part to dilated blood vessels. The benefit of epinephrine is, therefore, not a surprise.

Q. If a child with milk allergy has had an anaphylactic reaction to a small milk exposure, is that same child, who also has a peanut allergy, more likely to have a severe anaphylactic reaction to peanut?
A. This would, in all likelihood, be true. However, one of the striking things we see in taking care of food allergy is how variable reactions can be, even in the same person. The best advice is always to assume the worst—that way, we will never be caught off guard.

Q. If someone has had an anaphylactic reaction, is it safe to let that person sleep during the 2–4 hour biphasic waiting period?
A. Sleep is generally safe, as long as you watch for any signs of a new or increased reaction such as hives, swelling, or difficulty breathing.

Q. In your experience, at what age do you see kids giving themselves epinephrine injections?
A. The first part of this answer relates to the actual injection. This is highly variable, depending on the child. I have seen 6 year olds perfectly willing to learn and 12 year olds who panic at the thought. I don't force the issue until age 12 or 13, when we really want children to start taking more responsibility for their medication.

The second part of the answer relates to when a child can become solely responsible for his or her epinephrine. The answer here also varies somewhat, based on the level of maturity, but I am not in favor of letting patients take over the decision making about their epinephrine until a minimum of age 14.

Q. Is shivering ever a symptom of anaphylaxis?
A. This is not a common symptom, but it can occur.

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