Today’s Speakers

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Disclosures

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• Brand Partner: Nature’s Way KiDS, Lil Mixins Allergen Powders, Eztotz, Kvaroy Arctic Salmon, Active Skin Repair, That’s It! Fruit Bars, Wakunaga
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Objectives:

• Develop feeding plans for babies at risk of food allergy using finding from the LEAP study.
• Compare early introduction guidelines for peanuts versus eggs and other potential allergens.
• Modify common allergen containing foods and meals for infants to safely consume them and identify products that are appropriate for early introduction.
Prevalence is between 6-8% in children and up to 10.8% in adults
Costly in terms of finances, healthcare use, and psychosocial measures
Societal Confusion over true allergy vs other adverse reactions to food
  - Overestimation of prevalence
  - Reduces empathy for those truly allergic
  - School bans increase risk of adverse outcomes
Prevention Works but there’s a critical window...
What is a food allergy?

• IgE mediated reaction
• Reaction occurs within minutes or (less commonly) in up to 2 hours
• Reproducible every time the food is eaten
• Sensitization does not always equate to true allergy
For a suspected or active food allergy reaction:

**SEVERE SYMPTOMS**

- **LUNG:** Short of breath, wheezing, repetitive cough
- **HEART:** Pale, blue, faint, weak pulse, dizzy
- **THROAT:** Tight, hoarse, trouble breathing/swallowing
- **MOUTH:** Significant swelling of the tongue and/or lips
- **SKIN:** Many hives over body, widespread redness
- **GUT:** Repetitive vomiting or severe diarrhea
- **OTHER:** Feeling something bad is about to happen, anxiety, confusion

**MILD SYMPTOM**

- **NOSE:** Itchy/runny nose, sneezing
- **MOUTH:** Itchy mouth
- **SKIN:** A few hives, mild itch
- **GUT:** Mild nausea/discomfort

1. **INJECT EPINEPHRINE IMMEDIATELY.**
2. **Call 911.** Request ambulance with epinephrine.

Do not depend on antihistamines. When in doubt, give epinephrine and call 911.
Poll Question #2
The Evolution of Infant Nutrition Needs
Physically/Developmentally

Suck-Swallow-Breathe

Nutritionally

Breastmilk

Formula

Supplements: Vitamin D if exclusively breastfed
Infant Nutrition: ~6 Through 12 Months

Physically/Developmentally

- Increasing neck/trunk strength
- Sitting up
- Developing mastication
- Self-feeding/drinking from open cup

Nutritionally

- Breastmilk or Formula AND
- Early Complementary Foods (starting by 6 months, but not before 4 months)
- Need iron rich foods, continue vitamin D
Toddler Nutrition: 1-3 Years

Physically/Developmentally

- Autonomy
- Fully mobile
- Fully self-feeding

Nutritionally

- Diverse diet
- Ongoing palate development
- Weaning to milk
- Consider multivitamin
The Science Behind Early Introduction: The Critical Window
The Immune System: Skin, Gut, Cellular

Tordesillas, L, et al. Immunology of Food Allergy.
Infant Microbiota and Food Allergies

Dual Exposure Hypothesis
A Remarkable Difference
Learning Early About Peanut allergy (LEAP)

- 640 infants at high-risk for peanut allergy d/t egg allergy or mod/severe eczema
- Half ate peanut foods at 4-11 months
- Half avoided
- Up to 86% reduction in peanut allergy at the end of 5 years
- Early introduction is safe and effective

Enquiring About Tolerance (EAT)

Recruited breastfed infants for early intro of 6 foods
- Milk
- Egg
- Peanut
- Wheat
- Sesame
- Fish

Outcomes:
- Difficult to adhere to protocol
- Decreased food allergies overall in the EAT babies
- Decreased peanut and egg allergy in per protocol when 2g protein per week or more each was eaten

http://www.jacionline.org/article/S0091-6749(16)00135-4/abstract
Child Study

Study design

- N=2669 birth through 3 years
- Population cohort study
- Compared rates of sensitization to peanut, egg, and milk among those who ate these foods early to those who ate them later

Results

“General-population infants introduced to peanut after age 12 months were more likely to have sensitization and probable clinical allergy to peanut at 3 years.”
PETIT Trial

- Two step introduction of egg to 147 high-risk (eczema) infants
- Used heated egg white powder
  - 50mg/day at 6 months-9 months
  - 250mg/day 9 months-12 months
- Stopped early because it so successfully reduced egg allergy
AAP recommended avoiding the top allergens for 1, 2 or 3 years.

Rescinded guidance on avoidance, stating that the research doesn’t support avoidance as a way to prevent allergies, “more research is needed.”

NIAID Guidelines for the Diagnosis and Management of Food Allergies

Consensus Report

NIAID Addendum to the Guidelines

AAP Revised Report The Effects of Early Nutritional Interventions on the Development of Atopic Disease in Infants and Children
**NIAID Addendum Guidelines**

**Group 1 (High-risk)**
*Infants with egg allergy or severe to moderate eczema or both*

- Discuss with pediatrician or allergist before introducing peanut foods
- Skin prick testing may be recommended
- Depending on SPT results, first oral intro may happen at doc’s office
- Intro recommended at 4-6 months
- Children should eat 2g peanut protein three times per week thereafter

**Group 2 (Moderate-risk)**
*Infants with mild eczema*

- Not necessary to discuss with pediatrician first, but may
- Should introduce at home
- At or after 6 months

**Group 3 (Low-risk)**
*Infants without risk factors*

- Introduce at home at or after 6 months
- Age-appropriate and in accordance with family preferences and cultural practices

[Link to NIAID guidelines](https://www.niaid.nih.gov/diseases-conditions/guidelines-clinicians-and-patients-food-allergy)
There is no evidence that delaying the introduction of allergenic foods, including peanuts, eggs, and fish, beyond 4-6 months prevents atopic disease.

There is now evidence that the early introduction of infant-safe forms of peanuts reduces the risk for peanut allergies. Data are less clear for timing of introduction of eggs.

The new recommendations for the prevention of peanut allergy are based largely on the LEAP trial and are endorsed by the AAP.
A Public Health Approach to Food Allergy Prevention
Dietary Guidelines for Americans 2020-2025
Here’s what the DGAs say about introducing allergens...

Potentially allergenic foods (e.g., peanuts, egg, cow milk products, tree nuts, wheat, crustacean shellfish, fish, and soy) should be introduced when other complementary foods are introduced to an infant’s diet. **Introducing peanut-containing foods in the first year reduces the risk that an infant will develop a food allergy to peanuts.**
And for high risk infants...

For Infants at High Risk of Peanut Allergy, Introduce Peanut-Containing Foods at Age 4 to 6 Months

- Severe eczema
- Egg allergy

Check with healthcare provider before introducing peanut foods.
Poll Questions #3
How to Feed Babies Potential Allergens
Introducing Complementary Foods

- Options for starting solids (choose what works best for you and your baby)
  - Traditional Approach
  - Combined Approach
  - Baby-Led Weaning
Baby-Led Weaning

- Family meals
- Strengthens internal self-regulation system
- More minimally-processed, nutrient-dense, fresh foods
- More adventurous eating and less food fussiness
- Boosts fine motor skills
- Saves money & time

https://bmjopen.bmj.com/content/2/1/e000298.short
At what age should babies start solids?

- Lots of confusion and changing guidelines over the past several decades
- Risks associated with starting too early (obesity) too early & too late (type 1 diabetes, celiac) and too late (delayed oral motor function & food/texture aversions)
- WHO, AND & AAP and the new DGAs all now recommend starting solids at ~6 months of age when the developmental signs of readiness are present
Myth or Truth? “Food before one is just for fun...”

Also important for:

• Meeting nutrient needs
  • Most notably iron (also zinc)
• Meeting developmental milestones
• Learning & practicing self-feeding skills
• Building baby’s palate & acceptance of a wide variety of foods, flavors & textures early on
• Preventing the development of food allergies
Top Priorities for Starting Solids (UPDATED!)

• Nutrient density
• Diet Diversification (multiple benefits)
• Offer foods that are prepared in a safe, developmentally appropriate way
• Include top allergens in baby’s diet EARLY & OFTEN
• Avoid choking hazards as well as added sugars, foods higher in sodium, honey and unpasteurized foods and beverages
• Understand the difference between gagging and choking & educate yourself on what to do in the event of each
Bringing the Recommendations into Daily Life

- Balanced meals (2015 BLISS Study)
  - Iron-rich protein food
  - Fruit or vegetable rich in vitamin C (may help boost iron absorption)
  - Energy-rich food, preferably with healthy fats

- Portions:
  - Start small
  - Let baby lead

Texture & Sizing of Finger Foods: Palmar grasp

- Offer foods about the length & width of an adult pinkie finger
- Texture should be soft and should squish easily between thumb & forefinger
Texture & Sizing of Finger Foods: Pincer grasp

- Cut foods into small bites about the size of a Cheerio or chickpea
- Texture of offered foods should still be soft and easily squishable between thumb & forefinger
Top allergenic foods

- At first, offer 1 at a time & not as a part of a mixed dish
- If no reaction, offer again each day for a few days, then move on to the next top allergen
- How to start:
  - Tiny amount (~1/8th of a tsp)
  - In the morning when you can be fully attentive for at least 2 hours
  - Healthy baby
  - Good mood
  - Not too tired, hungry or full
Practical Ways to Introduce Eggs

- Nutrient-dense, recommended first food for babies
- Excellent or good source of 8 essential nutrients
- One of the most concentrated sources of brain-building choline
- BOTH whites and yolks should be introduced during infancy

[https://pubmed.ncbi.nlm.nih.gov/27939035/]
Practical Ways to Introduce Peanuts

- Nutrient-dense, recommended early food for babies
- Early intro of peanut does not affect the duration of breastfeeding, nor does it negatively affect growth or nutrition
- Avoid whole peanuts and globs of peanut butter (choking hazards)
- Offer 2 grams peanut protein ~3x/week in an infant safe form (LEAP Study)

(https://www.jacionline.org/article/50091-6749(16)30262-7/fulltext)
Practical Ways to Introduce Cow’s Milk

Cow’s Milk:

- COW’s MILK IS NOT RECOMMENDED AS A BEVERAGE BEFORE AGE 1
- BUT cow’s milk can (and should) be offered in foods, baked goods & recipes

Yogurt

- Plain (to keep added sugars low) and full-fat are recommended

Cheese

- Avoid soft cheeses made with unpasteurized milk (goat, feta)
- Look for low-sodium cheeses that are soft in texture
Get Creative!

- Spreads and dips like peanut butter can help boost nutrition and include allergens.
- Instead of offering a plain teething cracker, try adding a thin layer of:
  - peanut butter
  - mascarpone cheese
  - crème fraîche
  - cream cheese
Practical Ways to Introduce Soy

- Tofu
- Tempeh (steamed & softened)
- Mashed edamame
- Use plain, unsweetened soy milk in oatmeal, pancake batter and other recipes (but do not serve as a beverage before age 1)
- Plain, unsweetened soy yogurt
Practical Ways to Introduce Fish

- Many types are a great source of iron, protein & omega-3s
- Choose small prey fish which have lower mercury levels
- Always cook thoroughly (do not serve raw) and be sure to remove any bones
- If choosing canned, look for ‘BPA-free’ packaging and ‘low salt,’ or ‘no salt added’
Practical Ways to Introduce Shellfish

- Be mindful of sodium content (most shellfish are naturally high in many minerals including sodium)
- Texture of shellfish can be rubbery and tough which increases choking risk
- Cook thoroughly and puree, finely chop or shred shrimp, lobster, crab, clams, crawfish, etc. before adding to sauces, patties, fritters or casseroles
Practical Ways to Introduce Tree Nuts

- Whole nuts and globs of nut butter are a choking hazard
- Spread a thin layer of nut butter on toast strips or teething crackers
- Add nut flours into muffins, pancakes
- Use ground nuts for extra grip on slippery fruits
Practical Ways to Introduce Wheat

- Pancake
- Toast
- Waffles
- French toast
- Pasta
- Wheat germ or wheat bran
  - Mixed into purees
  - Used for extra grip on slippery fruit wedges
Practical Ways to Introduce Sesame

• Tahini (ground sesame paste)
• Homemade hummus on toast strips or on a spoon (skip the salt)
• Blend tahini into soups
Convenience Products for Early Introduction

Peanut Purees (ready-to-feed)

- Happy Family Organics Nutty Blend
  - Available at Target, Amazon
- Square Baby
  - Available on the company’s website
- MyPeanut
  - Available on Amazon and the company’s website
- Inspired Start
  - Available on Amazon and the company’s website
Peanut Puffs & Bars (supports self-feeding, convenient)

- Bamba
  - Amazon & retailers nationwide
- Mission MightyMe
  - Amazon & the company’s website
- Gerber BabyPops
  - Safeway, Albertson stores & retailers nationwide
- Earth’s Best Organic Puffs
  - Target, Amazon, Walmart
- Puffworks Baby
  - Amazon, Whole Foods, & the company’s website
- Plum Organics Mighty Nut Bar
  - Target, Amazon, Walmart
Allergen Powders (offers a prescribed approach)

- **Lil Mixins** (available at Target, Amazon & the company’s website)

- **Ready, Set, Food** (available on Amazon & the company’s website)

- **SpoonfulOne** (available at Walmart, Amazon and the company’s website)
Key Takeaways

- Feed babies confidently & joyfully!
- Feed responsively (whether using BLW, spoon-feeding, or both)
  - Consider the many important goals of feeding during infancy
- Keep it simple, safe & stress-free
  - Offer baby nutrient-dense, minimally processed foods (with minor adjustments in size, texture and ingredients such as sodium and sugar) from meals that can be served to the whole family
- Include top allergens early & often
  - Starting at ~6 months of age with signs of readiness
- Know that there are now many convenience products available to help make early intro of top allergens easier
Q & A

Please type your questions into the CHAT box.
For additional questions and information

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THANK YOU!