



Food Allergy Testing in Children

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In October of 2008, the Centers for Disease Control in Atlanta, GA published a statement about food allergy in children. Over a 10 year period from 1997-2007, the prevalence of food allergy increased 18%. In 2007, approximately 3 million U.S. children and teenagers under age 18 – or nearly 4 percent of that age group – were reported to have a food or digestive allergy in the previous 12 months, compared to just over 2.3 million (3.3 percent) in 1997. Recently, you may have seen a news story on the NBC Today Show or read articles in both the New York Times and Denver Post about food allergy and potential misdiagnosis. These were all related news stories about this rising prevalence of food allergy in children and the need for a correct diagnosis. Physicians at Colorado Allergy and Asthma Centers have specialty training in the diagnosis and management of food allergy and the following paragraphs will provide a summary of how we approach this important clinical problem.

A comprehensive medical history should always be obtained in patients suspected of having a food allergy. The history should include questions about the timing of the reaction in relation to food ingestion, the minimum quantity of food required to cause symptoms, specific symptoms suggestive of food allergy (e.g. hives, eczema, vomiting, diarrhea and asthma), the reproducibility of the symptoms following the food ingestion and a current or past clinical history of allergy to specific food allergens. In addition, a family history positive for allergy and/or asthma can be a useful historical point. A history of a severe or anaphylactic reaction following the ingestion of a food may be sufficient to indicate a causal relationship. Finally, the specific treatment received for the food reaction and its response should be documented.

The physical examination can be helpful in the evaluation of patients with suspected food allergy. Findings here are useful in assessing overall nutritional status, growth parameters and any signs of allergic disease, especially atopic dermatitis or eczema. Moreover, this examination will help rule-out other conditions that may mimic food allergy such as gastroesophageal reflux and food intolerance syndromes (e.g. lactose intolerance).

When used in conjunction with standard criterion of interpretation, skin testing with food allergens (e.g. percutaneous) can give reliable clinical information in a short period of time (i.e. 15-20 minutes), and should provide reliable clinical information in the overall workup of a patient with suspected food allergy. These need to be interpreted by an allergy specialist, especially in light of the patient's clinical history. The routine use of skin testing to foods in patients without a clinical suspicion of food allergy is not practical and should be avoided. This can lead to misdiagnosis of food allergy and the unnecessary elimination of foods from the diet.

Laboratory assessment of food allergy may include the measurement of food-specific IgE levels in the serum (e.g. IgE RAST, radioallergosorbent testing). When highly sensitive assays are used, the results are similar to that of percutaneous skin testing. With the rise in prevalence of food allergy over the past several years, the use of these blood tests to diagnose food allergy has

increased, many times without correlating these results to the patient's history. False positive results can occur so it is important that these results are interpreted by a physician with appropriate training to do so. Again, misdiagnosis of food allergy with this testing can lead to unnecessary elimination of foods from the diet

When there is a clinical suspicion of a food allergy and the test for specific IgE antibody to the food is positive, an elimination diet may be implemented to see if there is a resolution of clinical symptoms. Confirming this association, however, can be very difficult. Therefore, supervised food challenges can be very useful and reliable in the diagnostic evaluation of a patient with food-induced respiratory symptoms. These food challenges should be conducted in a clinic or hospital setting under the supervision of a trained allergy specialist, available personnel and equipment for treating allergic reactions, including systemic anaphylaxis. These types of food challenges are performed routinely at Colorado Allergy and Asthma Centers to help confirm or rule out specific food allergies. If a food allergy is confirmed, a proper elimination diet can be prescribed. Likewise, if a food allergy is ruled out, the food can be safely reintroduced into the diet.