



Nestlé Health Science **Online Symposium** as planned for **WCPGHAN 2020**

Future Nutritional Strategies for Food Allergy Prevention

Saturday 6th June 2020

Live

09:00 – 10:00 am CET (Paris) | 03:00 – 04:00 pm CST (Beijing) | 05:00 – 06:00 pm AEST (Sydney)

Q&A with the experts

10:00 – 10:15 am CET (Paris) | 04:00 – 04:15 pm CST (Beijing) | 06:00 – 06:15 pm AEST (Sydney)

**Introduction of Solid Foods:
Where Advice on the Introduction of Complementary
Feeding and Food Allergen Introduction Meets**

Dr. Rosan Meyer
Department of Paediatrics
Imperial College
London, UK

**Around the World in 20 min:
Making Sense of Allergy Prevention Guidelines**

Prof. Kari Nadeau
Sean N. Parker Center for Allergy and Asthma Research
Stanford University's School of Medicine
Stanford CA, USA

**It's All About Diversity:
Foods, Food Groups and Food Allergens**

Dr. Carina Venter
Section of Allergy and Immunology
Children's Hospital Colorado, University of Colorado
Denver CO, USA

Chairperson: Dr. Carina Venter | Children's Hospital Colorado, USA

Dr. Rosan Meyer

Paediatric Dietitian
Honorary Senior Lecturer
Imperial College, London, UK
Visiting Professor
KU Leuven, Belgium



Introduction of Solid Foods: Where Advice on the Intro- duction of Complementary Feeding and Food Allergen Introduction Meets

There has been significant research, to establish dietary drivers associated with the development of food allergy. The timing and food allergen introduction has been researched extensively in context of allergy prevention and has informed international allergy societies in their guidance¹⁻³. Whilst all current guidelines support the World Health Organization in relation to breastfeeding there are some differences in guidelines on the advice on the introduction of complementary foods⁴. This has been highlighted in a recent publication around the language of appropriate timing for the introduction of foods, with only 41.7% using the exact wording around the timing of complementary foods⁵. This study reflects well the challenge that face guideline bodies and therefore also clinicians; integrating research on allergy prevention, whilst supporting other guidelines on breast and complementary feeding. The differences between general guidelines and allergy specific guidelines are not only evident in the timing of complementary feeding but also the introduction of allergens. Although there is consensus between all guidelines, that no allergens should be delayed beyond 6 months, the early introduction (defined as 4-6 months) of peanut has been recommended for allergy prevention in high risk infants⁶. Whilst the implementation of the advice in regards to the introduction of specific allergens may be feasible, the question of availability (including cost) and cultural acceptability of specific allergens needs to also be considered. Therefore, guidelines on complementary feeding, including allergen introduction, are as good as the practical implementation, by healthcare professionals taking country specific requirements into account, specific to their patient's needs.

1. Muraro A, Halken S, Arshad SH, et al. EAACI food allergy and anaphylaxis guidelines. Primary prevention of food allergy. *Allergy*. 2014;69(5):590-601.

2. Greer FR, Sicherer SH, Burks AW. AAP Committee on Nutrition, AAP Section on Allergy and Immunology. The Effects of Early Nutritional Interventions on the Development of Atopic Disease in Infants and Children: The Role of Maternal Dietary Restriction, Breastfeeding, Hydrolyzed Formulas, and Timing of Introduction of Allergenic Complementary Foods. *Pediatrics*. 2019;143(4).

3. Tham EH, Shek LP, Van Bever HP et al. Early introduction of allergenic foods for the prevention of food allergy from an Asian perspective-An Asia Pacific Association of Pediatric Allergy, Respiriogy & Immunology (APAPARI) consensus statement. *Pediatr Allergy Immunol*. 2018;29(1):18-27.

4. World Health Organization. Guiding principles for complementary feeding of the breastfed child. 2002.

5. Allen JW, Edwards N, Koplin JJ. International compliance with WHO infant feeding guidelines - Is the confusion cause for concern? *Allergy*. 2020;75(3):673-4.

6. Fleischer DM, Sicherer S, Greenhawt M et al. Consensus Communication on Early Peanut Introduction and Prevention of Peanut Allergy in High-Risk Infants. *Pediatr Dermatol*. 2016;33(1):103-6.

Prof. Kari Nadeau

Director of the Sean N. Parker Center for Allergy and Asthma Research at Stanford University's School of Medicine
Section Chief of Allergy and Asthma at the Stanford School of Medicine
Endowed professor under the Naddisy Family Foundation
Stanford CA, USA



Around the World in 20 min: Making Sense of Allergy Prevention Guidelines

Food allergy affects an estimated 8% of the global population, with evidence of increasing prevalence among children in developed countries¹. While the exact etiology of food allergy is unknown, research suggests a complex interaction between the immune system, rising susceptibility due to environmental factors, feeding habits, and genetics. Around the turn of the century, international guidelines pushed for delayed introduction of complementary allergenic foods to slow the rise²⁻³. However, food allergy incidence continued to increase in developed countries despite widespread adoption of avoidance measures⁴. Landmark studies, including PASTURE, LEAP, and EAT, have contradicted previous guidelines, demonstrating that early diversity, and early introduction of complementary foods, including allergenic ones, contribute to a reduced risk of developing a food allergy⁵⁻⁷. Recent guidelines have reversed to now encourage early potential allergenic food introduction, between the ages of 4-6 months, both in healthy and infants at high risk for atopy⁸⁻¹¹. Guideline inconsistencies remain for the early introduction of peanut and egg, with countries adjusting recommendations based on cultural trends in peanut consumption, peanut allergy epidemiology, availability of IgE tests, and existing eczema and/or egg allergy. Oral tolerance appears to be antigen-specific; emerging research explores the relationship between timing of allergenic food introduction, the value of multi-protein feeding at once, and food diversity on allergic diseases in a global population¹². Future prevention guidelines should reference emerging research to recommend a multiple food allergen approach and stress the value of early introduction with ongoing consistent inclusion of potential allergens during critical immune development.

1. Gupta RS, Warren CM, Smith BM, et al. The Public Health Impact of Parent-Reported Childhood Food Allergies in the United States. *Pediatrics*. 2018;142(6).

2. Host A, Koletzko B, Dreborg S, et al. Dietary products used in infants for treatment and prevention of food allergy. Joint Statement of the European Society for Paediatric Allergology and Clinical Immunology (ESPAIC) Committee on Hypoallergenic Formulas and the European Society for Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN) Committee on Nutrition. *Arch Dis Child*. 1999;81(1):80-4.

3. American Academy of Pediatrics. Committee on Nutrition. Hypoallergenic infant formulas. *Pediatrics*. 2000;106(2 Pt 1):346-9.

4. Anvari S, Chokshi NY, Kamili QUA, Davis CM. Evolution of guidelines on peanut allergy and peanut introduction in infants: A review. *JAMA Pediatr*. 2017;171(11):77-82.

5. Perkin MR, Logan K, Tseng A, et al. Randomized Trial of Introduction of Allergenic Foods in Breast-Fed Infants. *N Engl J Med*. 2016;374(18):1733-43.

6. 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(9):803-13.

7. Roduit C, Frei R, Depner M et al. Increased food diversity in the first year of life is inversely associated with allergic diseases. *J Allergy Clin Immunol*. 2014;133(4):1056-64.

8. Fleischer DM, Spergel JM, Assa'ad AH, Pongracic JA. Primary prevention of allergic disease through nutritional interventions. *J Allergy Clin Immunol Pract*. 2013;1(1):29-36.

9. Fewtrell M, Bronsky J, Campoy C, et al. Complementary feeding: A position paper by the European society for paediatric gastroenterology, hepatology, and nutrition (ESPGHAN) committee on nutrition. *J Pediatr Gastroenterol Nutr*. 2017;64(1):119-32.

10. Abrams EM, Hildebrand K, Blair B, Chan ES. Timing of introduction of allergenic solids for infants at high risk. *Paediatr Child Health*. 2019;24(1):56-7.

11. Greer FR, Sicherer SH, Burks AW. AAP Committee on Nutrition, AAP Section on Allergy and Immunology. The effects of early nutritional interventions on the development of atopic disease in infants and children: the role of maternal dietary restriction, breastfeeding, hydrolyzed formulas, and timing of introduction of allergenic complementary foods. *Pediatrics*. 2019;143(4).

12. Caffarelli C, Di Mauro D, Mastroiili C et al. Solid food introduction and the development of food allergies. *Nutrients*. 2018;10(11).

Dr. Carina Venter

Associate Professor of Pediatrics
Section of Allergy/Immunology Children's Hospital
Colorado and University of Colorado Denver School
of Medicine
Denver CO, USA



It's All About Diversity: Foods, Food Groups and Food Allergens

The World Allergy Organization¹ and the Institute of Medicine² state that the prevalence of food allergies are rising dramatically. This increase is especially problematic in children, who are bearing the greatest burden of the disease³. There is considerable interest in the effect of infant diversity on the prevention of allergic disease. A task force report from the European Academy of Asthma, Allergy and Immunology (EAACI), suggested that increased diet diversity may reduce the risk for allergy development via its effect on the microbiome, increased intake of nutrients related to allergy prevention, and by increased exposure to allergens.⁴ The report summarized 14 papers reporting the role of diet diversity on allergy outcomes. However, only one study reported on the association between diet diversity and food allergy outcomes, suggesting that increased diet diversity in infancy may reduce the risk of food allergy. Since this report, data from the Isle of Wight demonstrated that increased diet diversity in infancy significantly reduced food allergies over the first 10 years of life.⁵ This was true for diet diversity as defined by the World Health Organization, food diversity, allergen diversity and fruit and vegetable diversity. For every additional food introduced in the first year of life, and for each additional food allergen the odds of developing food allergy by age 10 years, were reduced by 11% and 33% respectively. There is no data on the effect of diet diversity in pregnancy or lactation on allergy prevention, but evidence are evolving in this field.

1. World Allergy Organization White Book on Allergy, 2011. http://www.worldallergy.org/UserFiles/file/WAO-White-Book-on-Allergy_web.pdf.

2. Finding a Path to Safety in Food Allergy: Assessment of the Global Burden, Causes, Treatment, Prevention and Public Policy. National Academy of Sciences. <http://www.nationalacademies.org/hmd/Activities/Nutrition/FoodAllergies.aspx>

3. Gupta RS, Warren CM, Smith BM, et al. The Public Health Impact of Parent-Reported Childhood Food Allergies in the United States. *Pediatrics*. 2018;142(6):e20181235.

4. Venter C, Greenhawt, M, Meyer, R., et al EAACI position paper on diet diversity in pregnancy, infancy and childhood: Novel concepts and implications for studies in allergy and asthma. *Allergy*. 2020 Mar;75(3):497-523

5. Venter C, Maslin K, Holloway JW, et al. Different Measures of Diet Diversity During Infancy and the Association with Childhood Food Allergy in a UK Birth Cohort Study. *J Allergy Clin Immunol Pract*. 2020. Jan 28:S2213-2198(20)30069-6.

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