

Food Allergy 101: A Crash Course for the Newly Diagnosed

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Today's Presenter



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My Child Has A Food Allergy – Now What?

- It's not your fault
- It's not your fault
- It's not your fault
- And... You are not alone!!



My Child Has a Food Allergy...Now What?

- Communication with physician
- Shared decision making
- Coming up with a plan
- Know your online and offline resources
- Managing fear and anxiety...especially during time of COVID



You Are Not Alone!

- 70% report significant effect on social events
- 60% report significant effect on meal prep
- 40% report significant ↑ in stress
- 34% report ↓ school attendance/performance
- 10% parents choose to home school



Back to Basics – What is a Food Allergy?

- An overreaction by the immune system to a food protein
- The role of the immune system is to protect the body from germs and disease
- When a food protein (that the immune system has mistaken as a threat) is ingested, the immune system thinks the food is harmful and releases histamine and other chemicals to “attack” the enemy
- Food allergy reactions occur every time that food is ingested, are reproducible over time, and happen quickly



Back to Basics – What is a Food Allergy?

- Food Allergy **≠** Food Intolerance
- Food intolerance - Does NOT involve the immune system, NOT life-threatening
- Takes place in the digestive system (GI tract)
- Inability to properly breakdown that food → bloating, stomach cramping, gas, diarrhea
- Food allergy involves the immune system - can cause a serious or life-threatening reaction



Back to Basics

- People can be allergic to any food, but 8 foods cause most food allergic reactions in the US:

- Milk
- Egg
- Peanuts
- Tree nuts
- Wheat
- Soy
- Fish
- Shellfish
- (Sesame = #9)





Back to Basics

- A range from mild to severe manifestations of allergic reaction:
 - **Oral cavity:** mouth/tongue/throat itching or swelling
 - **Skin:** flushing, itching, rash, hives aka welts
 - **Respiratory system:** wheezing, shortness of breath, cough
 - **GI tract:** nausea, abdominal cramps, vomiting, diarrhea
 - **Cardiovascular system:** ↑ heart rate, ↓ blood pressure, fainting
- Anaphylaxis = a severe allergic reaction, can happen quickly, may cause death, more than 1 organ system involved
- Not all reactions are the same





Back to Basics – Young Kids

- This food is too spicy
- My tongue is hot
- It feels like something's poking my tongue
- My mouth is tingling
- My tongue itches
- My tongue feels like there is hair on it
- My mouth feels funny
- There's something stuck in my throat
- My tongue feels full/heavy
- My lips feel tight
- It feels like there are bugs in my ears
- My throat feels thick
- It feels like a bump is on the back of my tongue/throat
- There's a frog in my throat
- My belly hurts





**Managing Food Allergies in time of COVID

- Contact Allergist – for new suspected allergy or follow-up of known allergy
- TeleHealth/TeleMedicine - widespread use now!
- Can manage a lot via a live visit over the internet – might not require urgent in-office testing
- Review Food Allergy Action Plan!



Managing Food Allergies – Avoiding Foods

- Read every label, every time
- Be aware of cross-contact
 - Direct vs. Indirect





Managing Food Allergies – Avoiding Foods

What is FALCPA?

- A law requiring that food labels show in plain English when a “major food allergen” or any ingredient that contains protein from a major food allergen is added as an ingredient in any **pre-packaged** food
- Imported - sold in US
- Domestic - made in US



Managing Food Allergies – Avoiding Foods

- These foods make the FALCPA list: milk, wheat, egg, peanuts, tree nuts, fish, crustacean shellfish, and soy
- **Example 1:** *Ingredients: Whey protein (milk), lecithin (soy), cherry, sugar, natural flavors (almond), salt.*
- **Example 2:** *Ingredients: Whey protein, lecithin, cherry, sugar, natural flavors, salt. Contains: Milk, soy, and almond.*



Managing Food Allergies – Avoiding Foods

- Precautionary warnings or advisory statements like “May contain...” or “Processed in a facility with...” are voluntary
- FALCPA does not apply to:
 - fresh meats
 - fresh fruits and vegetables
 - restaurant foods placed in a wrapper or carry out box for an individual customer order
 - Highly refined oils (even if they are derived from a major allergen, such as peanut or tree nut)



Managing Food Allergies – In the Home

- Other siblings – use of color-coding/ labels
- Parents
- Grandparents/other caretakers
- Breast feeding – keep food in mom’s diet (maybe a short trial period of avoidance for eczema)



Managing Food Allergies – Outside the Home

- Empowering your child – identify safe foods/snacks
- Dining out
- Reading food labels
- Schools, daycares, etc.
- Emergency identification bracelets





Managing Food Allergies – Plan Ahead

- Allergy Action Plan
- Make copies
- Keep with medication pack

FARE FOOD ALLERGY & ANAPHYLAXIS EMERGENCY CARE PLAN
Food Allergy Research & Education

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

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 apparent.

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 SYMPTOMS

 NOSE Itchy or runny nose, sneezing	 MOUTH Itchy mouth	 SKIN A few hives, mild itch	 GUT Mild nausea or discomfort
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FOR MILD SYMPTOMS FROM MORE THAN ONE SYSTEM AREA, GIVE EPINEPHRINE.

FOR MILD SYMPTOMS FROM A SINGLE SYSTEM AREA, FOLLOW THE DIRECTIONS BELOW:

- Antihistamines may be given, if ordered by a healthcare provider.
- Stay with the person; alert emergency contacts.
- Watch closely for changes. If symptoms worsen, give epinephrine.

MEDICATIONS/DOSES

Epinephrine Brand or Generic: _____
Epinephrine Dose: 0.1 mg IM 0.15 mg IM 0.3 mg IM
Antihistamine Brand or Generic: _____
Antihistamine Dose: _____
Other (e.g., inhaler-bronchodilator if wheezing): _____

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

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Managing Food Allergies – Treat a Reaction

- Antihistamines vs. Epinephrine
- Keep 3 labeled medication packs
 - One for home in easily accessible location
 - One for “on the go” that can easily switch from bag to bag
 - One for school/daycare/caretakers home



Managing Food Allergies – Treat a Reaction

- Epinephrine is the only medication that can reverse the symptoms of anaphylaxis
 - Generalized hives; difficulty breathing, swallowing, or talking; vomiting; passing out
- Antihistamines will NOT help with a severe reaction
- For severe reactions, act quickly: Give epinephrine! Call 911!
- Second dose of epi may be necessary if symptoms not resolved in 5-10 min.



Managing Food Allergies – After Epi

- Call 911 – OR NOT? COVID has affected this
- Observation in ED
- Let your allergist know about reaction
 - ** Telehealth video visit after reaction**
- Manage fears and anxiety
- Epi just as effective the next reaction



Why Are Food Allergies Increasing?

- Late introduction of certain foods?
- Hygiene hypothesis?
- Dual allergen exposure hypothesis?
- Increased use of antibiotics?
- Increased use of antacids?
- Increased use of antibacterial soaps/sanitizers?
- Birth by cesarean section?
- Differences in our microbiomes?



Treatment Options for Food Allergies

- Is there a cure?
- OIT experience in our clinic
- OIT in research
- Desensitization vs. Tolerance
- Quality of Life
- OIT vs. SLIT vs. EPIT



(Future) Treatment Options for Food Allergy

Clinical trials - potential for entering clinical practice:

Allergen-specific

- Extensively heated milk or egg diet
- Subcutaneous cross-immunotherapy with pollen
- Milk OIT combined with anti-IgE (omalizumab)

Allergen non-specific

- Anti-IgE (omalizumab/Xolair)
- Probiotics and prebiotics
- Anti-IL-5
- Chinese herbs

Preclinical studies:

- Peptide IT
- TLR-9 agonist
- Heat-killed E. coli expressing modified Ara H 1,2,3 rectal vaccine



Can my child outgrow their food allergy?

- Cow's milk - 85% outgrow by 8 yrs
- Egg - 66% outgrow after 5 yrs
- Peanut - 20% may outgrow (8% may recur)
- Tree nut and seafood typically persist



Can we prevent food allergy?

Emerging evidence suggests:

- Less use of drying soaps/ detergents and more use of nonallergenic moisturizers → optimization of early life skin barrier function
- Solid introduction: Infants should be introduced to solids ~ 4-6 months irrespective of family history
 - Allergenic solids do not need to be avoided by infants when solids are introduced
 - Allergenic solids do not need to be avoided by mothers when breastfeeding



Can we prevent food allergy?

- Human milk should be the first and most important source of nutrition for infants
- Human milk influences many physiological systems and promotes normal gut colonization
- However, its role in protection against food allergy risk remains unclear



Can we prevent food allergy?

- **Modified/hypoallergenic formula** for infants: premature recommendation – not enough data
- **Probiotics or prebiotics:** Insufficient data re: protection against food allergy
- **Vitamin D** as a prevention or treatment for FA: Insufficient evidence



Diagnosis of Food Allergy in Younger Siblings

- To test or not to test?
- Beware of false positives
- Oral food challenges (OFCs) should be routine if any question



Common questions

- **Daycare/school** – do I need to move my child to a nut-free environment?
- **Flying** with food allergies?
- Can my child get a **flu shot** if he/she is allergic to eggs?
- Biphasic reactions / Do I really have to go the hospital if I use my Epi?
- Cross-reactivity of allergens? Tree nuts, PN/TN, PN/Legumes, milk/soy, milk/beef, cashew/mango, fish



Cross-reactivity

If Allergic to:	Risk of Reaction to at Least One:	Risk:
A legume* peanut	Other legumes peas lentils beans	5%
A tree nut walnut	Other tree nuts brazil cashew hazelnut	37%
A fish* salmon	Other fish swordfish sole	50%
A shellfish shrimp	Other shellfish crab lobster	75%
A grain* wheat	Other grains barley rye	20%
Cow's milk* 	Beef hamburger	10%
Cow's milk* 	Goat's milk goat	92%
Cow's milk* 	Mare's milk horse	4%
Pollen birch ragweed	Fruits/vegetables apple peach honeydew	55%
Peach* 	Other Rosaceae plum pear apple cherry	55%
Melon* cantaloupe	Other fruits watermelon banana avocado	92%
Latex* latex glove	Fruits kiwi banana avocado	35%
Fruits kiwi avocado banana	Latex latex glove	11%



Online resources

- FARE website
- Kids with Food Allergies
- American Academy of Allergy, Asthma and Immunology (AAAAI)
- American College of Allergy, Asthma, and Immunology (ACAAI)
- Allermates – Food allergy bracelets, medicine cases, activity books, etc.
- Living Confidently with Food Allergy
- Nationwide Children’s Hospital Allergy and Asthma blog



Offline resources

- Your physician
- Your (educated) support system
- FARE Live Events
 - Walks
 - Conferences
 - Summits

Question & Answer



YOUR Food Allergy Story Drives Research Forward

FARE Patient Registry[®]

The FARE Patient Registry connects people living with food allergies to researchers seeking answers.

Join in 3 easy steps:

1



Enroll
for free

2



Create your
confidential
patient profile

3



Take our
surveys

JOIN TODAY at FAREregistry.org

Thank you!

