



Guest Editorial

Guidelines for the prevention of peanut allergy in the United States From development to prospective outcomes



Allergists-immunologists are frequently consulted for specific recommendations regarding when to introduce solid foods to infants at risks for food allergy. While they had been given evidence from the literature for the lack of benefit from a delay in the introduction of allergenic foods, there was no evidence for lack of harm, let alone a benefit, for their early introduction. Results from the prospective randomized clinical trial that evaluated the preventive role of early introduction of peanut in the diet of infants at risk for peanut allergy (known as the Learning Early About Peanut Allergy [LEAP] study)¹ have recently been published. The National Institute of Allergy and Infectious Diseases (NIAID) worked to formalize a new public health policy based on the LEAP study. The culmination of these efforts has produced an addendum to the Guidelines for the Diagnosis and Management of Food Allergy in the United States: NIAID-Sponsored Expert Panel Report.² The addendum is titled “Addendum Guidelines for the Prevention of Peanut Allergy in the United States.”³ This document describes the goal of reducing the incidence of peanut allergy, which has become one of most widespread health problems for infants, children, and young adults in the United States, Canada, several European countries, and Australia. The goal would be achieved by implementing the intervention used by the study: early introduction of, and continued consumption of, peanut by infants at risk of peanut allergy. This approach revealed, at least in the LEAP study, a substantial effect in prevention of peanut allergy.

The task of generating the ‘Addendum’ initially seemed straightforward because it is designed to produce one of the few infant weaning recommendations supported by a prospective clinical trial. However, the challenges in the actual construction of the addendum were many. Although the NIAID is accustomed to bringing experts and stakeholders around the table (see appendices A and B of the guidelines³ for a complete listing), the populations not addressed by the study and the operationalization of a research design in real-life practice caused important questions to be debated and resolved in the new guideline addendum. Having had the honor to represent the American College of Allergy, Asthma, and Immunology (ACAAI) on the coordinating committee and to be a member of the expert panel, I can attest to the fact that everyone involved was cognizant of the potential implications for the public and practitioners (both primary care and specialty) of every word in every guideline. Everyone recognized that this is a rather bold move that goes even further than the recommendations issued in 2008 to remove any restrictions on the timing of introduction of foods with high potential allergenicity, including peanut.⁴ The 2008

recommendation were not clearly received or implemented, in part because they were a complete reversal of the previous recommendation issued in 2000, which had apparently taken a strong hold in the minds of the public and the practice of the health care practitioners.^{5,6} Thus, our new panel needed to make the new guidelines very clear, supported by evidence, and easy to implement.

Numerous questions arose and were addressed by the expert panel. Should we screen infants who are at risk for peanut allergy before implementing the preventive measure? If yes, what is the screening method that will be most available to the primary care practitioner? How should the results be interpreted and acted on? If based on the recommended algorithm, the infant is referred to a specialist, who is the best specialist? Once referred, what further workup is needed and how should the results be interpreted? How early should peanut be introduced into the diet? Would this contradict current breastfeeding recommendations in the United States and/or globally? How much peanut is enough and what forms of peanut protein can be used to feed an infant or perform an in-office challenge? (For answers, see guideline 1 and appendices D–G.³) Questions that extended beyond the LEAP study were also addressed. Should the same intervention be extended to infants with mild to moderate eczema? How about the general population with no eczema or any other food allergy? (For answers, see guidelines 2 and 3.³)

Because patients do not always come as textbook cases or, in this instance, journal article cases or guideline cases, other scenarios will present themselves, and more questions will be generated once the 3 guidelines are fully implemented in practice. Similar to the need for the expertise of specialists on the expert panel, the guidelines, by disseminating the addendum in 7 concurrent publications, are now calling on specialists and others in practice to learn about them and assist in their implementation. The guidelines define the specialist as a health care professional with the training and experience to (1) perform and interpret skin prick test and oral food challenge results and (2) know and manage their risks. Such individuals must have appropriate medications and equipment on site.³ Practicing allergists-immunologists fulfill the above definition of a specialist. You will be evaluating and managing infants referred to you because of the publication and publicizing of the guidelines and will be answering additional questions from the public and primary health care practitioners. Your role as defined in guideline 1 is to complete the evaluation and management of the infant who is tested by a generally available serum test and found to be possibly at risk of already being peanut allergic. Through your experience and expertise in conducting further tests, possibly including skin prick tests and an observed feeding or a graded peanut challenge in your office, you will

Disclosures: Author has nothing to disclose.

<http://dx.doi.org/10.1016/j.anai.2016.11.014>

1081-1206/© 2016 American College of Allergy, Asthma & Immunology. Published by Elsevier Inc. All rights reserved.

accurately determine the clinical status of this infant. If the infant is not allergic, you will guide this infant's family in partaking in the preventive measure of early introduction of peanut in the diet. If the infant is allergic, you will give them the most practical advice for peanut avoidance and future follow-up. You may be called on to perform the same role under guideline 2, when, for the comfort of the parents and primary health care practitioners, an in-office first feeding is preferred. You may play a role in guideline 3, which addresses infants without eczema or any food allergy when questions are asked about infants of atopic parents, of parents with food allergy, or with siblings with peanut allergy.

The implementation of the guidelines will be a new large national health care project that we anticipate will serve our patient population but may also meet some impediments. Allergist-immunologists, being leaders in food allergy research, are well suited for prospective data collection on this effort, so we can confirm our expectations and further refine our recommendations where needed. In this day and age, crowd sourcing has become a great source of collective information. The Food Allergy Committee of the ACAAI is suggesting using this impromptu technique to learn about the outcome of the US experience in peanut allergy prevention per the guidelines. Inspired by the acronym LEAP, we plan to launch LEAP 3: Learning Early About the American Experience in Prevention of Peanut Allergy Project. Stay tuned for further details.

Amal Assa'ad, MD
 Division of Allergy and Immunology
 Cincinnati Children's Hospital Medical Center
 Cincinnati, Ohio
amal.assa'ad@cchmc.org, assaa0@cchmc.org

References

- [1] Du Toit G, Roberts G, Sayre PH, et al. Randomized trial of peanut consumption in infants at risk for peanut allergy. *N Engl J Med*. 2015;372:803–813.
- [2] Boyce JA, Assa'ad A, Burks AW, 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;126:1105–1118.
- [3] Togias A. Addendum guidelines for the prevention of peanut allergy in the United States. *Ann Allergy Asthma Immunol*. 2017;118:166–173.
- [4] Greer FR, Sicherer SH, Burks AW; American Academy of Pediatrics Committee on Nutrition, American Academy of Pediatrics Section on Allergy and Immunology. 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;121:183–191.
- [5] Hartman H, Dodd C, Rao M, et al. Parental timing of allergenic food introduction in urban and suburban populations. *Ann Allergy Asthma Immunol*. 2016;117:56–60.e52.
- [6] Fleischer DM, Spergel JM, Assa'ad AH, Pongracic JA. Primary prevention of allergic disease through nutritional interventions. *J Allergy Clin Immunol Pract*. 2013;1:29–36.