ECHO IDAHO

Early Introduction of Allergenic Foods in Infants: Clinical Guidelines & Evidence

December 1, 2025

Brian Bizik, MS, PA-C, DFAAPA

Immediate Past-President – American Academy of Physician Assistants in Allergy, Asthma and Immunology

Pulmonology Care Coordinator, Terry Reilly Health Centers

208-404-5338
brianbizik@yahoo.com

University of Idaho
School of Health and Medical Professions

Brian Bizik, presenter for this educational event, is a speaker and on the advisory board for the following companies: AstraZeneca, Pfizer and Dermavant Pharmaceuticals. He is also an advisor for Regeneron and a speaker for Grifols Pharmaceuticals. All of the relevant financial relationships listed for these individuals have been mitigated.

Sponsored by:

Project ECHO

Disclosures

INDUSTRY AFFILIATIONS
Grifols Pharmaceutical - speaker, consultant
AstraZeneca – advisory board
Regeneron – advisory board
Sanofi – speaker, advisory board
Dermavant – speaker, consultant

CLINICAL RESEARCH
2017 – Sub-I, Genetech Zenyatta Severe Asthma Study
2016 – Sub-I, Biota Human Rhinovirus Study
2015 – Sub-I, Sanofi Traverse Severe Asthma Study
2015 – Sub-I, Sanofi Liberty Severe Asthma Study
2013 – Study Coordinator: MediVector Influenza Study

Brian Bizik does not intend to discuss the use of any off-label use/unapproved use of drugs or devices.

Learning Objectives

- Let’s set the stage for how we got here.
- Summarize current early allergen introduction guidelines and guidance
- Apply the guidelines effectively into practice
- Discuss barriers to adoption along with potential strategies to overcome barriers at both the clinician and patient/family level
- Identify resources and tools to support practice integration and to help parents or caregivers safely conduct early allergen introduction at home

An Opening Story or Two

- A story about families in Israel, and what happened when they moved to Great Britain.
- 2001 – Dr. Gideon Lack, head of Allergy at King's College in London gives a talk to doctors in Tel Aviv, Israel. There were about 200 doctors in the audience. He asks for show of hands from people who had treated a child with peanut allergy in the past year. Only a few raised their hands. . . . .
- Dr. Lack quickly realized that in England, nearly all the doctors would have raised their hand.
- Long conversations occurred after this talk, trying to see if this could be genetic or something else.

An Opening Story or Two

- The reason could be. . . .

An Opening Story or Two

- Dr. Lack wanted to study this but could not get funding.
- A peanut grower from Virgina named Dee Dee Dardin was on vacation in England and had done some work with the National Peanut Board. She was moved by a question asked of her at a town meeting – “how do you feel growing something that could kill a kid.”
- She went – without an appointment or even knowing if she could find Dr. Lack – and talked to him, offering to fund the study with peanut grower money from the US.
- Dr. Lack agreed to meet with her partially because she was wearing this t-shirt

An Opening Story or Two

- With Peanut Board funding, the study was started. Analyzing medical records:
  - 5100 Jewish children in the UK
  - 5600 Jewish children in Israel
  - Analyzed via questionnaire

Difference: 10 X as many kids who avoided peanuts had allergy vs the group of kids who ate peanuts, despite similar genetics

ELSEVIER

Journal of Allergy and Clinical Immunology
Volume 122, Issue 5, November 2008, Pages 984-991

Food, drug, insect sting allergy, and anaphylaxis

Early consumption of peanuts in infancy is associated with a low prevalence of peanut allergy

George Du Toit FRCPCH [a], Yitzhak Katz MD, PhD [b], Peter Sasieni PhD [c], David Mesher MSc [c], Soheila J. Maleki PhD [d], Helen R. Fisher BSc [a], Adam T. Fox FRCPCH [a], Victor Turcanu MD, PhD [a], Tal Amir [e], Galia Zadik-Mnuhin MD [f], Adi Cohen MD [f], Irit Livne MD [g], Gideon Lack FRCPCH [a]

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https://doi.org/10.1016/j.jaci.2008.08.039 Get rights and content

Background

Despite guidelines recommending avoidance of peanuts during infancy in the United Kingdom (UK), Australia, and, until recently, North America, peanut allergy (PA) continues to increase in these countries.

Objective

We sought to determine the prevalence of PA among Israeli and UK Jewish children and evaluate the relationship of PA to infant and maternal peanut consumption.

George Du Toit, Yitzhak Katz et al Early consumption of peanuts in infancy is associated with a low prevalence of peanut allergy, Journal of Allergy and Clinical Immunology, Volume 122, Issue 5, 2008, Pages 984-991,ISSN 0091-6749, https://doi.org/10.1016/j.jaci.2008.08.039.

An Opening Story or Two

- Next step – randomized controlled trial
  - LEAP Study 2015
  - Approx 530* infants who had no peanut allergy randomized to get peanut or not
  - In the end, about 14% in the avoidance group had peanut allergy but in the exposure group it was 2%
  - *These were HIGH risk infants

The NEW ENGLAND JOURNAL of MEDICINE

CURRENT ISSUE SPECIALTIES TOPICS

ORIGINAL ARTICLE

Randomized Trial of Peanut Consumption in Infants at Risk for Peanut Allergy

This article has been corrected. VIEW THE CORRECTION

Authors: George Du Toit, M.B., B.Ch., Graham Roberts, D.M., Peter H. Sayre, M.D., Ph.D., Henry T. Bahnson, M.P.H., Suzana Radulovic, M.D., Alexandra F. Santos, M.D., Helen A. Brough, M.B., B.S., +8, for the LEAP Study Team* Author Info & Affiliations

Published February 26, 2015 | N Engl J Med 2015;372:803-813 | DOI: 10.1056/NEJMoa1414850 | VOL. 372 NO. 9

Abstract

BACKGROUND

The prevalence of peanut allergy among children in Western countries has doubled in the past 10 years, and peanut allergy is becoming apparent in Africa and Asia. We evaluated strategies of peanut consumption and avoidance to determine which strategy is most effective in preventing the development of peanut allergy in infants at high risk for the allergy.

METHODS

We randomly assigned 640 infants with severe eczema, egg allergy, or both to consume or avoid peanuts until 60 months of age. Participants, who were at least 4 months but younger than 11 months of age at randomization, were assigned to separate study cohorts on the basis

George D et al LEAP Study Team. Randomized trial of peanut consumption in infants at risk for peanut allergy. N Engl J Med. 2015 Feb 26;372(9):803-13. doi: 10.1056/NEJMoa1414850. Epub 2015 Feb 23. Erratum in: N Engl J Med. 2016 Jul 28;375(4):398. doi: 10.1056/NEJMx150044. PMID: 25705822; PMCID: PMC4416404..

An Opening Story or Two

- The second story
- Baby Jonah, born with eczema on face and hand/arms
- Topical creams help but not completely
- Parents avoid feeding all foods that are known to cause allergy. No peanuts/milk/eggs

Photo Credit: Wikimedia Commons Baby with eczema 20 March 2004 (original upload date) Transferred from en.wikipedia to Commons by Dcoetzee using CommonsHelper.

An Opening Story or Two

- The second story
- Jonah's grandmother comes over and makes peanut butter cookies.
- Careful to not let Jonah eat any.
- She loves to hold him while she bakes.
- With peanut protein on her hands she rubs against his leg

Photo Credit: Wikimedia Commons Baby with eczema 20 March 2004 (original upload date) Transferred from en.wikipedia to Commons by Dcoetzee using CommonsHelper.

An Opening Story or Two

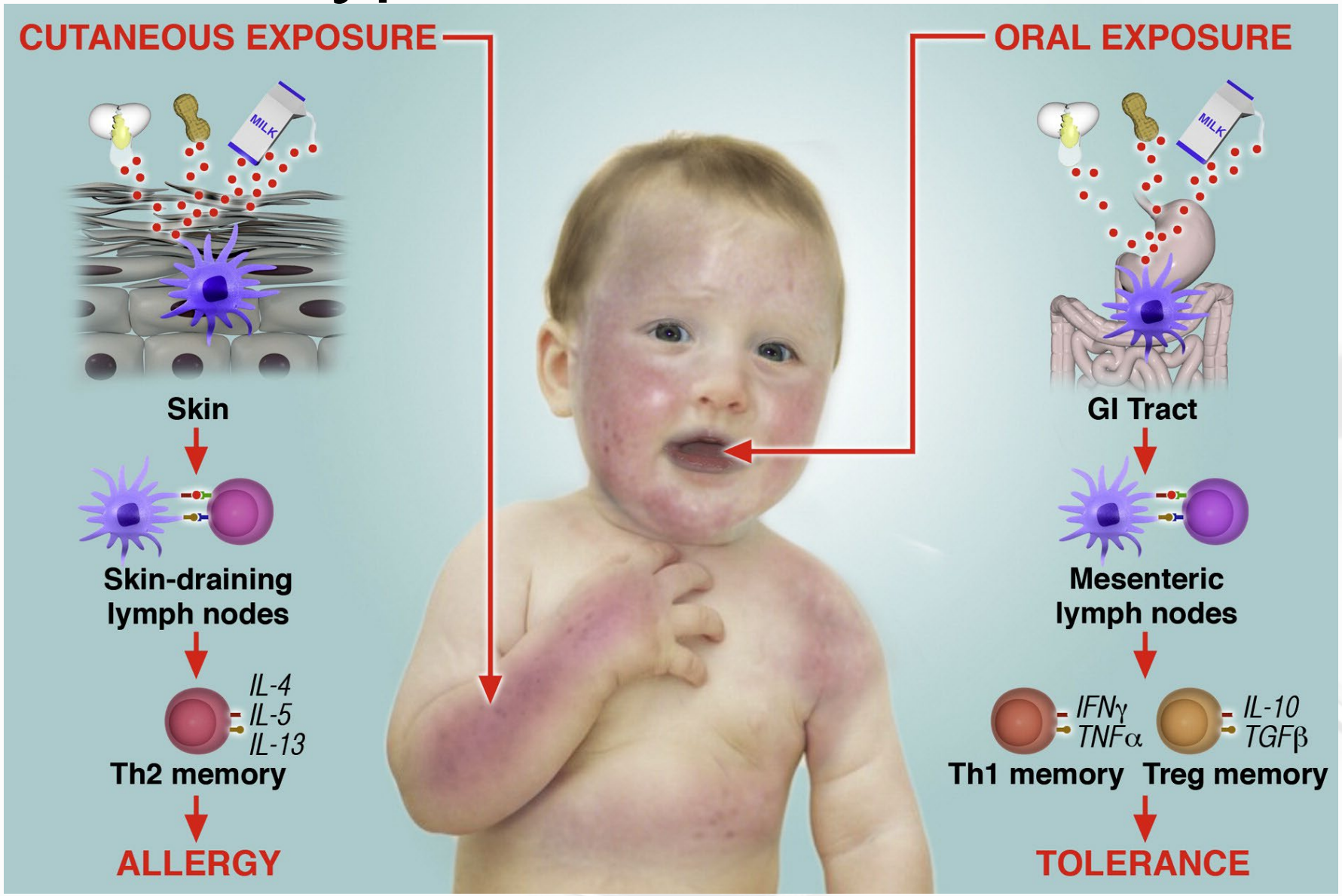
- That peanut protein enters the body through the skin – picked up by dendritic cells that present the peanut protein to the immune system as foreign through the skin lymphatic system

- These cells present the protein to naïve T cells that become T2 cells that induce B-cells to make antibodies (IgE) to the protein that then coat basophils and mast cells with the end result being allergy to peanut.

- If that same protein was presented to the body via the gut, it is picked up by dendritic cells and drains to the gut lymphatic system. There, naïve T cells are turned into T-regulatory cells – this plus other changes actively suppress allergy.

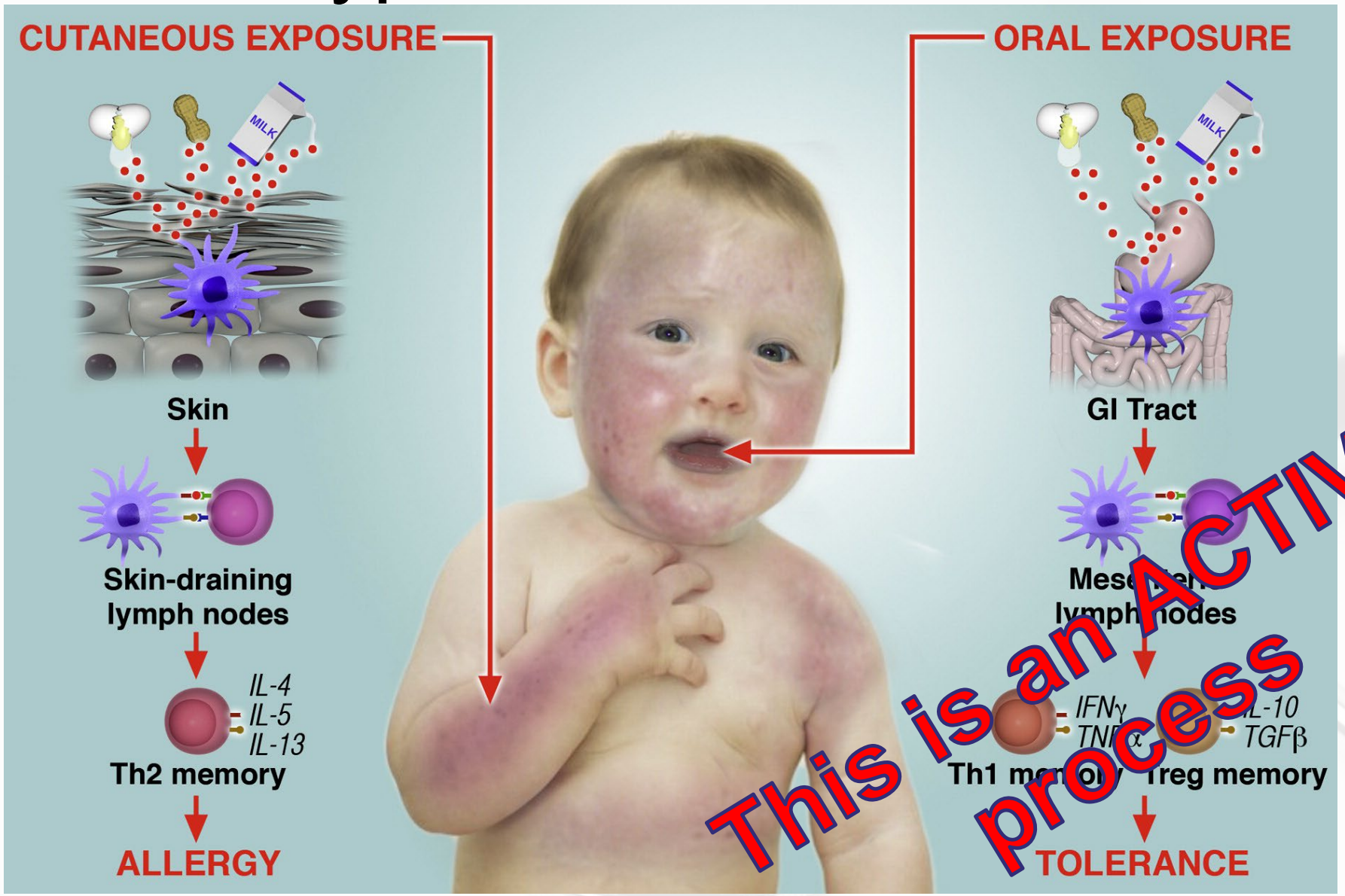
Abrams EM, Chan ES, Sicherer S. Peanut Allergy: New Advances and Ongoing Controversies. Pediatrics. 2020 May;145(5):e20192102. doi: 10.1542/peds.2019-2102. Epub 2020 Apr 17. PMID: 32303583.

Dual Exposure Hypothesis



Epidemiologic risks for food allergy. Lack, Gideon
Journal of Allergy and Clinical Immunology, Volume 121, Issue 6, 1331 - 1336

Dual Exposure Hypothesis



Epidemiologic risks for food allergy. Lack, Gideon
Journal of Allergy and Clinical Immunology, Volume 121, Issue 6, 1331 - 1336

Atopic March

Natural progression of allergic diseases often beginning in early life

Once it starts it cannot be stopped

- Development of atopic diseases may initiate the sensitization process
- Food allergy and asthma risk increases with presence and severity of atopic dermatitis
- Early life food sensitization increases the risk of wheeze, asthma, allergic rhinitis

Abrams EM, Chan ES, Sicherer S. Peanut Allergy: New Advances and Ongoing Controversies. Pediatrics. 2020 May;145(5):e20192102. doi: 10.1542/peds.2019-2102. Epub 2020 Apr 17. PMID: 32303583.

FARE

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FARE

- Quick review
- Exposure to food proteins can prevent food allergy.
- Through the skin, allergies begin
- Through the diet, allergies stay quiet

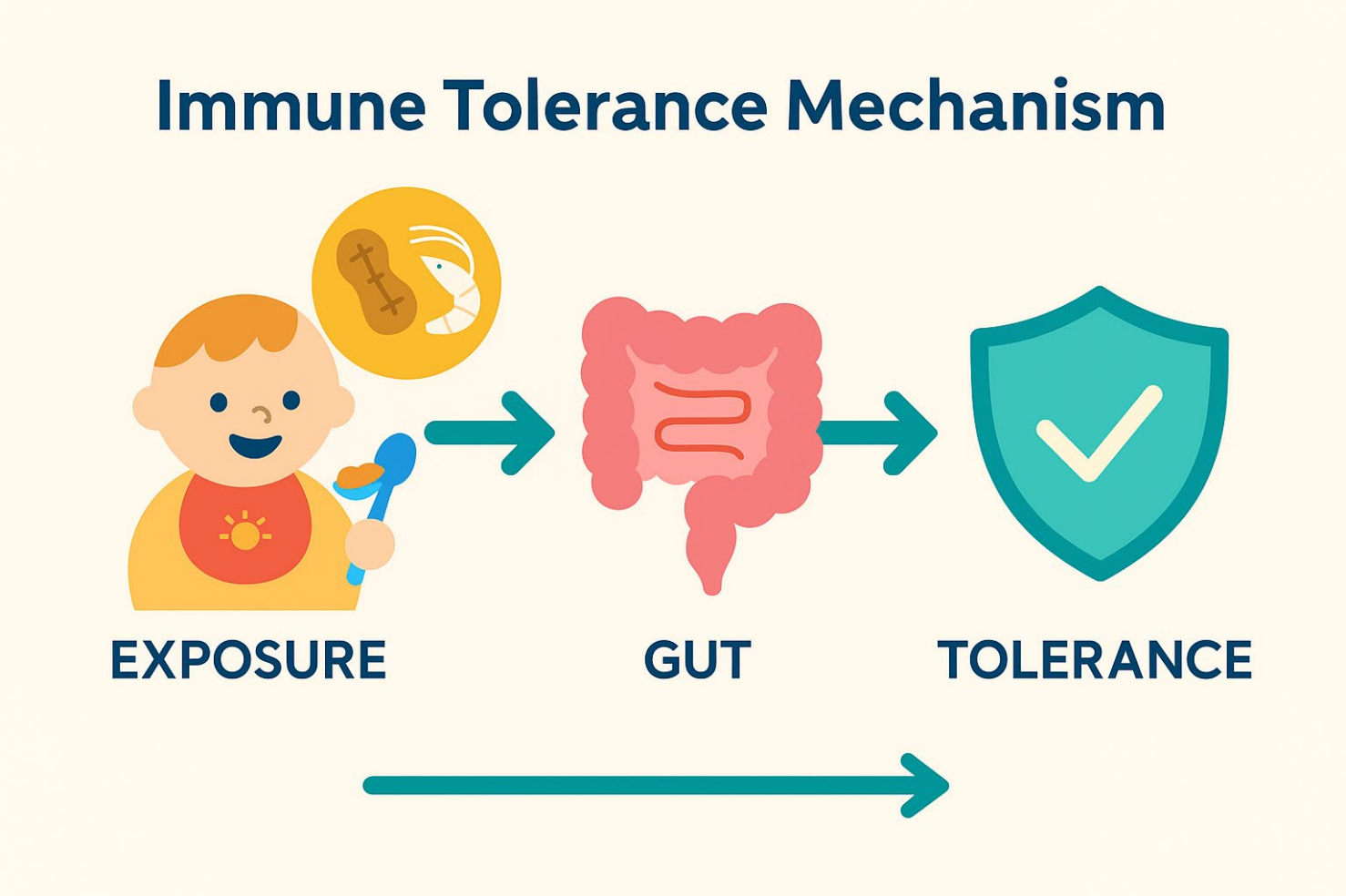
My first AI image ☺ Created by ChatGPT.

Burden of Disease

When we prevent a food allergy – the effects can be for a lifetime

My first AI image ☺ Created by ChatGPT.

- Just imagine preventing one peanut allergy
- With peanut butter
- The burden of food allergy is very high



My second AI image ☺ Created by ChatGPT.

Burden of Disease: Caregiver Point of View

- Caregivers have a constant feeling of being "on guard."
- Studies have shown parents of kids with food allergy have higher levels of stress, anxiety, and depression compared to healthy counterparts.
- Mothers report higher levels of stress and anxiety and lower QoL compared to anyone else in the household.

QoL = quality of life.

Polloni L, Muraro A. *Clin Exp Allergy*. 2020;50(4):420-441; Feng, C., Kim, JH. *Clinic Rev Allerg Immunol.* 2019;57:74-82.

Warning! Data heavy slides coming. . . .

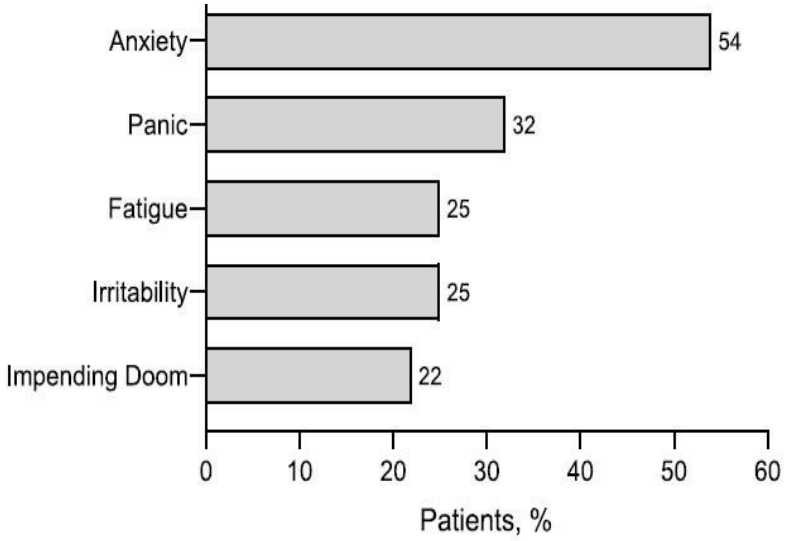
- You've been warned, put on your data screening sunglasses now

  I wanted you to have this data to look at later ☺

Burden of Food Allergy

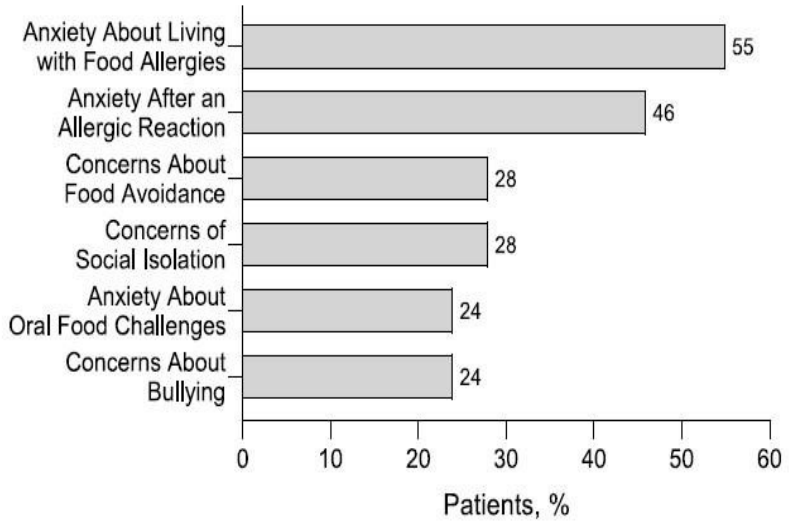
The mental health burden of food allergies: Insights from patients and their caregivers from the Food Allergy Research & Education (FARE) Patient Registry

Patient Emotions



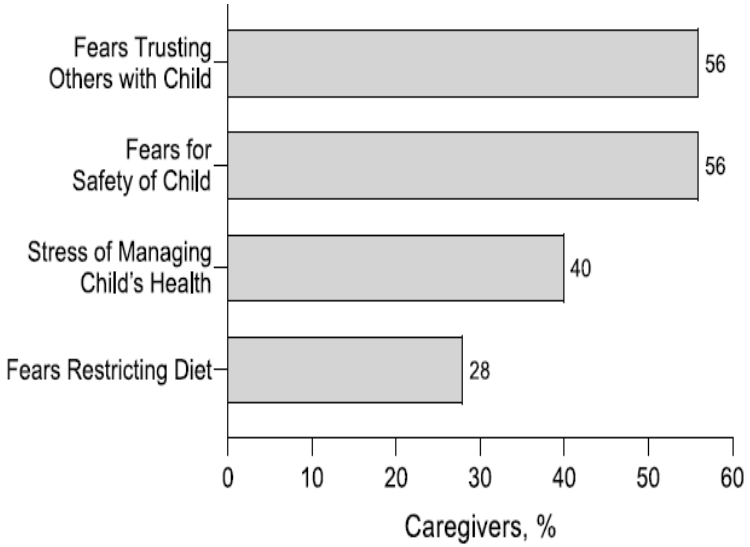
Common emotions experienced by patients with food allergies

Patient Concerns



Food allergy-related mental health concerns of patients with food allergies and their caregivers

Caregiver Concerns

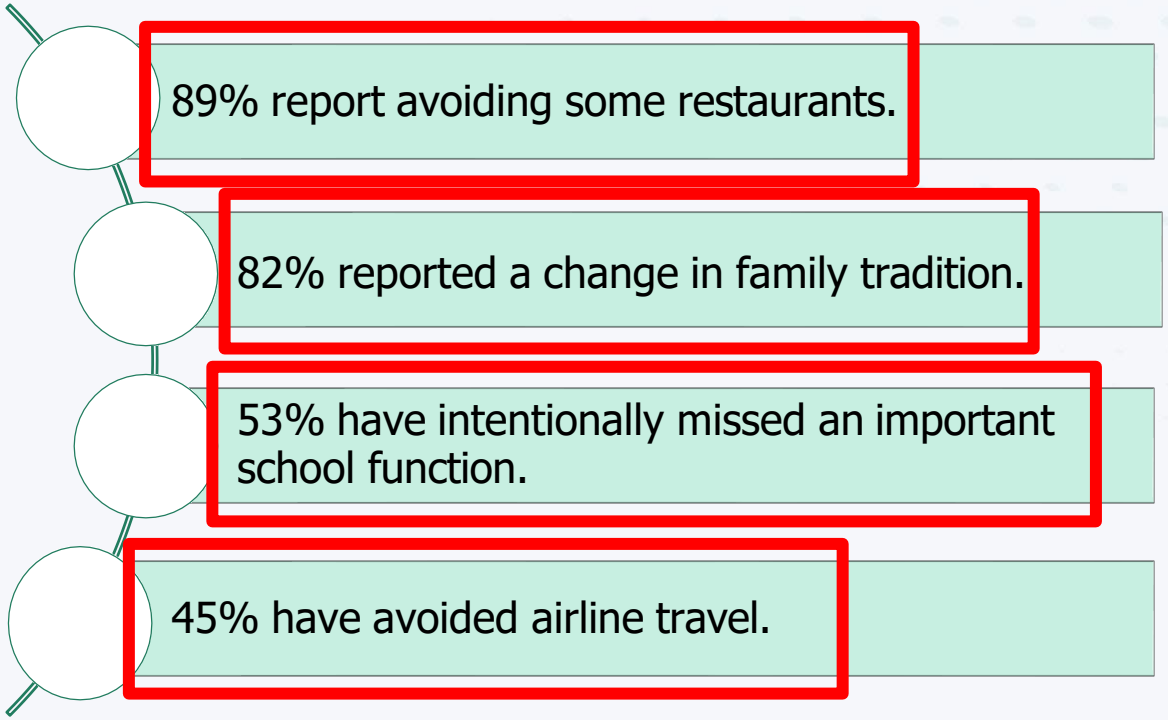


Caregiver response to the survey question, "*What types of mental health concerns related to food allergy has the participant experienced?*"

Casale TB, et al. *World Allergy Organ J.* 2024;17(4):100891.

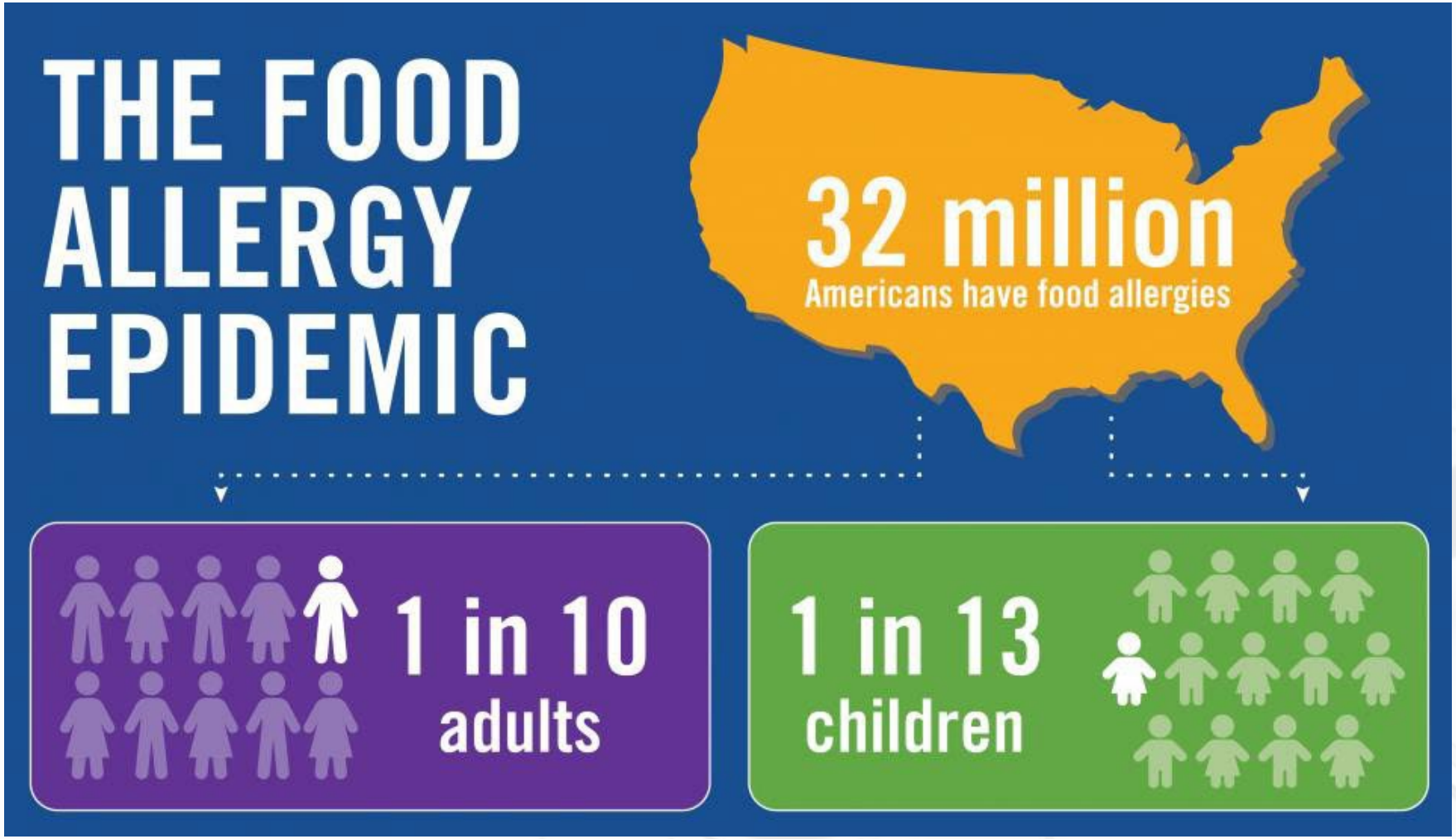
Burden of Disease: Caregiver Point of View

- Psychosocial burden
- Grocery shopping
- Eating out
- Attending school
- Vacations
- Playdates
- Job interviews
- Birthday parties
- Holidays
- Camp
- Sports



= Constant Vigilance

Feng C, Kim JH. *Clinic Rev Allerg Immunol*. 2019;57:74-82.
Kids with Food Allergies (KFA). My Life With Food Allergies Survey. April 2019. Accessed December 3, 2024. https://kidswithfoodallergies.org/research/our-food-allergy-research/my-life-with-food-allergies/



Reactions can range from…

Mild ⟷ Life-threatening (anaphylaxis)

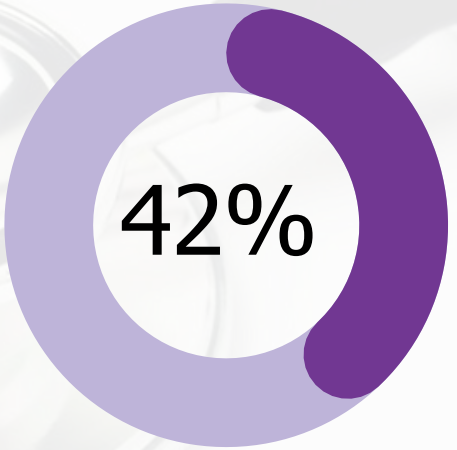
Feng C, Kim JH. *Clinic Rev Allerg Immunol.* 2019;57:74-82.Kids with Food Allergies (KFA). My Life With Food Allergies Survey. April 2019.

Childhood Food Allergy Prevalence in the United States

8% of US Children have a food allergy

~ 2 kids per classroom

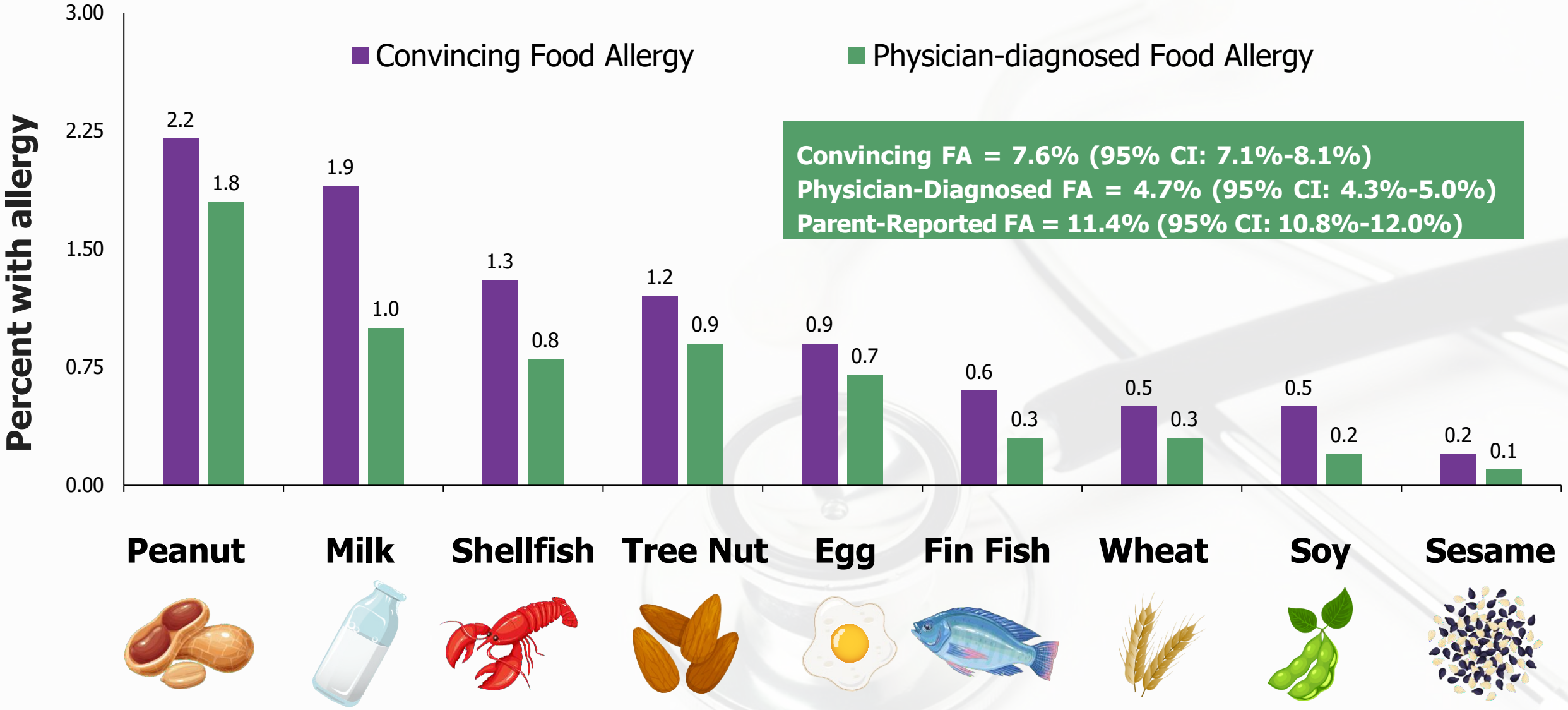
are allergic to multiple foods



have experienced a severe reaction

Gupta RS, et al. *Pediatrics.* 2018;142(6):e20181235.

Childhood Food Allergy Prevalence in the United States



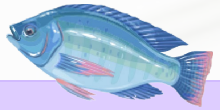
FA = food allergy.

Gupta RS, et al. *Pediatrics.* 2018;142(6):e20181235.

Prevalence






	Peanut	Tree Nut	Milk	Shellfish	Egg	Fin Fish	Wheat	Soy	Sesame
<1 Year	20.2%	9.0%	53.0%	7.1%	13.5%	2.6%	14.9%	15.4%	4.6%
1 Y	24.6%	8.0%	37.8%	5.1%	22.8%	6.4%	6.0%	16.6%	4.9%
2 Y	24.5%	10.9%	43.5%	11.5%	14.1%	6.0%	9.9%	8.6%	2.3%
3-5 Y	25.1%	15.9%	33.6%	13.0%	15.0%	6.2%	6.6%	6.9%	2.7%
6-10 Y	32.8%	17.6%	24.4%	18.4%	10.8%	7.8%	6.4%	6.5%	3.3%
11-13 Y	30.5%	21.3%	14.9%	20.2%	12.8%	7.1%	6.2%	3.6%	1.8%
>14 Y	29.5%	13.3%	16.0%	21.3%	6.6%	7.9%	5.4%	3.0%	2.1%

Y = year(s).

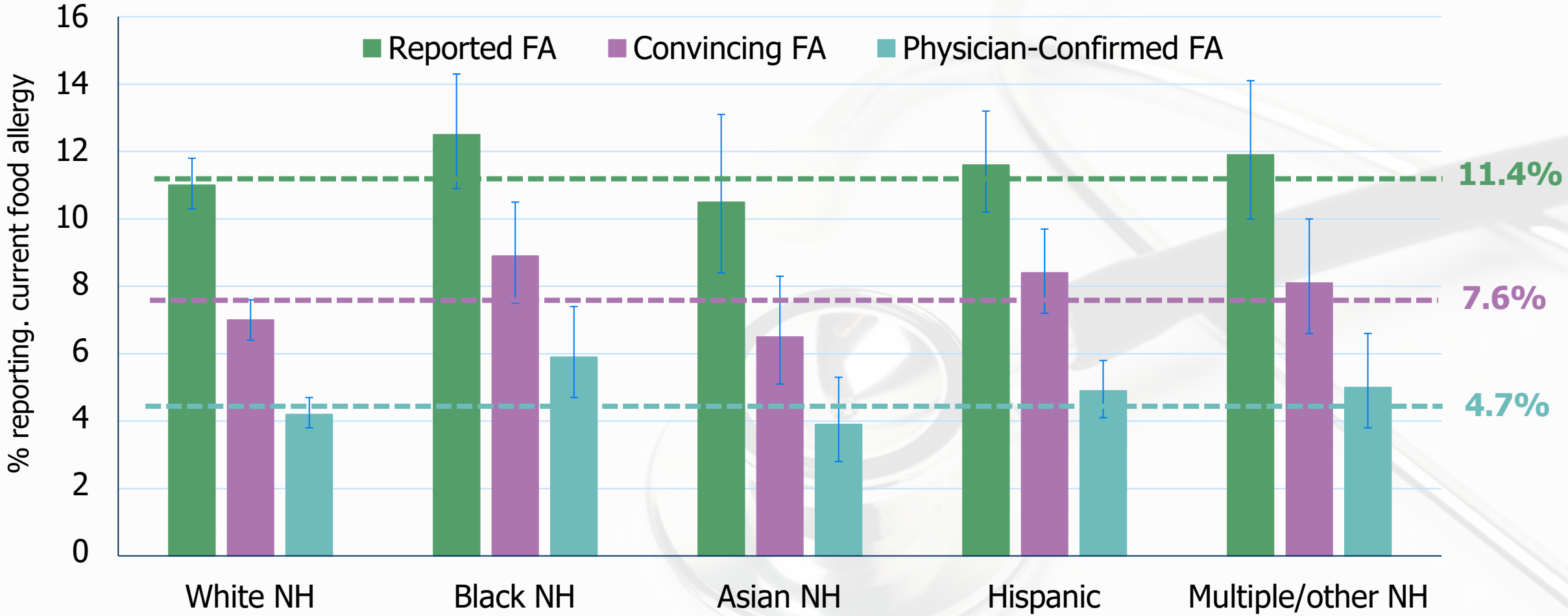
Gupta RS, et al. *Pediatrics.* 2018;142(6):e20181235.

Racial and Ethnic Differences in Current Food Allergy Prevalence Among US Children

PEDIATRICS®

The Public Health Impact of Parent-Reported Childhood Food Allergies in the United States

Ruchi S. Gupta, MD, MPH,[a,b,c,d] Christopher M. Warren, BA,[e] Bridget M. Smith, PhD,[c,f] Jesse A. Blumenstock, BS,[c] Jialing Jiang, BA,[c] Matthew M. Davis, MD, MAPP,[a,b,c,d,g] Kari C. Nadeau, MD, PhD[h]



NH = non-Hispanic.

Gupta RS, et al. *Pediatrics.* 2018;142(6):e20181235.

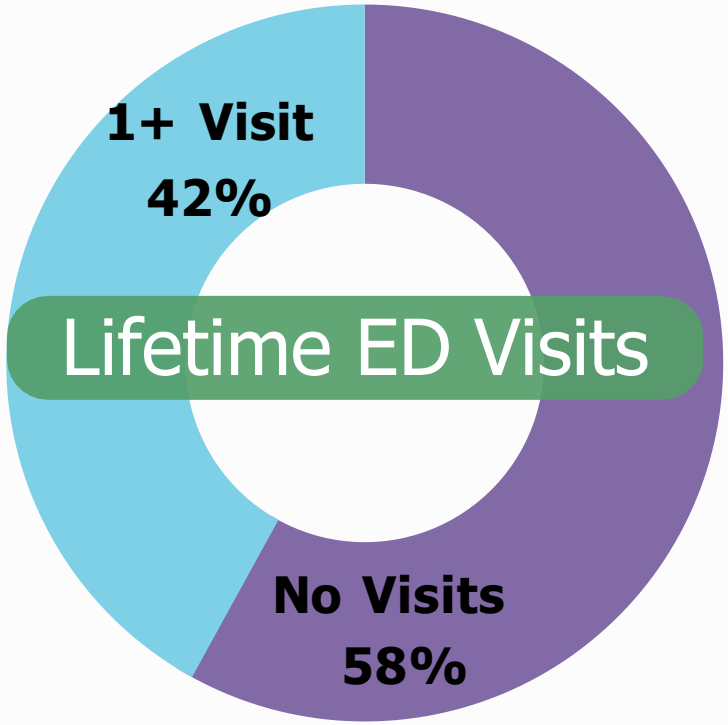
Patterns of Convincing Multi-Food Allergy Among US Children

	Peanut	Tree Nut	Sesame	Milk	Egg	Fin Fish	Shellfish	Soy	Wheat
Peanut	100	61	55	15	29	38	25	33	22
Tree Nut	33	100	44	9	18	24	14	24	18
Sesame	5	8	100	3	6	9	5	11	13
Milk	13	15	23	100	35	15	11	37	43
Egg	12	13	26	17	100	20	11	25	21
Fin Fish	9	11	23	4	12	100	24	14	12
Shellfish	15	15	31	7	16	57	100	20	21
Soy	7	10	26	9	13	12	7	100	26
Wheat	5	8	31	11	12	11	8	27	100

(% of children with convincing column allergy who are also allergic to the row allergen)

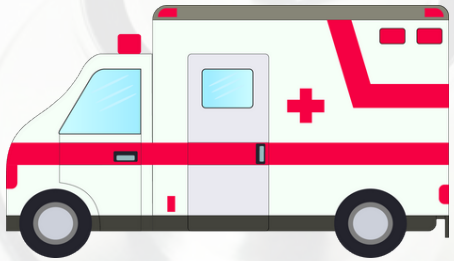
Warren CM, et al. *Ann Allergy Asthma Immunol.* 2023;130(5):637-648.

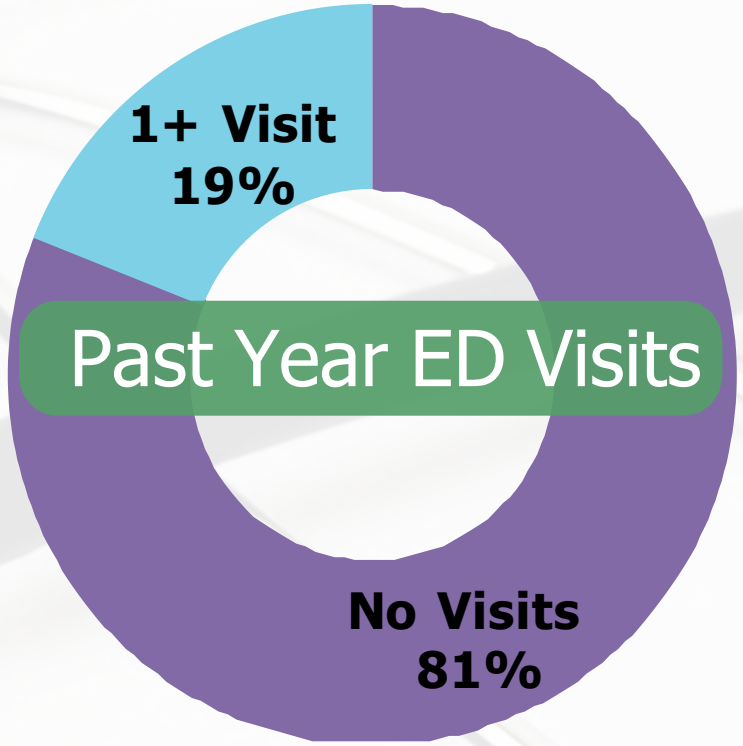
Pediatric Food Allergy ED Visits



Among children with food allergy, approximately:

- **20%** reported at least 1 food reaction-related ED visit in the previous year
- **42%** have at least 1 lifetime ED visit



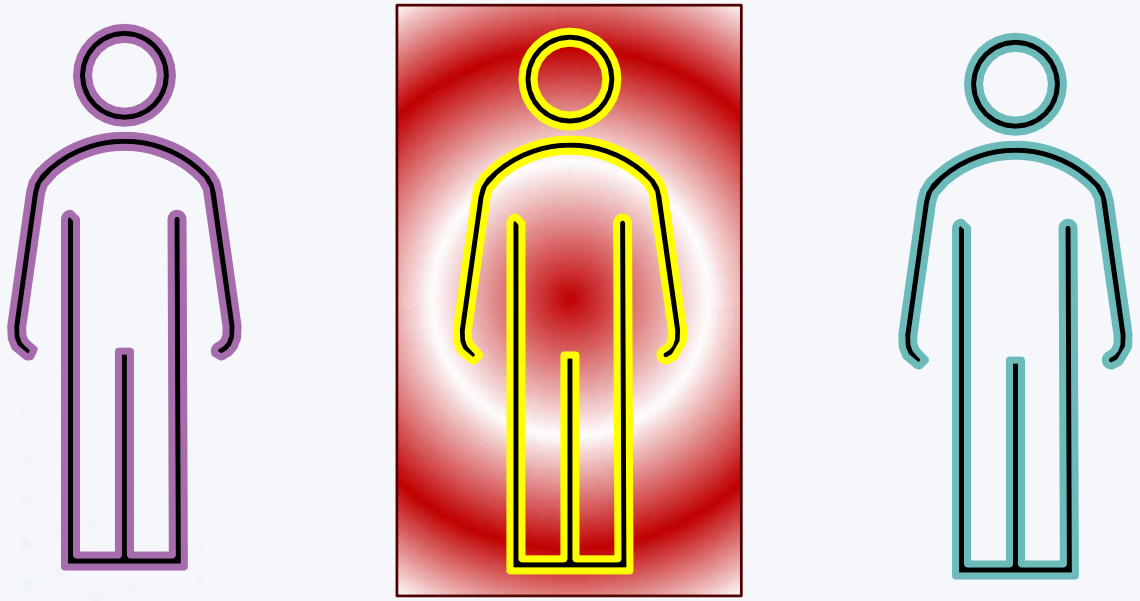


ED = emergency department

Gupta RS, et al. *Pediatrics.* 2018;142(6):e20181235.

How Common is Bullying in Food-Allergic Kids?

1 in 3



Shemesh E, et al. *Pediatrics.* 2013;131(1):e10-17.

Pediatric Atopic Comorbidities

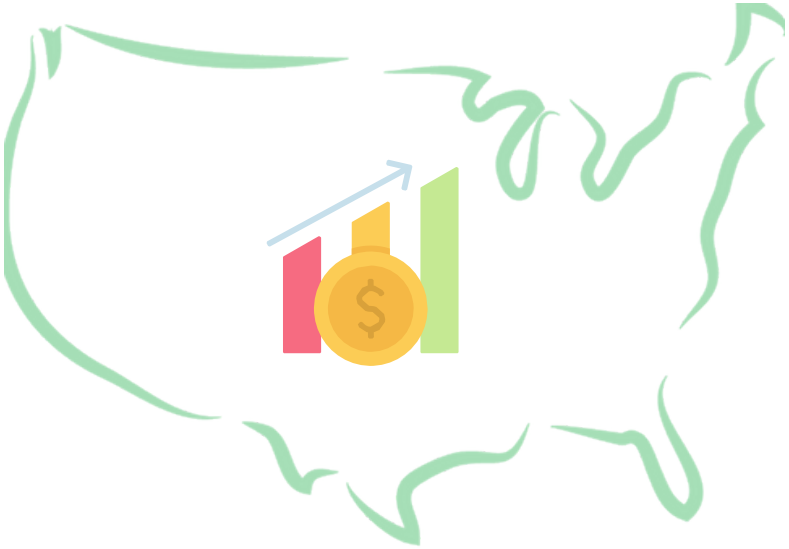
Rates of physician-diagnosed atopic conditions were **significantly higher among children with convincing FA** compared with other children

Physician Diagnosed Comorbid Conditions	All Children	Children with FA	*P*-Value
Asthma	12.2 (11.4–13.0)	**32.6 (29.5–35.9)**	<.001
Atopic Dermatitis	5.9 (5.3–6.5)	**14.9 (12.5–17.7)**	<.001
EoE	0.2 (0.10-0.2)	**0.7 (0.4–1.1)**	<.001
Allergic rhinitis	12.8 (12.0–13.6)	**30.4 (27.6–33.4)**	<.001
Other chronic condition	4.2 (3.7–4.7)	**10.1 (8.2–12.3)**	<.001

Gupta RS, et al. *Pediatrics*. 2018;142(6):e20181235.

Economic Impact of Food Allergy

Overall Economic Cost



$24.8 Billion

Direct Medical Costs

$4.3 Billion

Family Cost

$20.5 Billion

$4,184 per year/per child

Gupta R, et al. *JAMA Pediatrics*. 2013;167(11):1026-1031.

- Quick review
- The burden of food allergy is HUGE
- Cost, loss of normalcy, stress, entire extended family effected
- Intervention early can prevent this and maybe prevent the atopic march

Food Allergy

- An **immune system reaction** that occurs soon after eating a certain food; ”IgE-Mediated”
- Reactions can range from mild to severe and potentially life-threatening

Food Intolerance:

- A **non-immunologic** response to a particular type of food (e.g., lactose intolerance, gluten sensitivity)

IgE = immunoglobulin E.

Renz H, Allen KJ, Sicherer SH, Sampson HA, Lack G, Beyer K, Oettgen HC. Food allergy. Nat Rev Dis Primers. 2018 Jan 4;4:17098. doi: 10.1038/nrdp.2017.98. PMID: 29300005.

Spectrum of Adverse Food Reactions (Reference)

Immediate

Anaphylaxis (multiple severe symptoms)
Impending doom
Hypotension/Shock
Dizziness/Light Headedness
Hives

Swelling (angioedema)
Throat Swelling/Itchy mouth
Difficulty Breathing/cough
Nasal congestion/runny nose
Vomiting
Diarrhea/cramping

Delayed

Weight loss
Stomach cramping
Blood in stools
Anemia
Bloating
Diarrhea or Constipation

Delayed vomiting
Eczema
Rashes
Headaches
Irritability/Lethargy

IgE-Mediated ← **Mixed IgE and Non-IgE-Mediated** → **Non IgE-Mediated**

Positive Skin Prick Test and Positive sIgE Blood Test

Food Allergy*
Oral Allergy Syndrome /
Pollen-Food Allergy Syndrome
Alpha-Gal Syndrome*

Variable Skin Prick Test and sIgE Blood Test Results

Atopic dermatitis **(eczema)**
Eosinophilic esophagitis **(EoE)**
Eosinophilic gastrointestinal disorders **(EGID)**

Negative Skin Prick Test and Negative sIgE Blood Test

Celiac disease**
Food protein-induced enteropathy (FPE)
Food protein-induced enterocolitis syndrome (FPIES)**
Food protein-induced allergic proctocolitis (FPIAP)
Galactosemia
Heiner Syndrome (can lead to pneumonia)
Intolerances***
Food poisoning (eg, salmonella, scombroid poisoning)
IBS/FODMAP intolerance
Allergic contact dermatitis
Auricular Temporal syndrome
Gustatory Rhinitis

* Can require emergency treatment of food-induced anaphylaxis (e.g., with epinephrine)
** Can require emergency treatment of hypovolemic shock or severe dehydration
*** Includes intolerance to lactose, food additives, chemicals, salicylates, gluten [non-Celiac])

FODMAP = fermentable oligosaccharides, disaccharides, monosaccharides, and polyols;
IBS = inflammatory bowel syndrome; sIgE = specific IgE.

Gupta R. *Food Without Fear.* Hachette Books. 2021.

Anaphylaxis

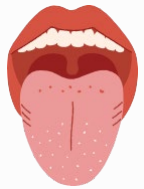
Anaphylaxis:

- A severe, potentially life-threatening allergic reaction that typically occurs within seconds or minutes of exposure to an allergen
- The reaction typically includes more than one body system and can lead to a drop in blood pressure, narrowing airways, and blocking of normal breathing

Signs and Symptoms of Anaphylaxis:

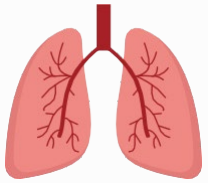
- Rapid heartbeat, weak pulse, skin rash, nausea, vomiting, etc.

Renz H, Allen KJ, Sicherer SH, Sampson HA, Lack G, Beyer K, Oettgen HC. Food allergy. Nat Rev Dis Primers. 2018 Jan 4;4:17098. doi: 10.1038/nrdp.2017.98. PMID: 29300005.



MOUTH & THROAT

Itching, swelling of lips and/or tongue, tightness/closure, coughing



LUNG

Shortness of breath, coughing, wheezing

SKIN

Itching, hives, redness, swelling

BRAIN

Headaches, disorientation, dizziness, anxiety, feeling of impending doom

HEART

Dizziness, drop in blood pressure, fainting

STOMACH

Vomiting, nausea, stomach pain

Symptoms of an Allergic Reaction

Renz H, Allen KJ, Sicherer SH, Sampson HA, Lack G, Beyer K, Oettgen HC. Food allergy. Nat Rev Dis Primers. 2018 Jan 4;4:17098. doi: 10.1038/nrdp.2017.98. PMID: 29300005.

ANAPHYLAXIS: Definition

- An acute allergic reaction resulting in widespread allergic symptoms which involves two or more organ systems after a likely or confirmed exposure.
- However, known exposure not required to start treatment or diagnose.

Golden DBK, et al. Anaphylaxis: A 2023 practice parameter update. Ann Allergy Asthma Immunol. 2024 Feb;132(2):124-176. doi: 10.1016/j.anai.2023.09.015. Epub 2023 Dec 18. PMID: 38108678.

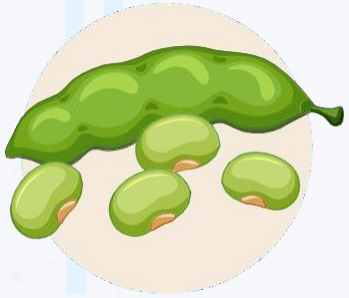
Peanut

Tree Nuts

Milk

Eggs

Wheat



Soy

Fish

Shellfish
(crustacean – Crab, lobster, etc.)

Sesame

FARE. Accessed May 21, 2024. https://www.foodallergy.org/resources/facts-and-statistics

Clinician/Teacher/WIC Role

Prevention may be the key to arresting the development of food allergy

- Caregivers of all types play a critical role in implementing the guidelines
- Trusted provider who is connected to families from the beginning
- Able to educate early and often about the introduction of foods, specifically allergenic foods
- Provide support during the introduction process

Allergen Avoidance

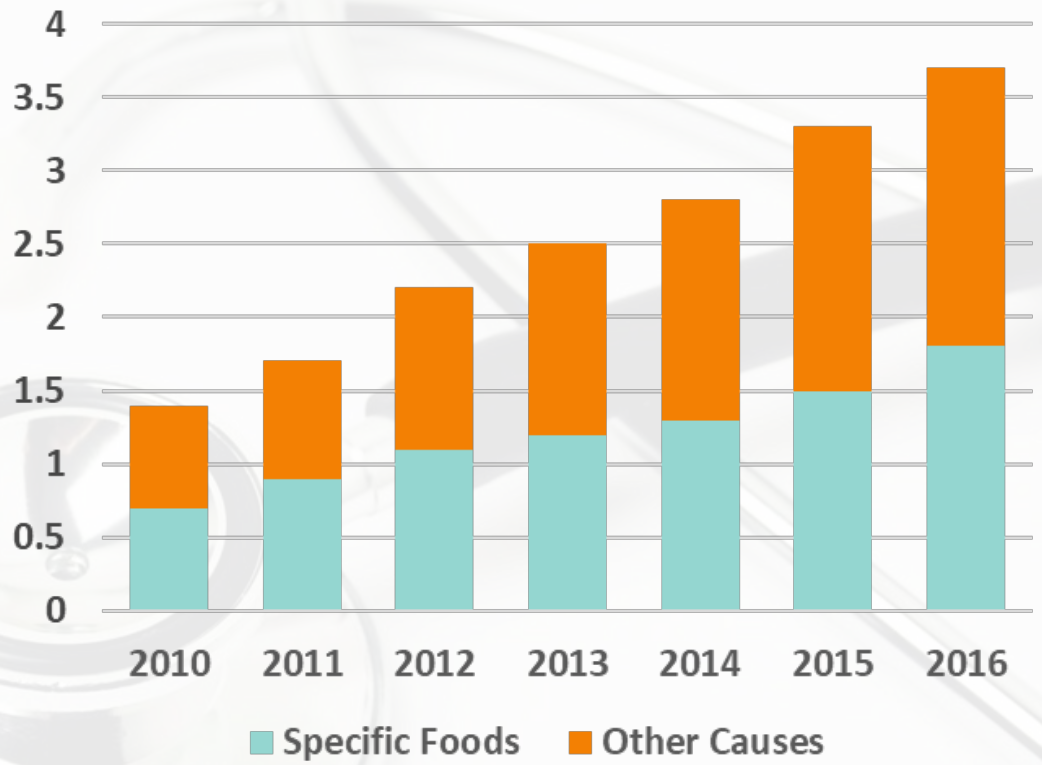
Increased rates of allergy in the last two decades

The Centers for Disease Control & Prevention reports that the prevalence of food allergy in children increased by 50 percent between 1997 and 2011.

The following have been proven to not reduce the risk of developing food allergy:

- **Avoidance of allergens in the infant's diet**
- **Restricting maternal diets prior to birth**
- **Restricting maternal diets during breastfeeding**
- **Hydrolyzed infant formulas**

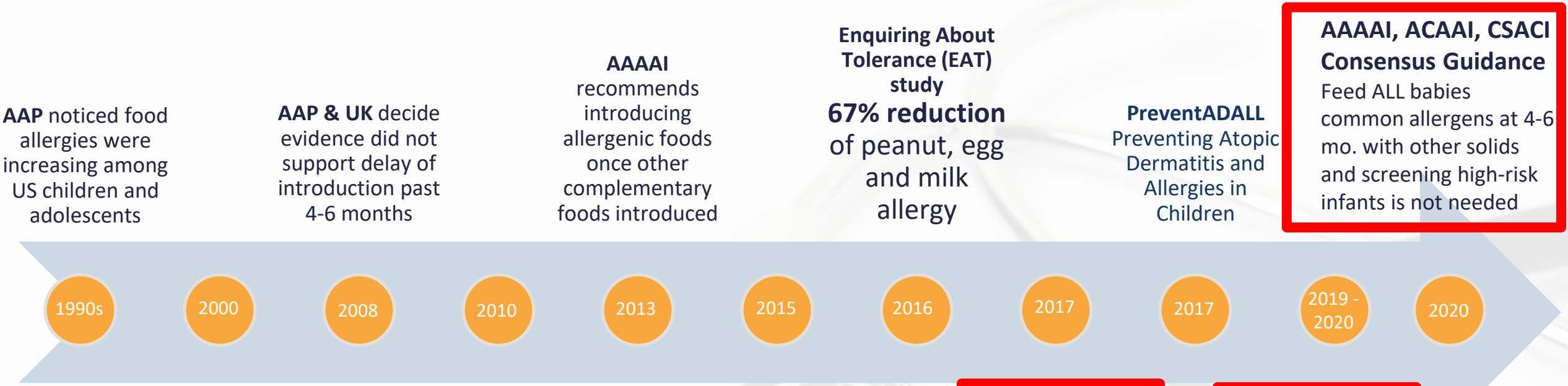
150% increased ER visits due to anaphylaxis



Rate of ER visits due to anaphylaxis in children by year, per 10,000 children

Renz H, Allen KJ, Sicherer SH, Sampson HA, Lack G, Beyer K, Oettgen HC. Food allergy. Nat Rev Dis Primers. 2018 Jan 4;4:17098. doi: 10.1038/nrdp.2017.98. PMID: 29300005.

Timeline of Research and Guidelines



NEJM data published May 28, 2024, shows that children enrolled in the LEAP study that consumed peanut early in life continued to show peanut tolerance though 12 years of age!

Du Toit G, Immune Tolerance Network LEAP-Trio Trial Team. Follow-up to Adolescence after Early Peanut Introduction for Allergy Prevention. NEJM Evid. 2024 Jun;3(6):EVIDoa2300311. doi: 10.1056/EVIDoa2300311. Epub 2024 May 28. PMID: 38804779.

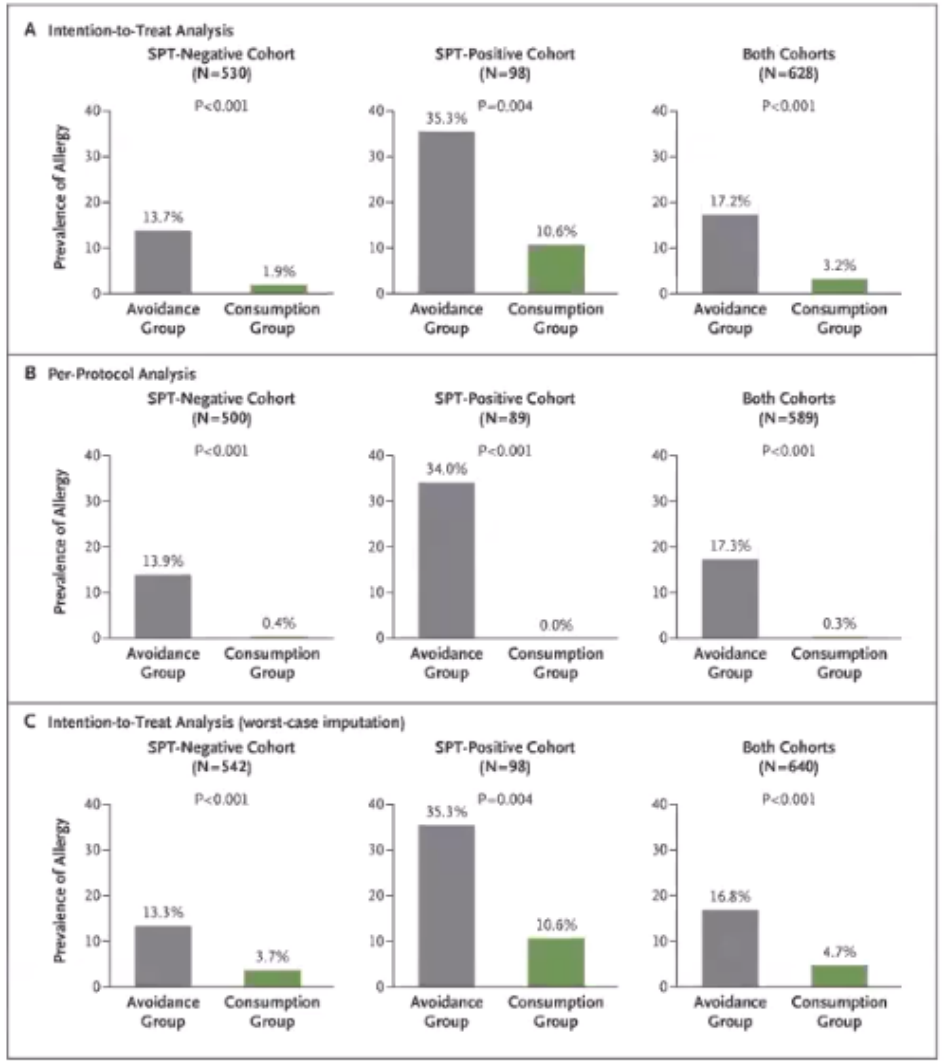
Warning! Again, some data/studies. . . .

I will move quickly through them but then summarize it ALL in one slide at the end

If you are a data-lover-like-me you can go back and dig into this later

2015: LEAP (Learning Early About Peanut Allergy) Study

- ~640 high-risk infants (severe eczema, egg allergy, or both), aged 4-11 months of age
  - 530 skin test negative
  - 98 skin test positive
- Randomized to either peanut consumption or avoidance
  - Consumption: 6 g peanut protein/week
  - Avoidance: active peanut avoidance
- Both groups underwent peanut challenge at 5 years of age
  - Consumption: 3.2% allergic
    - Sensitized: 10.6% allergic
    - Non-sensitized: 1.9% allergic
  - Avoidance: 17.2% allergic
    - Sensitized: 35.3% allergic
    - Non-sensitized: 13.7% allergic

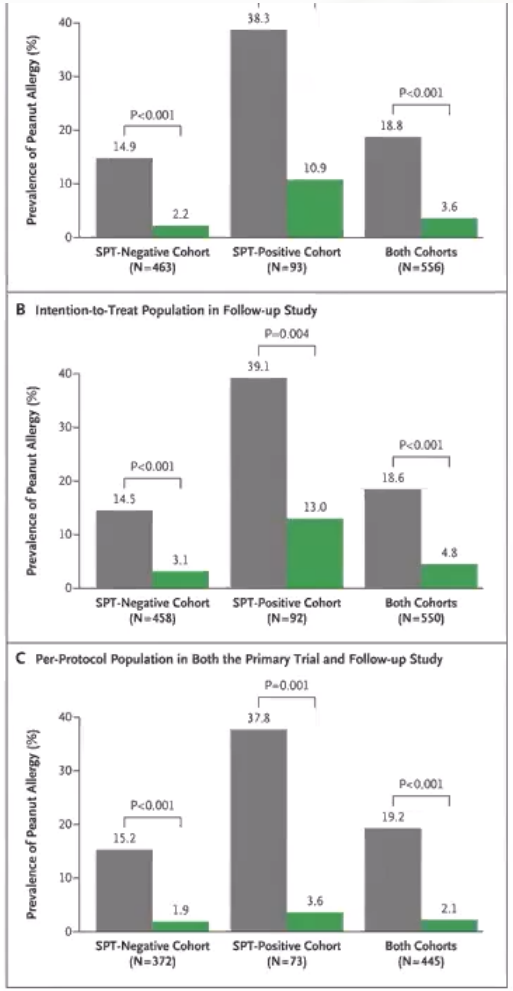


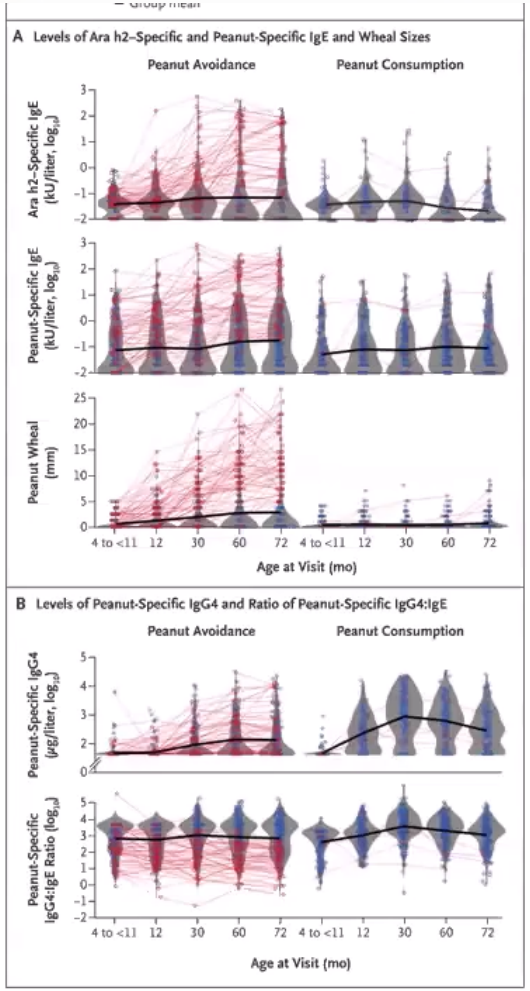
Du Toit G, Roberts G, Sayre PH, et al. Randomized trial of peanut consumption in infants at risk for peanut allergy [published correction appears in N Engl J Med. 2016 Jul 28;375(4):398]. N Engl J Med. 2015;372(9):803-813. doi:10.1056/NEJMoa1414850

2016: LEAP-On (Persistence of Oral Tolerance to Peanut) Study

- 556 high-risk infants from LEAP trial
  - 282 from peanut avoidance group
  - 274 from peanut consumption group
- All avoided peanut for 12 months (from 60-72 months)
  - Consumption: 69.3% adherence to avoidance
  - Avoidance: 90.4% adherence to avoidance
- Both groups (n=550) - peanut challenge at 72 months
  - Consumption: 4.8% allergic (13/270)
    - 3 new cases of peanut allergy
    - Lower peanut- and Ara h2-specific IgE
    - Higher peanut IgG4:IgE ratio
  - Avoidance: 18.6% allergic (52/280)
    - 3 new cases of peanut allergy
    - Higher peanut- and Ara h2-specific IgE
    - Lower peanut IgG4:IgE ratio

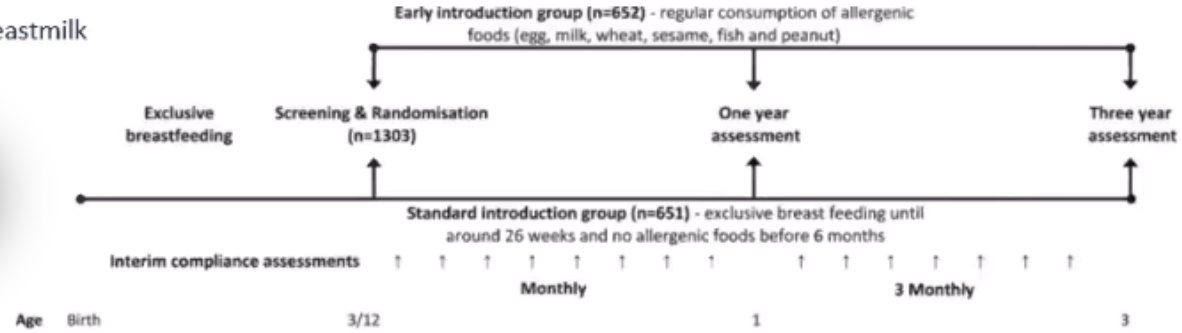
Du Toit G, Sayre PH, Roberts G, et al. Effect of Avoidance on Peanut Allergy after Early Peanut Consumption. N Engl J Med. 2016;374(15):1435-1443. doi:10.1056/NEJMoa1514209





2016: EAT (Enquiring About Tolerance) Study

- 1,303 exclusively breastfed infants
  - Mix of standard risk and high risk
- Between 13-17 weeks, randomized to early vs. standard introduction of 6 common food allergens (egg, milk, wheat, sesame, fish, peanut)
  - Early: Skin tested to foods x 2
    - SPT negative: Sequential introduction of 6 foods beginning at 3 months, alongside breastmilk
    - SPT positive: oral food challenge
      - OFC positive: Avoid and pursue EI for other foods, alongside BM
      - OFC negative: Sequential introduction of 6 foods, alongside breastmilk
  - Standard: EBM until 6 months, then per parental discretion
- Difficulty maintaining stringent regimen of EI
  - No significant impact on breastfeeding rates
  - Intention to Treat Analysis: insignificant difference in allergy rates
  - Per Protocol Analysis:
    - Peanut Allergy: 2.5% in SIG vs. 0% in EIG
    - Egg Allergy: 5.5% in SIG vs. 1.4% in EIG



Perkin MR, Logan K, Marrs T, Radulovic S, Craven J, Flohr C, Lack G; EAT Study Team. Enquiring About Tolerance (EAT) study: Feasibility of an early allergenic food introduction regimen. J Allergy Clin Immunol. 2016 May;137(5):1477-1486.e8. doi: 10.1016/j.jaci.2015.12.1322. Epub 2016 Feb 17. PMID: 26896232; PMCID: PMC4852987.

2016: EAT (Enquiring About Tolerance) Study

Early introduction, before 6 months of age, of at least some amount of multiple allergenic foods appears achievable and did not affect breastfeeding. Early introduction of allergenic food in sufficient quantity from 3 months of age may be able to help prevent food allergies developing in children. This has important implications for the evaluation of food allergy prevention strategies.

Perkin MR, Logan K, Marrs T, Radulovic S, Craven J, Flohr C, Lack G; EAT Study Team. Enquiring About Tolerance (EAT) study: Feasibility of an early allergenic food introduction regimen. J Allergy Clin Immunol. 2016 May;137(5):1477-1486.e8. doi: 10.1016/j.jaci.2015.12.1322. Epub 2016 Feb 17. PMID: 26896232; PMCID: PMC4852987.

2016: EAT (Enquiring About Tolerance) Study

Did it work well for all the kiddos in the trial?

Study outcome: No, and Yes (for egg & peanut - if introduced with sufficient quantity and frequency)

- 1.5 teaspoons peanut butter (~7.5-8 peanuts)/week
- 1 small boiled egg/week

Real-world impact: Early allergen introduction can be recommended without negatively impacting breastfeeding, but families will require support to introduce food allergens in ways that actually decrease risk of developing future allergy.

And then, just last month the first data on impact!

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Volume 156, Issue 5
November 2025

ARTICLES | OCTOBER 20 2025

Guidelines for Early Food Introduction and Patterns of Food Allergy FREE

Stanislaw J. Gabryszewski, MD, PhD; Jesse Dudley, MS; Jennifer A. Faerber, PhD; Robert W. Grundmeier, MD; Alexander G. Fiks, MD, MSCE; Jonathan M. Spergel, MD, PhD; David A. Hill, MD, PhD

Address correspondence to: David A. Hill, MD, PhD, Division of Allergy and Immunology, Children's Hospital of Philadelphia, Abramson Research Building, 1208B, 3615 Civic Center Blvd, Philadelphia, PA 19104. hilld3@chop.edu

Pediatrics (2025) 156 (5): e2024070516.
https://doi.org/10.1542/peds.2024-070516 **Article history**

Gabryszewski SJ, Dudley J, Faerber JA, Grundmeier RW, Fiks AG, Spergel JM, Hill DA. Guidelines for Early Food Introduction and Patterns of Food Allergy. Pediatrics. 2025 Nov 1;156(5):e2024070516. doi: 10.1542/peds.2024-070516. PMID: 41110838; PMCID: PMC12614487.

And then, just last month the first data on impact!

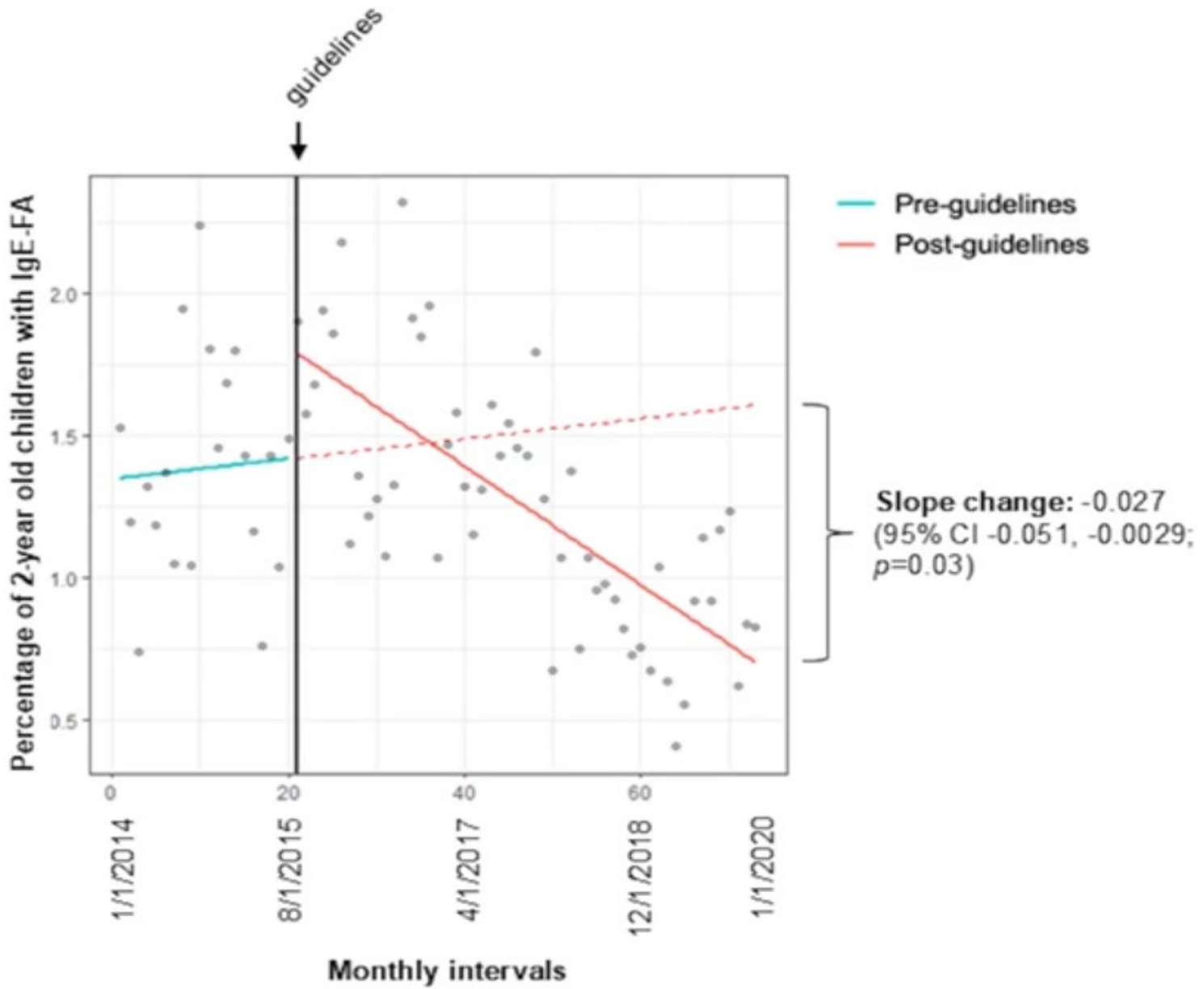
	Cohort	Peanut IgE-FA	≥1 IgE-FA	≥2 IgE-FA
2012-2015	**Pre-guidelines**	0.79%	1.46%	0.56%
2015-2018	**Post-guidelines**	0.53% ****	1.02% ****	0.41% **
	Percent change	*-32.9%*	*-30.1%*	*-26.8%*
2017-2020	**Post-addendum guidelines**	0.45% ****	0.93% ****	0.40% ***
	Percent change	*-43.0%*	*-36.3%*	*-28.6%*

** $p<0.01$, *** $p<0.001$, **** $p<0.0001$

Not shown: *Comparison of pre-guidelines vs. post-guidelines cohorts with a minimum 2-year observation requirement.*

- ↓ cumulative incidence of peanut IgE-FA and ≥1 IgE-FA(s) in the post-guidelines period in all children, *regardless* of preceding atopic dermatitis and/or egg IgE-FA

Rate of Food Allergy Before and After Guidelines



Gabryszewski SJ, Dudley J, Faerber JA, Grundmeier RW, Fiks AG, Spergel JM, Hill DA. Guidelines for Early Food Introduction and Patterns of Food Allergy. Pediatrics. 2025 Nov 1;156(5):e2024070516. doi: 10.1542/peds.2024-070516. PMID: 41110838; PMCID: PMC12614487.

HEALTH • 4 MIN READ

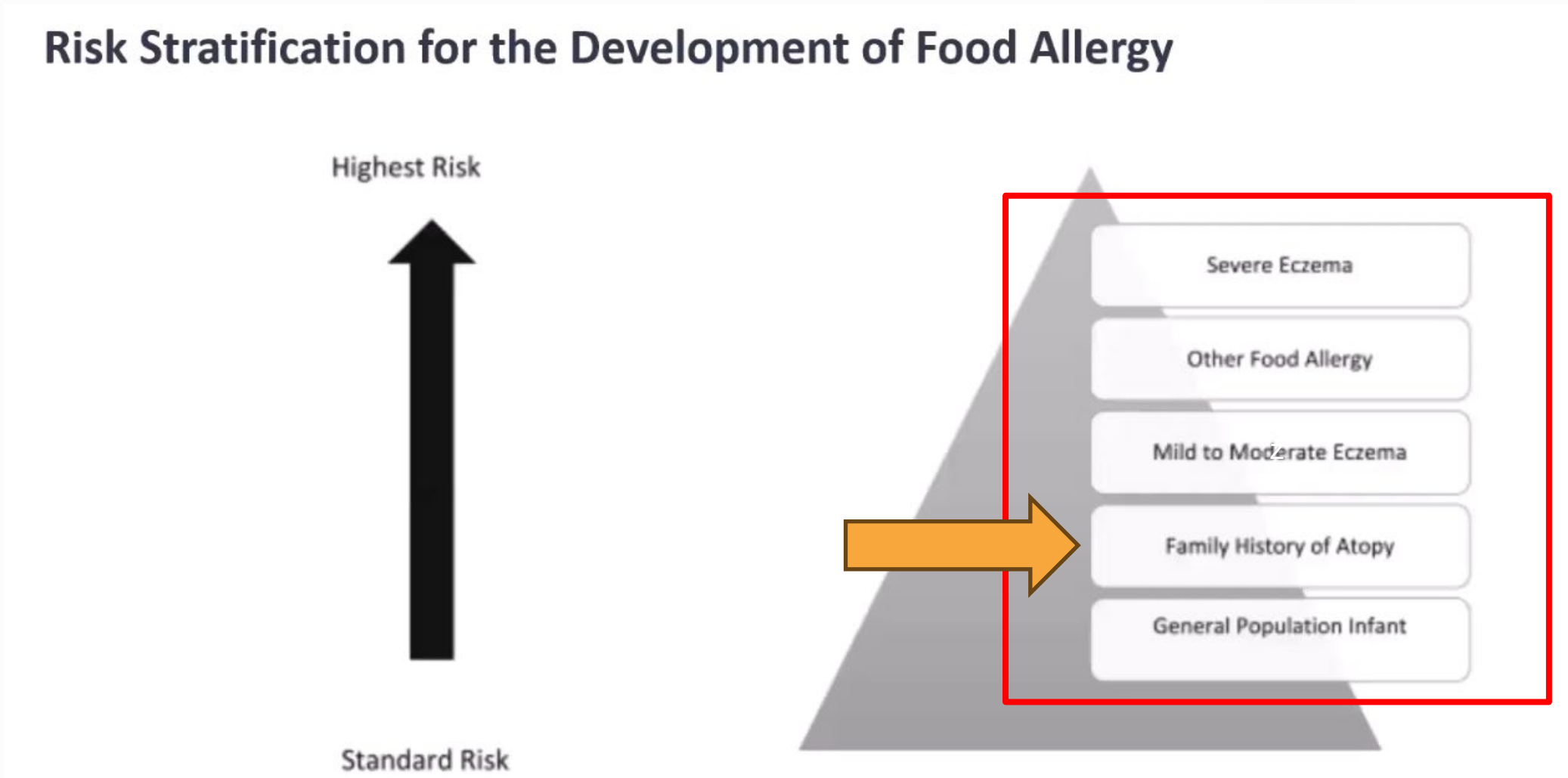
Advice to feed babies peanuts early and often helped 60,000 kids avoid allergies, study finds

UPDATED OCT 20, 2025

Associated Press

Thousands of kids avoided developing peanut allergies after guidance recommended introducing the allergen to infants starting as early as 4 months, a new study found. *(Sandra Milena Valero Orjuela/iStockphoto/Getty Images)*

Risk Stratification for the Development of Food Allergy



Fleischer DM, Chan ES, Venter C, et al. A Consensus Approach to the Primary Prevention of Food Allergy Through Nutrition: Guidance from the American Academy of Allergy, Asthma, and Ir of Allergy, Asthma, and Immunology; and the Canadian Society for Allergy and Clinical Immunology. J Allergy Clin Immunol Pract. 2021;9(1):22-43.e4. doi:10.1016/j.jaip.2020.11.002

Review

- Adding in peanut reduced allergy risk by approx. 90%
- Once tolerance was introduced it persisted even if eating the peanut stopped
- Introducing peanut and egg to breast fed infants prevented peanut and egg allergy and did not affect breast feeding
- The amount needed and frequency of feeding: 3 x per week and 1.5 teaspoons of peanut butter and 1 small egg per week.
- The risk to infants is severe
  eczema>other food allergy>moderate eczema>family/sibling with allergy
  (family hx increases risk of allergy overall but not peanut or any one specific food allergy)
- Waiting till after 6 months or after 8 months to introduce peanut greatly increases risk in kids with eczema. (about 20% greater increase in risk for every month after 6 months)

Addendum Guidelines for Peanut Allergy Prevention (NIAID)

Three recommendations based on infant risk level:

Hauk L. Peanut Allergy Prevention: Guidelines from the NIAID. Am Fam Physician. 2017 Jul 15;96(2):130. PMID: 28762705.

No Eczema or Food Allergy

- Introduce peanut products and a variety of foods (including other allergens)
- When developmentally ready (4-6 months)
- Following cultural and family preferences, but do not delay

Mild to Moderate Eczema

- Introduce peanut products
- When developmentally ready (6 months)

Severe Eczema and/or egg allergy

- Strongly consider IgE blood test to peanut and/or skin test
- If negative <0.35 kU/L- introduce peanut at 4-6 months at home or in primary care office - do not delay!
- If positive >0.35 kU/L - refer to allergist for evaluation ASAP - do not delay early introduction

If reaction occurs recommendation is to avoid the food and confirm with an allergist

American Academy of Pediatrics 2019

Recommend early introduction of peanut and not delaying any food including allergens after 4-6 months

Sicherer, S. H., Burks, A. W. (2019). The effects of early nutritional interventions on the development of atopic disease in infants and children: The role of maternal diet restriction, breastfeeding, hydrolyzed formulas, and timing of introduction of allergenic complementary foods. *Pediatrics, 143*(4), 1-11. https://pediatrics.aappublications.org/content/pediatrics/early/2019/03/15/peds.2019-0281.full.pdf

FARE

Dietary Guidelines for Americans 2020-2025

Make every bite count, infants eat small amounts

Recommend exclusive breastfeeding for first 6 months

Provide vitamin D supplementation, as needed

Continue breastfeeding through 1 year and beyond if desired

Substitute iron-fortified formula if breastmilk not feasible

Add complementary foods including allergens at 6 months and developmentally ready

Shams-White MM, Pannucci TE, Lerman JL, Herrick KA, Zimmer M, Meyers Mathieu K, Stoody EE, Reedy J. Healthy Eating Index-2020: Review and Update Process to Reflect the Dietary Guidelines for Americans,2020-2025. J Acad Nutr Diet. 2023 Sep;123(9):1280-1288. doi: 10.1016/j.jand.2023.05.015. Epub 2023 May 16. PMID: 37201748; PMCID: PMC10524328.

AAAAI, ACAAI, and CSACI Consensus Guidelines (2020)

- Infants with Eczema at highest risk for IgE-mediated food allergy
- Prevent peanut and egg allergy by introduction between 4-6 months of age
- Screening of infant for potential food allergy is not required, but may occur if family prefers
- Introduce all allergens when solid foods introduced so infant consumes a diverse diet
- Hydrolyzed formula provides no protection from development of food allergy
- Do not recommend mothers restrict diet during pregnancy to prevent food allergy in their infant
- Breastfeeding recommended for all mothers if possible but no correlation between breastfeeding and prevention of food allergy

Clinician Workflow for Early Peanut Introduction

(Follows NIH 2017 Addendum Guidelines)

Visit FoodAllergyPrevention.org for free resources to help with practice integration and patient education.

4 & 6 Month Visits

For more than 95% of infants you should:

Recommend Introduction of Safe Peanut-Containing Foods at Home

As early as 4 to 6 months old when ready for solids and in accordance with family preferences and cultural practices. 2g* protein per feeding, 3 times per week.

*NOTE: 2g peanut protein ≈ 2 tsp of thinned creamy peanut butter

HOWEVER, If Infant Has Severe Eczema and/or Egg Allergy (<5% of infants):

Consider Screening for Peanut sIgE

- < 0.35 kUA/L → **Recommend Peanut Introduction at Home** (as per above) or Consider In-Office Supervised Feeding Based on Parent/Provider Preference
- ≥ 0.35 kUA/L → **Consider Referral to Specialist**

IMPORTANT CONSIDERATION: Consensus guidance published in 2020 by three professional associations in North America (AAAAI, ACAAI, CSACI) recommend that screening before peanut introduction is not required, but may be preferred by some families. *Fleischer DM, Chan ES, et al. J Allergy Clin Immunol Pract. 2021 Jan; 9(1):22-43.e4. Epub 2020 Nov 26.*

Severe Eczema Examples

DEFINITION: Disease is **widespread in extent** and persistent or frequently recurring. Morphology and distribution areassessed as severe by a health care provider. Requires frequent need for prescription-strength topical corticosteroids, calcineurin inhibitors, or other anti-inflammatory agents despite appropriate use of emollients.

6, 9, & 12 Month Visits

Peanut Already Introduced?

- YES → **Reminder:** 2g per feeding 3 times per week
- NO → **Provide Guidance & Assess Risk** (as per above)

ACKNOWLEDGMENTS: Workflow adapted from 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. The following organizations have provided financial support for the FARE-led Food Allergy Prevention Initiative and related educational and awareness activities: National Peanut Board; Gerber; Nestlé Health Science.

FAPrev_Workflow

FARE Workflow Worksheet – based on:

Hauk L. Peanut Allergy Prevention: Guidelines from the NIAID. Am Fam Physician. 2017 Jul 15;96(2):130. PMID: 28762705.

Clinician Workflow for Early Peanut Introduction

(Follows NIH 2017 Addendum Guidelines)

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4 & 6 Month Visits

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HOWEVER, If Infant Has Severe Eczema and/or Egg Allergy (<5% of infants):

Consider Screening for Peanut sIgE

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  (as per above)
  or Consider In-Office Supervised Feeding
  Based on Parent/Provider Preference
- ≥ 0.35 kUA/L → **Consider Referral to Specialist**

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HOWEVER, If Infant Has Severe Eczema and/or Egg Allergy (<5% of infants):

US only major country

Consider Screening for Peanut IgE

< 0.35 kUA/L → **Recommend Peanut Introduction at Home**
(as per above)
or Consider In-Office Supervised Feeding
Based on Parent/Provider Preference

≥ 0.35 kUA/L → **Consider Referral to Specialist**

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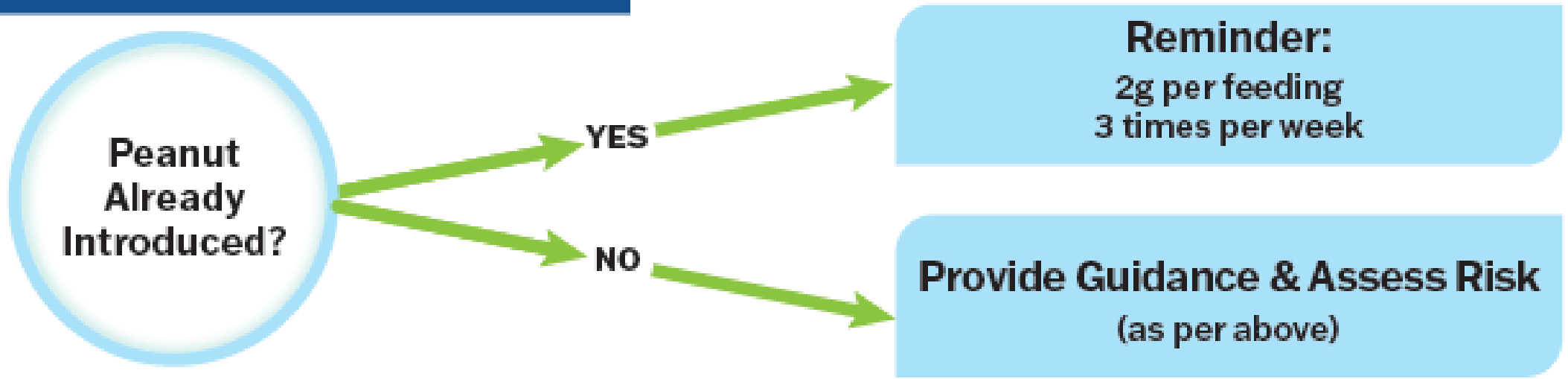
6, 9, & 12 Month Visits



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Parent Barriers

Afraid of an allergic reaction

- 69% would not consider introducing peanut before/around 6 month of age
- ~40% willing to introduce peanut, tree nuts, seafood, but only after 11 months of age

Parent/guardians or siblings have a food allergy at home

Practical concerns

- Convenience, cost, and food preparation issues

Concerns regarding testing

- 51% unwilling to do skin prick test before 11 months
- 56.8% unwilling to do a food challenge before 11 months

FARE Internal data, FARE Research
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Practical Tips to Overcome Barriers

Provider Facilitators

- Increase education/training on the guidelines
- Using practice aids in the office for providers
    - Guide to clinical assessment and recommendations
    - Guide to an in-office supervised feeding
- Collaborate with ancillary support providers
    - Nutrition, psychology, allergist
- Create an environment where introducing allergens early is part of the normal practice

foodallergyprevention.org

preventpeanutallergies.org

Working with Families

- Start the conversation early
- Improve access to providers
- Identify affordable sources of potential allergens
- Provide resources to help with the introduction process
- Review anaphylaxis risk and develop a plan for parents in case of a reaction

FARE Internal data, FARE Research
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Shared Decision Making

- Collaborative discussions between providers and patients/families to develop a plan that is both evidence based and inline with personal values
- Goal is to empower families with confidence when feeding
- Normalize initial reluctance and mixed messages parents receive
- Be open, honest and listen to the parents needs and concerns
- Provide education on current guidelines and work with families to fit guidelines into their life
- Discuss when referral to allergist, nutritionist, or psychologist is needed

Develop Treatment Plan with Family

Symptoms occur within minutes to 2 hours after exposure

- Mild symptoms (skin, no effect on breathing) = Stop the food and contact clinician
- Severe symptoms = Stop the food and seek immediate medical attention/call 911

Medication parents can have on hand:

Epinephrine on hand if the infant has other confirmed food allergies or if sibling/parent has food allergies.

Neffy is the new spray epinephrine

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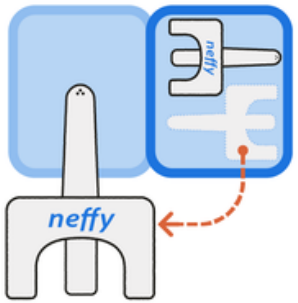
How to Use Neffy

Using neffy may be easier than injecting epinephrine for some people. But it's important to use it correctly. Improper use may cause it to be less effective.

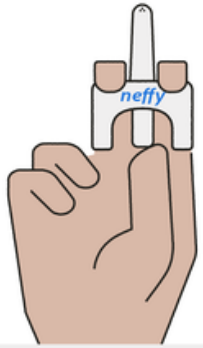
1

Remove one spray from its packaging.



2

Hold neffy in the correct position.

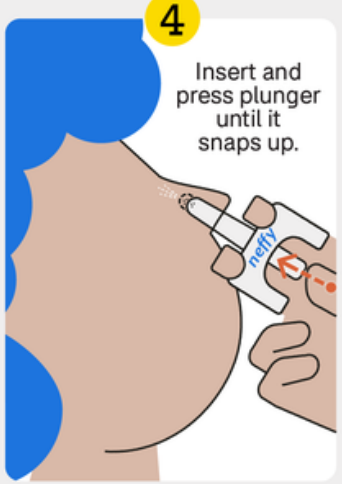


3

Use the right hand to insert into right nostril, or the left hand for left nostril.

4

Insert and press plunger until it snaps up.



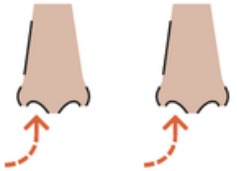
5

Call 911.
Tell them you've used neffy.

6

Wait at least 5 minutes for a second dose if it's needed.

Use the same nostril as during the first dose.



ARS Pharmaceuticals graphic, provided 11 NOV 2024. Used with permission. Bill Neubach, MSL.

If Infant Reacts to New Food

Family may be hesitant to introduce more foods

Discuss risks of reaction, delaying introduction of other foods, and if testing is recommended

Some foods have clinically relevant cross-reactivity

Important to refer to allergist or decide quickly to not delay early introduction of additional foods!

Practical Tips for Introducing Complementary Foods

- Check for Readiness
- Start with one food at a time
- Keep it small and soft
- Introduce early in the day
- Be patient and keep at it
- Make it fun

FARE Research
Used with Permission National FARE Headquarters
7901 Jones Branch Drive, Suite 240, McLean, VA 22102

FARE

Developmental Readiness for Solid Foods

If the infant shows:

- Good head and neck control
- Sits up with support or alone
- Signs of putting objects to mouth
- Grasps small objects
- Ability to swallow pureed food instead of push out with tongue

Supervised feedings in highchair or other safe place sitting upright

FARE

My third and final AI image ☺ Created by ChatGPT.

Strategies for Success

1. Consider having baby sit on your lap
2. Let baby control the experience
3. Dip a spoon on both ends and hand it over
4. Use pureed food or a mash as a sensory activity
5. Watch closely for disengagement cues

Safe Introduction of Peanut

www.preventpeanutallergies.org

1. Thin 2 tsp of peanut butter with 2-3 tsp. of hot water, breastmilk, or formula (cool before feeding)
2. Blend 2 tsp of peanut butter/powder into 2-3 tbsp of infant cereal, pureed fruit, yogurt
3. Mix 2 tsp of peanut butter/powder into 2 tbsp of any fruit or vegetable purees
4. Give baby peanut puffs, easily dissolvable
5. To keep in the diet, incorporate peanut into baked goods, sauces, teething biscuits

Guidelines advise 2g of peanut protein (2 tsp peanut butter/powder) at any meal or snack, 3 times a week

Should not be the first food introduced into the child's diet

Do Not give whole nuts to a child under the age of 5 years old

Do Not give peanut in lumps/dollops or off a spoon until 4 years old

Hauk L. Peanut Allergy Prevention: Guidelines from the NIAID. Am Fam Physician. 2017 Jul 15;96(2):130. PMID: 28762705.

Safe Introduction of Egg

- Scramble eggs with water until cooked all the way through
- Mash with water, breastmilk, formula, yogurt, or avocado
- Hard boiled eggs can be choking hazard if not mashed completely
- For older infants/toddlers: make a plain omelet and cut into rectangular strips the size of 2 adult fingers

NEVER feed raw or runny eggs to infants

Hauk L. Peanut Allergy Prevention: Guidelines from the NIAID. Am Fam Physician. 2017 Jul 15;96(2):130. PMID: 28762705.

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Moving Beyond Peanut

- Offer well-cooked egg strips or infant “pancake” made with eggs and bananas
- Offers soy yogurt or tofu strips
- Offer unsweetened cow’s milk yogurt, soft low sodium cheese (mozzarella or ricotta)
- Offer infant wheat cereal, strips of toasted bread or crackers, or well-cooked pasta
- Offer baked salmon or white fish
- Offer cooked shrimp or crab
- Offer thinned tahini on teething crackers or hummus
- Offer ground nuts (walnuts, pecans) or thinned nut butter (almond, cashew)

Photo Credit: FARE: Food Allergy Academy: https://www.foodallergyacademy.org/course/a-solid-start-food-allergy-prevention

Feed Early and Often

Once peanut and egg are introduced with no reaction:

- 1-2 teaspoons of thinned peanut butter and ⅓ of mashed egg
- 2-3 times each week

Specific recommendations for other allergens are forthcoming

- Current guidelines recommend introducing a variety of foods that are culturally appropriate including allergens

There is no evidence that restricting the maternal diet during pregnancy or breastfeeding prevents food allergy

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Hauk L. Peanut Allergy Prevention: Guidelines from the NIAID. Am Fam Physician. 2017 Jul 15;96(2):130. PMID: 28762705.

Summary of Early Introduction Recommendations

Who?

All infants
should start infant safe peanut products and eggs early once developmentally ready and other complementary foods have been introduced and accepted

When?

Has No Eczema
4 - 6 months
(delaying increases risk of developing allergy)

Has Eczema
4 months
(delaying increases risk of developing allergy)

How much?

Peanut
2 grams 3 times/week
about 2 teaspoons of peanut butter thinned

Egg
2 grams 3 times/week
about ⅓ of a mashed cooked egg

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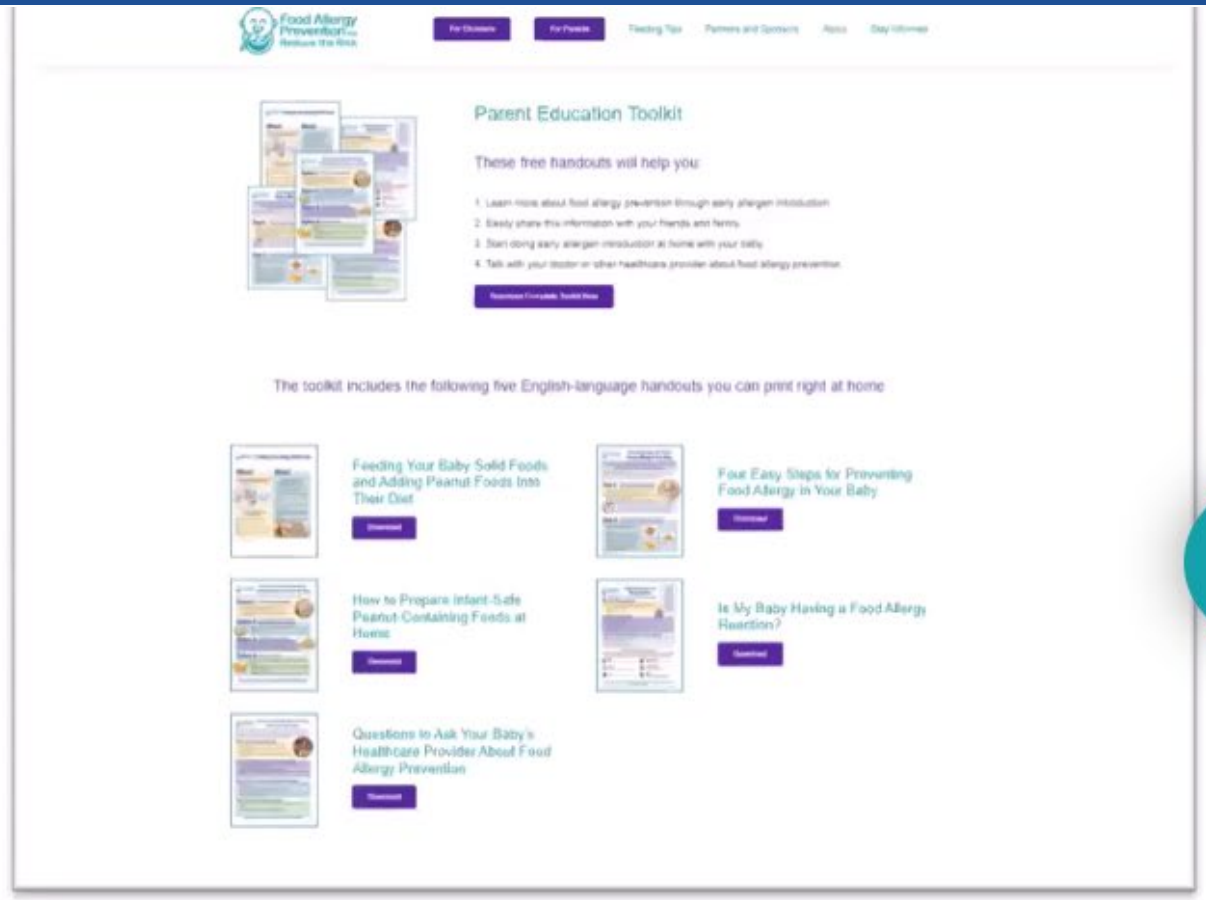
Hauk L. Peanut Allergy Prevention: Guidelines from the NIAID. Am Fam Physician. 2017 Jul 15;96(2):130. PMID: 28762705.

Resources for Families



www.foodallergyprevention.org

Download the app

www.solidstarts.com

Resources for Families

Food Allergy Prevention.org
Reduce the Risk

For Clinicians | For Parents | Feeding Tips | Partners and Sponsors | About | Stay Informed

Parent Education Toolkit

These free handouts will help you:

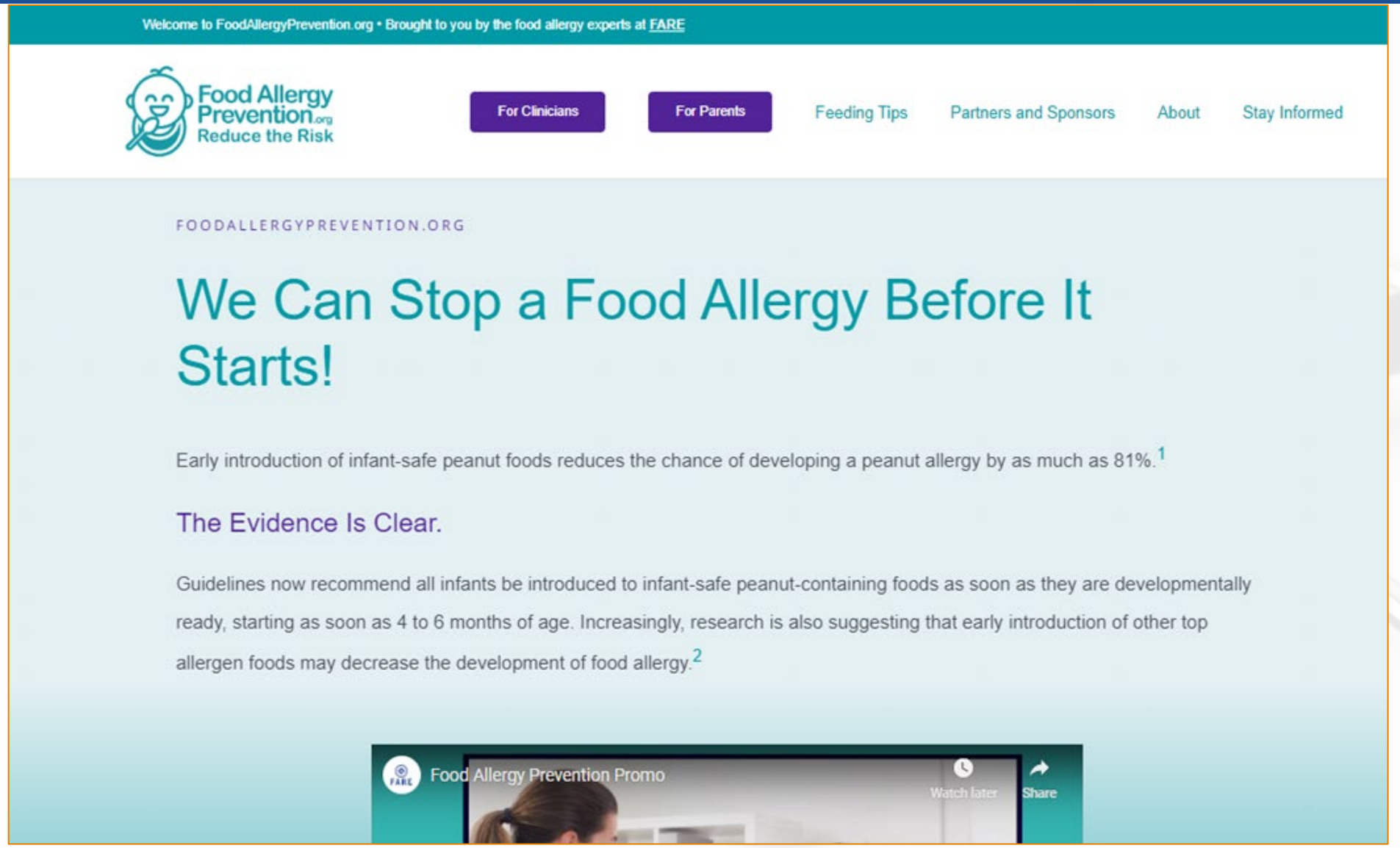
1. Learn more about food allergy prevention through early allergen introduction.
2. Easily share this information with your friends and family.
3. Start doing early allergen introduction at home with your baby.
4. Talk with your doctor or other healthcare provider about food allergy prevention.

Download Complete Toolkit In English

Download Complete Toolkit In Spanish

The toolkit includes the following five handouts in English and Spanish that you can download to print right at home:

Recommend FoodAllergyPrevention.org



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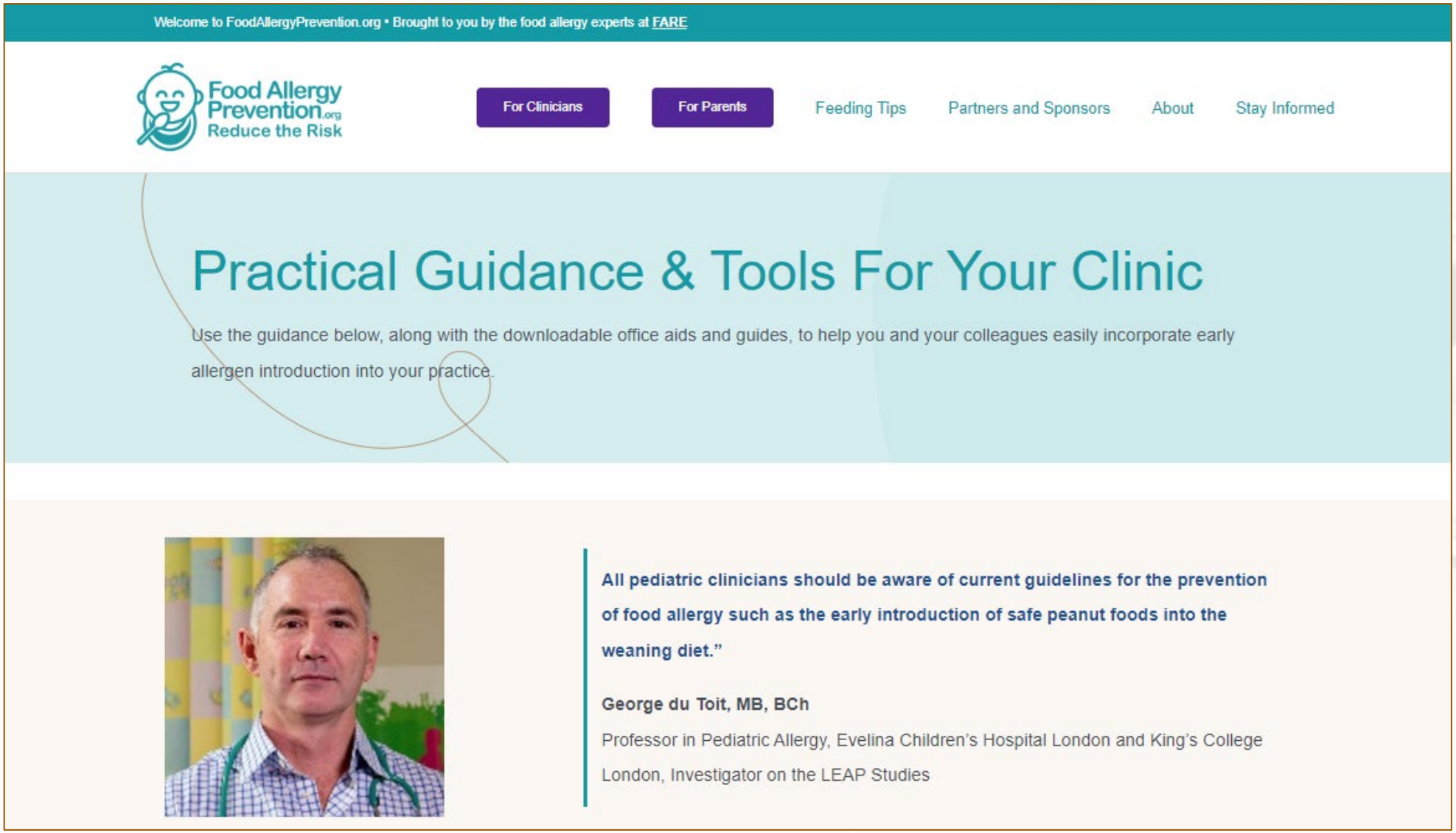
Practical Tools for Clinicians



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Adopt the Three E's of Early Peanut Introduction

ENCOURAGE

- At-home introduction has been found to be safe for most
- Early and often – provide peanut foods, 2-3 times/week
- Empathize with family who already struggle with allergy

EVALUATE

- High-risk infants often benefit the most
- Consider serum testing for high-risk infants
- If serum testing positive, rapid referral to allergy is key

EDUCATE

- 2 teaspoons mixed with formula or breast milk
- Introduce top allergen after peanut
- Teach how to recognize severe reactions

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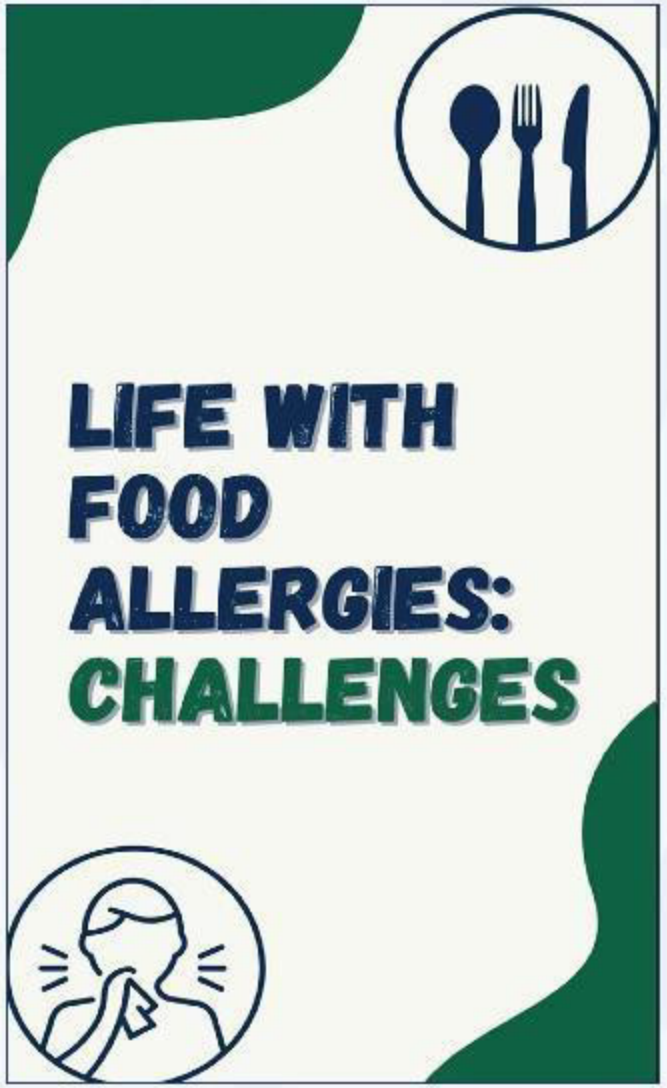
Hauk L. Peanut Allergy Prevention: Guidelines from the NIAID. Am Fam Physician. 2017 Jul 15;96(2):130. PMID: 28762705.

Scan to watch a

REEL REVIEW

reinforcing what you've learned today!



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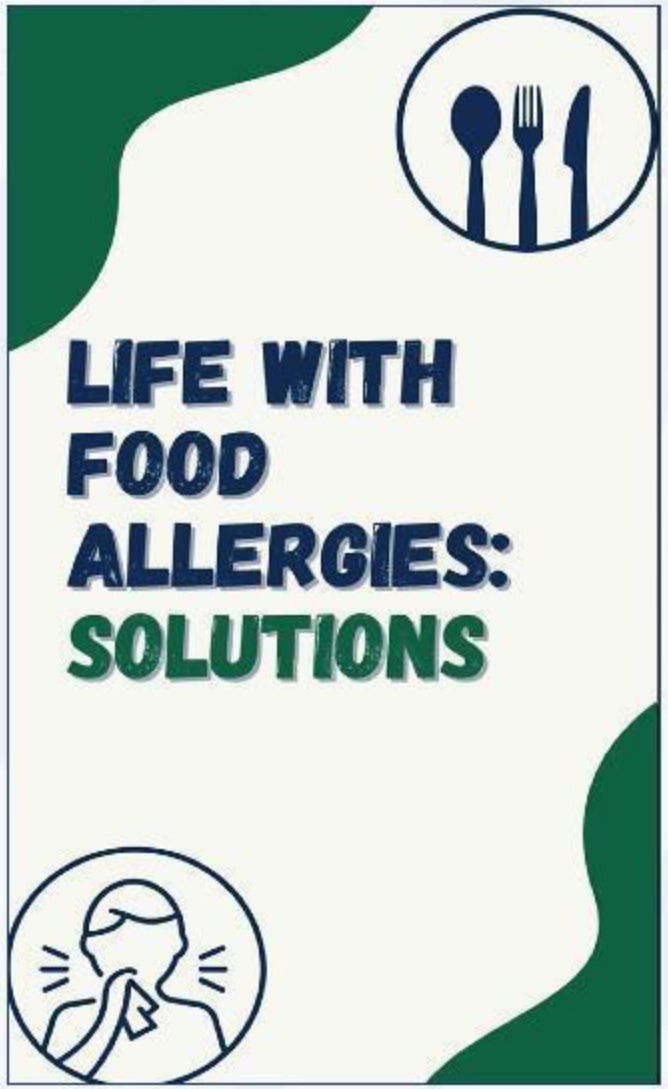
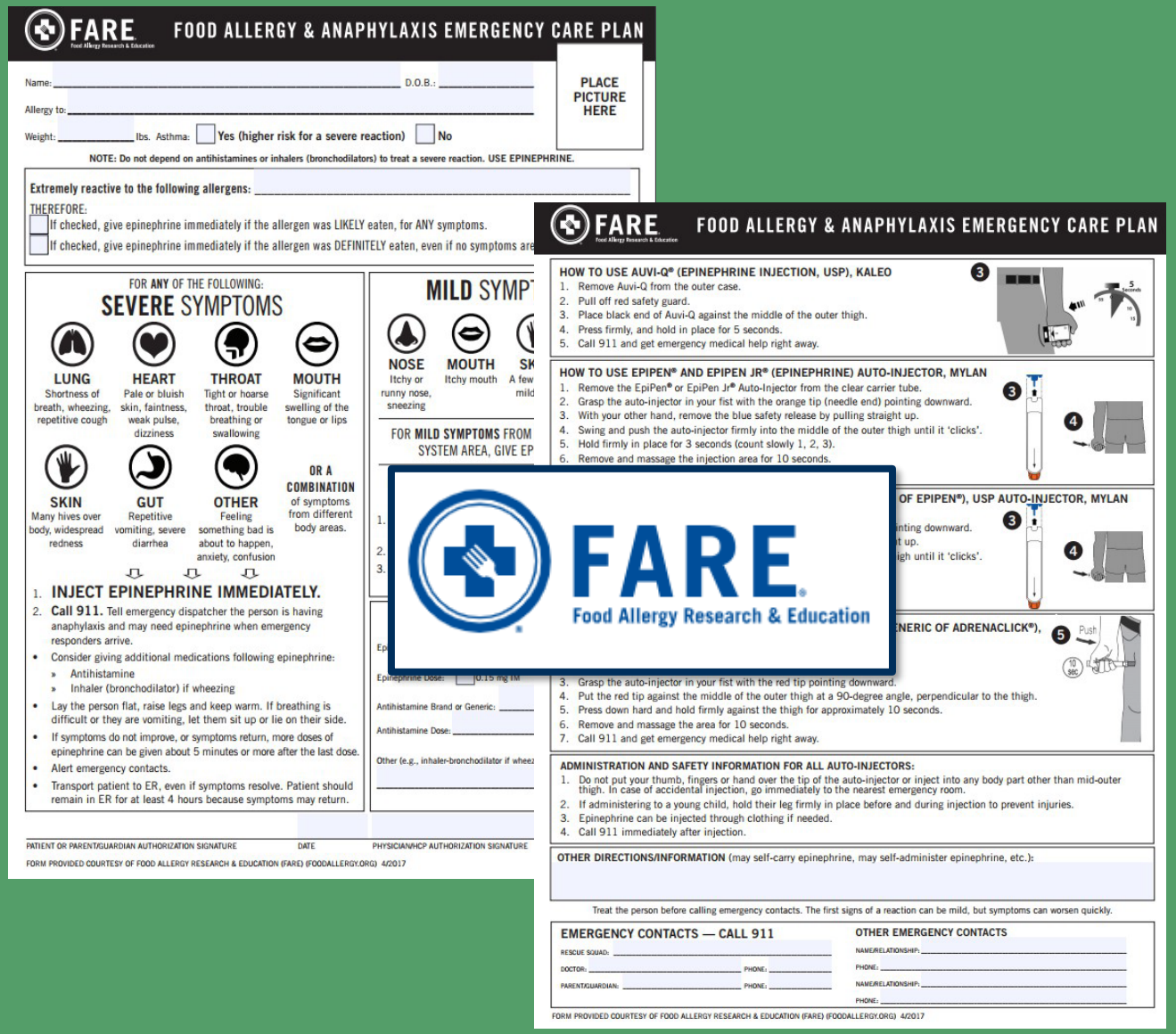




FARE
FOOD ALLERGY & ANAPHYLAXIS EMERGENCY CARE PLAN

Name: _____ D.O.B.: _____
Allergy to: _____
Weight: _____ lbs. Asthma: ☐ Yes (higher risk for a severe reaction) ☐ No

PLACE PICTURE HERE

NOTE: Do not depend on antihistamines or inhalers (bronchodilators) to treat a severe reaction. USE EPINEPHRINE.

Extremely reactive to the following allergens: _____

THEREFORE:
☐ If checked, give epinephrine immediately if the allergen was LIKELY eaten, for ANY symptoms.
☐ If checked, give epinephrine immediately if the allergen was DEFINITELY eaten, even if no symptoms are

FOR ANY OF THE FOLLOWING:
SEVERE SYMPTOMS

LUNG — Shortness of breath, wheezing, repetitive cough
HEART — Pale or bluish skin, faintness, weak pulse, dizziness
THROAT — Tight or hoarse throat, trouble breathing or swallowing
MOUTH — Significant swelling of the tongue or lips
SKIN — Many hives over body, widespread redness
GUT — Repetitive vomiting, severe diarrhea
OTHER — Feeling something bad is about to happen, anxiety, confusion
OR A COMBINATION of symptoms from different body areas.

1. INJECT EPINEPHRINE IMMEDIATELY.
2. Call 911. Tell emergency dispatcher the person is having anaphylaxis and may need epinephrine when emergency responders arrive.
- Consider giving additional medications following epinephrine:
  - » Antihistamine
  - » Inhaler (bronchodilator) if wheezing
- Lay the person flat, raise legs and keep warm. If breathing is difficult or they are vomiting, let them sit up or lie on their side.
- If symptoms do not improve, or symptoms return, more doses of epinephrine can be given about 5 minutes or more after the last dose.
- Alert emergency contacts.
- Transport patient to ER, even if symptoms resolve. Patient should remain in ER for at least 4 hours because symptoms may return.

MILD SYMP

NOSE — Itchy or runny nose, sneezing
MOUTH — Itchy mouth
SK — A few mild

FOR MILD SYMPTOMS FROM ... SYSTEM AREA, GIVE EP

1.
2.
3.

Epinephrine Dose: ☐ 0.15 mg IM
Antihistamine Brand or Generic: _____
Antihistamine Dose: _____
Other (e.g., inhaler-bronchodilator if whee

PATIENT OR PARENT/GUARDIAN AUTHORIZATION SIGNATURE DATE PHYSICIAN/HCP AUTHORIZATION SIGNATURE

FORM PROVIDED COURTESY OF FOOD ALLERGY RESEARCH & EDUCATION (FARE) (FOODALLERGY.ORG) 4/2017

FARE
FOOD ALLERGY & ANAPHYLAXIS EMERGENCY CARE PLAN

HOW TO USE AUVI-Q® (EPINEPHRINE INJECTION, USP), KALEO
1. Remove Auvi-Q from the outer case.
2. Pull off red safety guard.
3. Place black end of Auvi-Q against the middle of the outer thigh.
4. Press firmly, and hold in place for 5 seconds.
5. Call 911 and get emergency medical help right away.

HOW TO USE EPIPEN® AND EPIPEN JR® (EPINEPHRINE) AUTO-INJECTOR, MYLAN
1. Remove the EpiPen® or EpiPen Jr® Auto-Injector from the clear carrier tube.
2. Grasp the auto-injector in your fist with the orange tip (needle end) pointing downward.
3. With your other hand, remove the blue safety release by pulling straight up.
4. Swing and push the auto-injector firmly into the middle of the outer thigh until it 'clicks'.
5. Hold firmly in place for 3 seconds (count slowly 1, 2, 3).
6. Remove and massage the injection area for 10 seconds.

OF EPIPEN®), USP AUTO-INJECTOR, MYLAN
inting downward.
t up.
igh until it 'clicks'.

NERIC OF ADRENACLICK®),
3. Grasp the auto-injector in your fist with the red tip pointing downward.
4. Put the red tip against the middle of the outer thigh at a 90-degree angle, perpendicular to the thigh.
5. Press down hard and hold firmly against the thigh for approximately 10 seconds.
6. Remove and massage the area for 10 seconds.
7. Call 911 and get emergency medical help right away.

ADMINISTRATION AND SAFETY INFORMATION FOR ALL AUTO-INJECTORS:
1. Do not put your thumb, fingers or hand over the tip of the auto-injector or inject into any body part other than mid-outer thigh. In case of accidental injection, go immediately to the nearest emergency room.
2. If administering to a young child, hold their leg firmly in place before and during injection to prevent injuries.
3. Epinephrine can be injected through clothing if needed.
4. Call 911 immediately after injection.

OTHER DIRECTIONS/INFORMATION (may self-carry epinephrine, may self-administer epinephrine, etc.):

Treat the person before calling emergency contacts. The first signs of a reaction can be mild, but symptoms can worsen quickly.

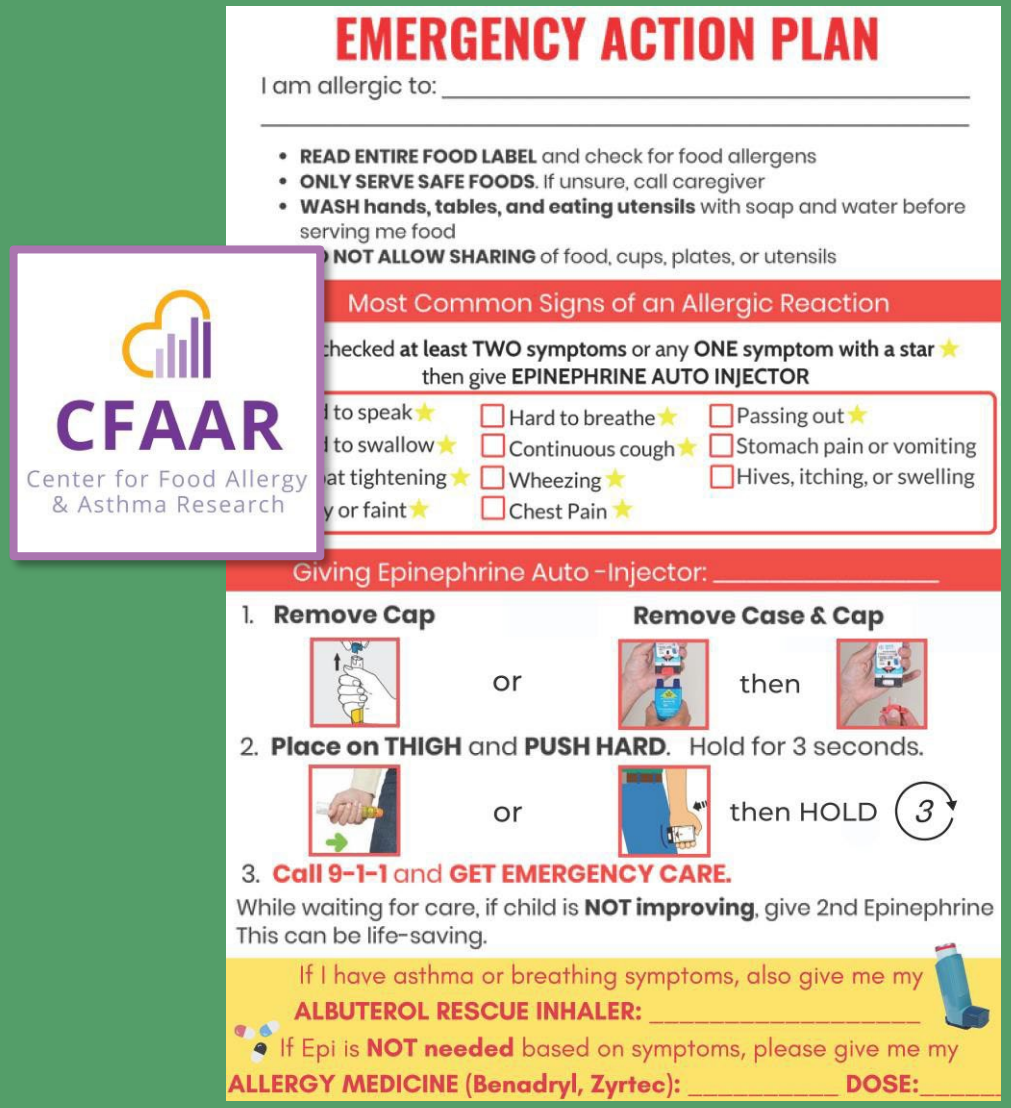
EMERGENCY CONTACTS — CALL 911
RESCUE SQUAD: _____
DOCTOR: _____ PHONE: _____
PARENT/GUARDIAN: _____ PHONE: _____

OTHER EMERGENCY CONTACTS
NAME/RELATIONSHIP: _____
PHONE: _____
NAME/RELATIONSHIP: _____
PHONE: _____

FORM PROVIDED COURTESY OF FOOD ALLERGY RESEARCH & EDUCATION (FARE) (FOODALLERGY.ORG) 4/2017

FARE
Food Allergy Research & Education

https://www.foodallergy.org/living-food-allergies/food-allergy-essentials/food-allergy-anaphylaxis-emergency-care-plan



EMERGENCY ACTION PLAN

I am allergic to: _____

- **READ ENTIRE FOOD LABEL** and check for food allergens
- **ONLY SERVE SAFE FOODS**. If unsure, call caregiver
- **WASH hands, tables, and eating utensils** with soap and water before serving me food
- **NOT ALLOW SHARING** of food, cups, plates, or utensils

Most Common Signs of an Allergic Reaction

checked **at least TWO symptoms** or any **ONE symptom with a star** ★
then give **EPINEPHRINE AUTO INJECTOR**

l to speak ★	☐ Hard to breathe ★	☐ Passing out ★
l to swallow ★	☐ Continuous cough ★	☐ Stomach pain or vomiting
at tightening ★	☐ Wheezing ★	☐ Hives, itching, or swelling
y or faint ★	☐ Chest Pain ★	

Giving Epinephrine Auto-Injector: _____

1. **Remove Cap** or **Remove Case & Cap** then

2. **Place on THIGH** and **PUSH HARD**. Hold for 3 seconds.

or then HOLD 3

3. **Call 9-1-1** and **GET EMERGENCY CARE.**

While waiting for care, if child is **NOT improving**, give 2nd Epinephrine
This can be life-saving.

If I have asthma or breathing symptoms, also give me my
ALBUTEROL RESCUE INHALER: _____

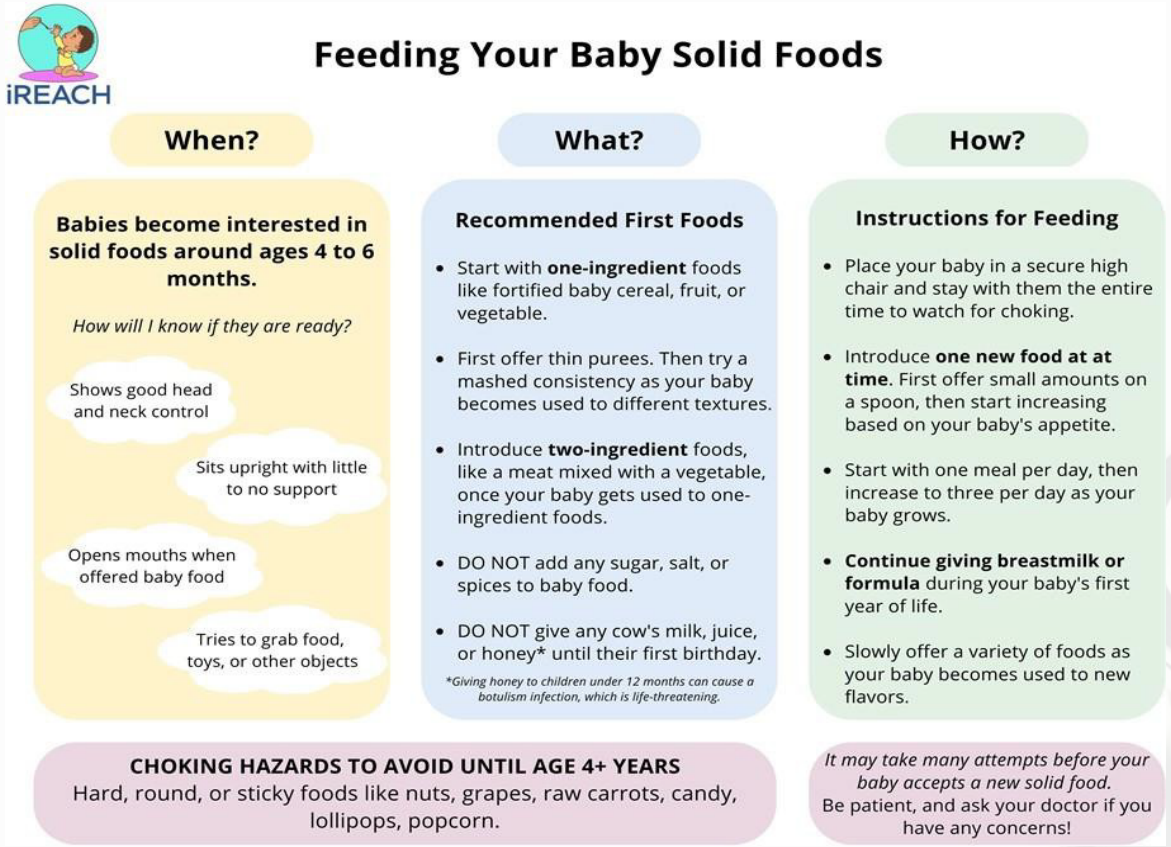
If Epi is **NOT needed** based on symptoms, please give me my
ALLERGY MEDICINE (Benadryl, Zyrtec): _____ **DOSE:** _____

CFAAR
Center for Food Allergy & Asthma Research

https://www.feinberg.northwestern.edu/sites/cfaar/food-allergy-asthma/food-allergies/index.html

Increase Caregiver Knowledge and Confidence in Early Introduction

- Discuss the process and share resources on early introduction with new parents
- Available in English and Spanish – email cfaar@northwestern.edu



iREACH

Feeding Your Baby Solid Foods

When?

Babies become interested in solid foods around ages 4 to 6 months.

How will I know if they are ready?

- Shows good head and neck control
- Sits upright with little to no support
- Opens mouths when offered baby food
- Tries to grab food, toys, or other objects

What?

Recommended First Foods

- Start with **one-ingredient** foods like fortified baby cereal, fruit, or vegetable.
- First offer thin purees. Then try a mashed consistency as your baby becomes used to different textures.
- Introduce **two-ingredient** foods, like a meat mixed with a vegetable, once your baby gets used to one-ingredient foods.
- DO NOT add any sugar, salt, or spices to baby food.
- DO NOT give any cow's milk, juice, or honey* until their first birthday.

**Giving honey to children under 12 months can cause a botulism infection, which is life-threatening.*

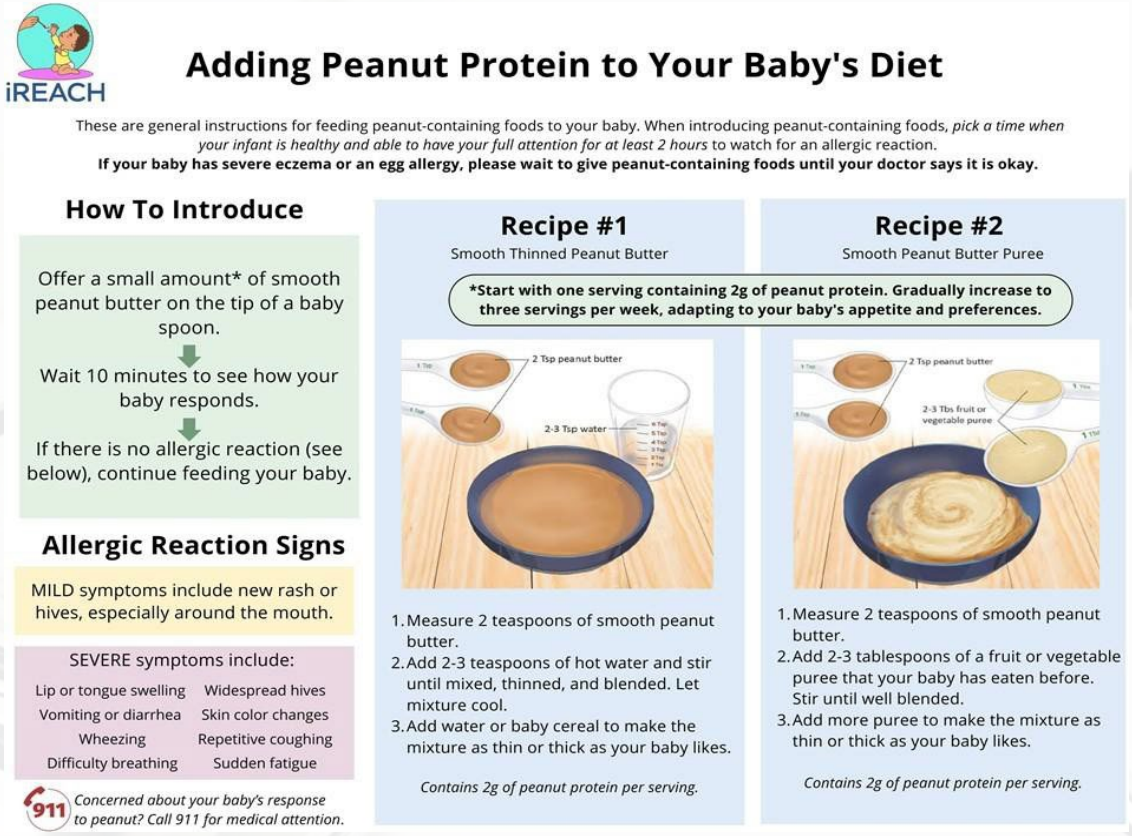
How?

Instructions for Feeding

- Place your baby in a secure high chair and stay with them the entire time to watch for choking.
- Introduce **one new food at at time**. First offer small amounts on a spoon, then start increasing based on your baby's appetite.
- Start with one meal per day, then increase to three per day as your baby grows.
- **Continue giving breastmilk or formula** during your baby's first year of life.
- Slowly offer a variety of foods as your baby becomes used to new flavors.

CHOKING HAZARDS TO AVOID UNTIL AGE 4+ YEARS
Hard, round, or sticky foods like nuts, grapes, raw carrots, candy, lollipops, popcorn.

It may take many attempts before your baby accepts a new solid food.
Be patient, and ask your doctor if you have any concerns!



iREACH

Adding Peanut Protein to Your Baby's Diet

These are general instructions for feeding peanut-containing foods to your baby. When introducing peanut-containing foods, *pick a time when your infant is healthy and able to have your full attention for at least 2 hours* to watch for an allergic reaction.
If your baby has severe eczema or an egg allergy, please wait to give peanut-containing foods until your doctor says it is okay.

How To Introduce

Offer a small amount* of smooth peanut butter on the tip of a baby spoon.

Wait 10 minutes to see how your baby responds.

If there is no allergic reaction (see below), continue feeding your baby.

Allergic Reaction Signs

MILD symptoms include new rash or hives, especially around the mouth.

SEVERE symptoms include:

Lip or tongue swelling	Widespread hives
Vomiting or diarrhea	Skin color changes
Wheezing	Repetitive coughing
Difficulty breathing	Sudden fatigue

911 *Concerned about your baby's response to peanut? Call 911 for medical attention.*

Recipe #1

Smooth Thinned Peanut Butter

***Start with one serving containing 2g of peanut protein. Gradually increase to three servings per week, adapting to your baby's appetite and preferences.**

1. Measure 2 teaspoons of smooth peanut butter.
2. Add 2-3 teaspoons of hot water and stir until mixed, thinned, and blended. Let mixture cool.
3. Add water or baby cereal to make the mixture as thin or thick as your baby likes.

Contains 2g of peanut protein per serving.

Recipe #2

Smooth Peanut Butter Puree

1. Measure 2 teaspoons of smooth peanut butter.
2. Add 2-3 tablespoons of a fruit or vegetable puree that your baby has eaten before. Stir until well blended.
3. Add more puree to make the mixture as thin or thick as your baby likes.

Contains 2g of peanut protein per serving.

https://www.feinberg.northwestern.edu/sites/cfaar/docs/New_Parent%20Caregiver%20Solid%20Food%20Intro%20Handout.pdf

Resources for Clinicians

www.famp-it.org

Best single site for medical professionals to find what you need for early introduction