Update on Infant feeding and food allergy prevention

Recommendations for BPAC

Key points:

1. Food allergies are on the rise.
2. The burden of food allergy on health and quality of life is significant.
3. Recommendations for the timing of introduction of allergenic foods to infants are changing.
4. There is some evidence that early introduction of food may help curb the rise, particularly for peanut and egg allergy.
5. Effective treatment of eczema may also help reduce the development of peanut and egg allergy.

Why do we need an update?

- There is varied and contradictory information about infant feeding guidelines, with NZ's Ministry of Health guidelines not updated for some time.
- There is a growing body of evidence that delaying the introduction of allergenic foods may contribute to the development of food allergy.[1,2,3]
- Reduction in rates of allergy to peanut and egg may be possible by timely introduction of these food groups in an infant's diet.

What can GPs do to assist parents in making an informed choice?

i) At a pregnancy confirmation consult, GPs can discuss healthy eating during pregnancy and breastfeeding:
   - Breastfeeding should be encouraged.
   - Pregnant and breastfeeding women are advised to eat a well-balanced diet. There is no evidence that excluding allergenic foods will prevent food allergies.[4]

ii) At the 5 month immunisation appointment, practice nurses might identify concerns about food allergy in the infant and direct parents to make an appointment with their GP as needed.[6]
   - Some parents may be considering delaying or removing major food groups from their infants' diet to treat conditions they think are food allergy based, such as colic, eczema, rhinitis and bronchiolitis.
   - Delayed introduction of a food may increase the risk of food allergy. Stopping an already tolerated food may result in loss of tolerance and development of allergy to that food. There is also growing concern about nutritional deficiencies with such restrictive diets.[5,6]
   - When there is a family history of allergy there is moderate evidence that the introduction of well-cooked egg before 8 months of age can reduce the risk of developing egg allergy.[3,4]
   - If a child is allergic to egg then introduction of peanut into the diet regularly between 4-10 months of age can reduce the development of allergy to peanut.[1]

iii) Eczema is a risk-factor for the development of food allergy in infants. There is some evidence that treating eczema well early on, with sufficient emollients and as-needed steroids, can reduce the rate of food allergy.[8]

Infants with severe eczema and/or existing food allergy have an increased chance of developing peanut allergy. Recent studies have shown that the introduction of peanut to infants with severe eczema and/or egg allergy before 12 months can reduce the risk of these infants developing peanut allergy by around 80%.[10]

Australia and the United States[9] have updated their Infant feeding and allergy prevention guidelines to reflect the moderate evidence available at this time.

ASCIA (and NIAID-USA) guidelines say[3,4,7,10]

When to introduce:

- At around 6 months but not before 4 months of age
- When the infant is developmentally ready for solids 3,4
- When the child is well, (not with concurrent viral illness)
- At a convenient time, earlier in the day if possible (in case there is an allergic reaction)

Introduce one new food at a time so that if a reaction does occur, the problem food can be more easily identified. Try to introduce ALL allergenic foods such as wheat, soy, egg, dairy and peanut by age 12 months.[3,4]

How often: Regularly if tolerated.[4]

Introducing egg and peanut[3]

Egg
Introduce well cooked egg in small amounts to start with. For example, mix a small amount (¼ teaspoon) of mashed hard-boiled egg with a liquid such as breast-milk or formula, or into the baby's usual food (such as vegetable puree), and gradually increase the amount the next time if the baby is not having any allergic reactions, for example ½ teaspoon the next time.

Alternatively, give baked egg such as in a small bite of a muffin and then progress to hard boiled if tolerated.

Peanut:
Rub a small amount of smooth peanut butter/paste on the inside of the infant's lip (not on their skin).

- If there is no allergic reaction after a few minutes, feed the infant ¼ teaspoon of smooth peanut butter/paste (as a spread or mixed into other food that the infant is already eating or mixed with a few drops of warm water) and observe for 30 minutes.
- If there is no allergic reaction, give ½ teaspoon of smooth peanut butter/paste and observe for a further 30 minutes. If there is no allergic reaction, parents should continue to include peanut in their infant's diet in gradually increasing amounts at least weekly, as it is important to continue to feed peanut to the infant as a part of a varied diet.
- If there is an allergic reaction at any step, stop feeding peanut to the infant and seek medical advice.

What does true food allergy look like[5]?
Most food allergic reactions occur within minutes of eating the food, and almost always within two hours following ingestion.
https://www.allergy.org.au/images/pcc/ASCIA_PCC_Food_Allergy_2016.pdf

What to advise about allergic reactions?
Most children tolerate most foods. Some children will have an allergic reaction to a food. A handout on how to recognize and manage allergic reactions can be found here:
https://www.allergy.org.au/images/stories/anaphylaxis/2017/ASCIA_Allergic_Reactions_Action_Plan_2017_WEB.pdf

Redness around the mouth can be mistaken for true food allergy but is commonly a contact irritation from foods in sensitive skin, particularly for those infants with eczema[4] . It may be helpful for infants with eczema to have a barrier cream around their mouth when trying new foods to avoid such irritation.[3,4,6]

What is not helpful:

- Smearing food on the skin may irritate the skin but is not predictive of food allergy
- Screening for potential allergies using skin prick or ssIgE (RAST) prior to introduction is not recommended and does not diagnose food allergy[5].

In conclusion

Food allergy affects the health and diminishes quality of life of individuals and their caregivers including their social interactions and routine life activities.[9] Direct and indirect medical costs can be significant and worth preventing if possible.

Useful Links:

Introduction of Peanut to infants
https://www.allergy.org.au/images/stories/pospapers/ASCIA_HP_guide_introduction_peanut_infants_2017.pdf
https://www.allergy.org.au/images/pcc/ASCIA_PCC_Peanut_treenut_seed_allergy_2017.pdf

Eczema

- New Zealand Child and Youth Eczema Clinical Network
  www.starship.org.nz/eczemanetwork
- ASCIA "Eczema". www.allergy.org.au
  https://www.allergy.org.au/patients/skin-allergy/eczema-action-plan

Infant Feeding and Allergy Prevention
https://www.allergy.org.au/health-professionals/papers/infant-feeding-allergy-prevention

E-learning modules

- PHARMAC Forum: Prevention of paediatric food allergy and eczema' (June 2017)
  https://www.pharmac.govt.nz/seminars/seminar-resources/allergy-and-eczema/
- ASCIA e-Learning module "Allergy and anaphylaxis e-training for health professionals" 2017.
  https://www.allergy.org.au/health-professionals/health-professionals-e-training

References

1. New England Journal of Medicine. (LEAP study). Randomized Trial of Peanut Consumption in Infants at High risk for Peanut Allergy. 372:803-813. February 26, 2015.
2. Perkin MR, Logan K, Tseng A, et al. Randomized trial of introduction of allergenic foods in breast-fed infants. N England Journal of Medicine. 374: 1733–43. 2016.
3. ASCIA "Updated Infant Feeding Advice and Guidelines for Allergy Prevention in Infants". www.allergy.org.au https://www.allergy.org.au/patients/allergy-prevention/ascia-guidelines-for-infant-feeding-and-allergy-prevention
4. ASCIA "Infant feeding and allergy prevention". https://www.allergy.org.au/images/pcc/ASCIA_Guidelines_infant_feeding_and_allergy_prevention.pdf
5. ASCIA "Food allergy". www.allergy.org.au https://www.allergy.org.au/images/pcc/ASCIA_PCC_Food_Allergy_2016.pdf https://www.allergy.org.au/images/stories/pospapers/ASCIA_HP_Clinical_Update_Food_Allergy_2016_HP_version_UPDATED.pdf
6. Clinical Panel; Paediatric Allergy Clinical Network New Zealand. https://www.starship.org.nz/for-health-professionals/new-zealand-child-and-youth-clinical-networks/paediatric-allergy-clinical-network/
7. JACI. Togias et al. Addendum guidelines for the prevention of peanut allergy in the United States: Report of the National Institute of Allergy and Infectious Diseases-sponsored expert panel. January 2017.
8. JACI. Yomase et al. Early Aggressive Intervention on Infantile Atopic Dermatitis Inhibits the Development of Food Allergy. Vol 135, Issue 2. February 2015.
   & Lancet. Natsume et al. Two-step egg introduction for prevention of egg allergy in high-risk infants with eczema (PETIT): a randomised, double-blind, placebo-controlled trial. December 2016
9. Finding a Path to Safety in Food Allergy: Assessment of the Global Burden, Causes, Prevention, Management, and Public Policy. National Academies Press. December 2016
10. ASCIA Guide for Health Professionals: Guide for introduction of peanut to infants with severe eczema and/or food allergy https://www.allergy.org.au/images/stories/pospapers/ASCIA_HP_guide_introduction_peanut_infants_2017.pdf