

All About Anaphylaxis: Understanding the Risks, Symptoms & Treatment

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Today's Presenter

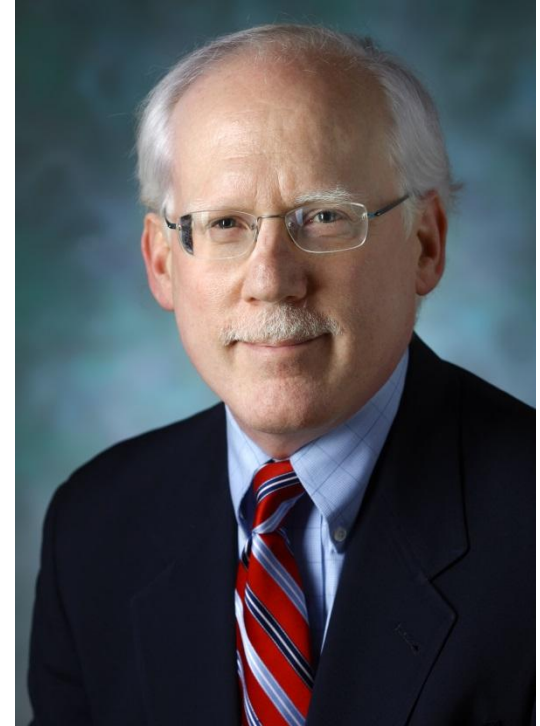
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Objectives for this Webinar

- To better understand anaphylaxis
- To discuss some commonly held myths about anaphylaxis and its treatment
- To answer as many of your questions as humanly possible
- NOT to provide any specific treatment recommendations for you or your child
 - These need to come from your doctor in the form of an individualized action plan

Anaphylaxis - Definition

- **Systemic allergic reaction**
 - **Multiple organ systems may be involved**
- **Acute onset**
 - **Usually within minutes of exposure**
 - **Virtually always within 2 hours of exposure**
- **Manifestations vary from relatively mild to severe**
- **The most severe reactions can be life threatening and even fatal**

Common Causes of Anaphylaxis

- **Foods**
- **Insect venoms**
- **Medications**
- **Latex**
- **Exercise**
- **Immunotherapy**
 - **Insect venom**
 - **Inhalant allergens**

Symptoms of Anaphylaxis

- **Skin**: Flushing, itching, hives, swelling
- **Upper respiratory**: Nasal congestion, runny nose
- **Lower respiratory**: Throat or chest tightness, hoarseness, wheezing, cough, difficulty breathing, shortness of breath
- **Gastrointestinal**: Itching in the mouth or throat, abdominal pain, nausea, vomiting, diarrhea
- **Cardiovascular**: Low blood pressure / shock, arrhythmias, chest pain

Reactions can include any combination of symptoms and it is common for symptoms to be different with each reaction

Myth: Anaphylaxis Always Presents with Reactions in the Skin

REALITY:

- **Approximately 20% of anaphylaxis cases do not present with hives or other cutaneous manifestations**
- **80% of fatal, food-induced anaphylaxis cases were not associated with cutaneous signs or symptoms**

Myth: Prior episodes predict future reactions

REALITY:

- **There are NO predictable patterns**
- **Severity depends on:**
 - **Sensitivity of the individual**
 - **Dose of the allergen**
 - **Route of exposure**
 - **Other factors: asthma, exercise, infection**
 - **Day to day variability**

Time Course of Anaphylaxis

- **Uniphasic**
 - **Most reactions have a single wave of symptoms with no recurrence or sequelae**
- **Biphasic**
 - **Symptoms recur 2 – 4 hours later (but can occur up to 8 hours later)**
 - **10 – 20% of food induced reactions**
- **Protracted**
 - **Very rare**
 - **Reactions persist for hours to days**

Fatal Food-induced Anaphylaxis

- **Fatal reactions are very uncommon but do occur**
 - **~150 deaths per year in the U.S.**
 - **Almost always caused by a known allergy**
- **Several well defined risk factors:**
 - **Peanut and tree nut allergy**
 - **Asthma**
 - **Prior anaphylaxis**
 - **Adolescents and young adults**
 - **Failure to treat promptly w/epinephrine**
- **Almost all deaths are due to respiratory failure**

Questions from the Audience:

- 1. How can you distinguish between symptoms of anaphylaxis and other illnesses?**
 - Anaphylaxis vs. an asthma attack**
 - Anaphylaxis vs. random hives**
 - Anaphylaxis vs. stomach cramps**
 - Anaphylaxis vs. an anxiety attack**
- 2. Are there any clear differences in the way anaphylaxis progresses in children versus adults?**
- 3. Is there any way to find out how much allergen it would take to cause an anaphylactic reaction in our child?**

Treatment of Anaphylaxis

- **Immediate treatment with epinephrine imperative**
 - **Almost no contraindications to the use of epinephrine**
 - **Failure or delay associated with fatalities**
 - **Must be available at all times**
 - **Use appropriate dose**
- **Call 911; proceed to Emergency Room**

Myth: Epinephrine is Dangerous

REALITY:

- **Epinephrine is a very safe drug**
- **The risks of anaphylaxis far outweigh any risks**
- **Extra caution is only needed for elderly patients or those with known heart disease**
- **You are not going to the emergency room because of the epi – you are going for further management of the reaction!**

Treatment of Anaphylaxis

- **Additional treatment should include:**
 - **Antihistamine (use liquid, chewable, or dissolvable tablet)**
 - **Steroids (e.g. prednisone, usually only single dose, i.e. not a 5 day course)**
 - **Repeat epinephrine if symptoms persist or increase**
 - **Observe for a minimum 4 hours**
 - **Arrange follow-up care, provide epinephrine Rx and education**

Treatment of Anaphylaxis

- Additional treatment may include:
 - H₂ blocker such as famotidine or cimetidine (Pepcid or Tagamet)
 - Supplemental oxygen
 - Intubation, airway maintenance
 - IV fluids
 - Vasopressor therapy

Questions about Treatment:

- 1. Does repeated use of epinephrine cause immunity to it?**
- 2. If a person is having an anaphylactic reaction and doesn't respond to epinephrine, is there anything that a hospital can do at that point?**
- 3. Are EMTs trained to handle anaphylaxis?**
- 4. Aside from a delay in administration, are there any other factors that would prevent epinephrine from stopping a reaction?**

Making Treatment Decisions

- **When to give epinephrine will depend on:**
 - **Prior reaction history (which may be different for one food and another)**
 - **Co-existent asthma**
 - **Degree of symptoms**
 - **localized**
 - **systemic (more than localized)**

Myth: Anaphylaxis is Easy to Avoid If You Know What You are Allergic To

REALITY:

- **Most cases of anaphylaxis are due to accidental exposures**

Food-induced Anaphylaxis: Prevention

- **Must always be prepared to treat a reaction**
 - **Complete avoidance is impossible (reactions can never be predicted)**
 - **Have an emergency action plan**
 - **Keep self-injectable epinephrine on hand at all times**
 - **Train parents and all caregivers on epinephrine use**

ANAPHYLAXIS SUMMARY

- **Anaphylaxis may vary from mild to fatal**
- **The course of anaphylaxis is unpredictable**
- **There are clear risk factors for severe or fatal anaphylaxis**
- **Anaphylactic reactions can be reduced but are not fully preventable**
- **Anaphylactic deaths are almost all preventable**
 - **Availability and use of epinephrine is the key ingredient to success**

More Questions from the Audience

General Anaphylaxis Questions:

- 1. Are people with asthma more at risk of fatal anaphylaxis, and why?**
- 2. Are some allergens more likely to cause anaphylaxis?**
- 3. Does the risk of an anaphylactic response increase with each exposure to an allergen?**

General Anaphylaxis Questions:

- 4. For people with peanut or tree nut allergies, how dangerous are ball games, airplanes, and other places with lots of nuts?**
- 5. You have had several anaphylactic reactions. In your own words, can you please describe what you or someone experiencing this type of reaction may be feeling?**

Questions about Treatment:

- 1. Should RAST or skin test scores be used to change an emergency care plan? If not, what are they useful for from a severity standpoint?**
- 2. Can a person's allergy severity worsen to the point that their anaphylaxis plans should change?**

Questions about Treatment:

- 3. Can antihistamines help after epinephrine is given?**
- 4. Question regarding the recent tragic loss of Natalie G, is there any possibility that she had too much epinephrine? Or was the allergic reaction itself what caused her heart attack?**
- 5. Is it ever worth giving oral antihistamines if that might mean losing time to administer epinephrine during what might rapidly progress to an anaphylactic reaction?**

Questions about Treatment:

- 6. Have treatment protocols changed recently?
Will they change based on the Natalie G case?**
- 7. FARE's Anaphylaxis Care Plan includes a box that says "if checked, give epinephrine immediately if the allergen was definitely eaten, even if there are no symptoms." In light of Natalie G's death, shouldn't this box be checked for everyone?**

Questions about Research:

- 1. What can be done to reduce sensitivity to allergens in people whose allergies seem to be getting worse.**
- 2. What upcoming "cure" or therapy for food allergies are you most excited about? Is immunotherapy the key?**
- 3. What factors do you consider before placing a child with a milk allergy into a desensitization trial?**
- 4. I have a lot of questions about the u-Know peanut test. How does the test work? What does it tell us that other allergy tests don't? How accurate is it?**

Additional Questions?