Selections from international journals

Nahla M. Heshmat
Professor of Pediatrics, Ain Shams University

J Allergy Clin Immunol Pract. 2025;13(5):1176-1187.

Efficacy and Safety of Epicutaneous Immunotherapy in Peanut-Allergic Toddlers: Open-Label Extension to EPITOPE

Matthew Greenhawt, Deborah Albright, Sara Anvari, Nicolette Arends, Peter D Arkwright, Philippe Bégin, Katharina Blümchen, Terri Brown-Whitehorn, Heather Cassell, Edmond S Chan, Christina E Ciaccio, Antoine Deschildre, Amandine Divaret-Chauveau, Stacy Dorris, Morna Dorsey, George Du Toit, Thomas Eiwegger, Michel Erlewyn-Lajeunesse, David M Fleischer, Lara S Ford, Maria Garcia-Lloret, Jonathan O'B Hourihane, Nicola Jay, Stacie M Jones, Edwin H Kim, Kirsten Kloepfer, Stephanie Leonard, Guillaume Lezmi, Jay Lieberman, Jeanne Lomas, Melanie Makhija, Michael O'Sullivan, Christopher Parrish, Jane Peake, Kirsten P Perrett, Daniel Petroni, Jacqueline A Pongracic, Patrick Quinn, Rachel G Robison, Georgiana Sanders, Lynda Schneider, Hemant Sharma, Sayantani B Sindher, Juan Trujillo, Paul J Turner, Katherine Tuttle, Julia Upton, Pooja Varshney, Brian P Vickery, Christian Vogelberg, Brynn Wainstein, Julie Wang, Robert Wood, Katharine J Bee, Dianne E Campbell, Todd D Green, Rihab Rouissi, Henry T Bahnson, Timothée Bois, Hugh A Sampson, A Wesley Burks

Background: The pivotal phase 3 EPITOPE trial, a 12-month, double-blind, placebo-controlled study of epicutaneous immunotherapy with the VIASKIN patch containing 250 μg of peanut protein (VP250), previously reported significant treatment response versus placebo in peanut-allergic toddlers aged 1 through 3 years. Objective: To assess the interim efficacy and safety of VP250 from the first year of the EPITOPE open-label extension (OLE) study. **Methods:** Eligible participants enrolled in the OLE study for up to 3 years of total treatment with annual double-blind, placebo-controlled food challenges (DBPCFCs) and safety assessments; here we report the first-year OLE (year 2) results. **Results:** A total of 266 EPITOPE participants enrolled in the OLE study; 244 underwent month 24 DBPCFC (n = 166 VP250; n = 78 placebo). After 24 months of VP250, 81.3% reached an eliciting dose (ED) ≥1000 mg, 63.8% reached an ED ≥2000 mg, and 55.9% completed the DBPCFC (cumulative dose: 3444 mg) without meeting stopping criteria. No treatment-related anaphylaxis or serious treatment-related adverse events occurred during year 2 in this treatment arm. Local application-site reactions occurred less frequently in year 2 versus year 1. In placebo-treated EPITOPE participants, outcomes after 1 year of open-label VP250 were consistent with EPITOPE treatment results: 62.7% reached an ED ≥1000 mg, 36.5% reached an ED ≥2000 mg, and 28.4% completed the DBPCFC without meeting stopping criteria; and there was 1 treatment-related anaphylaxis event. **Conclusions:** Two years of VP250 in young peanut-allergic children demonstrated continued increases in treatment effect without new safety signals. This supports the potential of VP250 as a safe and effective treatment for peanut allergy in young children

Ann Allergy Asthma Immunol. 2025; 135(1):87-90..

Can ChatGPT provide parent education for oral immunotherapy?

Jana Abi-Rafeh, Diana Toscano-Rivero , Bruce D Mazer

Objective: To assess the accuracy of ChatGPT as a self-guided educational resource for parents with children undergoing OIT. **Methods:** A total of 14 common questions from parents regarding OIT were entered into ChatGPT version 3.5 and answers were copied verbatim. These responses were then categorized into basic, advanced, or medical, and evaluated by Allergy-Immunology health care practitioners from North America and the United Kingdom using a 10-point Likert scale. Response readability, understandability, and reproducibility were assessed using the Flesch Reading Ease and

Flesch-Kincaid Grade level scores, the Patient Education Materials Assessment Tool, and natural language processing tools, respectively. **Results:** The average median rankings by the practitioners per category were 8.6, 8.4, and 7.8 for basic, advanced, and medical, respectively. ChatGPT responses exhibited low readability scores, corresponding with a high-grade reading level. Understandability was between 73% to 84%, with scores decreased owing to response complexity. When assessing reproducibility, ChatGPT responses achieved rates between 83% and 93%. **Conclusion:** Our results revealed that ChatGPT provides intelligible and comprehensive responses to patient questions. Health care practitioners polled were generally positive but identified important limitations.

Pediatr Allergy Immunol. 2025; 36(8):e70156.

Impact of oral immunotherapy on diversity of gut microbiota in food-allergic children

Thanina Bouabid, Bénédicte L Tremblay, Marie-Ève Lavoie, Anne-Marie Boucher-Lafleur, Frédérique Gagnon-Brassard, Philippe Bégin, Sarah Lavoie, Cloé Rochefort-Beaudoin, Claudia Nuncio-Naud, Guy Parizeault, Charles Morin, Catherine Girard, Anne-Marie Madore, Catherine Laprise.

Background: Food allergies (FAs) are an increasing public health concern, particularly in children. Oral immunotherapy (OIT) is an emerging treatment strategy under clinical investigation for desensitization of children with FA to food allergens. Dysbiosis of the gut microbiota has been implicated in FAs, and various factors influence its composition; however, the impact of OIT on the gut microbiota remains largely unexplored. **Objective:** This study aimed to identify the changes in diversity of the gut microbiota following OIT in children with FA. Methods: Thirty children with FA (mean age 3.93 years, age range 2.00-14.00) undergoing oral immunotherapy targeting legumes (lentils, peanuts, peas), tree nuts (cashews, hazelnuts, pistachios), animal products (milk, egg), and fish and shellfish (salmon, shrimp), as well as seven non-allergic controls (mean age 2.65 years, age range 0.25-5.00) participated in this study. Fecal samples were collected before and after OIT from children with FA, and once from controls. The gut microbiota was profiled using 16S rRNA sequencing, followed by diversity and differential abundance analyses. Alpha and beta diversities were compared, and differential abundance was assessed. **Results:** Beta diversity analysis revealed small but significant differences in microbial composition between children with FA before and after OIT, and between controls and children with FA before OIT. Differential abundance analysis showed that OIT induced a reversion of the abundance levels of Bacteroidota and Verrucomicrobiota toward those observed in controls. **Conclusion:** To our knowledge, this is the first study to investigate the impact of OIT on the gut microbiota in children with different FAs for identifying potential microbial biomarkers and convincingly demonstrated their interrelation. These findings may help improve and personalize FA treatment.

Allergy Clin Immunol. 2025; 156(2):406-417.

Anaphylaxis definition, overview, and clinical support tool: 2024 consensus report-a GA2LEN project

Timothy E Dribin, Antonella Muraro, Carlos A Camargo Jr, Paul J Turner, Julie Wang, Graham Roberts, Aikaterini Anagnostou, Susanne Halken, Jay Liebermann, Margitta Worm , Torsten Zuberbier, Hugh A Sampson; GA(2)LEN Anaphylaxis Study Team

Background: The 2006 National Institute of Allergy and Infectious Disease/Food Allergy and Anaphylaxis Network anaphylaxis criteria are widely used in clinical care and research. In 2020, the World Allergy Organization published modified criteria that have not been uniformly adopted. Different criteria contribute to inconsistent care and research outcomes. **Objective:** We sought to develop a consensus anaphylaxis definition, overview, and clinical support tool. **Methods:** A 12-member writing

group developed draft outputs modified with input from a 46-member international expert panel, 31 medical stakeholder organizations, and 15 patient advocacy organizations. The expert panel participated in a modified Delphi process to seek consensus for the outputs using a ≥80% consensus threshold. **Results:** The first sentence of the definition reads, "Anaphylaxis is a serious allergic (hypersensitivity) reaction that can progress rapidly and may cause death." The definition also describes organ systems that may be involved and signs of life-threatening reactions. The overview includes details of anaphylaxis recognition and management. The clinical support tool incorporates new clinical criteria to help determine the likelihood that patients are having anaphylaxis, intramuscular epinephrine indications and dosing, and common findings from the anaphylaxis organ systems. In addition, 93.5% (43/46), 97.8% (45/46), and 93.5% (43/46) of experts agreed with the definition, overview, and clinical support tool, respectively. **Conclusion:** The anaphylaxis overview is a novel educational tool conveying key elements of anaphylaxis recognition and management. We propose that the definition and clinical support tool should replace previous definitions and clinical criteria. The clinical support tool should facilitate improved anaphylaxis recognition and management across different clinical settings and standardize research outcomes.