

Offensive Strategies: Taking a Bite Out of Food Allergies

Shannon Nixon, BSN, MSN, FNP-BC



KNOW YOUR OPPONENT

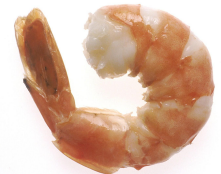
Per the CDC: Approximately 6% of Americans have an allergy to food.

CDC Estimates : 1 in 13 school children (2 per classroom) have one or more food allergies.

Each year in the U.S., there is an estimated 30,000 E.R. visits , 2,000 hospitalizations and 150 deaths due to anaphylaxis from food allergies.

NINE FOODS ARE RESPONSIBLE FOR THE MAJORITY OF ALLERGIC REACTIONS:

- Cow's milk
- Eggs
- Peanuts
- Sesame
- Shellfish
- Soy
- Tree nuts
- Wheat



FOOD ALLERGY MYTHS:

1. Allergy tests tell you how severe your allergy will be.
Truth: Allergy test are only a guide to determine the likelihood of Allergy being present, not severity.
2. Everyone should have food allergy panel testing done to find out what they are allergic to.
Truth: Panel testing causes misdiagnosis, false positive results and Unnecessary avoidance of food.
3. Food allergy reactions get more severe each time they occur.
Truth: Not really. There are many cofactors that can worsen severity
-Such as exercise, amount ingested and acute illness.
4. Babies should not eat common food allergens.
Truth: Guidelines recommend eating allergenic foods starting around 4-6 months as a way to prevent food allergy development.
5. Epinephrine is dangerous and should only be used if someone's airway is closing.
Truth: Epinephrine works fast, is safe, and can treat all symptoms of a food allergy reaction. Waiting too long can worsen the severity.

TYPES OF REACTIONS:

1. Anaphylaxis - hoarseness, tightness, or lump in throat.
 - Wheezing, chest tightness or trouble breathing.
 - Tingling in lips, hands, feet, or scalp.
2. Skin Reactions: eczema, hives, or red, itchy skin.
3. Other Systemic Reactions: Vomiting, abdominal cramping, diarrhea, angioedema or swelling, stuffy or itchy nose, sneezing, or itchy/teary eyes.



*** "Benadryl is good for hives, but epinephrine saves lives"***

TRICK PLAYS:

- Eosinophilic esophagitis - allergic condition causing inflammation in the esophagus. Research suggests that the leading cause of EoE is an allergy or sensitivity to particular protein in foods. Strong family history of allergic disorders. Complications include scarring and narrowing of the esophagus, as well as perforations or tears in the esophagus.
- Food protein induced enterocolitis (FPIES) - severe condition causing vomiting and diarrhea that occurs in infancy, usually when a baby is introduced to solid food or formula. Most common allergens include cow's milk, soy, and grains. Non - IgE mediated. Rarely have positive skin tests. Diagnosis based on history and presentation. Can occur in breastfed infants as well. Frequently present after infant has vomited until dehydrated and lethargic.
- Oral Allergy Syndrome: symptoms of food allergies as a result of being allergic to a similar protein found in pollens. Also called "Food-pollen allergy". Symptoms are usually only oral, such as itching or tingling of mouth and/or lips. Occurs with ingestion of the raw form of fruits, vegetables, or nuts. Cooking the food denatures the protein, which will usually alleviate the symptoms.

DIAGNOSIS OF FOOD ALLERGY:

- History, History, History! - Most food allergies are diagnosed in early childhood, but can also appear in older children and adults.
 - Usually diagnosed after first reaction, or appearance of symptoms.
 - Helps in narrowing focus for food allergy testing.
 - If patient presents with skin symptoms only, may need panel testing for diagnosis.
- Allergy Testing - Skin prick testing and blood allergy tests (IgE immunocaps, formally known as RAST testing).
 - Compare with clinical presentation and reaction history
 - the ultimate test for true allergy is whether a person can eat the food without reactions or increase in symptoms, such as eczema.
- EoE diagnosed per EGD with eosinophil count by pathologist.

ALLERGY TESTING:

Skin testing: Histamine/Saline controls.

- Measures wheal/flare
- Patient must be off antihistamines and medications that can suppress histamine, such as H2 blockers (pepcid) or certain sleep medications or mental health meds.
- Intradermals are only done for beef, pork, lamb.

Lab testing: IgE immunocaps (formally RAST testing).

- IgG testing is not accurate.
- The presence of IgG is likely a normal response of the immune system to exposure to food. In fact, higher levels of IgG4 to foods may simply be associated with tolerance to those foods.
- IgE Levels are measured from < 0.35 to > 100 . Graded level 0-5. Severe reactions are seen even with level 1.
- Can test individual proteins in peanut, hazelnut, milk and egg. With milk and egg, this can determine if the person can tolerate highly baked forms of these foods.

Oral Challenge testing: Skin tests and blood tests must both be negative.

Skin prick to actual food is done. If negative, then graded oral challenge is done. Starts with 0.5 grams, doubled every 20 minutes for a total of 37.5 grams.

AVOIDANCE: Strict avoidance of foods/food groups.

- Mothers of nursing infants will need to follow avoidance diet Of the child.
- Importance of reading food labels.
- Watch for cross-contamination in manufacturing and cooking of foods on the same surface or in the same oil.
- Reactions can occur with inhalation during cooking process of fish/shellfish, and in smaller instances with wheat flour and soy.

EPINEPHRINE: Injectable epinephrine is the standard of care for treatment of food allergy reactions.

- Standard dosing based on weight. < 50lbs, 0.15 mg
> 50lbs, 0.3 mg. May repeat in 15 minutes.
- If epinephrine is used, must proceed to the nearest ED for further treatment to prevent late onset reactions.
- Recommendations for schools: Give Epinephrine first, not Benadryl. Call 911. Epi should be kept on or near the student at all times, not in the nurse's office. Delay can lead to death.



Oral Immunotherapy (OIT): Still very investigational

- Goal of increasing the threshold that triggers a reaction. Not meant to enable eating the food, only accidental ingestion.
- Only one FDA approved OIT (for peanut). Palforzia™ must be a REM certified provider.
- Age 4-17 years.
- Side effects include abdominal pain/cramping, vomiting, and ? EoE
- Close monitoring after dosing at home, can not dose before bed, no activities that can increase body temperature, such as exercise or hot showers 2-4 hours after dosing.

THE QUARTERBACK BLITZ

ALPHA-GAL ALLERGY:



CRUEL SUMMER



ALPHA-GAL ALLERGY:

- Discovered in 2007 by Dr. Platts-Mills
- Carbohydrate molecule alpha 1,3 galactose found in saliva of lone star tick and the cancer drug Cetuximab. It is also in the blood of non-primate mammals.
- Persons who have been bitten by the tick or receive Cetuximab can become allergic to the carbohydrate, thus become allergic to mammalian meat.
- Delayed onset allergy, usually 3-8 hours after ingestion, but can be up to 12 hours. Cetuximab reactions are usually immediate due to being infused intravenously.
- Reactions include hives, swelling of lips/face/eyelids, shortness of breath, GI disturbances, pruritus, and/or anaphylaxis.
- Can also cause allergies to milk/dairy products, and/or gelatin.
- Delay in absorption may explain the delay in symptoms. Frequently wake up in the middle of the night with symptoms.
- Found to be carried by other ticks in other countries.

DIAGNOSIS:

- Detailed history is important, including timing of symptoms, history of tick bites, time spent outdoors, geographic region, etc.
- Skin allergen testing for beef, pork. Lamb, including interdermals (for sensitivity). Prick testing may still be negative.
- Confirm with IgE blood testing- Alpha-Gal panel, which includes IgE for alpha-galactose, beef, pork. Lamb, and milk.

TREATMENT:

- Treatment of immediate symptoms are the same as other food allergies- injectable epinephrine and follow up in urgent care setting.
- Avoidance diet- must avoid all mammalian meat. Watch for sources of cross contamination, especially being cooked in the same oil/grill, or used as seasoning in vegetables such as beans. * most chicken and turkey sausages are still encased in pork casing. Will cause reactions.
- If patient is tolerating milk/dairy foods and/or gelatin without reactions, may continue to consume in diet, even if milk is positive on IgE testing.
- Avoidance of gelatin also includes medications that are in gel cap form.
- Avoidance of future tick bites, as this will increase sensitivity with each additional tick bite.
- Monitor Alpha-gal level every 6-12 months. Current research recommends not re-introduction into diet as the person will become resensitized.

PREVENTION:

- Key is preventing tick bites - wear long sleeve shirts and pants when doing outdoor activities, appropriate insect repellents, surveying for ticks and proper removal after spending time outdoors.



TOOLS FOR PATIENTS:

- FARE- Food Allergy Research and Education. www.foodallergy.org
- Allergy and Asthma Center website from Mayo Clinic.
www.mayohealth.org/commonhtml/allergy.htm
- John Hopkins medical center Intellihealth. Includes safe recipe of the week, and an “Ask the Doctor” section. www.intellihealth.com
- Food Allergy Survivors Together. Online support group with email chat room.
www.angelfire.com/mi/FAST
- American College of Allergy, Asthma, and Immunology. Basic information on food allergies and Advice from your allergist section. [Allergy.mcb.edu/-](http://Allergy.mcb.edu/)



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