

## WHAT PRIMARY CARE GIVERS NEED TO KNOW ABOUT THE NEW GUIDELINES FOR THE DIAGNOSIS AND MANAGEMENT OF FOOD ALLERGY IN THE US

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### OVERVIEW

- The Guidelines, sponsored by the NIH (NIAID), are based upon expert opinion and a comprehensive literature review. (1,2)

### DEFINITIONS

- Food allergy was defined as an adverse health effect arising from a specific immune response.
- Primary care providers should be aware that food allergies result in IgE-mediated, immediate reactions (anaphylaxis) as well as a variety of chronic diseases (e.g., eosinophilic esophagitis, food protein-induced enterocolitis syndrome) in which IgE may not play an important role.

### EPIDEMIOLOGY AND NATURAL HISTORY

- Food allergy is more common in children than adults.
- Food allergy in adults can reflect persistence of childhood allergies or *de novo* sensitization to food allergens encountered after childhood. Food allergy that starts in adult life tends to persist.
- In adults, shellfish allergy (2.5%), fish allergy (0.5%), peanut (0.6%) and tree nut (0.5%) allergy are the most common. Adults and some children also experience “cross reactivity” between certain aeroallergens and certain foods (oral allergy/pollen food allergy syndrome) detailed in the guidelines. Milk, egg, wheat and soy allergies often resolve in childhood; peanut, tree nut, fish and shellfish allergies can resolve, but more likely persist.

### COMORBID CONDITIONS

- Food allergy may co-exist with asthma, atopic dermatitis, eosinophilic esophagitis (EoE), and exercise-induced anaphylaxis.
- EoE is a chronic remitting/relapsing condition that is commonly associated with sensitization to foods. EoE involves localized eosinophilic inflammation of the esophagus. In some patients, avoidance of specific foods will result in normalization of histopathology. Others can be managed successfully with medical therapy. In children, EoE presents with feeding disorders,

vomiting, reflux symptoms, and abdominal pain. In adolescents and adults, EoE most often presents with dysphagia and esophageal food impactions.

- One third of patients with exercise-induced anaphylaxis report reactions triggered by foods; exercise-induced anaphylaxis has natural history marked by frequent recurrence of episodes.

## RISKS

- Fatal food allergic reactions are usually caused by **peanut, tree nuts and seafood**, but have also occurred from milk, egg, seeds and other foods.
- Fatalities have been associated with: age (teenagers and young adults), delayed treatment with epinephrine, and co-morbid asthma.
- Severity of future allergic reactions is not accurately predicted by past history. At this time there is no diagnostic testing to predict severity of future reactions.
- Therapy with beta-blockers may decrease effectiveness of epinephrine in anaphylaxis.

## DIAGNOSIS

- Food allergy should be suspected when typical symptoms (e.g., urticaria, edema, wheezing, mouth itch, cough, nausea/vomiting, anaphylaxis, etc) occur within minutes to hours of ingesting a food. The medical history/exam are recommended to aid in diagnosis. A detailed history of the reaction to each incriminated food is essential for proper diagnosis.
- Tests for food-specific IgE are recommended to assist in diagnosis, but should not be relied upon as a sole means to diagnose food allergy. The medical history/exam are recommended to aid in diagnosis. A medically monitored feeding (food challenge) is considered the most specific test for food allergy.
- Food-specific IgE testing has numerous limitations, because positive tests are not intrinsically diagnostic and reactions sometimes occur with negative tests. (3) Testing “food panels” without considering history is often misleading and not recommended
- Several tests are not recommended, including food-IgG/IgG4, total IgE, applied kinesiology, and electrodermal testing.

## PREVENTION

- The recommendations for infant diet substantially follow the 2008 AAP Clinical Report on this topic.(4) Breast-feeding is encouraged for all, hydrolyzed infant formulas are suggested for infants “at risk”, and complementary foods, including potential allergens, are not restricted after 4-6 months of age (not applicable for infants experiencing allergic reactions). Maternal diet during pregnancy should be healthy and balanced; avoidance of potential food allergens is not recommended.

## MANAGEMENT

- It is acknowledged that having a food allergy disrupts quality of life.

- Education about food avoidance is key to prevent reactions. This includes information about label reading and cross contact of allergens (unintended contamination during food preparation).
- Advice about influenza vaccination for persons with egg allergy is reviewed, with more options for administration to those with egg allergy, including vaccines with low dose of egg protein. Yellow fever and rabies vaccines are contraindicated in persons with history of urticaria, angioedema, allergic asthma or anaphylaxis to egg proteins. Allergy evaluation and testing can provide insight into the potential for risk to an individual.
- Management of anaphylaxis emphasizes prompt administration of epinephrine, observation for 4-6 hours or longer after treatment, education of the patient on avoidance, early recognition, treatment, medical identification jewelry, and follow up with a primary health care provider and consideration for consultation with an allergist-immunologist.
- Prescription of epinephrine autoinjectors and patient education advice includes having 2 doses available, switching from 0.15 to 0.3 mg fixed-dose autoinjectors at approximately 25 kg (55 lbs) in context of patient-specific circumstances, having a written emergency plan, and providing supporting educational material.(5)
- Food allergy is not a common trigger of eczema, allergic rhinitis, or asthma in adults.

#### FURTHER INFORMATION

This document is only a brief outline of the topics covered by the Guidelines, prepared by the Adverse Reactions to Foods Committee of the American Academy of Allergy, Asthma and Immunology. The reader is encouraged to refer to the original sources for additional information. The Guidelines present a number of resources for additional information about food allergies. These resources are listed here.

American Academy of Allergy, Asthma & Immunology (AAAAI) <http://www.aaaai.org/>; American College of Allergy, Asthma and Immunology (ACAAI) <http://www.acaaai.org/>; Asthma and Allergy Foundation of America (AAFA) <http://www.aafa.org/>; Consortium of Food allergy Research, Food Allergy Education Program <http://web.emmes.com/study/cofar/EducationProgram.htm>; Food Allergy & Anaphylaxis Network (FAAN); <http://www.foodallergy.org/>; Food Allergy Initiative (FAI) <http://www.faiusa.org/>; Kids With Food Allergies (KFA) <http://www.kidswithfoodallergies.org/>; National Institute of Allergy and Infectious Diseases (NIAID) <http://www.niaid.nih.gov/>

REFERENCES: (1) Boyce JA, Assa'ad A, Burks AW, Jones SM, Sampson HA, Wood RA et al. Guidelines for the Diagnosis and Management of Food Allergy in the United States: Summary of the NIAID-Sponsored Expert Panel Report. *J Allergy Clin Immunol* 2010; 126(6):1105-18. (2) Burks AW. NIAID-Sponsored 2010 Guidelines for Managing Food Allergy: Applications in the Pediatric Population. *Pediatr*. In press. (3) Sicherer SH, Wood RA. Allergy Testing in Childhood: Using Allergen-Specific IgE Tests . *Pediatr*. In press. (4) Greer FR, Sicherer SH, Burks AW. Effects of early nutritional interventions on the development of atopic disease in infants and children: the role of maternal dietary restriction, breastfeeding, timing of introduction of complementary foods, and hydrolyzed formulas. *Pediatrics* 2008; 121(1):183-91. (5) Sicherer SH, Simons FE. Self-injectable epinephrine for first-aid management of anaphylaxis. *Pediatrics* 2007; 119(3):638-46.