

Use of Component Testing for the Diagnosis of Peanut Allergy

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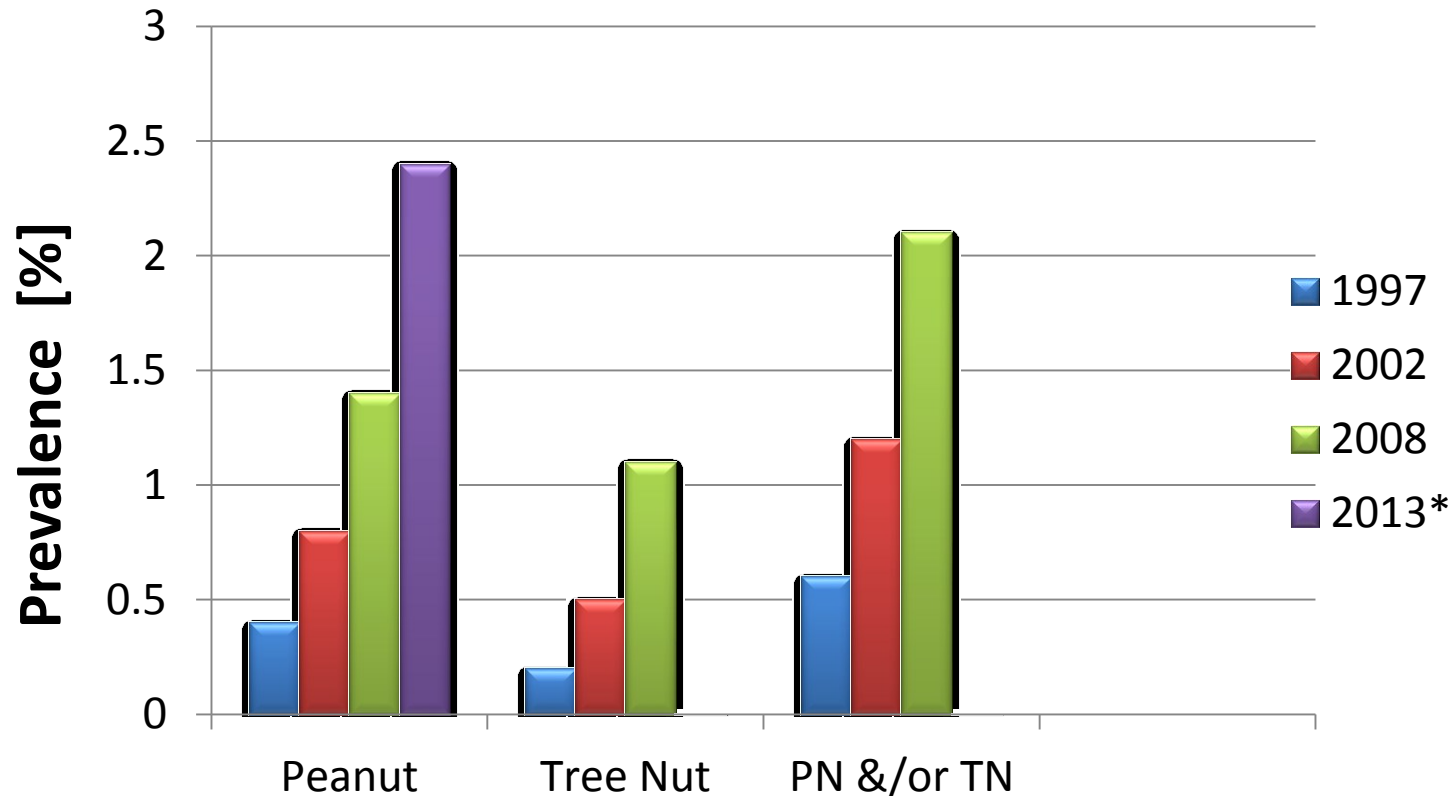

**Icahn
School of
Medicine at
Mount
Sinai**

*Elliot and Roslyn Jaffe
Food Allergy Institute*

Disclosures

- **Faculty at Icahn School of Medicine at Mount Sinai (60% FTE)**
Chief Scientific Officer DBV Technologies (40% FTE)
- **Consultant/Advisory Boards:**
 - **Allertein Therapeutics, LLC**
 - **Genentech/Novartis**
 - **Danone Institute (Scientific Advisory Board)**
- **Ownership Interest: Allertein Therapeutics, LLC, & Herbs Spring, LLC**
- **Grants: National Institutes of Health and FARE**

Increasing Prevalence of Peanut Allergy in Children <18 Years



- **Leading cause of fatal & near-fatal food-induced anaphylactic reactions in US**

Sicherer et al. *JACI* 2010; 125:1322-26

*Bunyavanich et al. *JACI* 2014; 134:753-5

Diagnosing Food Allergy

- **Clinical History**
- **Prick skin testing**
- **Serum allergen-specific IgE level**
- **Component resolved diagnostic testing**
- ***Future: Allergenic epitope analysis & BAT***

Component Resolved Diagnostics in Food Allergy

	Pollen cross reactive components*	LTP	Pollen non-cross-reactive components**	
Peanut	Ara h 8	Ara h 9	Ara h 1	Ara h 4
	Ara h 5		Ara h 2	Ara h 6
Hazelnut	Cor a 1	Cor a 8	Cor a 9	
	Cor a 2		Cor a 14	

PRP-10

Profilin

Anaphylaxis risk →

*Birch tree pollen, Timothy grass pollen for wheat

** Storage seed proteins, albumins and globulins

Case

- **14 y/o female referred for evaluation of first allergic reaction to peanuts**
- **2 younger siblings with peanut allergy; one recently hospitalized for anaphylactic reaction**
- **Ate peanuts in the past but infrequently because of younger siblings**
- **What else would you like to know?**

Clinical History & Symptoms



- **Picture of patient taken with iPhone**
- **What tests would you like to do?**

Diagnostic Tests

- **Prick skin test: 8mm wheal; 20 mm erythema**
Diagnosis?
- **Peanut-specific IgE: 18 kU_A/L**
Diagnosis?
- **Peanut Components:**
 - **Ara h 1, Ara h 2 & Ara h 3:**
<0.1 kU_A/L Diagnosis?
 - **Ara h 8:**
48.2 kU_A/L Diagnosis?



Two More Quick Cases

- 13 y/o male with history of peanut allergy 1 h after accidentally ingesting a power-bar containing peanut

Diagnostic Tests?



- 15 m/o male was given a small amount of peanut butter on a cracker 1 hr ago

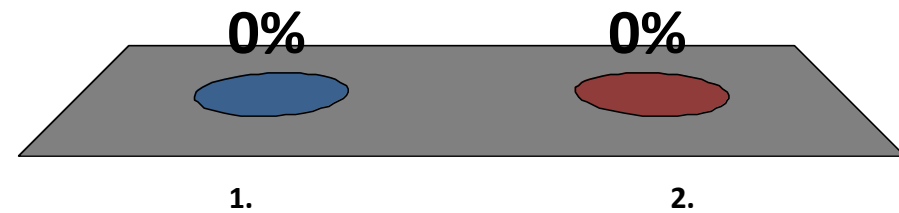
Diagnostic Tests?



When is peanut component testing helpful? In infants < 2 yrs old?



1. True
2. False



When is peanut component testing helpful?
In children with springtime allergic rhinitis
suspected of peanut allergy?



1. True
2. False



When is peanut component testing helpful? In adolescents & adults with late-onset peanut allergy?



1. True
2. False



When is peanut component testing helpful?
When peanut allergy suspected & serum IgE
< 15 kU_A/L in children & adults



1. True
2. False



When is peanut component testing helpful?
When peanut allergy suspected & serum IgE
< 5 kUA/L in children < 3yrs of age



1. True
2. False



Thank You