



# Food Allergies

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# Disclosure

- Private Practice – Southern Fried Nutrition Services, LLC
- Consultant for National Peanut Board – no influence over this presentation and provided no funding or oversight of the work I have done for the NWIC conference.



# Objectives

- At the end of the session, attendees will be able to:
  - Define the basics of food allergies and their difference from intolerances or sensitivities;
  - Provide basic guidance for managing food allergies;
  - State specific recommendations on eating common food allergies by the pregnant and breastfeeding mother, as well as in early feeding.



# Food Allergies 101

## The Basics



# Food Allergies Are...

- *A food allergy is defined as an adverse health effect arising from a **specific immune response** that occurs **reproducibly** on exposure to a given food. ([NIAID, 2010](#))*
  - Must involve the immune system
  - Must be reproducible



# Defining “Food”

- *A food is defined as any substance—whether processed, semi-processed, or raw—that is intended for human consumption, and includes drinks, chewing gum, food additives, and dietary supplements. ([NIAID, 2010](#))*



## Defining “Food Allergen”

- *Food allergens are defined as those specific components of food or ingredients within food (typically proteins, but sometimes also chemical haptens) that are recognized by allergen-specific immune cells and elicit specific immunologic reactions, resulting in characteristic symptoms. ([NIAID, 2010](#))*



# Possible Signs and Symptoms

- Most Common, according to the Mayo Clinic:
  - “Tingling or itching in the mouth
  - Hives, itching or eczema
  - Swelling of the lips, face, tongue and throat or other parts of the body
  - Wheezing, nasal congestion or trouble breathing
  - Abdominal pain, diarrhea, nausea or vomiting
  - Dizziness, lightheadedness or fainting” ([Mayo Clinic, 2014](#))





# Food Allergy Reaction



[Photo Source](#)



# Anaphylaxis

- “In some people, [food allergy reactions] can cause life-threatening signs and symptoms, including:
  - Constriction and tightening of airways
  - A swollen throat or the sensation of a lump in your throat that makes it difficult to breathe
  - Shock with a severe drop in blood pressure
  - Rapid pulse
  - Dizziness, lightheadedness or loss of consciousness

Emergency treatment is critical for anaphylaxis. Untreated, anaphylaxis can cause a coma or even death.” ([Mayo Clinic, 2014](#))



# Treating Anaphylaxis

- Epinephrine is currently the only recommended treatment for anaphylaxis
  - Ex. Epi-Pen, Auvi-Q
- Bi-phasic Response
- Always call 911 anytime epinephrine is administered
- Few to no contraindications for use

# Epinephrine

## Epi-Pen



[Photo Source](#)

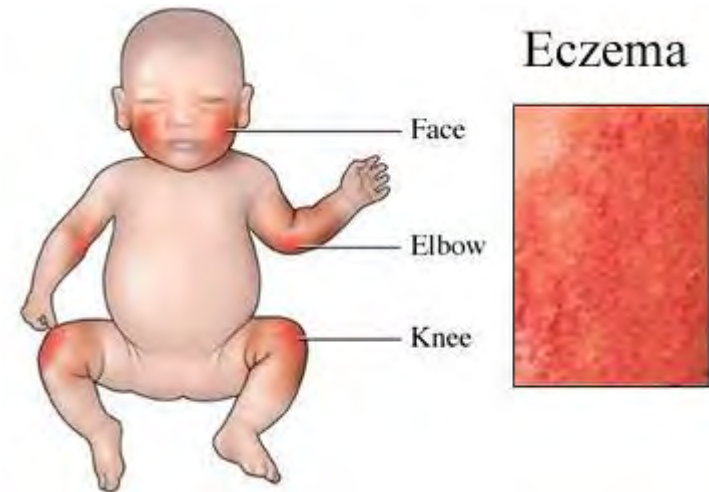
## Auvi-Q



[Photo Source](#)

# Food Allergy Risk Factors

- First degree relative with allergies
- Maybe:
  - Eczema
  - Progression of “Allergic March”



[Photo Source](#)



# Prevalence

- Exact prevalence is unknown
- Approximately 4-6% among children
- Less than 5% of adults
- All allergies have been on the rise, including food allergies



# Multiple Food Allergies

- Exact prevalence is unknown
- About 1/3 of children allergic to peanut are also allergic to tree nuts
- Allergies tend to occur in clusters, perhaps making individuals with certain food allergies more likely to be allergic to others



## Why the Increase?

- Hygiene Hypothesis
- Vitamin D deficiency
- Microbiome
- We don't know.



[Photo Source](#)





# Diagnosis

- Detailed History (What EXACTLY happened? When? How much time between food eaten and reaction? Happens every time food eaten?)
- Skin Prick Test (50% false positive)
- Serum-IgE Test (better, but still high false positive)
- Oral Food Challenge (**Gold Standard**)
  - Sensitization vs. True Food Allergy

# Most Common Allergens (The Big 8)



[Photo Source](#)

# Food Allergies Are NOT...

- Sensitivities (ex. Gluten sensitivity)
- Intolerances (ex. Lactose intolerance)
- Celiac Disease – autoimmune disease
- Oral Allergy Syndrome\*



\*There is disagreement between some in the medical community who consider OAS to be true food allergy.

# Adverse Food Reactions ([NIAID, 2010](#))

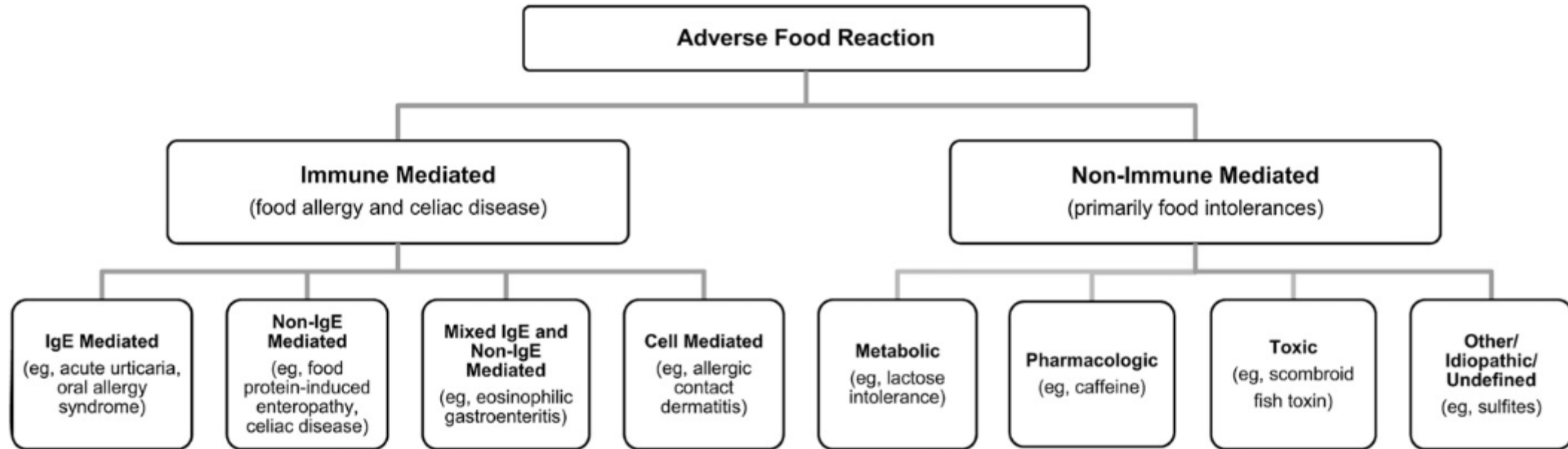


FIG 1. Types of adverse reactions to food

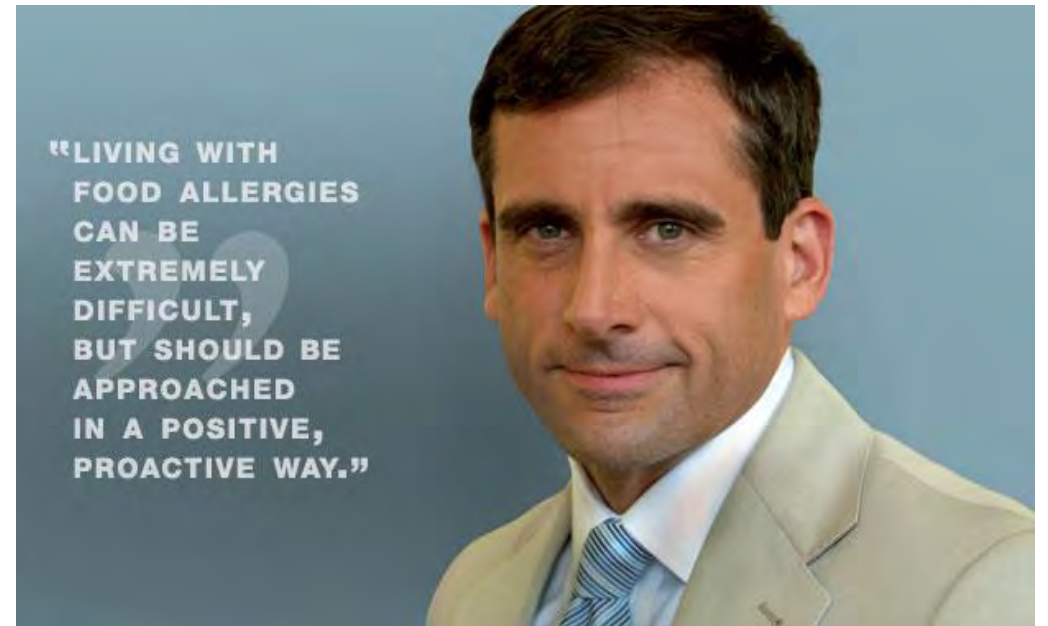


# Managing Food Allergies



# What Allergic Individuals/Families Must Know

- Complete Avoidance
- Teaching Self-Management
  - Communication
  - Label Reading/Safe Shopping
  - Cooking Skills
  - Dining Out
- Navigating the School Environment





# Avoidance

- Zero tolerance for allergens
- Accidental exposure vs. purposeful exposure
  - Adolescents at highest risk
- Threshold for reactions not known for most people

# Communication

- Within the family
- To caregivers – babysitters, daycare, pre-school, school
- At restaurants
- In community settings







# Label Reading

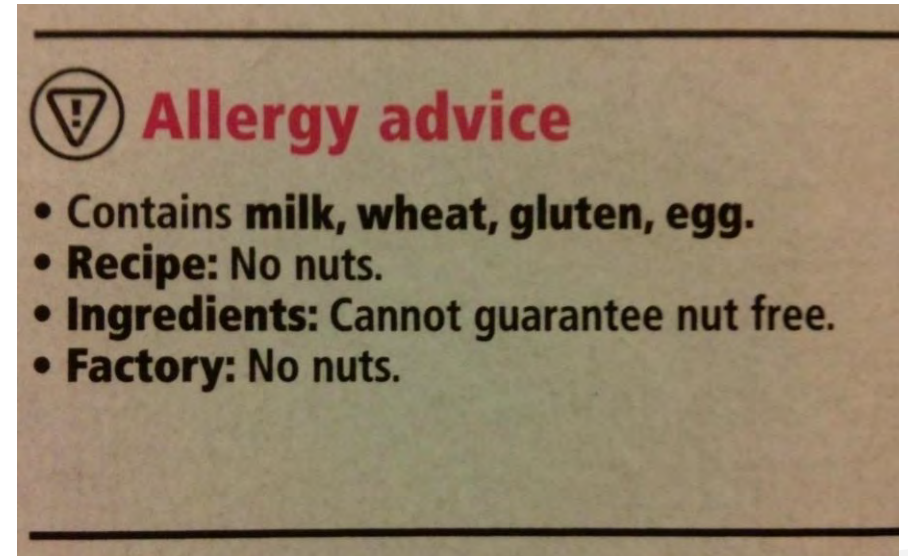
## Food Allergen Labeling Consumer Protection Act

- Big 8 allergens must be listed:
  - By common name
  - In ingredients list
  - In parentheses
- Other common allergens are not covered! (ex. Sesame and Corn)



# Precautionary Labeling

- “May contain...”
- “Produced in a factory that also processes...”
- “Facility also makes...”
- NOT required/Voluntary
- Unregulated



[Photo Source](#)



# Cooking Skills

- Fewer people cook from scratch due to common barriers
  - TIME
  - Equipment
  - (Perceived) Cost
  - SKILL
- Food allergic individuals must learn cooking skills as a lifestyle change

# Eating Away from Home

- Traditional Restaurants
  - Communication is essential
  - Call in advance
  - Only go at a less busy time (ex. Not Friday night)
  - Choose wisely (ex. don't go to seafood if fish allergy)
- Fast Food/QSR
  - As above
  - Check online
- AllergyEats.com





# Chef Card

FOLD  
HERE

## Food Allergy Alert

I have severe food allergies. In order for me to avoid a **life-threatening** reaction, I **must avoid** all foods that contain:

## Food Allergy Alert

Please make sure that my food does not contain any of the ingredients on the front of this card, and that any utensils and equipment used to prepare my meal, as well as prep surfaces, are fully cleaned immediately before using. **THANK YOU for your help.**

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# Navigating the School Environment

- Severe food allergy may be considered a disability
- Reasonable accommodations are required
- Comprehensive food allergy management programs are recommended
- CDC recently released Voluntary Guidelines

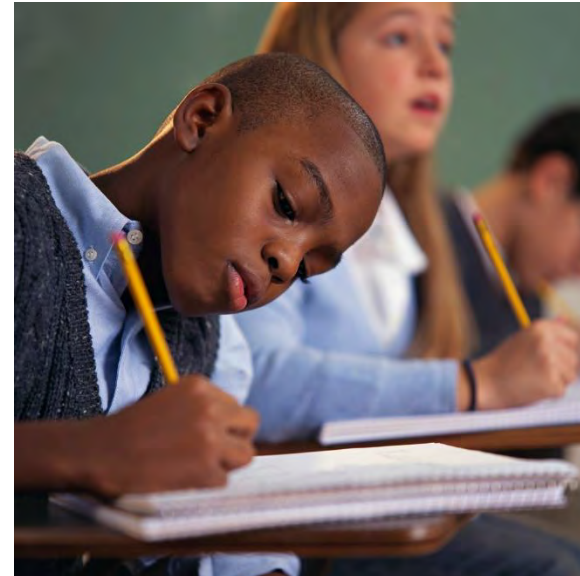


# Responsibilities (for example)

- Parent
  - Maintain accurate and up to date records and medications
  - Teach child about allergies and self-management
- School
  - Provide reasonable accommodations
  - Respond appropriately and seriously to every potential reaction
  - Follow agreed upon plan (ex. Individual health plan, 504 plan, IEP)
- Student
  - No sharing of food

# Reasonable Accommodations

- USDA requires accommodations to be “reasonable”
- Examples:
  - Allergen-safe table in cafeteria
  - No food in the classroom
  - Avoid food-related activities
  - Non-food rewards
  - Notice to parents of classmates
- School/District-wide bans are not recommended by the experts







# Common Myths and Misconceptions

- Airborne exposure
- Casual contact
- Refined oils must be avoided
- Precautionary labeling
- Reactions get worse the more frequently they occur



# Quality of Life

- Food allergic adolescents reported more pain and limitations due to food allergy
- Allergic children have reported higher levels of anxiety
- Parents and caregivers report more stress and fear
- Quality of life improved after OFC, regardless of outcome

# On the Horizon

- Oral Immunotherapy
- Sublingual Immunotherapy
- Subcutaneous Immunotherapy
- Chinese Herbal Therapy
- Other Possible Treatments/Options





# Can Food Allergies Be Prevented?



The Answer is...



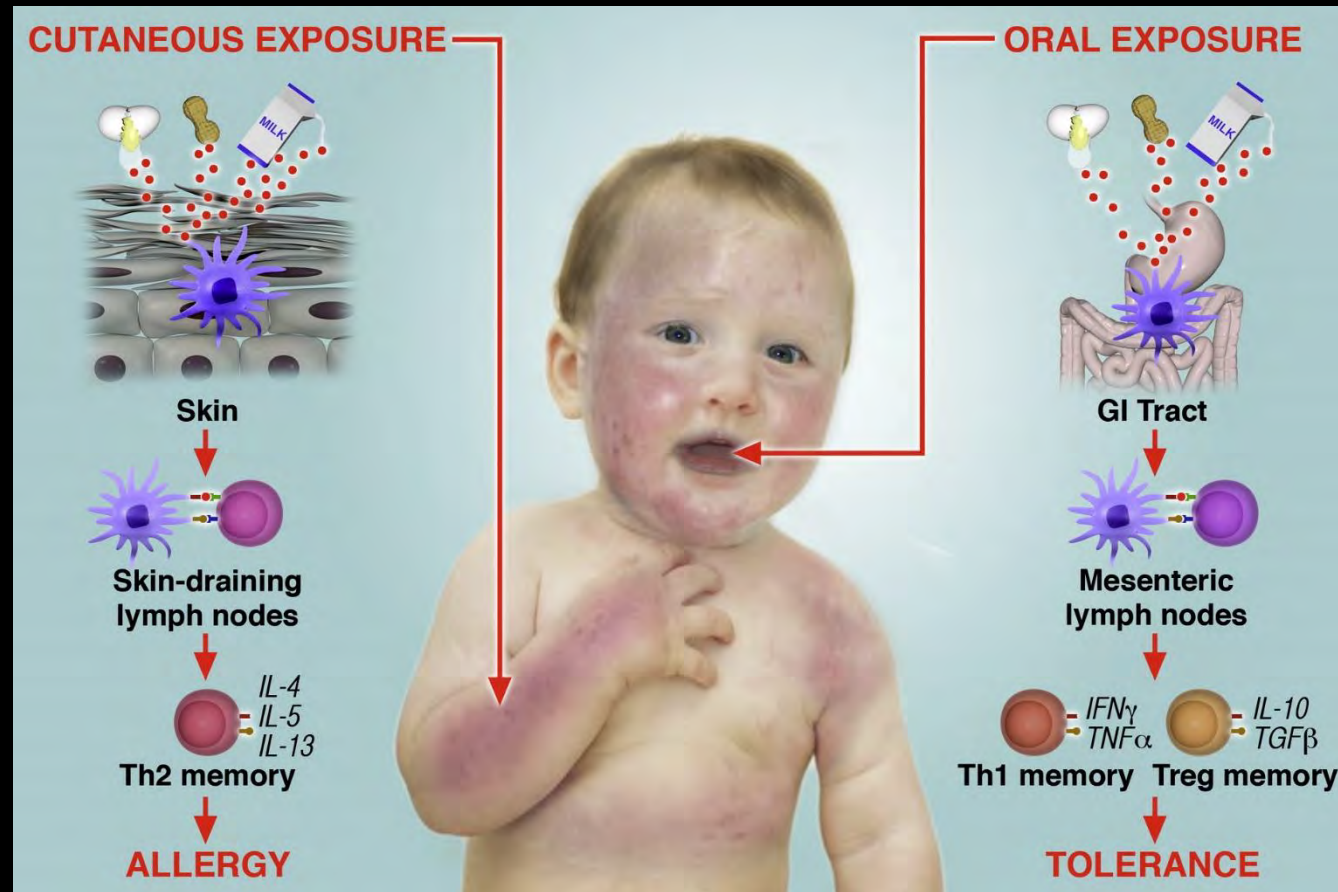
[Photo Source](#)



# Hypotheses

- Early introduction to “train the immune system”
- Microbiome (Hygiene Hypothesis)
- Vitamins/Minerals

Fig 1





# Avoidance vs. Early Introduction

- American Academy of Pediatrics (AAP)
  - Pre-2008, recommended avoidance of potential allergens for 1-3 years
  - 2008 feeding guidelines revised to report lack of sufficient evidence to avoid as a means to prevent allergy
  - Currently support early introduction as complementary feeding at 4-6 months, along with breastfeeding





# Introduction of Potential Allergens

- At 4-6 months, when child is ready for solid foods
- After he has shown tolerance of several other foods
- At home, not in a restaurant
- In appropriate ways, so as to avoid choking
- One new food every 2-3 days
  - Example:
    - Yogurt
    - Thinned peanut butter/nut butters
    - Mashed edamame
- At-risk should discuss with pediatrician



# Pregnancy and Breastfeeding

- Pregnancy:
  - Studies were few and inconclusive
  - Recent studies have shown lower rates of peanut allergies among mothers who ate peanuts during pregnancy
- Breastfeeding:
  - Proteins may be passed through breast milk
  - Evidence does not support avoidance to prevent food allergies

# Microbiome

- Fewer good bacteria is associated with atopic disease
- Antibiotics in early life may increase risk for developing food allergies





# To be continued...

- Questions?

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# References

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- Mayo Clinic: Food Allergy Symptoms <http://www.mayoclinic.org/diseases-conditions/food-allergy/basics/symptoms/con-20019293>
- CDC Voluntary Guidelines for the Management of Food Allergies in Schools and Early Care and Education Programs  
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- Primary Prevention of Food Allergies Through Nutritional Intervention  
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- Starting Solid Foods During Infancy  
<http://www.uptodate.com/contents/starting-solid-foods-during-infancy-beyond-the-basics>



# Resources

- Allergy Eats [www.allergyeats.org](http://www.allergyeats.org)
- Allergic Living [www.allergicliving.com](http://www.allergicliving.com)
- Food Allergy Anaphylaxis Connection Team [www.foodallergyawareness.org](http://www.foodallergyawareness.org)
- Food Allergy Research Education [www.foodallergy.org](http://www.foodallergy.org)
- Kids with Food Allergies [www.kidswithfoodallergies.org](http://www.kidswithfoodallergies.org)