

Food Allergies: New Evidence for Early Introduction and Treatment

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Conflicts of Interest

(I am conflicted, but nothing of interest with this talk)

- ◆ Speaker's bureau/Consulting
 - ◆ Astra Zeneca
 - ◆ Shire
 - ◆ Pharming
 - ◆ Teva
 - ◆ Novartis



Objectives

- ◆ Understand the new early peanut introduction guidelines
- ◆ Introduce emerging treatment options



Compassion Courtesy Respect

Background

- ◆ Peanut allergy is a growing health problem
 - ◆ In 1999, the prevalence was estimated at 0.4% of children
 - ◆ In 2010, the prevalence had increased to 2%
 - ◆ 203,000 emergency department visits/year
 - ◆ 90,000 episodes of anaphylaxis
 - ◆ Annual rate of accidental peanut exposure was 12.6%



Compassion Courtesy Respect

Psychological Impact: Parents and Family

- ◆ Parental anxiety
 - ◆ Loss of control
 - ◆ Conflict with daycare/school
 - ◆ Relationships with family/friends
- ◆ Distortion of family life
 - ◆ Social limitations
 - ◆ Sleepovers, restaurants, movies, sporting events
 - ◆ Travel and vacations
 - ◆ Anxiety and guilt at family gatherings



Compassion Courtesy Respect

Psychological Impact: Children

- ◆ Anxiety about having a reaction
 - ◆ Impairment of daily activity and social interactions
 - ◆ More anxiety about food than children with diabetes
- ◆ Social stigmatization
 - ◆ "The peanut table"
 - ◆ 40% have been bullied
 - ◆ Parties and social events
- ◆ Isolation/deprivation



Compassion Courtesy Respect

LEAP Study

- ◆ Published February 2015 in NEJM
- ◆ Trial was based on a prior observation that the prevalence of peanut allergy was 10-fold higher among Jewish children in the UK compared to Israeli children of similar ancestry
- ◆ In Israel, PN-containing foods are usually introduced in the diet around 7 months of age in substantial amounts
- ◆ In the UK, children do not typically consume any PN-containing food during their first year of life



Compassion Courtesy Respect

LEAP Study

- ◆ 640 children aged 4-11 months old with severe eczema, egg allergy, or both were randomized to consume or avoid PN-containing food until they were 60 months
- ◆ It consisted of 2 cohorts
 - ◆ SPT negative group
 - ◆ SPT positive with a wheal measuring 1-4mm
 - ◆ If SPT showed wheal >5mm, those children were not randomized as this level of sensitization presumed peanut allergy



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LEAP Study

- ◆ In cohort 1, among the 530 in the intention to treat population with a negative SPT, the prevalence of PN allergy at 60 months was **13.7%** in the PN **avoidance** group and **1.9%** in the PN **consumption** group
 - ◆ P<0.001, **86.1%** relative reduction in prevalence of PN allergy
- ◆ In cohort 2, among the 98 with a measurable SPT, the prevalence of PN allergy was **35.3%** in the **avoidance** group and **10.6%** in the PN **consumption** group
 - ◆ P=0.004, **70%** relative reduction in prevalence of PN allergy



Option 2: 2 tsp thinned creamy PB

- ◆ Measure 2 teaspoons of peanut butter and slowly add 2 to 3 teaspoons of hot water.
- ◆ Stir until peanut butter is dissolved, thinned, and well blended.
- ◆ Let cool.
- ◆ Increase water amount if necessary (or add previously tolerated infant cereal) to achieve consistency comfortable for the infant.



Option 3: 2 tsp smooth PB puree

- ◆ Measure 2 teaspoons of peanut butter.
- ◆ Add 2 to 3 tablespoons of pureed tolerated fruit or vegetables to peanut butter. You can Note: Peanut flour and peanut butter powder are 2 distinct products that can be interchanged because they have a very similar peanut protein content.



Option 4: 2 tsp of PN flour and PB powder

- ◆ Measure 2 teaspoons of peanut flour or peanut butter powder.
- ◆ Add approximately 2 tablespoons (6-7 teaspoons) of pureed tolerated fruit or vegetables to flour or powder. You can increase or reduce volume of puree to achieve desired consistency
- ◆ Note: Teaspoons and tablespoons are US measures (5 and 15 mL for a level teaspoon or tablespoon, respectively)



Guideline #2

- ◆ Infants with mild to moderate eczema (as determined by SCORAD)
- ◆ Introduce age-appropriate PN containing foods around 6 months of age
- ◆ Perform in-office feeding or graded oral food challenges in office if parents prefer



Guideline #3

- ◆ Infants without eczema or food allergy
- ◆ Introduce age-appropriate PN containing foods around 6 months of age along with other solids in accordance with family preferences and cultural practices
- ◆ Perform in-office feeding or graded oral food challenges in office if parents prefer



Summary of Guidelines

Addendum Guidelines	Infant Criteria	Recommendations	Earliest age of PN introduction
1	Severe eczema, egg allergy, or both	Strongly consider PN allergy evaluation at 4-6 months of age, if necessary, an OFC. Based on test results, introduce peanut-containing foods.	4-6 months
2	Mild to moderate eczema	Introduce PN-containing foods	Around 6 months
3	No eczema or any food allergy	Introduce PN-containing foods	Age appropriate and in accordance with family preferences and cultural practices

Food Allergy Treatment



Current methods under investigation— not all inclusive

- Extensively heated milk or egg diet
- SC cross immunotherapy with pollen
- Oral Immunotherapy (OIT)**
- OIT w/ anti-IgE (i.e. omalizumab)**
- Sub-lingual IT
- Epicutaneous (patch) IT
- Heat killed E. Coli expressing modified Ara h 1,2,3 rectal vaccine
- TLR 9 antagonist
- Peptide IT
- Plasmid DNA IT
- ISS-ODN IT
- Human Fc-Fc fusion protein
- Mannoside-conjugated food allergen IT
- Chinese herbs FAHF2
- Anti-IgE and Anti-IL 5 therapy
- Probiotics and prebiotics



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Oral Immunotherapy—OIT

- Calculated, methodical approach to effectively desensitize patients or increasing their tolerance to the foods that are life-threatening to them
- At the end of the treatment, patients can consume the once life-threatening foods in unlimited amounts safely
- >90% of patients are able to successfully complete the program
- It takes about 6-8 months, on average



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What is OIT? Locaine Powder





How does OIT work?

- ◆ Works by introducing minute doses of food in calculated increasing amounts for approximately 6-8 months (time period varies on individual differences)
- ◆ The initial doses are a microscopic amounts of food protein put in solution. The program progresses to small doses of the whole food, then advances to full-doses and eventually unrestricted as long as maintenance dose is consumed daily
- ◆ Day-by-day, step-by-step, methodical process
- ◆ Consequently, the majority of patients are able to consume their allergenic foods such as wheat, eggs, corn, peanuts, milk, tree nuts, etc without adverse reactions



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