

# Diagnosis of Allergy – Clinical perspectives

Jonathan Hourihane

Department of Paediatrics  
& Child Health



j.hourihane@ucc.ie

## Disclosures 2017

- **Employment**
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  - Aimmune Corporation
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- **Stockholding / directorships**
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- **Gifts**
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- **Consultancies**
  - Aimmune Corporation
  - ALK Abello
- **Patent**
  - Challenge outcome predictor
- **Societies**
  - IFAN, IAAI, EAACI, AAAAI, BSACI,
  - Clemens von Pirquet Foundation
- **Speaker fees**
  - Thermofisher
  - Danone



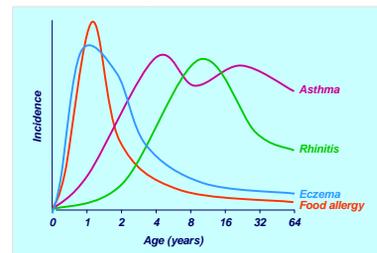
## Diagnosing allergy isn't a matter of chance.....



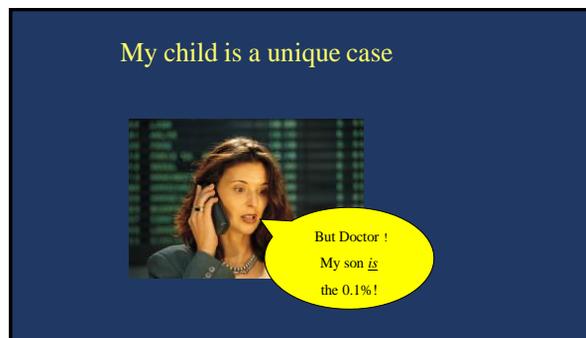
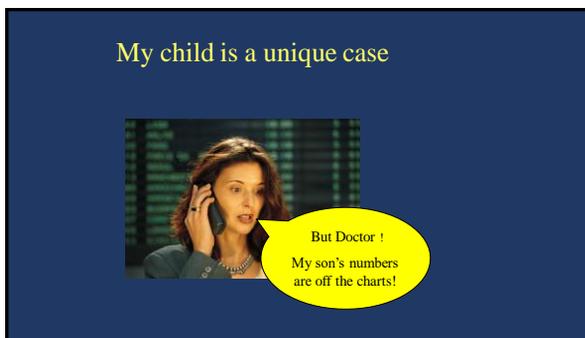
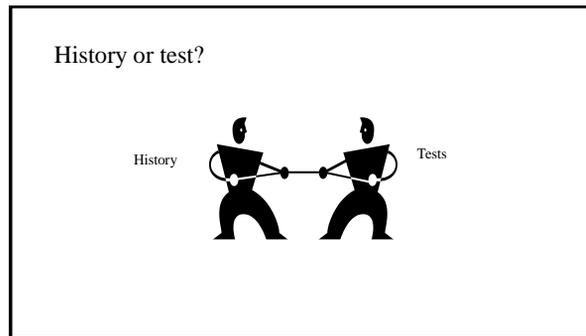
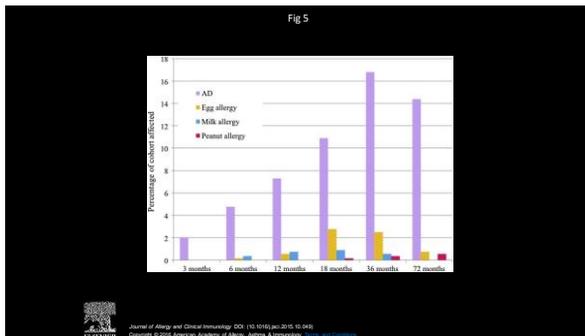
## But it isn't rocket science either



## Atopic Marathon



Redrawn from Durham SR & Church MK, Allergy 2<sup>nd</sup> edition, 2001, Mosby



### Care pathway

**Initial recognition**

- Observe that allergy is a pediatric growing problem with:
- High rate of misdiagnosis and symptoms (Table 1) (pay particular attention to persistent symptoms that involve different organ systems)
- High risk associated with severe reactions, anaphylaxis, asthma, rhinitis or chronic gastrointestinal symptoms (including chronic inflammation) that may compromise quality of life

**History and assessment**

- Obtain a detailed history from parents that taking an allergy-focused clinical history
- Assessment by a specialist (Allergologist, Paediatric Allergologist, Paediatric Immunologist or Paediatric Immunologist) should take a clinical history using the questions in Assessment table 1.3
- Support the clinical history, including a review of previous history, by undertaking the general and targeted types of investigations

**Assessment**

**Investigation and management**

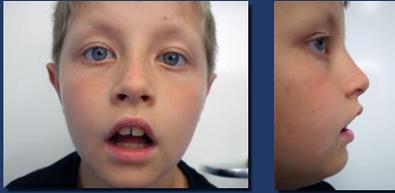
**Do not offer allergy tests without first taking an allergy focussed clinical history**

NICE 2011

### A sniffy boy last week

- Question to audience:  
How many times did he sniff in a 20 min consultation?
- Answer:  
54!!

Signs: mouth breathing and malocclusion



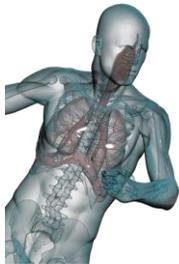
Malocclusion is 5x more common in children with AR

de Freitas FCN. *Int J Paediatr Dent* 2001; 11:365-71

Reliance on history only leads to:

- overestimation of: prevalence number of foods
- And
- underestimation of severity

The United Airway



- Co-morbid Disease
- Physiological relationship
- Common Structure
- Acute and Late Phase Responses
- Immune Response
- Treatment

Allergy in the airway

80% of children with asthma have + SPT to HDM or cat

The United airway

- 80% of asthmatic children have rhinitis
- 20-30% of rhinitic children have asthma

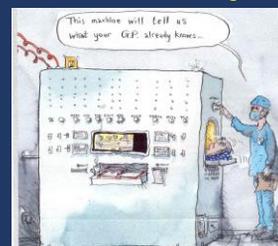


The United Airway

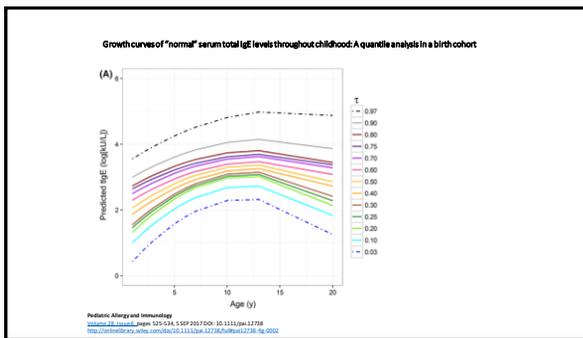
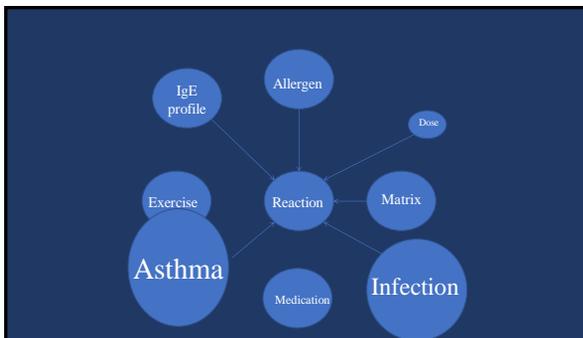
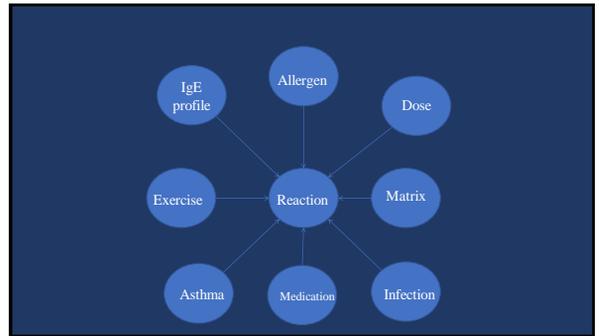
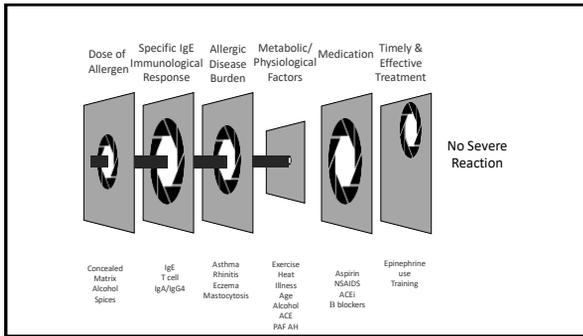
- ISAAC study in Italy
  - 16.8% rhinitis
    - 20% asthma
    - 25% wheeze in last 12 months
  - No rhinitis
    - 6% asthma
    - 9% wheeze in last 12 months

Peroni, 2003

Machine learning I



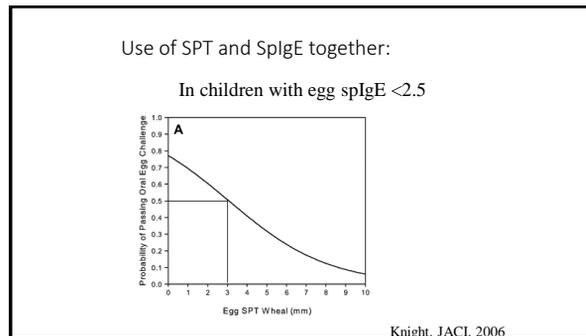
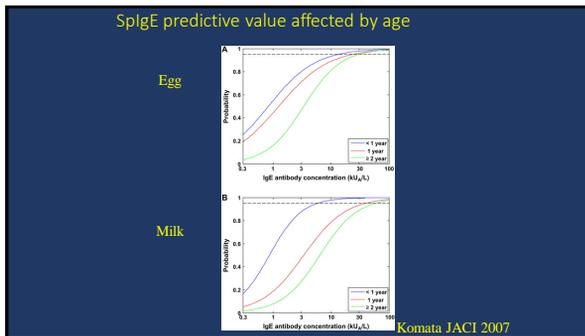




Using SpIgE fall over 1 yr to predict tolerance

% fall in SpIgE	Egg	Milk
50%	0.5	0.31
75%	0.65	0.45
90%	0.78	0.66
99%	0.95	0.94

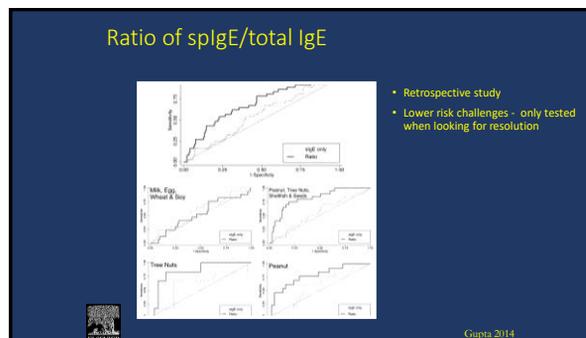
Shek, JACI, 2004



### Weighting of factors better than routine simple tests

Peanut	Sens	Spec	Accuracy %
SpIgE only	75	46	61
SPT only	86	67	75
SpIgE and SPT	88	75	81
Cork-Southampton Calculator	96	90	93

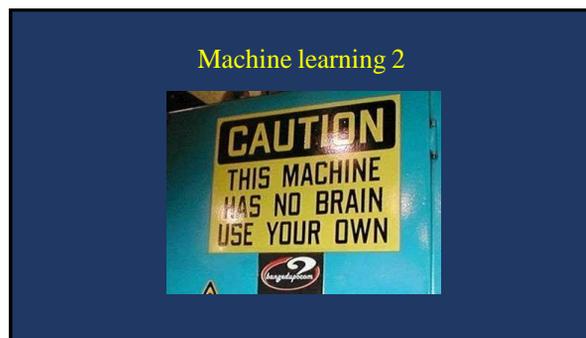
DunnGalvin et al JACI, 2011



### Pitfalls with the data – can it be generalised to your clinic

- Differences in SPT extract, method & reading time
- Differences in populations studied eg referral base, co-morbidity
- Challenge +ve based on different criteria
- Differences in IgE assay systems

Eigenmann P.Clin Exp All 2005.



“how your battles inspired me  
— not the obvious material  
battles but those that were  
fought and won behind your  
forehead.”

James Joyce, letter to H Ibsen

## Conclusion

- We now have guidelines to help us
- Technological explosion could confuse us and our patients
- Clinicians must decide what tests to do, not families or laboratories

AFTER

- TAKING AN ALLERGY-FOCUSSED CLINICAL HISTORY

