

How to handle avoidance of traces of allergen in foods

Philippe Eigenmann
Pediatric Allergy Unit



UNIVERSITÉ DE GENÈVE



Hôpitaux
Universitaires
Genève

Are traces really a problem for our patients?

Table I. Percentage of label types observed on cookies and chocolates.

	"May contain"		"Present in environment"		No reference to (pea)nut	"May contain"		"Present in environment"		No reference to (hazel)nut
	Peanut	Nut	Peanut	Nut		Hazelnut	Nut	Hazelnut	Nut	
Cookies										
"old Member States"	8	18	12	7	55	2	26	5	10	57
"new Member States"	12	5	32	0	50	9	9	19	0	63
Candidate countries	Insufficient number of samples					Insufficient number of samples				
Chocolates										
"old Member States"	27	41	2	10	20	9	61	3	9	16
"new Member States"	87	3	0	0	10	53	38	0	0	9
Candidate countries	62	6	0	0	32	65	4	0	0	31

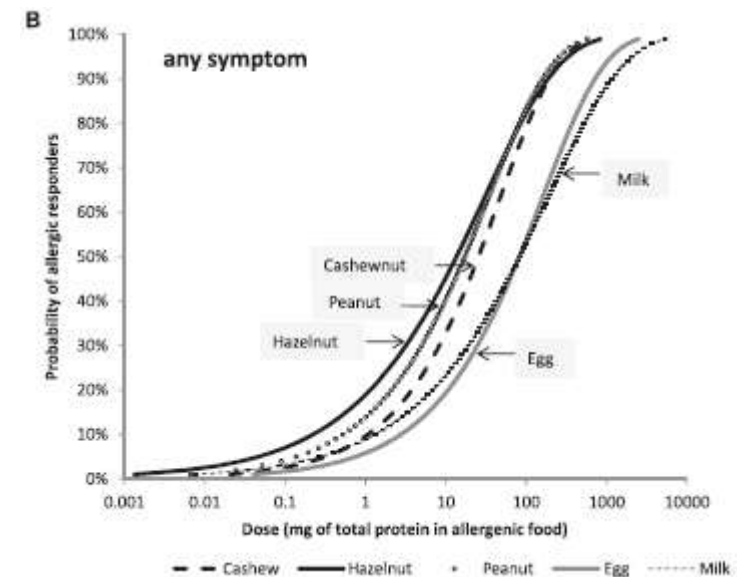
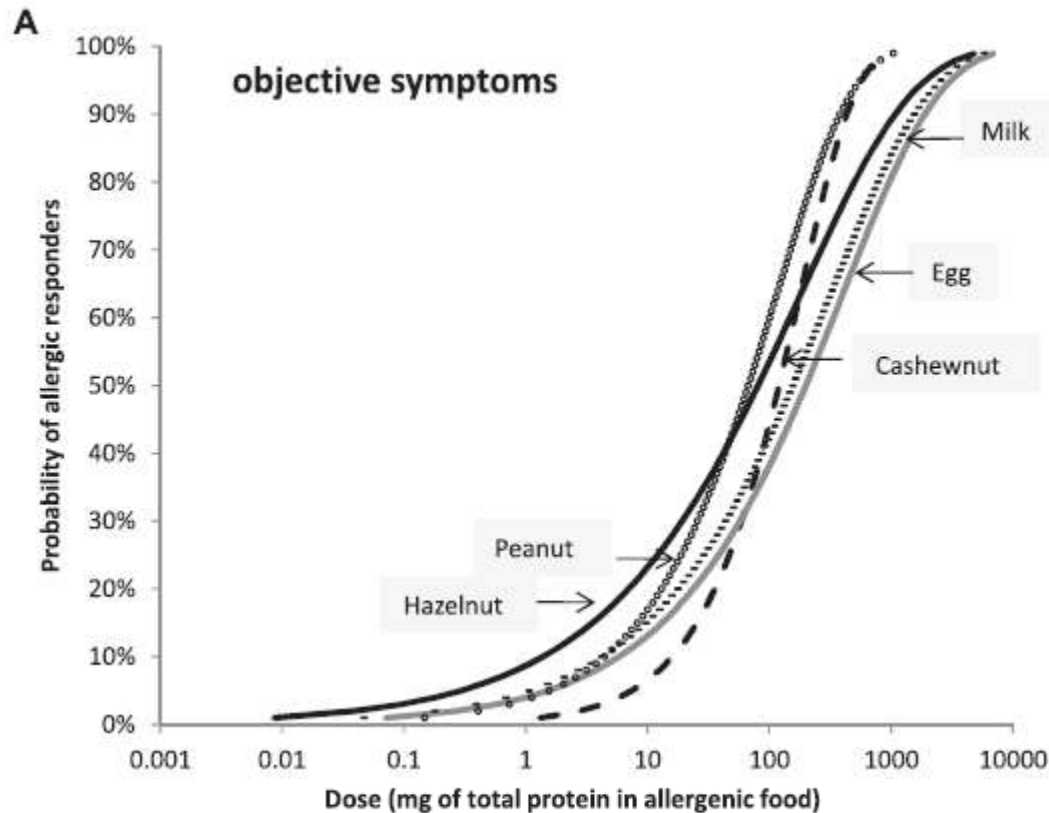
Table III. Relation between label type and positive ELISA results for food products without any reference to (hazel)nut or with a precautionary type of labelling.

	Reference made to (hazel)nut on the label	Total	% positive for hazelnut
Cookies	“May contain”	66	36
	“Present in environment”	43	23
	No reference	169	25
	Total	278	28
Chocolate	“May contain”	167	79
	“Present in environment”	15	60
	No reference	40	53
	Total	222	73

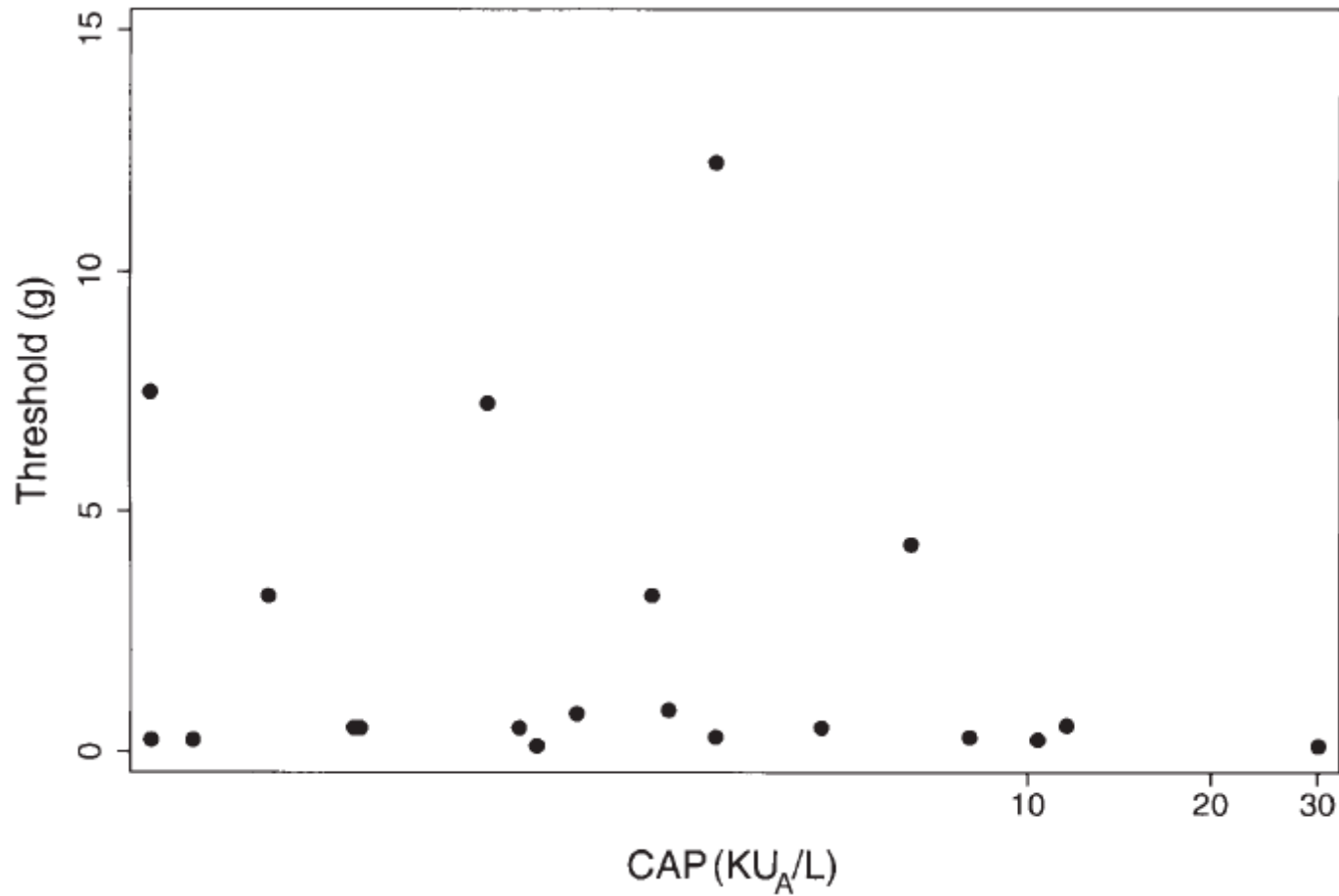
Are there threshold doses?

A few examples from the literature

Threshold doses in Dutch children to 5 foods



Threshold doses for eggs vs IgE



**Yes, there are threshold doses
but!**

they are:

- patient/population-related**
- often with a large variation
between subjective and objective**

WHY?

Reaction severity = (Host factors X Event factors) X ?

Host factors

Age
Asthma
Severity of previous reactions
General health
(Pollenosis)
Recent infection
Medication
Attitude to risk
Anxiety/ panic

X

Event factors

Allergen dose
Food matrix
Food form (raw/cooked egg)
Allergen stability
Season (pollen)
Exercise
Alcohol
Use of rescue medication
Anxiety/panic

X ?

**Do I take the risk of eating
traces...or not?**

Perceptions of precautionary labelling among parents of children with food allergy and anaphylaxis

MJA 198 (11) · 17 June 2013

1 Behaviour relating to food labels among parents of food-allergic children with a history of anaphylaxis (113) and with a history of mild to moderate IgE-mediated reactions (133)

Question and possible responses	Anaphylaxis	Mild–moderate reactions	<i>P</i> *
If your child has a specific food allergy (eg, peanuts) do you intentionally remove food products containing the specific food from the house?			
No	39 (35%)	65 (49%)	
Not sure	1 (1%)	3 (2%)	
Yes	73 (55%)	64 (48%)	0.04
When you buy a food product which part of the label do you check for an allergen?			
Ingredients only	27 (24%)	32 (25%)	
Precautionary information only	1 (1%)	1 (2%)	
Both	82 (73%)	95 (74%)	
Neither	2 (2%)	1 (1%)	0.88

Perceptions of precautionary labelling among parents of children with food allergy and anaphylaxis

MJA 198 (11) · 17 June 2013

1 Behaviour relating to food labels among parents of food-allergic children with a history of anaphylaxis (113) and with a history of mild to moderate IgE-mediated reactions (133)

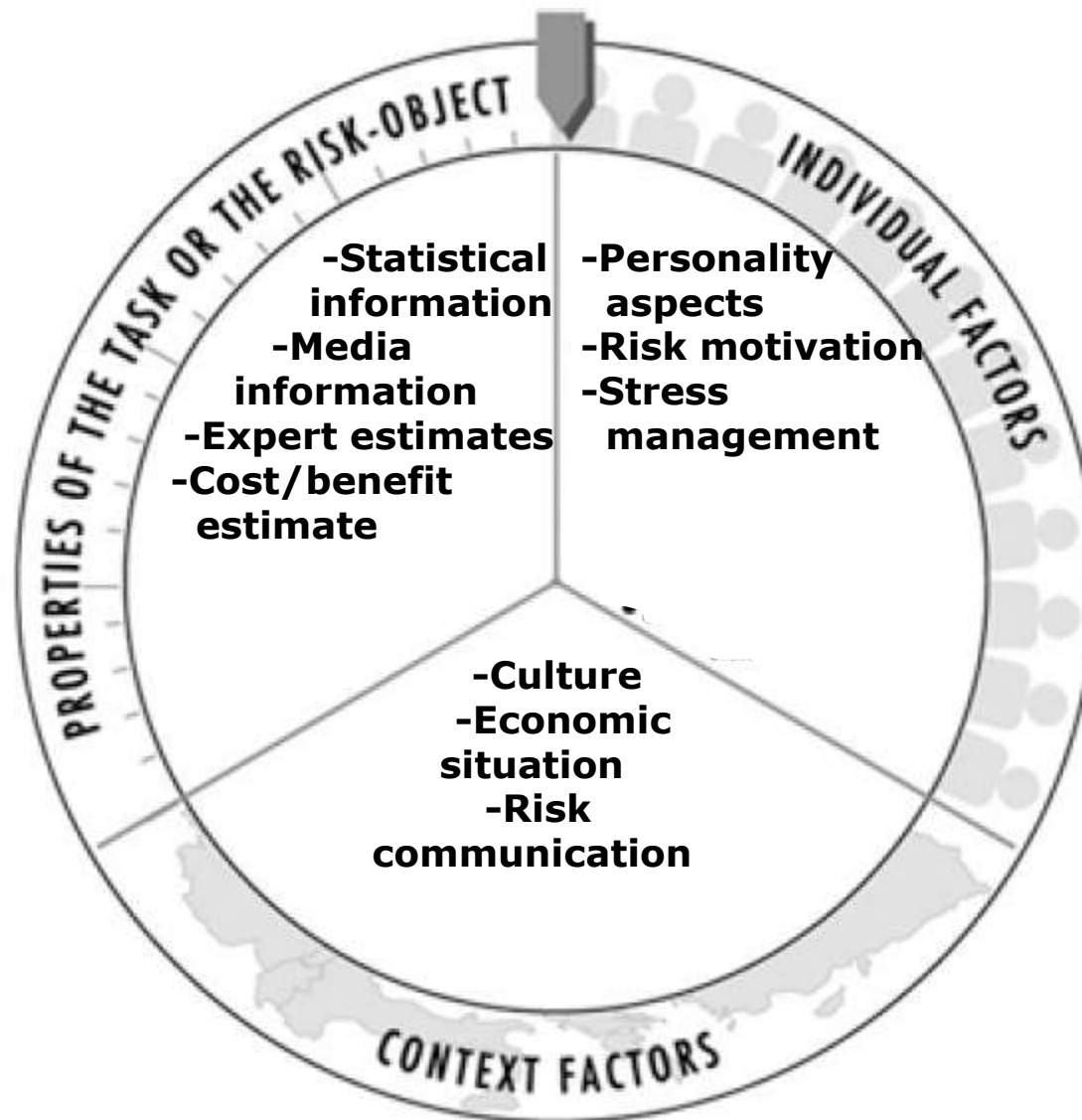
Question and possible responses	Anaphylaxis	Mild–moderate reactions	<i>P</i> *
Would you give your child a food if the food he or she was allergic to was listed in the precautionary labelling section?			
No	64 (58%)	81 (62%)	
Not sure	8 (7%)	11 (8%)	
Yes	38 (35%)	39 (30%)	0.72
How often do you look at precautionary food labels?			
Only when I buy a product for the first time	33 (30%)	44 (34%)	
Only occasionally when I buy a product	10 (9%)	14 (11%)	
Most of the times when I buy a product	31 (28%)	34 (26%)	
Every time I buy a product	36 (33%)	38 (29%)	0.85

Facets of risk acceptance and risk rejection



Google: ILO risk acceptance

<http://www.ilo.org/oshenc/part-viii/safety-policy-and-leadership/item/987-risk-acceptance>



Google: ILO risk acceptance

<http://www.ilo.org/oshenc/part-viii/safety-policy-and-leadership/item/987-risk-acceptance>

Indications to define a threshold dose *-patient benefits-*

- For persistent food allergies (peanuts, tree nuts, fish...).
- To lower patient/family anxiety.
- To objectivate how a reaction appears.

IMPLICATIONS FOR THE PATIENT

Processus : S7 - Surveillance - Überwachung - Monitoring	Type de document : Formulaire - Formular - Form
HACCP Demande de régime allergie_intolérance	S7.F122 v3

Les informations transmises dans ce formulaire seront traitées en toute confidentialité. Elles nous sont nécessaires pour prendre position sur la faisabilité du régime alimentaire en cas d'allergie ou d'intolérance, afin de garantir la sécurité de nos convives.

Ce formulaire a été élaboré en partenariat avec le service d'allergologie et d'immunologie du CHUV. Nous tenons à disposition des médecins un rapport d'expertise médicale sur le sujet.

Seuil de réactivité

Peut consommer des traces :

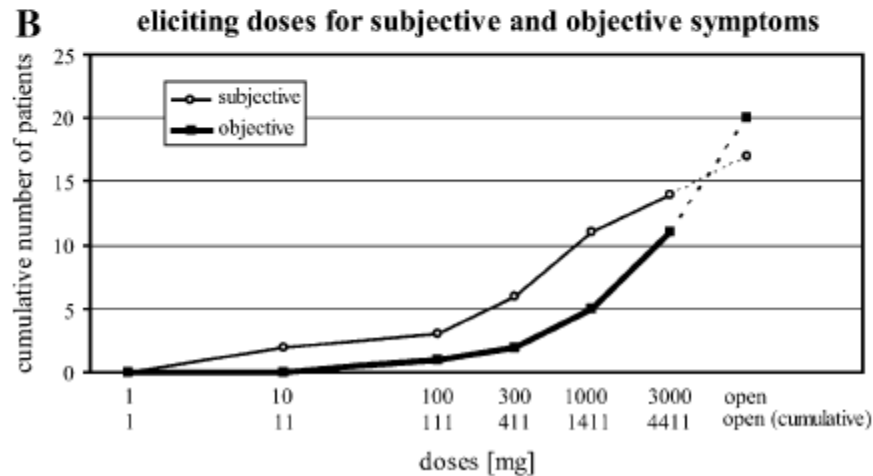
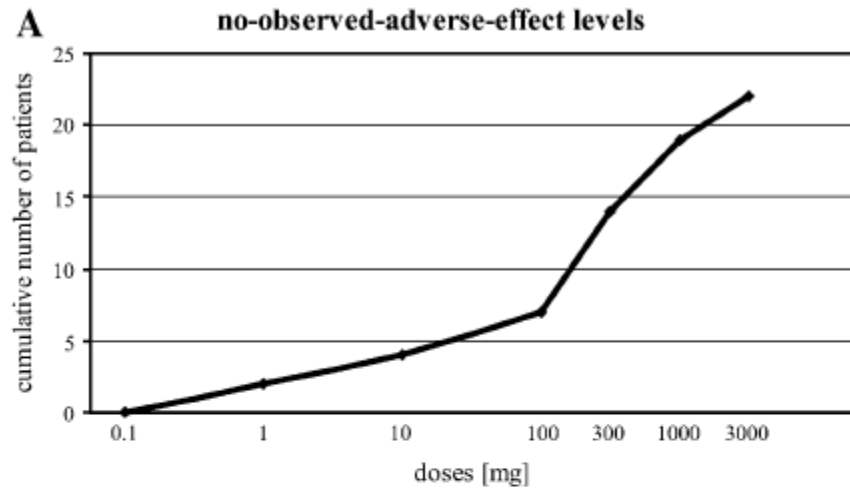
Oui

Non

Threshold doses for peanuts and subsequent reactions

- 27 peanut allergic patients
->DBPCFC (22/27 +)
- Strict avoidance in 11 with severe reactions at DBPCFC
- 12 months f.u. for reactions

Threshold doses for peanuts



Threshold doses for peanuts

TABLE III. Accidental allergic reactions during a 12-month follow-up period in 3 different dietary management groups

	Dietary management		
	No restriction (n = 5)	Less strict (n = 11)	Strict (n = 11)
Accidental allergic reactions			
To “may contain peanut” products	0	3	0
To other products containing peanut	0	3	0
Number of patients	0	4	0

Mild OAS



Accidental food allergy reactions: Products and undeclared ingredients

J ALLERGY CLIN IMMUNOL
SEPTEMBER 2018

W. Marty Blom, PhD,^{a,b} Anouska D. Michelsen-Huisman, RD,^b Harmieke van Os-Medendorp, PhD,^b
Gert van Duijn, PhD,^c Mary-lène de Zeeuw-Brouwer, BSc,^a Astrid Versluis, MSc, MANP,^b
Jacqueline J. M. Castenmiller, PhD,^d Hubert P. J. M. Noteborn, PhD,^d Astrid G. Kruizinga, MSc,^a
André C. Knulst, PhD, MD,^b and Geert F. Houben, PhD^{a,*} *Zeist and Utrecht, The Netherlands*

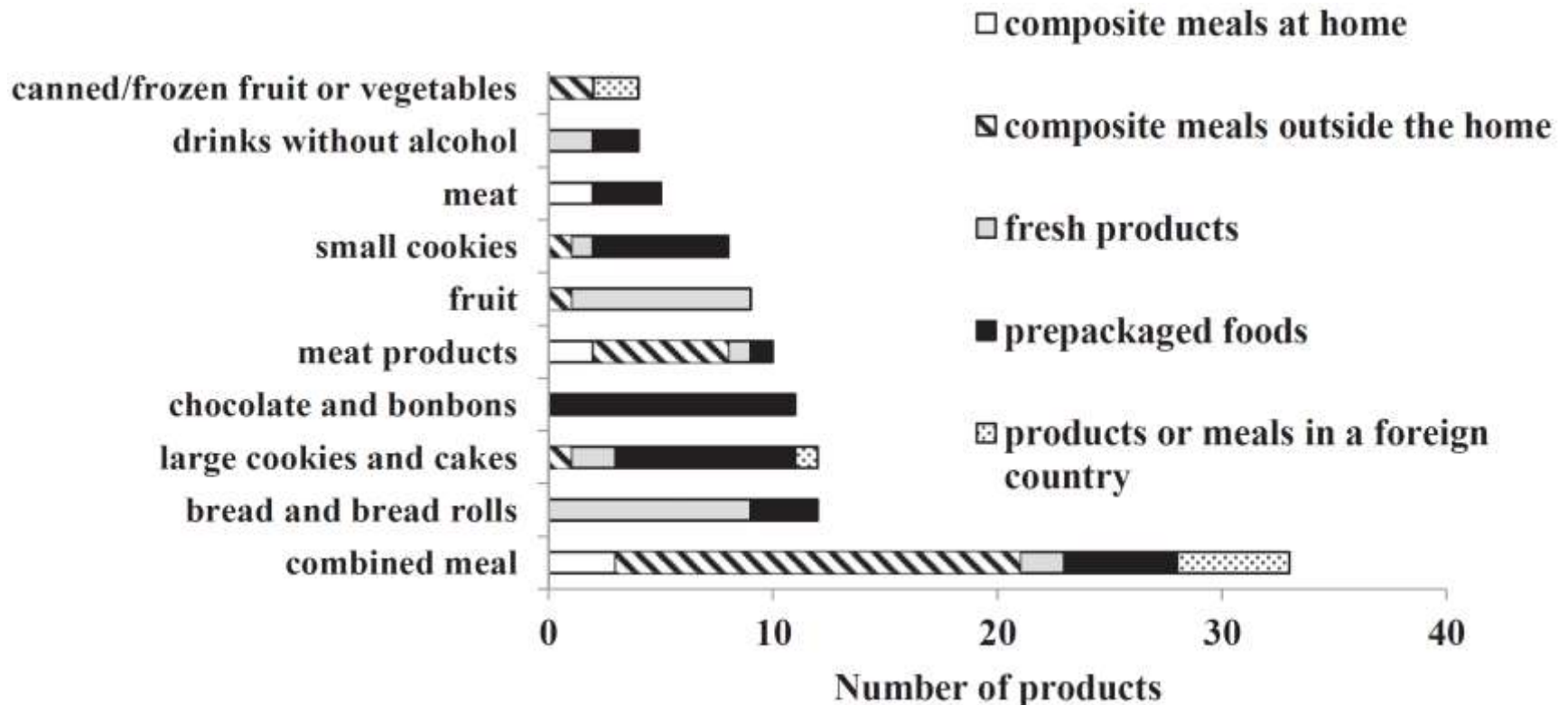


TABLE II. Concentrations of allergenic foods detected in patient-provided food products (n = 19)

Allergenic food	No.	Concentration of allergen (minimum–maximum [ppm])*
Cow's milk	8	6-4388
Peanut	6	4-5000
Sesame	2	3-1690
Hazelnut	5	1-126
Pecan nut	1	920
Walnut	2	40-159
Hen's egg	2	3-25
Celery	2	0.2-0.4

*Concentration in milligram of total protein of the allergenic food/kilogram of food product.

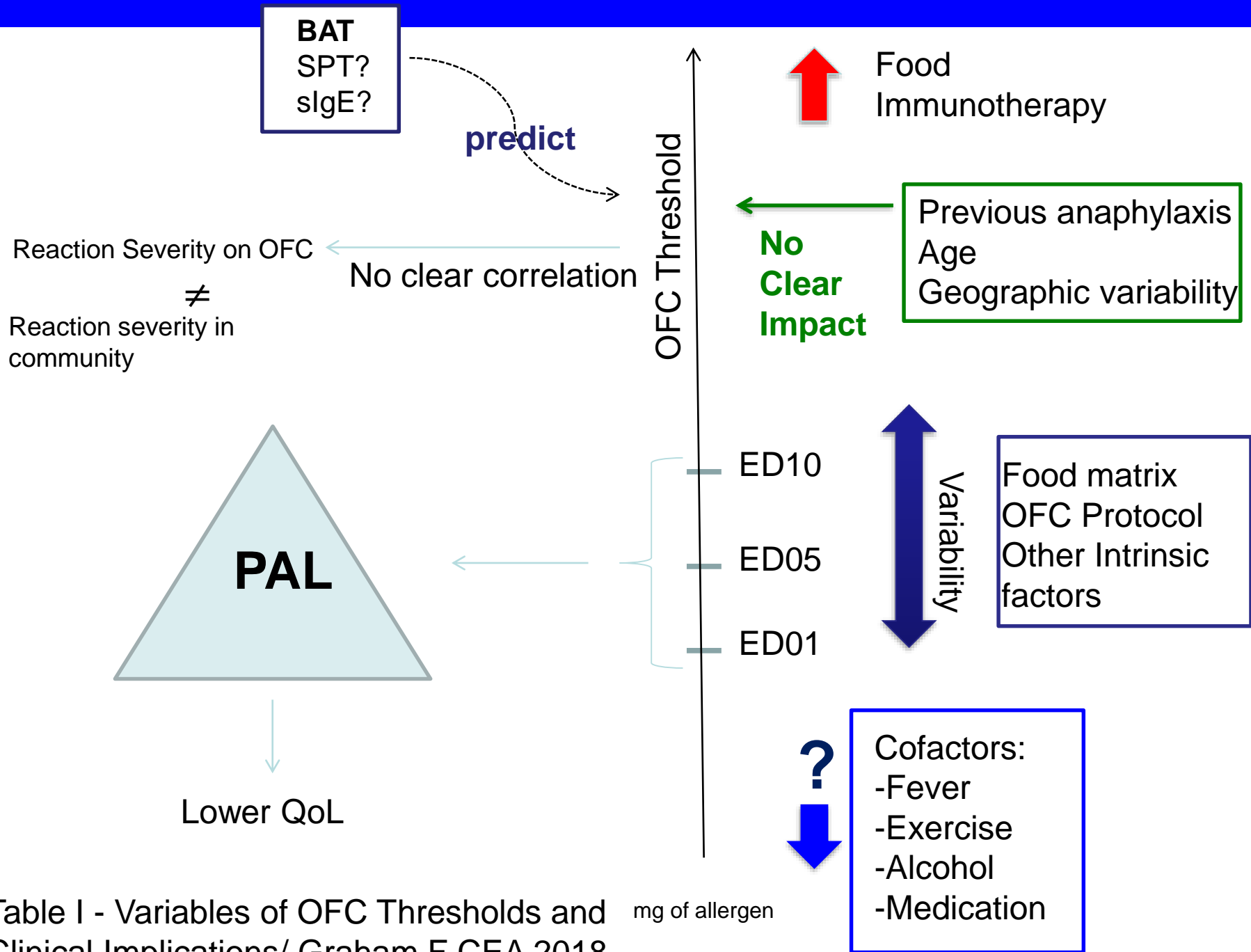


Table I - Variables of OFC Thresholds and Clinical Implications/ Graham F CEA 2018

- **Key messages**

- **The majority of our food allergic patients do not react to traces.**
- **We do not do routine threshold studies.**
- **Consider determining thresholds in severe allergics or chronic patients.**
- **Threshold determination should be done in well trained centers.**

Let's discuss it!

