What's new in food allergy?

Dr Warren Hyer

Consultant Paediatrician

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Royal Children's Hospital Melbourne

St MARK'S HOSPITAL

Options to discuss

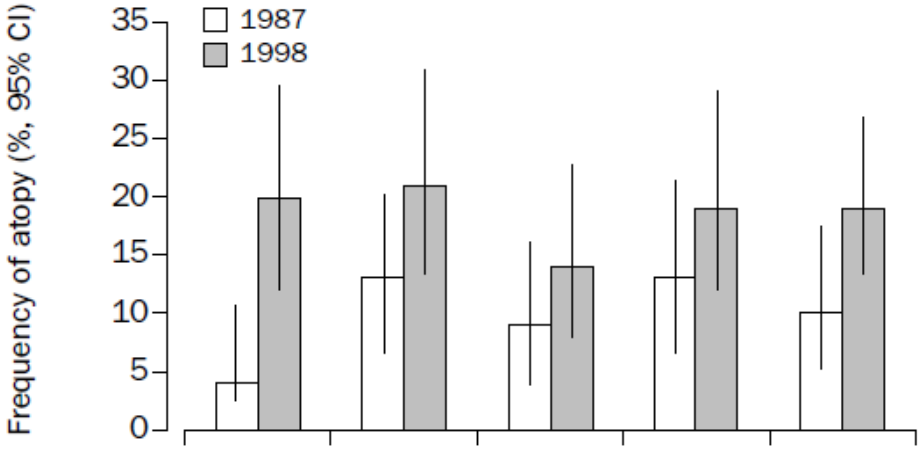
- Rising prevalence – real or presumed?
- Manifestations of food allergy
- Cows milk allergy
- Eczema
- Reflux and screaming infants
- Immediate food reactions and adrenaline devices
- Urticaria and hyperactivity
- Testing for food allergy
- Preventing food allergy

Is there really an increase?

Frequency of atopy in the Arctic in 1987 and 1998

Tyra Grove Krause, Anders Koch, Jeppe Friborg, Lars K Poulsen, Bjarne Kristensen, Mads Melbye

Few studies have measured the frequency of atopy with objective measures, and most of these studies have been done in industrialised countries. We analysed serum samples from 859 15–80-year-old Greenlanders who had participated in population-based screening campaigns in 1987 and in 1998. We defined atopy as a positive result in an assay that tests for specific IgE against the eight most common inhalant allergens in one pool (grass, birch, mugwort, dog, cat, horse, *Cladosporum herbarum*, house dust mite). The frequency of atopy doubled between 1987 (39 [10%] of 392) and 1998 (87 [19%] of 467; risk ratio 1·88 [95% CI 1·31–2·68]). This increase was largest in 15–19-year olds, but also occurred in

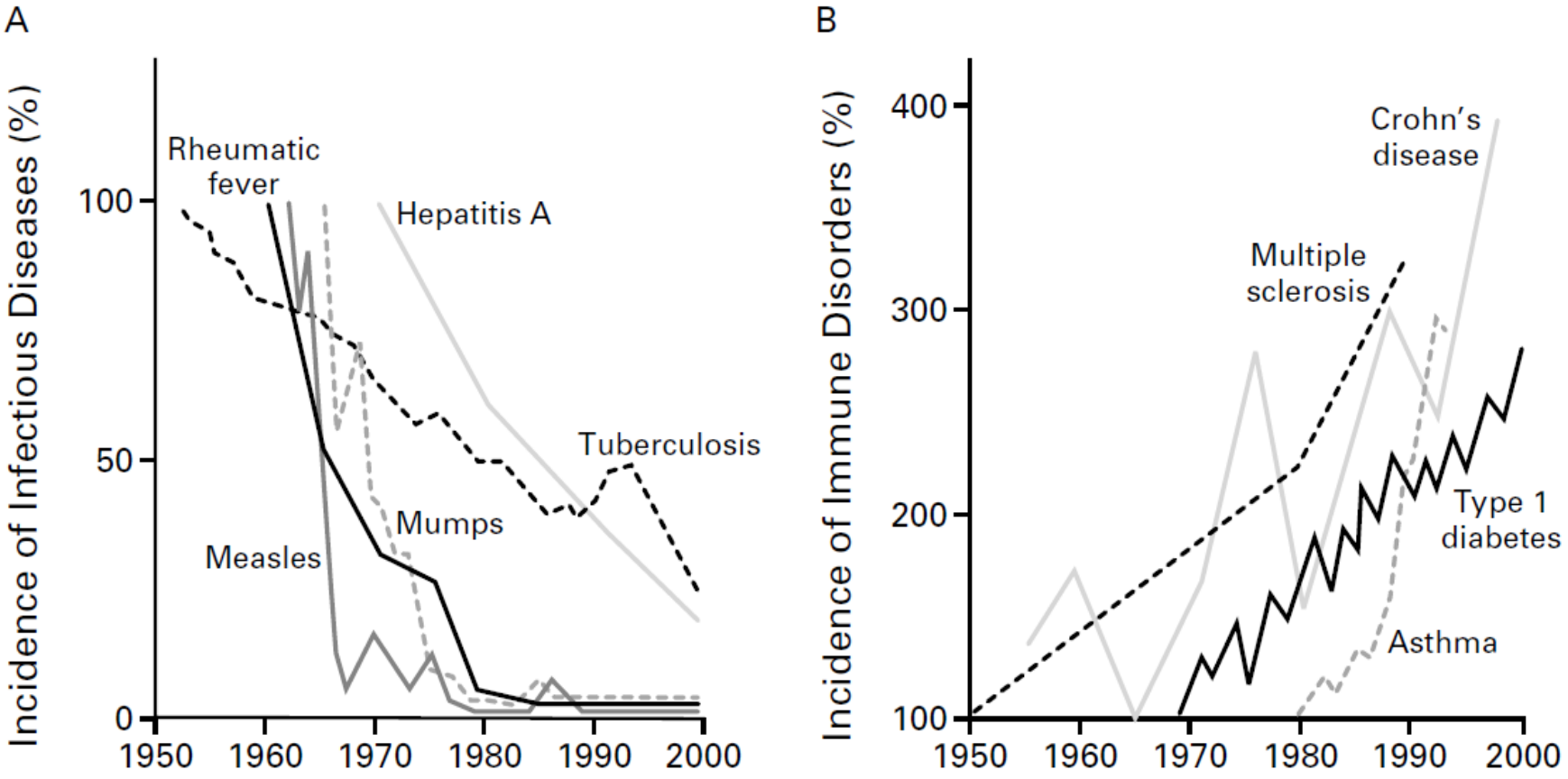


Yes

- 7 UK studies ↑ prevalence
- Increase in wheezing, allergic rhinoconjunctitis and eczema
- ↑ in Leipzig between 91/92 and 95/96
- ↑ Melbourne data

Prevalence of food allergy

Authors	Year of study	n	Age years	Prevalence food allergy
Jakobsson and Lindberg [3]	1979	1,079	<1	Cow's milk 1.9%
Høst and Halken [4]	1985	1,749	<1	Cow's milk 2.2%
Schrander et al. [5]	1993	1,158	<1	Cow's milk 2.8%
Hill et al. [6]	1997	620	0–3	Cow's milk 2.0% Egg 3.2% Peanut 1.9%
Tariq et al. [7]	1989	1,218	4	Peanut 0.5%
Grundy et al. [8]	1994–1996	1,246	4	Peanut 1.5%
Sicherer et al. [9]	1999	12,032	Children and adults	Peanut 1.1%


A
Incidence of Infectious Diseases (%)
100
50
0
1950
1960
1970
1980
1990
2000
Rheumatic fever
Hepatitis A
Tuberculosis
Mumps
Measles
B
Incidence of Immune Disorders (%)
400
300
200
100
1950
1960
1970
1980
1990
2000
Crohn's disease
Multiple sclerosis
Type 1 diabetes
Asthma

Why the rise? No proof.....

Pediatr Allergy Immunol 2003: 14: 74–80
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PEDIATRIC ALLERGY AND IMMUNOLOGY

ISSN 0905-6157

Review Article

Immune deviation and the hygiene hypothesis: A review of the epidemiological evidence

Kemp A, Björkstén B. Immune deviation and the hygiene hypothesis: A review of the epidemiological evidence.
Pediatr Allergy Immunol 2003: 14: 74–80. © 2003 Blackwell Munksgaard

Andrew Kemp[1] and Bengt Björkstén[2]
[1]Department of Immunology, Royal Children's Hospital, Murdoch Children's Research Institute

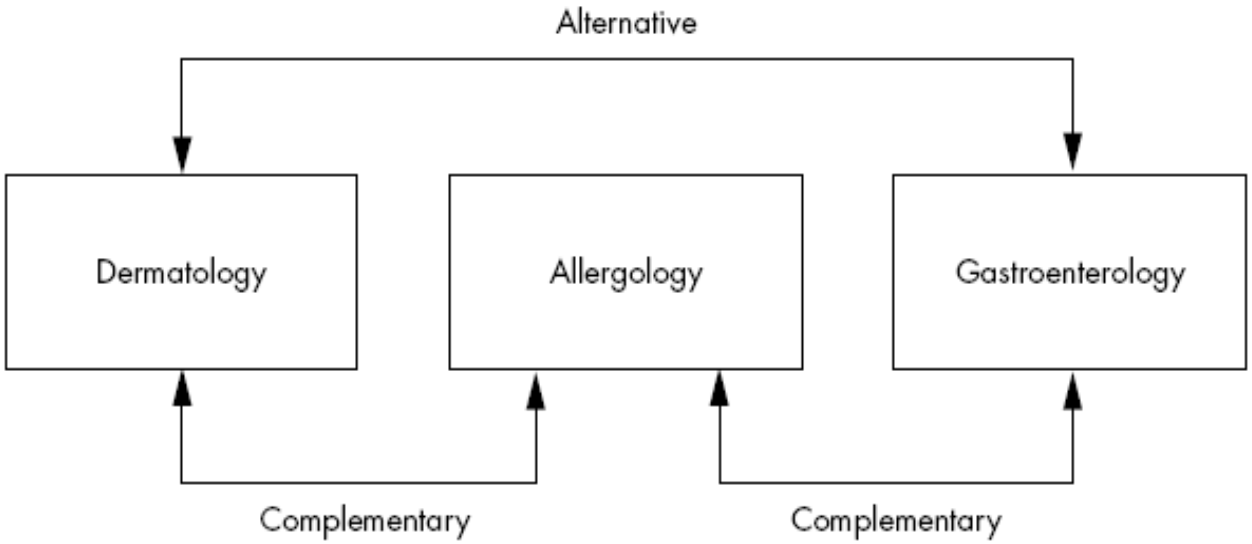
LEADING ARTICLE

Allergy

Who should manage infants and young children with food induced symptoms?

B Niggemann, R G Heine

A proposal for a unified, interdisciplinary approach



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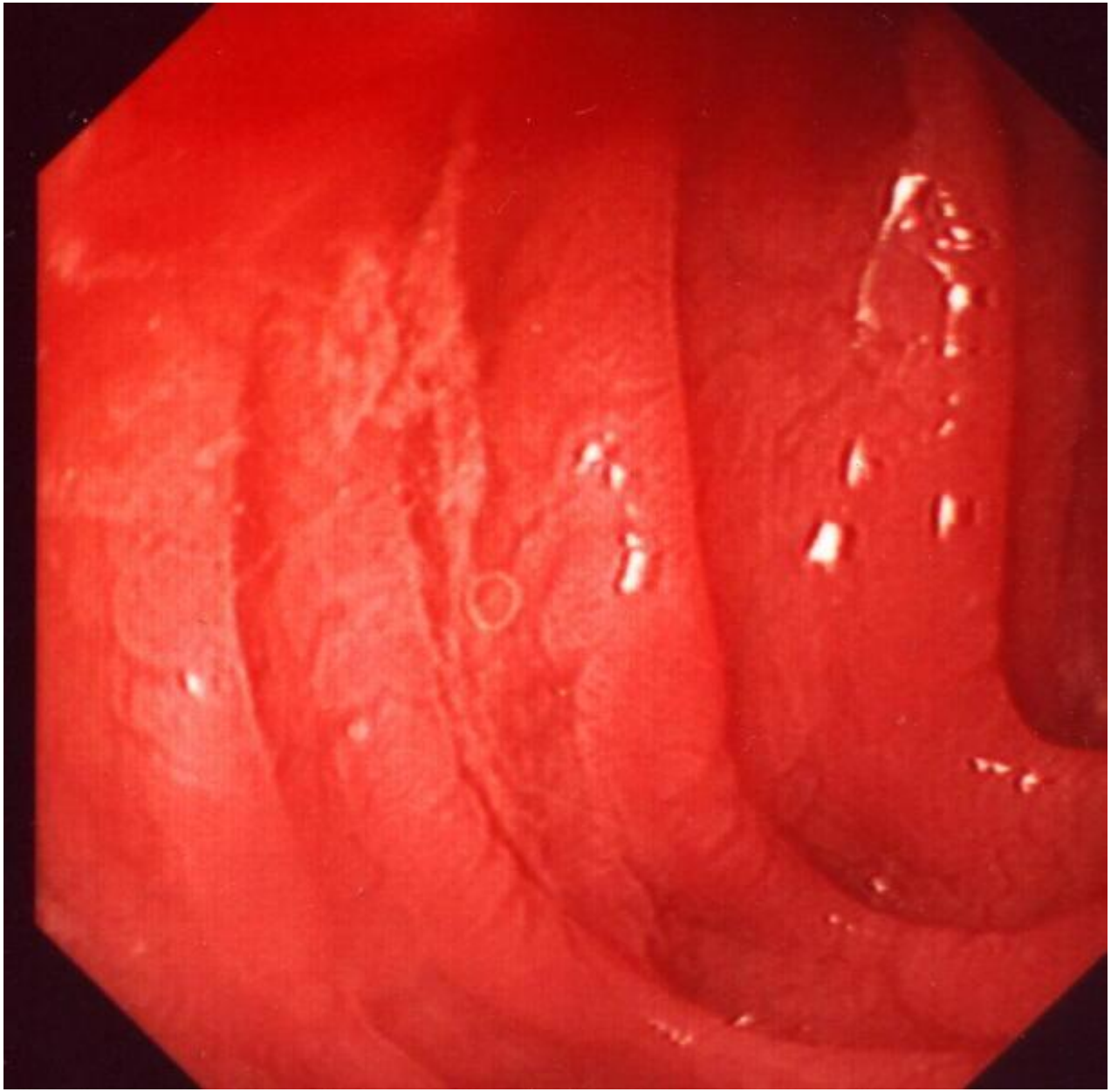
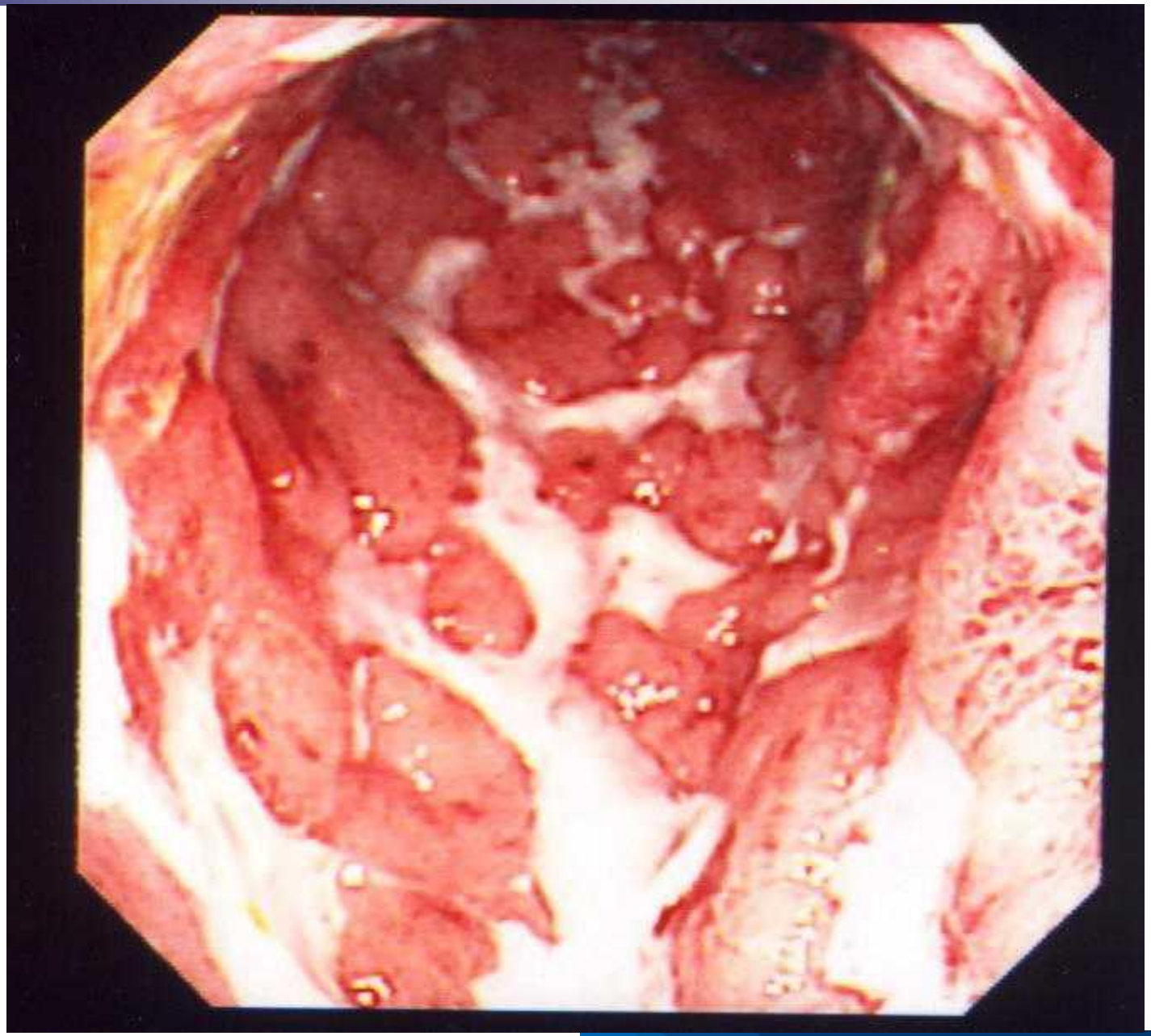
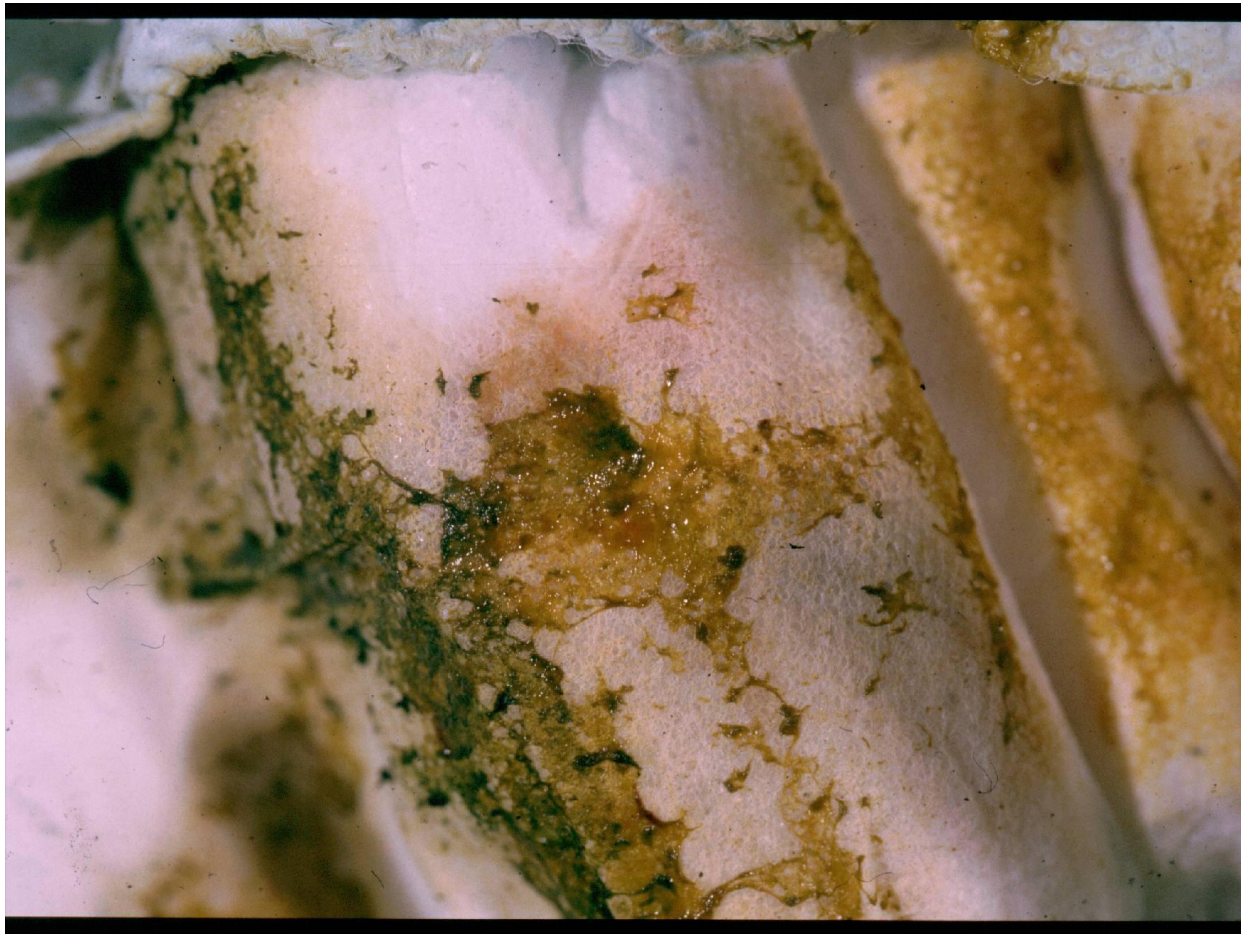
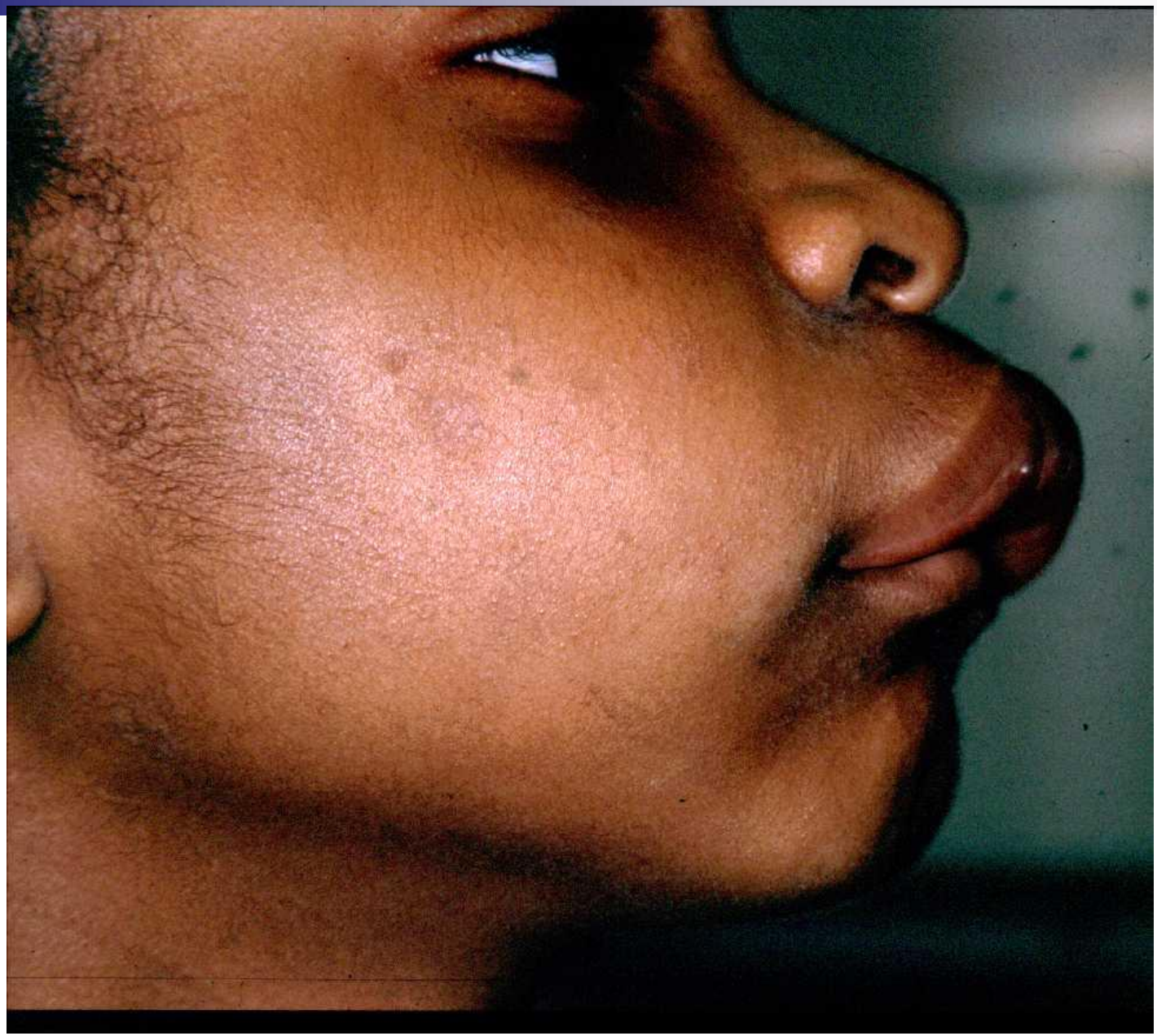
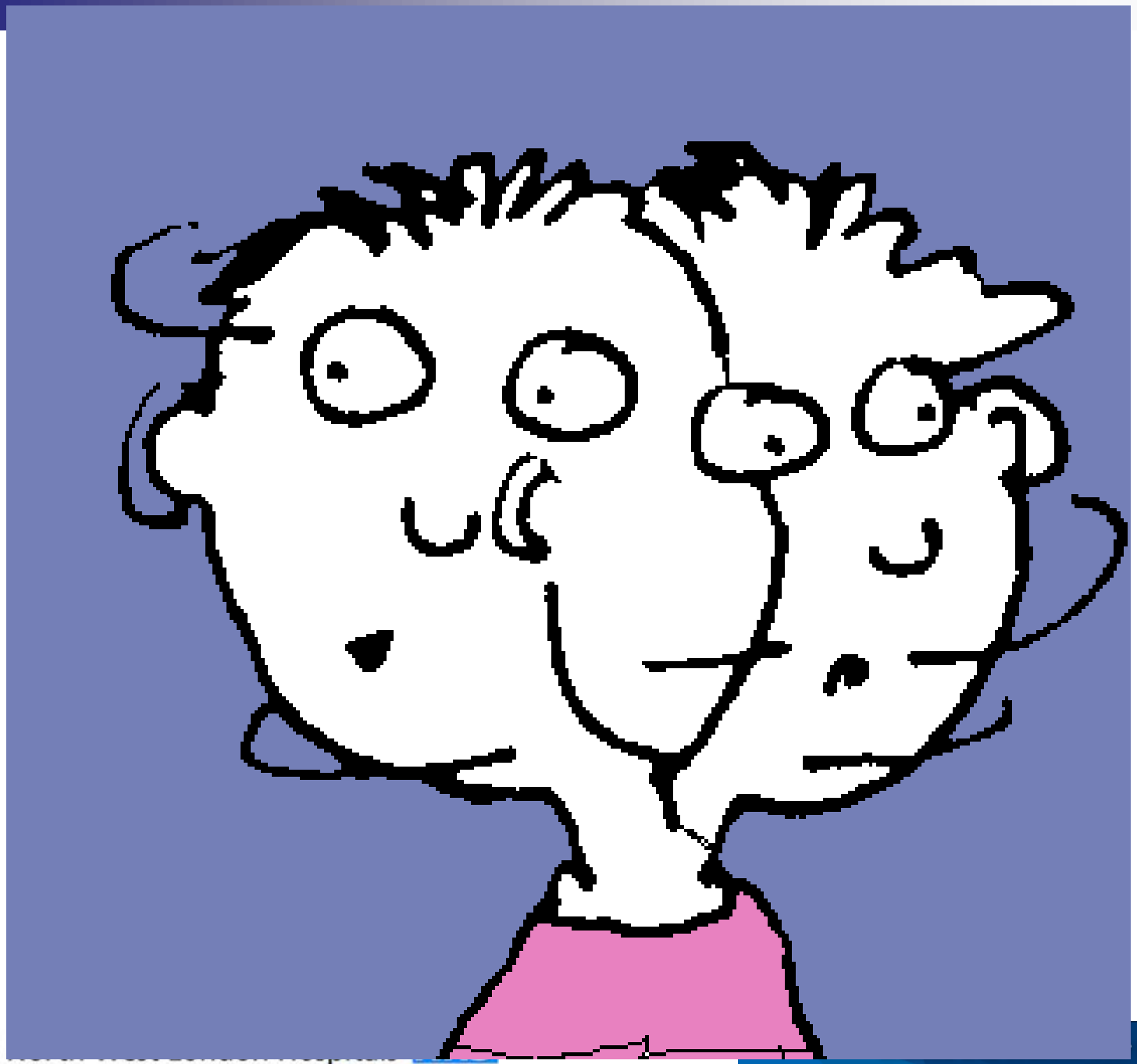
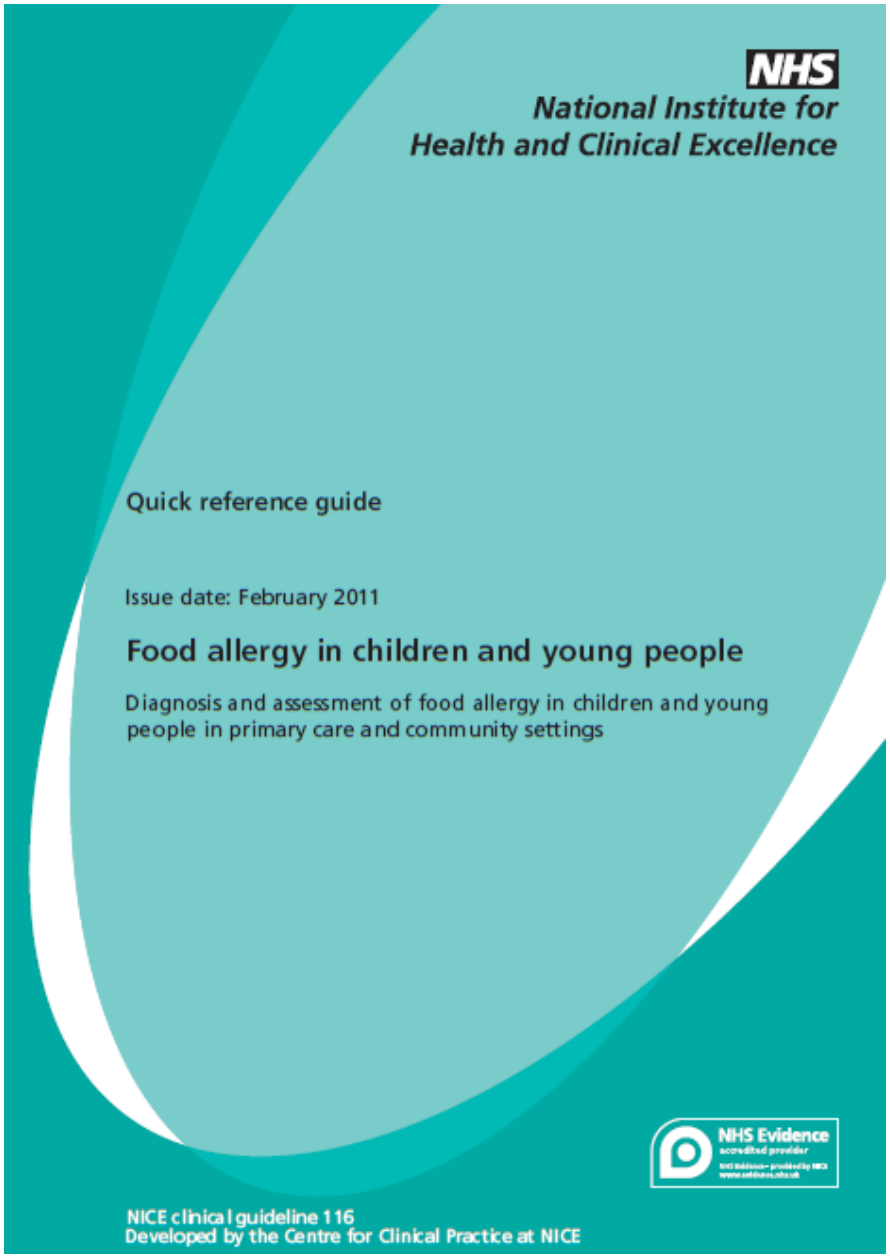






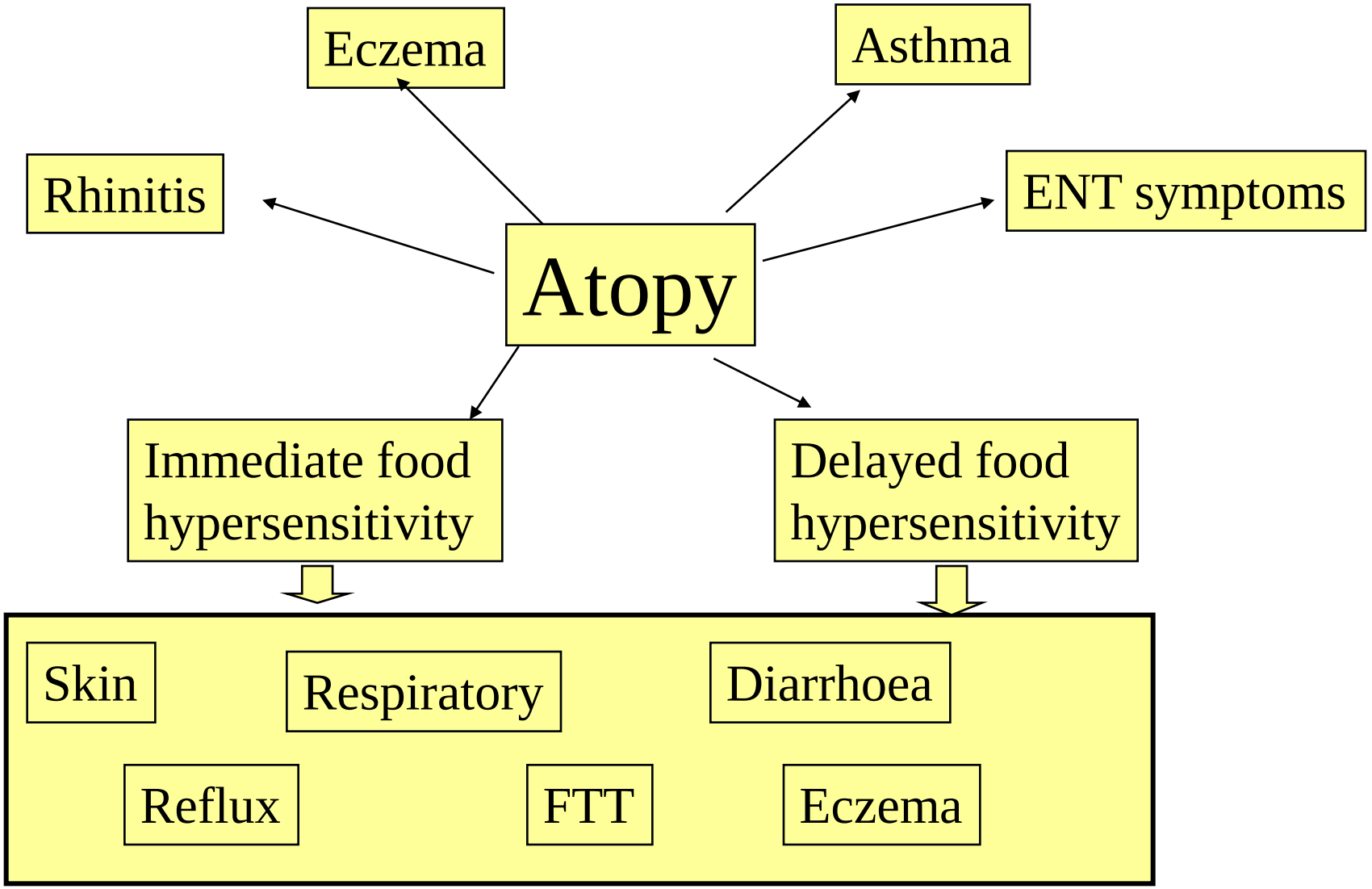




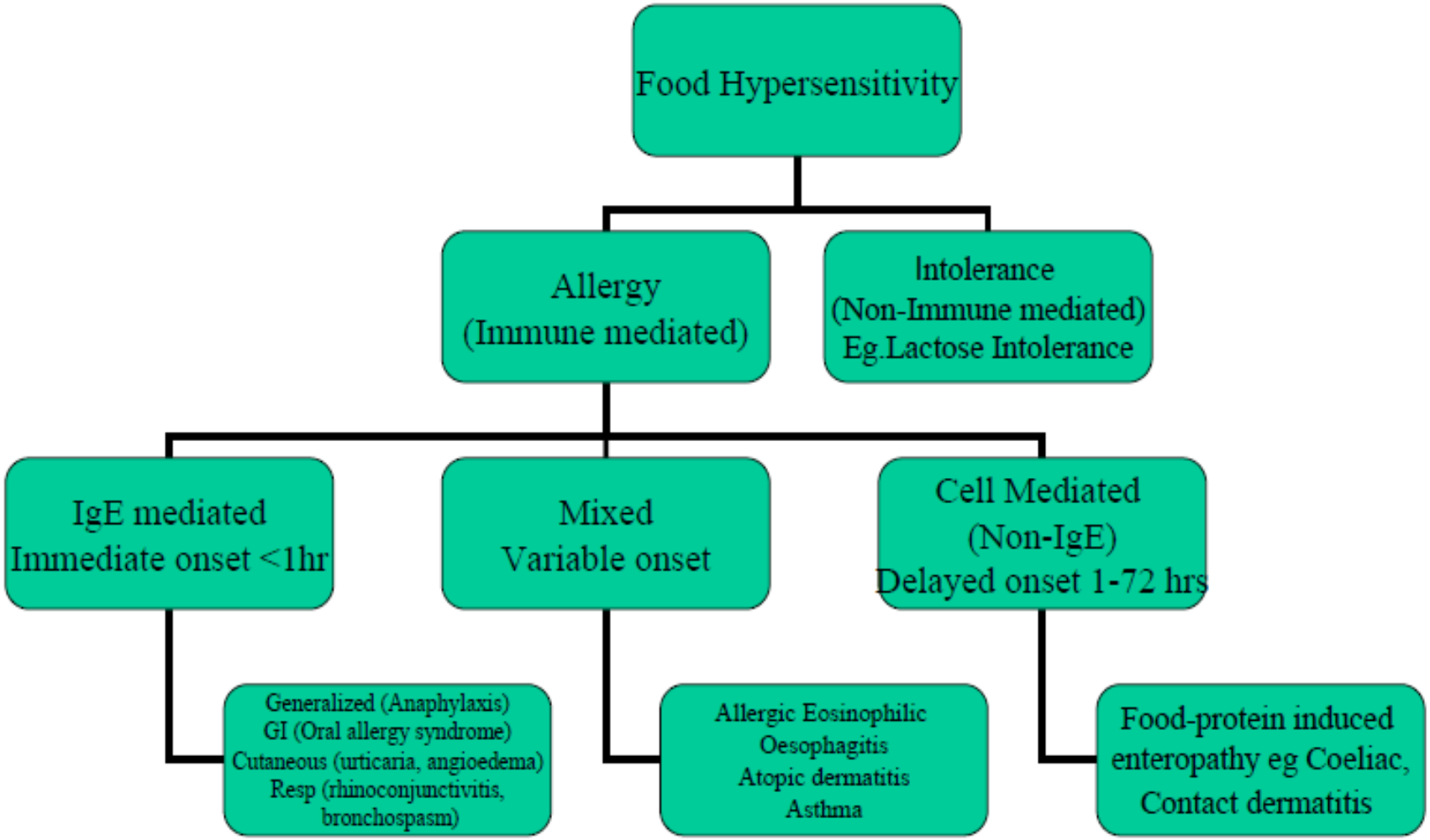

NHS
National Institute for
Health and Clinical Excellence
Quick reference guide
Issue date: February 2011
Food allergy in children and young people
Diagnosis and assessment of food allergy in children and young people in primary care and community settings
NHS Evidence
accredited provider
NICE clinical guideline 116
Developed by the Centre for Clinical Practice at NICE

Box 1 Signs and symptoms of possible food allergy[2]

IgE-mediated	Non-IgE-mediated
The skin	
• Pruritus • Erythema • Acute urticaria (localised or generalised) • Acute angioedema (most commonly in the lips and face, and around the eyes)	• Pruritus • Erythema • Atopic eczema
The gastrointestinal system	
• Angioedema of the lips, tongue and palate • Oral pruritus • Nausea • Colicky abdominal pain • Vomiting • Diarrhoea	• Gastro-oesophageal reflux disease • Loose or frequent stools • Blood and/or mucus in stools • Abdominal pain • Infantile colic • Food refusal or aversion • Constipation • Perianal redness • Pallor and tiredness • Faltering growth plus one or more gastrointestinal symptoms above (with or without significant atopic eczema)


Eczema
Asthma
Rhinitis
ENT symptoms
Atopy
Immediate food hypersensitivity
Delayed food hypersensitivity
Skin
Respiratory
Diarrhoea
Reflux
FTT
Eczema

World Allergy Organisation Definition (2003)
Sampson HA. Improving in-vitro tests for the diagnosis of food hypersensitivity. Current Opinion in Allergy and Immunology 2002: 257-61



IgE mediated immediate reaction

- Food allergy like urticaria or anaphylaxis
- Oral allergy syndrome

Non IgE mediated – delayed manifestation

- eczema
- Allergic colitis
- Infantile colic
- GORD
- Allergic dysmotility
- Enteropathy

IgE-mediated allergy is suspected

- Offer a skin prick test and/or blood tests for specific IgE antibodies to the suspected foods and likely co-allergens. Base choice of test on:
  - the clinical history **and**
  - the suitability for, safety for, and acceptability to the child (or their parent or carer) **and**
  - the available competencies of the healthcare professional.
- Tests should only be undertaken by healthcare professionals with appropriate competencies.
- Only undertake skin prick tests where there are facilities to deal with an anaphylactic reaction.
- Interpret test results in the context of clinical history.
- Do not use atopy patch testing or oral food challenges to diagnose IgE-mediated allergy in primary care or community settings.

Non-IgE-mediated allergy is suspected

- Try eliminating the suspected allergen for 2–6 weeks, then reintroduce. Consult a dietitian with appropriate competencies about nutritional adequacies, timings and follow-up.
- Taking into account socioeconomic, cultural and religious issues, offer information on:
  - what foods and drinks to avoid
  - how to interpret food labels
  - alternative foods to eat to ensure a balanced diet
  - the duration, safety and limitations of an elimination diet
  - oral food challenge or reintroduction procedures, if appropriate, and their safety and limitations.
- If allergy to cows' milk protein is suspected, offer:
  - food avoidance advice to breastfeeding mothers
  - information on appropriate hypoallergenic formula or milk substitute to mothers of formula-fed babies.

  Consult a dietitian with appropriate competencies.

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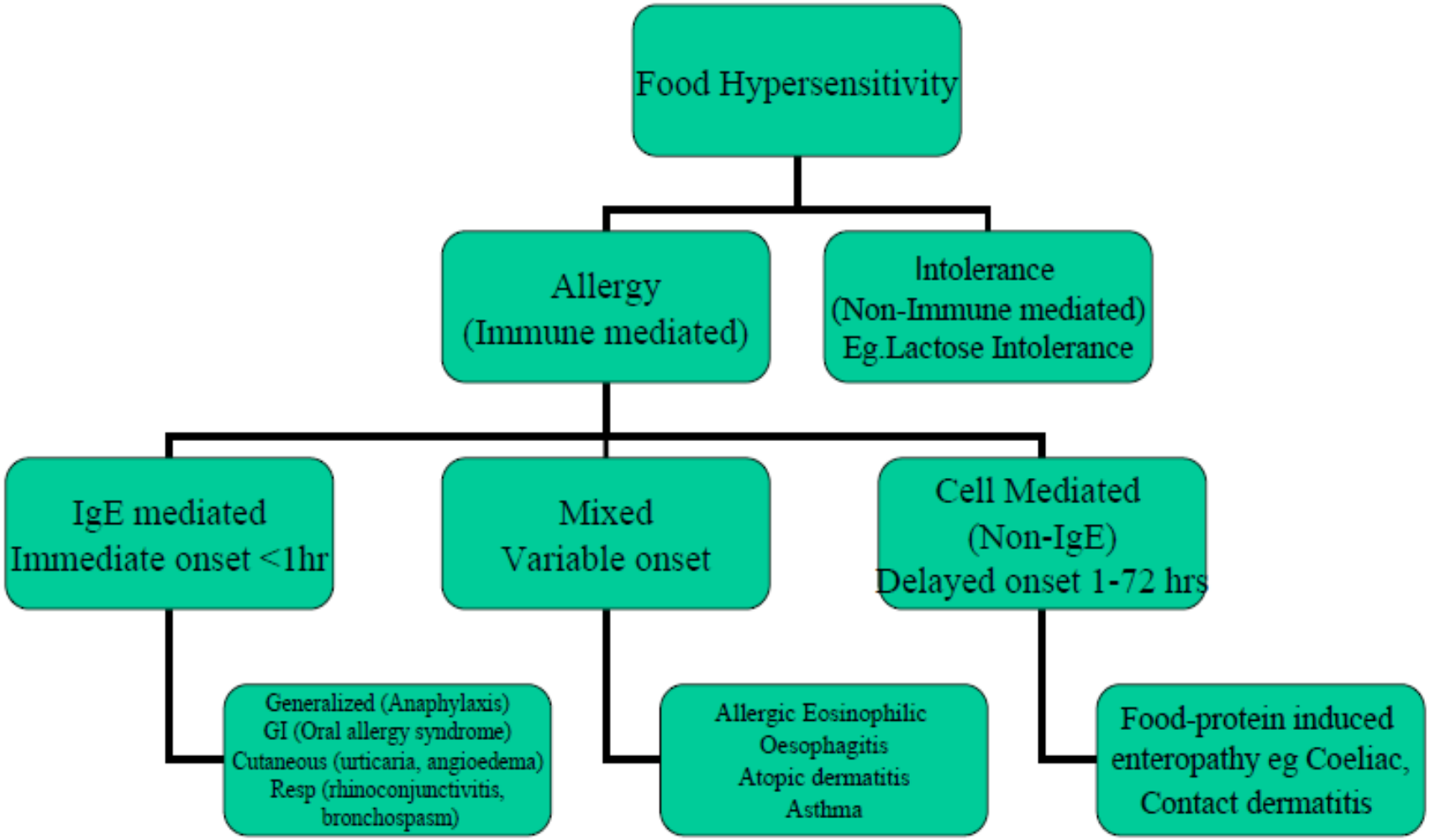

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The atopic March

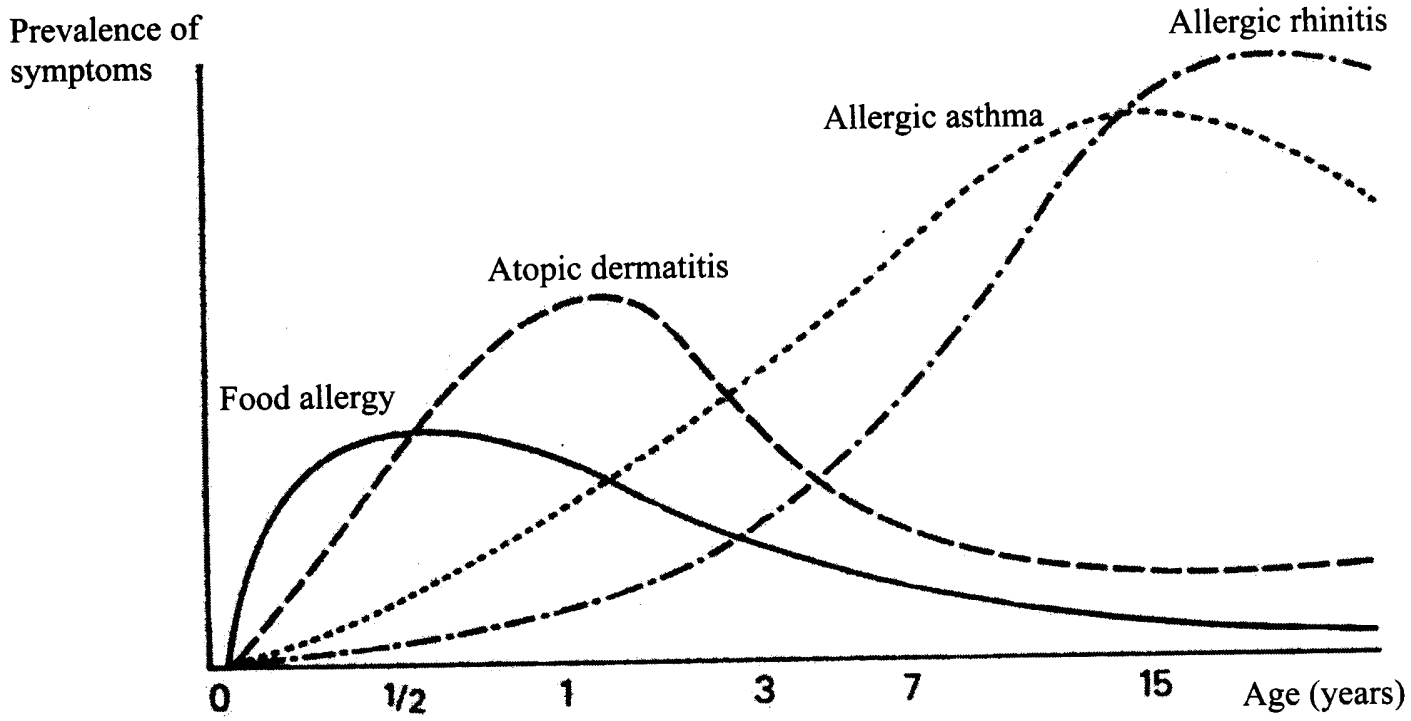
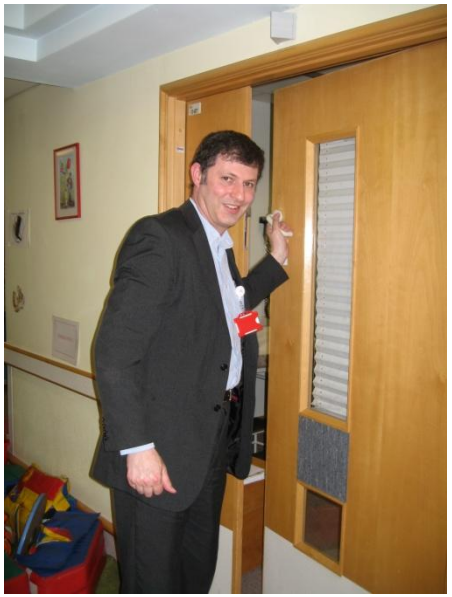


FIGURE 2: The natural course of atopic diseases in childhood (Graß and Wahn 1991)



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The North West London Hospitals NHS
NHS Trust

Chelsea and Westminster Hospital NHS
NHS Foundation Trust

Learning point

Food allergy is principally a pre school phenomena – only the IgE mediated symptoms persist for some foods e.g. foods

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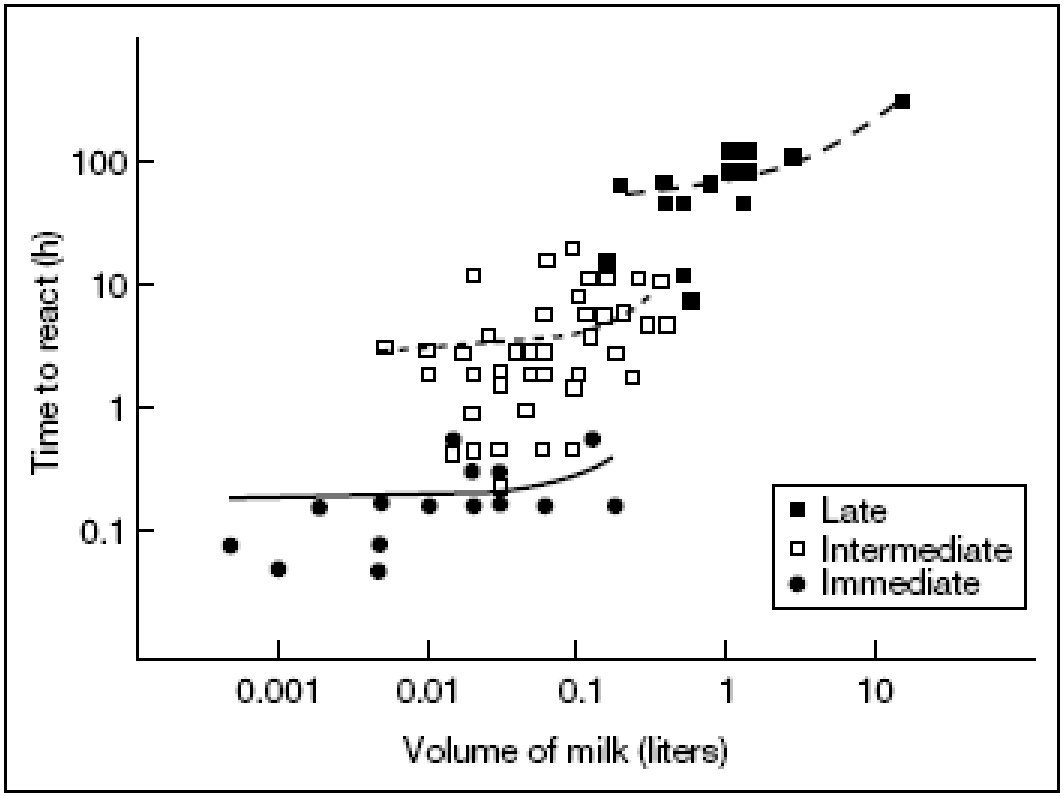
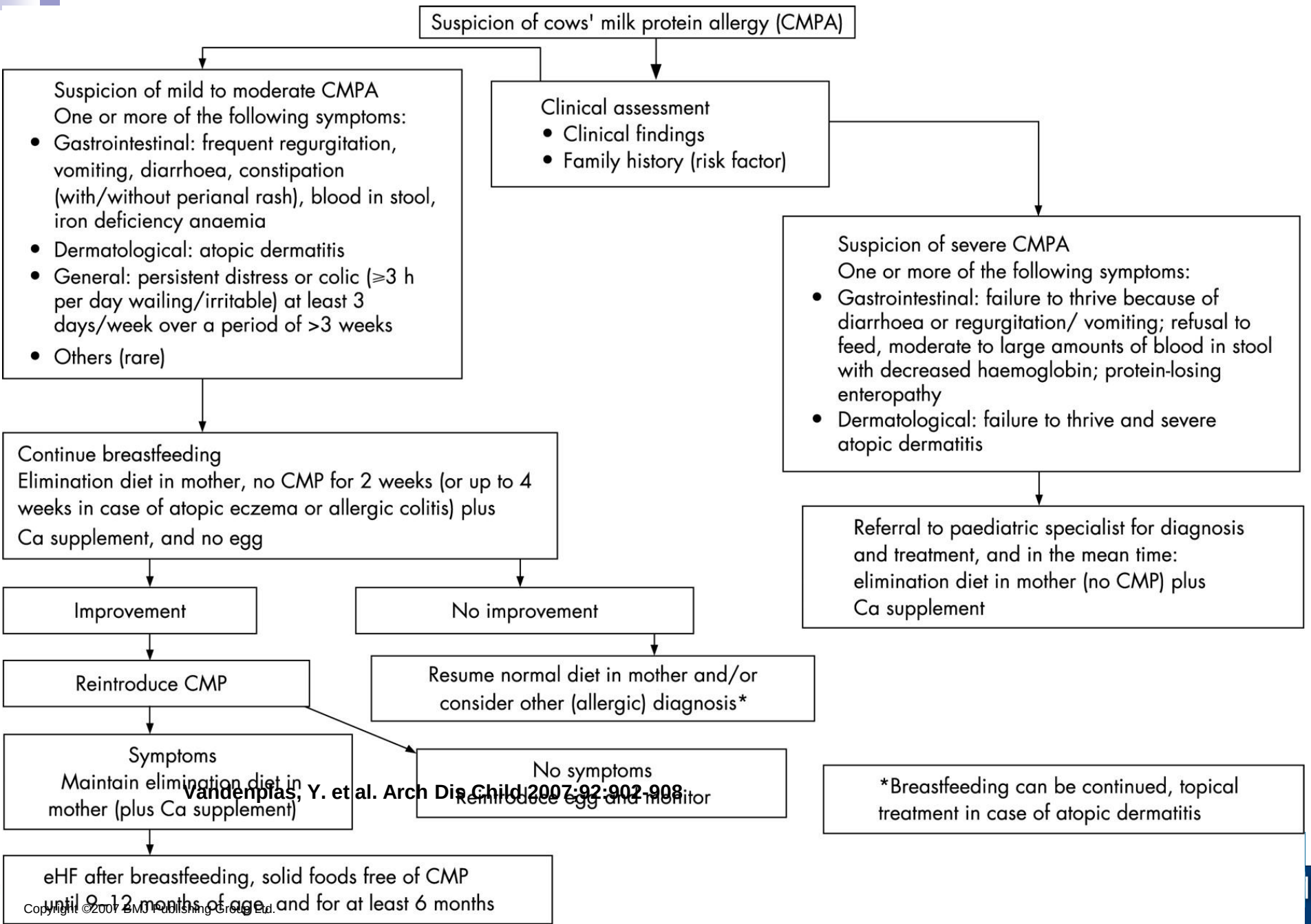


Fig. 1. Onset of reactions in CMA [2]. The time to onset of reactions is plotted against the volume of milk ingested. The 3 groups are indicated by the different symbols. The second-degree polynomial, the line of best fit for each of the groups, is shown. Reproduced with permission from Hill et al. [2].

Guidelines for the diagnosis and management of cow's milk protein allergy in infants

Yvan Vandenplas, Martin Brueton, Christophe Dupont, David Hill, Erika Isolauri, Sibylle Koletzko, Arnold P Oranje and Annamaria Staiano

Arch. Dis. Child. 2007;92;902-908
doi:10.1136/adc.2006.110999



Vandenplas, Y. et al. Arch Dis Child 2007;92:902-908

Cows milk formulae

- Allergic
- Cheap
- tastes nice

Partially hydrolysed

- Soy not an option
- Questionable effectiveness

Whey hydrolysate

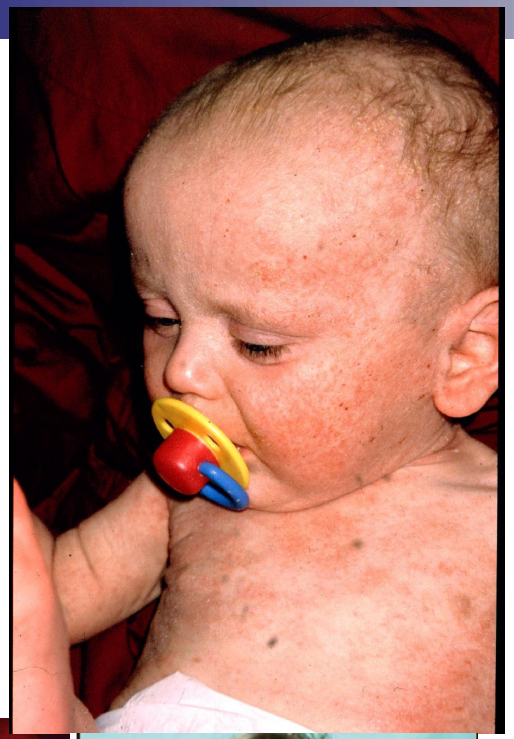
- Palatable but allergic
- e.g. Pepti

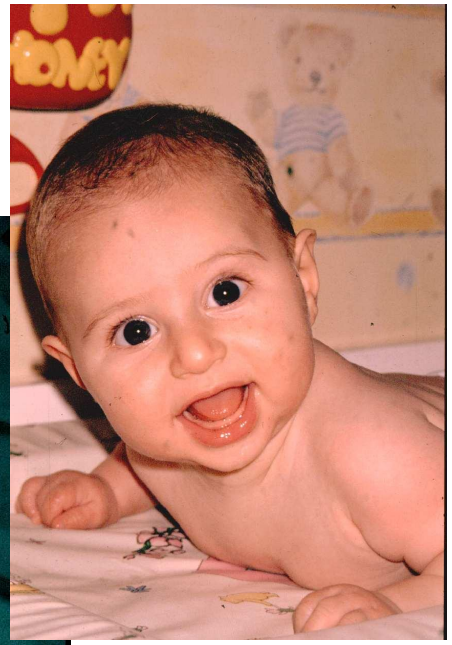
Casein hydrolysate

- First line for food allergy
- e.g. nutramigen

Elemental

- Unpalatable
- Expensive
- First line if breast feeding
  - e.g.neocate
  - Nutramigen AA





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Non IgE mediated – delayed manifestation

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- Allergic colitis
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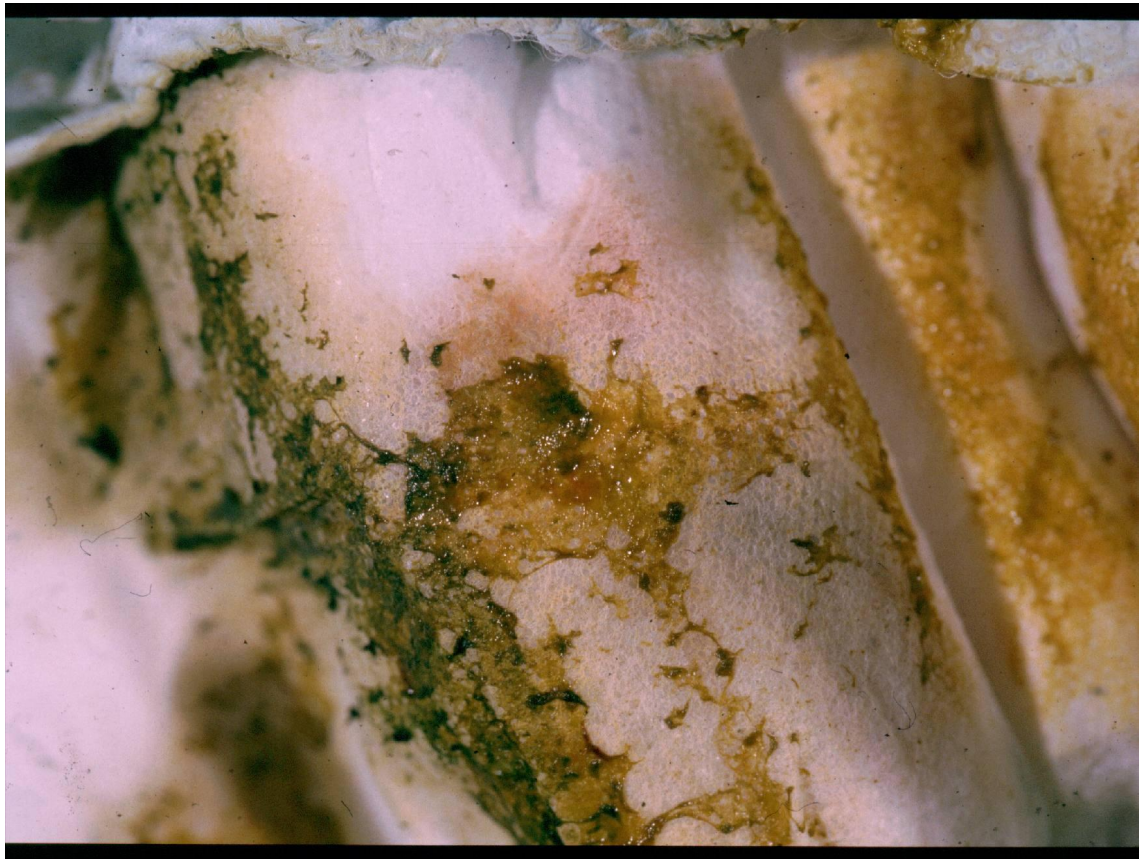
- GORD
- Allergic dysmotility
- Enteropathy

Breast feed induced proctitis

Do I need to change mothers diet?

What should I remove?

What happens when they get older



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- Regarding eczema in children < 6 months of age:
  - Bathing daily is unnecessary
  - Potent steroids may be used
  - There is little evidence to support food allergy and dietary modification in babies with eczema
  - Mothers with affected infants should take dairy out of their own diet, if breast feeding.

Why is this important?

- Burden of allergic disease
- Rising prevalence
- Misconceptions about food allergy (the adult approach)

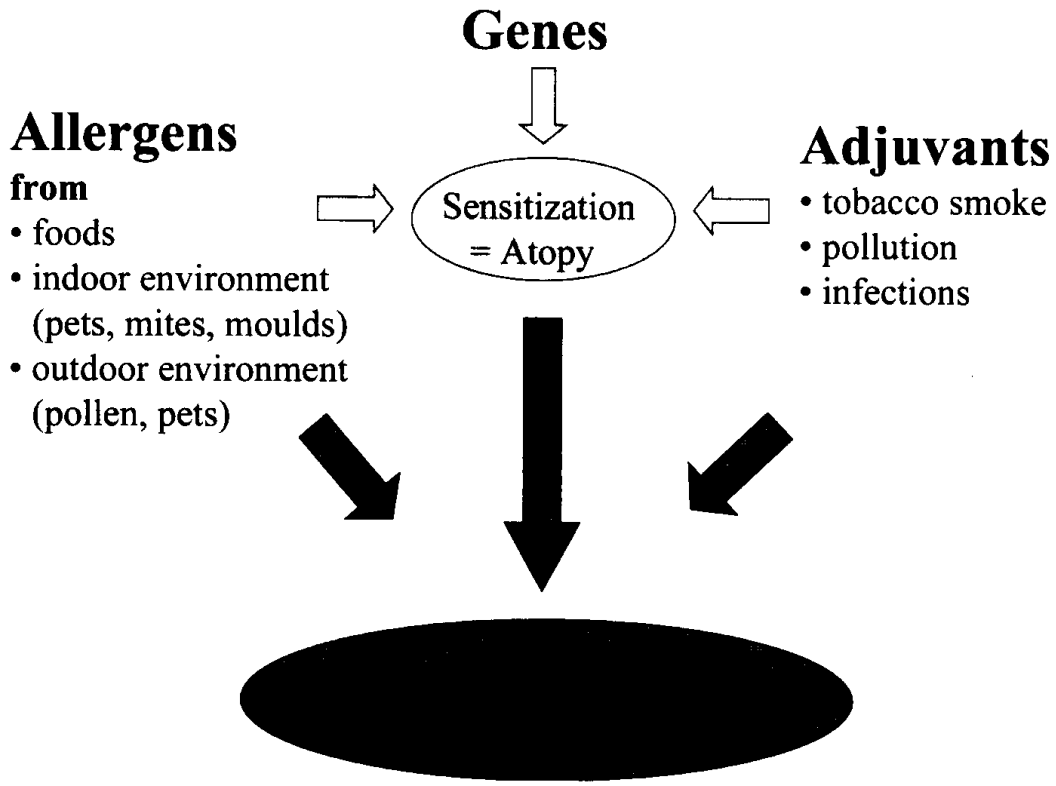

FIGURE 3: Risk factors for the development of an atopic disease

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- Oral allergy syndrome

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Table 5. Frequency of IgE-mediated food allergy in infants with and without atopic dermatitis (AD)

Number of food items subjects were allergic to[a]	6 months of age						12 months of age					
	MACS AD−[b]		MACS AD+[b]		severe AD[c]		MACS AD−[b]		MACS AD+[b]		severe AD[c]	
	n	%	n	%	n	%	n	%	n	%	n	%
0	382	95	97	78	7	17	350	89	77	64	10	35
1	16	4	24	19	13	32	31	8	31	26	10	34
2	4	1	3	2	13	32	13	3	11	9	5	17
3	0		1	1	8	20	0		2	2	4	2
Total	20	5	28	22	34	83	44	11	44	37	19	65
Cases in total	402		125		41		394		121		29	

Reproduced with permission from Hill et al. [2].

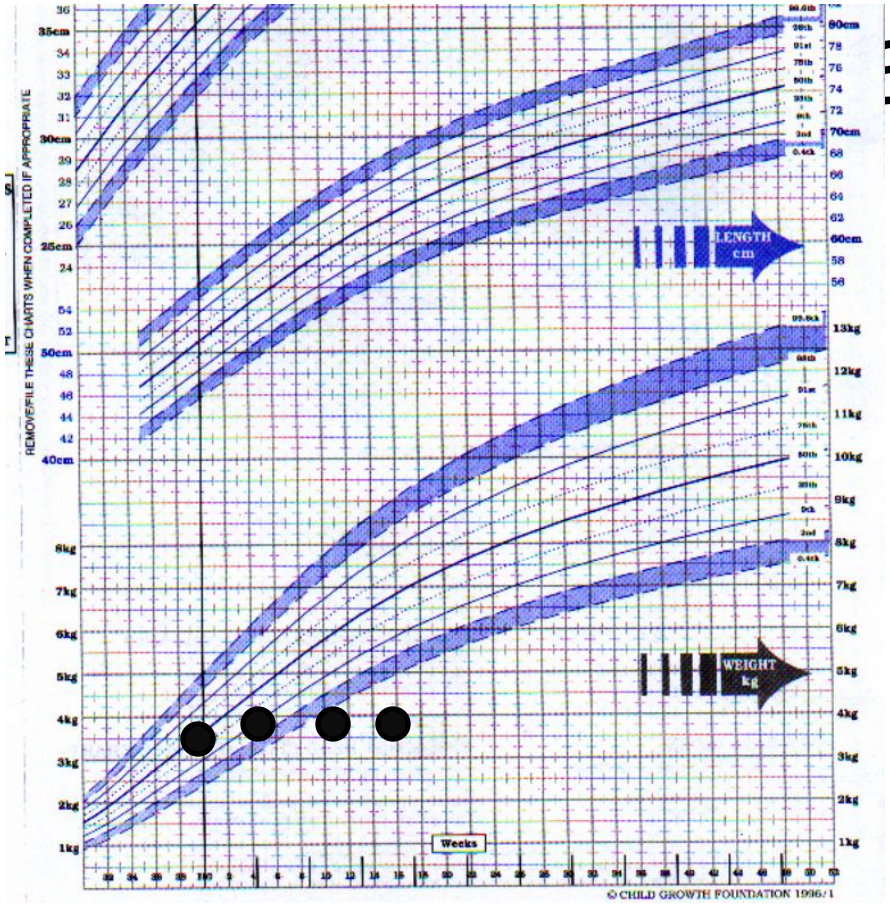
[a] IgE-mediated food allergy (SPT >3+) to 1, 2 or 3 foods.

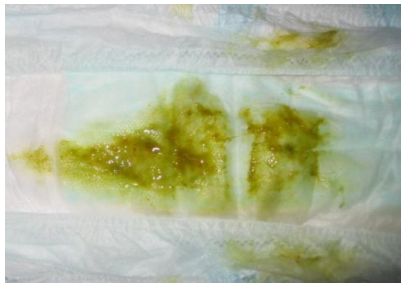
[b] MACS = Melbourne Atopy Cohort Study subjects.

[c] This represents a separate group of infants with severe atopic dermatitis treated in a tertiary referral hospital outpatient clinic.

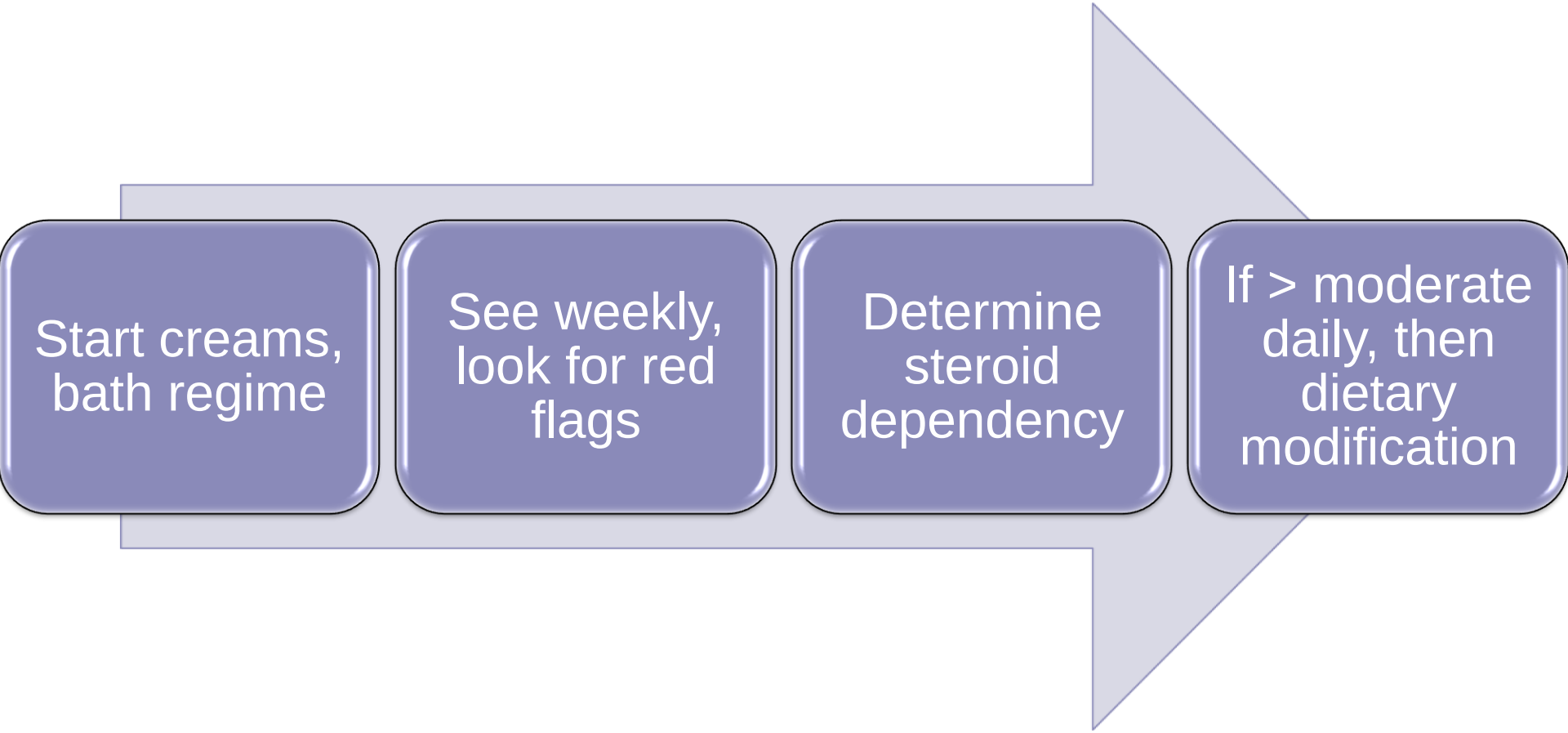
Warning signs in severe

a





Severe eczema in child < 1 year



Steroid ladder

Strong
- Elocon daily
- Elocon alt days

Mod
- Betnovate
- Synalar 1:4

Tacrolimus
- Protopic
- Elidil

Mild
- eumovate
- 1% hydrocortisone

For dietary modification

Under 6 months

- Creams and bath regime
- Change formula

Breast feeding

- Creams and bath regime
- Think food allergy – maternal dietary modification with vit D

Over 1 year

- Creams
- Steroids and tacrolimus
- Only change diet if other symptoms

Cows milk formulae

- Allergic
- Cheap
- tastes nice

Partially hydrolysed

- Soy not an option
- Questionable effectiveness

Whey hydrolysate

- Palatable but allergic
- e.g. Pepti

Caesin hydrolysate

- First line for food allergy
- e.g. nutramigen

Elemental

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NHS
National Institute for
Health and Clinical Excellence

Quick reference guide

Issue date: December 2007

Atopic eczema in children

Management of atopic eczema in children from birth up to the age of 12 years

Diet

- Offer a 6–8 week trial of an extensively hydrolysed protein formula or amino acid formula in place of cow's milk formula for bottle-fed infants under 6 months with uncontrolled moderate or severe atopic eczema.
- Do not use diets based on unmodified proteins of other species' milk (for example, goat's or sheep's milk) or partially hydrolysed formulas for the treatment of suspected cow's milk allergy. Diets including soya protein can be offered to children over 6 months with specialist dietary advice.
- Refer for specialist dietary advice children who follow a cow's-milk-free diet for more than 8 weeks.
- Inform breastfeeding women that it is not known whether altering the mother's diet is effective in reducing the severity of the condition. Consider a trial of an allergen-specific exclusion diet under dietary supervision if you strongly suspect food allergy.

Environmental and dietary interventions in the first 5 years of life did not reduce risk of asthma and allergic disease

Marks GB, Mihrshahi S, Kemp AS, *et al.* Prevention of asthma during the first 5 years of life: a randomized controlled trial. *J Allergy Clin Immunol* 2006;118:53–61.

ep126

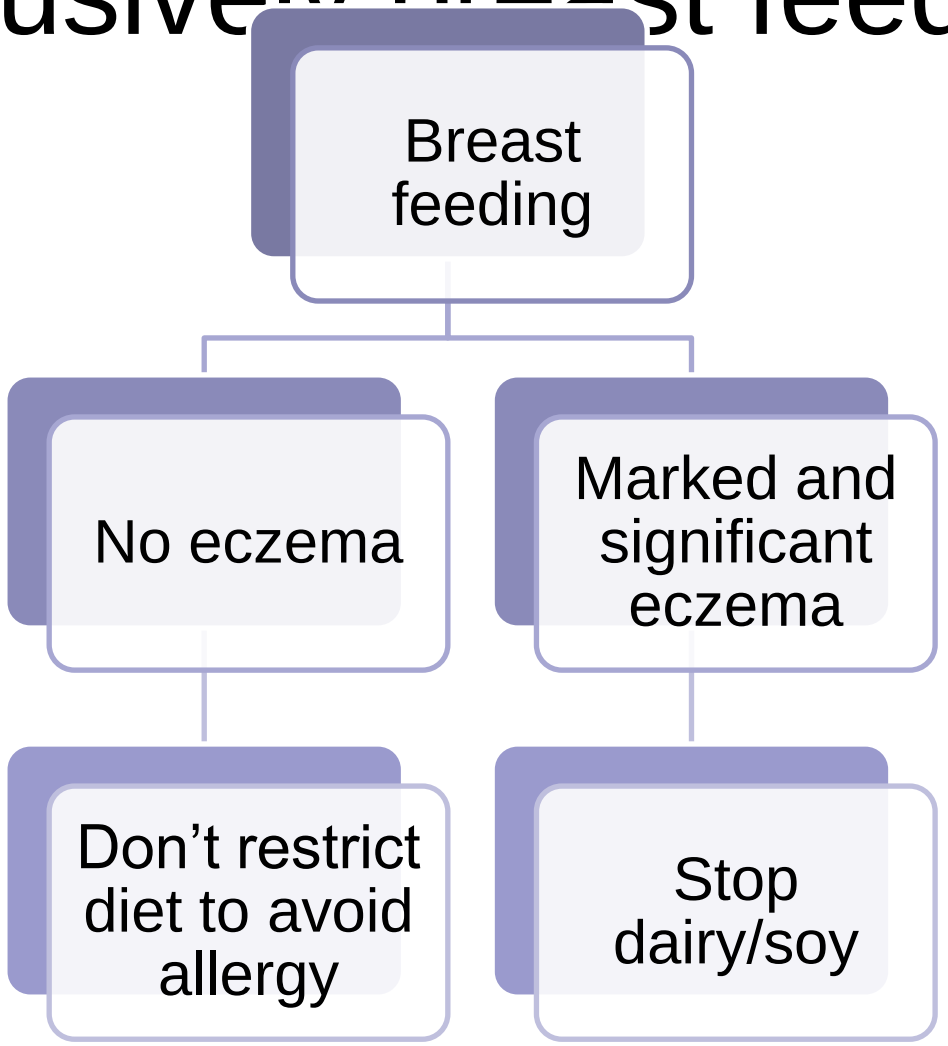
Clinical impact ratings GP/FP/Primary care ★★★★★★☆ Allergy & immunology ★★★★★★☆ Paediatrics ★★★★★☆☆

Q **Does reduction in exposure to house dust mite (HDM) allergens and modification of dietary fatty acids in the first 5 years of life reduce the risk of asthma at 5 years of age?**

CONCLUSION

Reduction in exposure to house dust mite allergens and modification of dietary fatty acids in the first 5 years of life did not reduce the risk of asthma or allergic disease at 5 years of age in children at high risk.

If exclusively breast feedi



- “The evidence from this study supports neither a delayed introduction of solids beyond the fourth month nor a delayed introduction of the most potentially allergenic solids beyond the sixth month of life for the prevention of eczema. However, effects under more extreme conditions cannot be ruled out”

- Solid Food Introduction in Relation to Eczema: Results from a Four-Year Prospective Birth Cohort Study.
- Journal of Pediatrics. 151(4):352-358, October 2007
- FILIPIAK, BIRGIT, ZUTAVERN, ANNE, MD, MPH, KOLETZKO, SIBYLLE, VON BERG, ANDREA, BROCKOW, INKEN, MD, MPH, GRUBL, ARMIN, BERDEL, DIETRICH, REINHARDT, DIETRICH, BAUER, CARL, WICHMANN, H.-ERICH, MD, PHD, HEINRICH, JOACHIM

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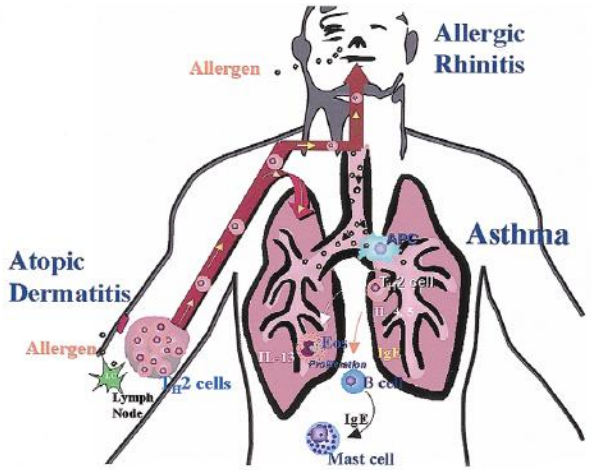
Food for Thought on Prevention and Treatment of Atopic Disease Through Diet

eczema that cleared on an egg-free diet. Although the role of food allergy in atopic dermatitis remains a matter of debate despite extensive data demonstrating a relationship[20,21] (and further supported by the present study), the Hill et al study also raises questions about sensitization to allergens through breast-feeding or during pregnancy. Reviews of available studies on atopy prevention generally conclude that there is no strong evidence indicating that avoidance of major allergens during pregnancy or lactation has a protective effect,[7,22] although reduction of atopic dermatitis cannot be ruled out.

- This state increases sensitisation
- Can we prevent asthma?



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- Testing for food allergy
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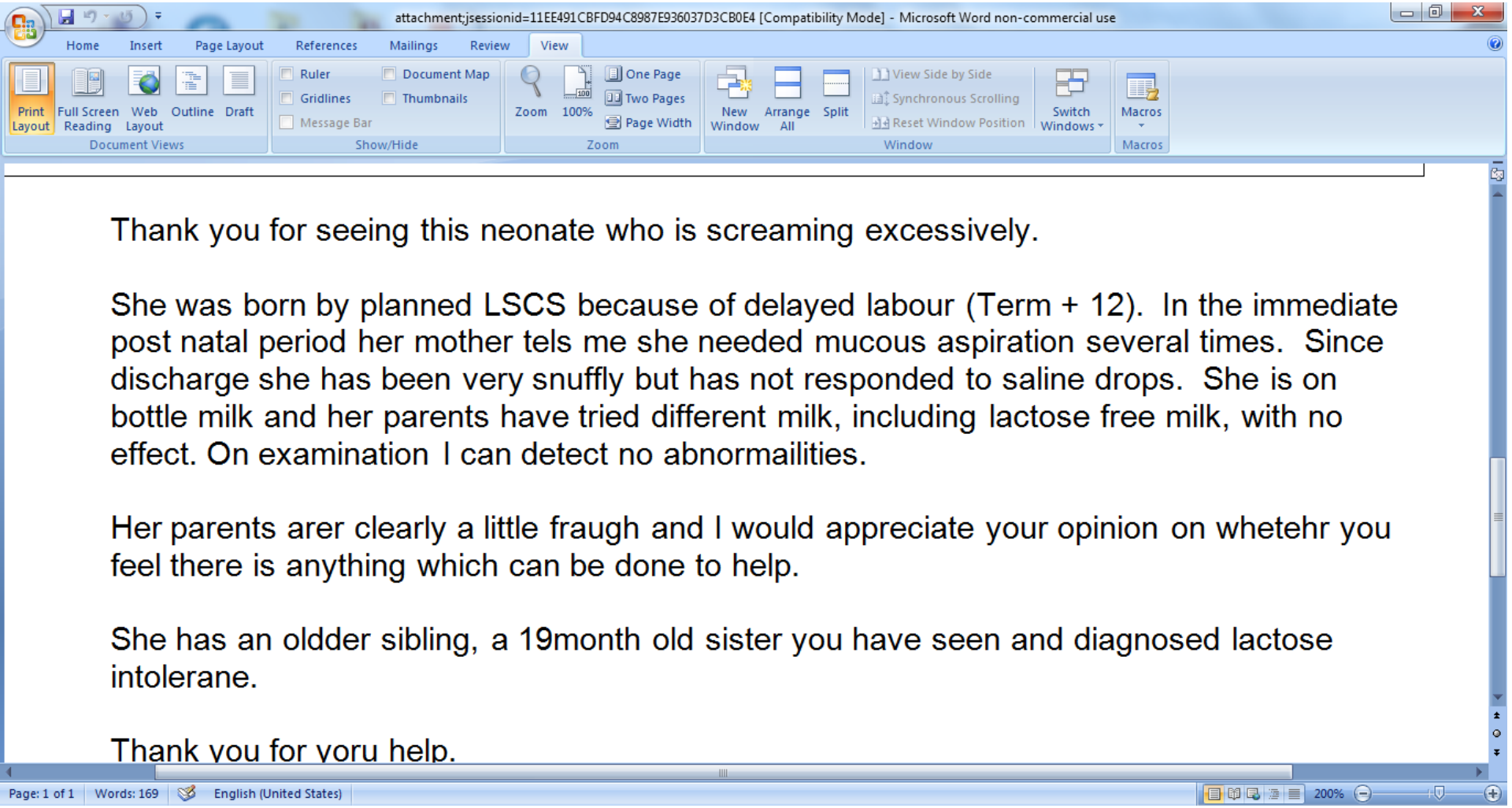
attachment;jsessionid=11EE491CBFD94C8987E936037D3CB0E4 [Compatibility Mode] - Microsoft Word non-commercial use
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Document Views
Ruler
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Message Bar
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One Page
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Split
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Macros
Thank you for seeing this neonate who is screaming excessively.
She was born by planned LSCS because of delayed labour (Term + 12). In the immediate post natal period her mother tels me she needed mucous aspiration several times. Since discharge she has been very snuffly but has not responded to saline drops. She is on bottle milk and her parents have tried different milk, including lactose free milk, with no effect. On examination I can detect no abnormailities.
Her parents arer clearly a little fraugh and I would appreciate your opinion on whetehr you feel there is anything which can be done to help.
She has an oldder sibling, a 19month old sister you have seen and diagnosed lactose intolerane.
Thank you for yoru help.
Page: 1 of 1
Words: 169
English (United States)
200%

- What would you do for this child?
  - Commence anti reflux therapy
  - Start colief for lactose intolerance
  - Change formula to a bitter hydrolysate feed and possibly make the feed difficulties worse
  - Suggest start solids at the very earliest moment and keep going to then

IgE mediated immediate reaction

- Food allergy like urticaria or anaphylaxis
- Oral allergy syndrome

Non IgE mediated – delayed manifestation

- eczema
- Allergic colitis
- Infantile colic
- GORD
- Allergic dysmotility
- Enteropathy

Cows milk formulae

- Allergic
- Cheap
- tastes nice

Partially hydrolysed

- Soy not an option
- Questionable effectiveness

Whey hydrolysate

- Palatable but allergic
- e.g. Pepti

Caesin hydrolysate

- First line for food allergy
- e.g. nutramigen

Elemental

- Unpalatable
- Expensive
- First line if breast feeding
  - e.g.neocate
  - Nutramigen AA

What new evidence do I need to know about?

- Should she carry the child more?
  - One RCT (66 infants) – no difference
- Should she reduce stimulation
  - One RCT (42 infants)- beneficial effect
- Cranial osteopathy
  - No data
- Crib vibrator/ car ride stimulation/infant massage
  - One RCT – no difference

What new evidence do I need to know about?

- Simethicone (infacol) vs placebo
  - 3 RCT's – no good evidence, and not likely to be new evidence forthcoming

- Caesin hydrolysate
  - Anecdotally, very effective for select cases
  - But who will benefit? – those from atopic families
  - RCT 122 infants, active diet (low allergic) had a beneficial effect on crying

Interventions

Likely to be beneficial:

Whey hydrolysate milk

Trade off between benefits and harms:

Anticholinergic drugs

Unknown effectiveness:

Soya substitute milk

Casein hydrolysate milk

Low lactose milk

Sucrose solution

Herbal tea

Reduction of stimulation of the infant

Unlikely to be beneficial:

Simethicone

Increased carrying

Extracts from "Clinical Evidence"

Infantile colic

Option Replacement of cows' milk with casein hydrolysate

Summary Two RCTs comparing cows' milk formula against casein hydrolysate found insufficient evidence.

Casein hydrolysate milk or hypoallergenic diet for breastfeeding mother compared with cows' milk or control diet for mother Giving casein hydrolysate milk to bottle-fed babies or a hypoallergenic diet for breastfeeding mothers, may reduce the duration of crying compared with giving bottlefed babies cows' milk-based formulae or a control diet for breastfeeding mothers (very low-quality evidence).

Try caesin hydrolysate feeds before whey

Surely not all children who cry have reflux or colic?

Efficacy of Proton-Pump Inhibitors in Children With Gastroesophageal Reflux Disease: A Systematic Review

Rachel J. van der Pol, Marije J. Smits, Michiel P. van Wijk, Taher I. Omari, Merit M. Tabbers and Marc A. Benninga

Pediatrics 2011;127;925-935; originally published online Apr 4, 2011;

The unsettled baby: how complexity science helps

Pamela Sylvia Douglas,[1] Peter Stewart Hill,[2]
Wendy Brodribb[1]

diverse cultures. But unsettled behaviour may emerge if disruption of feedback loops exceeds the capacity of the mother–baby CAS to compensate, or adapt. For example, unidentified breastfeeding difficulty, including problems with attachment, positioning and suck–swallow–breath co-ordination, may interfere with self-organising neurohormonal and autocrine breastfeeding feedback loops, causing cry-fuss behaviours, failure to thrive, or both.[36 39] The

baby is supported by early identification and treatment of both organic problems in infants, for example, urinary tract infection,[10] and maternal health problems, for example, perinatal anxiety and depression;[7 8] also by informing families about normal crying in infancy and strategies to manage feelings that could lead to harming the baby.[68] Experimentation and flexibility

months of life.[16 42 48 62] Because of human evolutionary biology, babies sleep safest in same room as parents,[51 69 70] and are more settled in the first few months of life if they are breastfed on demand and in close physical contact with the care giver.[53] Attunement contrasts with

Pediatric Gastroesophageal Reflux Clinical Practice Guidelines: Joint Recommendations of the North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition (NASPGHAN) and the European Society for Pediatric Gastroenterology, Hepatology, and Nutrition (ESPGHAN)

4.1. History and Physical Examination In infants and toddlers, there is no symptom or symptom complex that is diagnostic of GERD or predicts response to therapy. In older children and adolescents, as in adult patients, history and physical examination may be sufficient to diagnose GERD if the symptoms are typical.

No discriminating aspect to history

6.1.3. Infants With Unexplained Crying and/or Distressed Behavior Reflux is not a common cause of unexplained crying, irritability, or distressed behavior in otherwise healthy infants. Other causes include cow's milk protein allergy, neurologic disorders, constipation, and infection (especially of the urinary tract). Following exclusion of other causes, an empiric trial of extensively hydrolyzed protein formula or amino acid–based formula is reasonable in selected cases, although evidence from the literature in support of such a trial is limited. There is no evidence to support the empiric use of acid suppression for the treatment of irritable infants.

Screaming ≠ reflux

(206,207). Studies support the use of extensively hydrolyzed or amino acid formula in formula-fed infants with bothersome regurgitation and vomiting for trials lasting up to 4 weeks (206–208). Cow's milk protein and other proteins pass into human breast milk in small quantities. Breast-fed infants with regurgitation and vomiting may therefore benefit from a trial of withdrawal of cow's milk and eggs from the maternal diet (209,210). The symptoms of infant reflux are almost never so severe that breast-feeding should be discontinued. There are no

There is a role for change in formula
Trial of withdrawal of cows milk from mothers diet

(336). A meta-analysis of 7 RCTs of metoclopramide in developmentally healthy children 1 month to 2 years of age with symptoms of GER found that metoclopramide reduced daily symptoms and the RI but was associated with significant side effects (215). Metoclopramide com-

recent systematic review of studies on domperidone (341) identified only 4 RCTs in children, none providing "robust evidence" for efficacy of domperidone in pediatric GERD. Domperidone occasionally causes extrapyramidal central nervous system side effects (342).

Evidence does not support use of domperidone

group (46). A large double-blind study of 162 infants randomized to 4 weeks of placebo or lansoprazole showed an identical 54% response rate in each group, using an endpoint of >50% reduction of measures of feeding-related symptoms (crying, irritability, arching) and other parameters of the I-GERQ questionnaire (9). Furthermore, this study showed a small but significant increase in the numbers of infants that experienced lower respiratory symptoms during the treatment trial.

Lack of evidence for PPI in infantile agitation

Orenstein SR, Hassall E, Furmaga-Jablonska W, et al. Multicenter, double-blind, randomized, placebo-controlled trial assessing efficacy & safety of proton pump inhibitor lansoprazole in infants with symptoms of gastroesophageal reflux disease. *J Pediatr* 2009; 154:514–20.

PEDIATRICS®
OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Efficacy of Proton-Pump Inhibitors in Children With Gastroesophageal Reflux Disease: A Systematic Review

Rachel J. van der Pol, Marije J. Smits, Michiel P. van Wijk, Taher I. Omari, Merit M. Tabbers and Marc A. Benninga

Pediatrics 2011;127;925-935; originally published online Apr 4, 2011;

CONCLUSIONS: PPIs are not effective in reducing GERD symptoms in infants. Placebo-controlled trials in older children are lacking. Although PPIs seem to be well tolerated during short-term use, evidence supporting the safety of PPIs is lacking. *Pediatrics* 2011;127:925–935

PCT asked me to explain about all those expensive milks.....

- They are probably of value if they fail the rule of 3's
- Always be prepared to rechallenge
- Thickened milks may be better than medicines
- Change in formula may be superior to anti reflux medicines

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- Allergic
- Cheap
- tastes nice

Partially hydrolysed

- Soy not an option
- Questionable effectiveness

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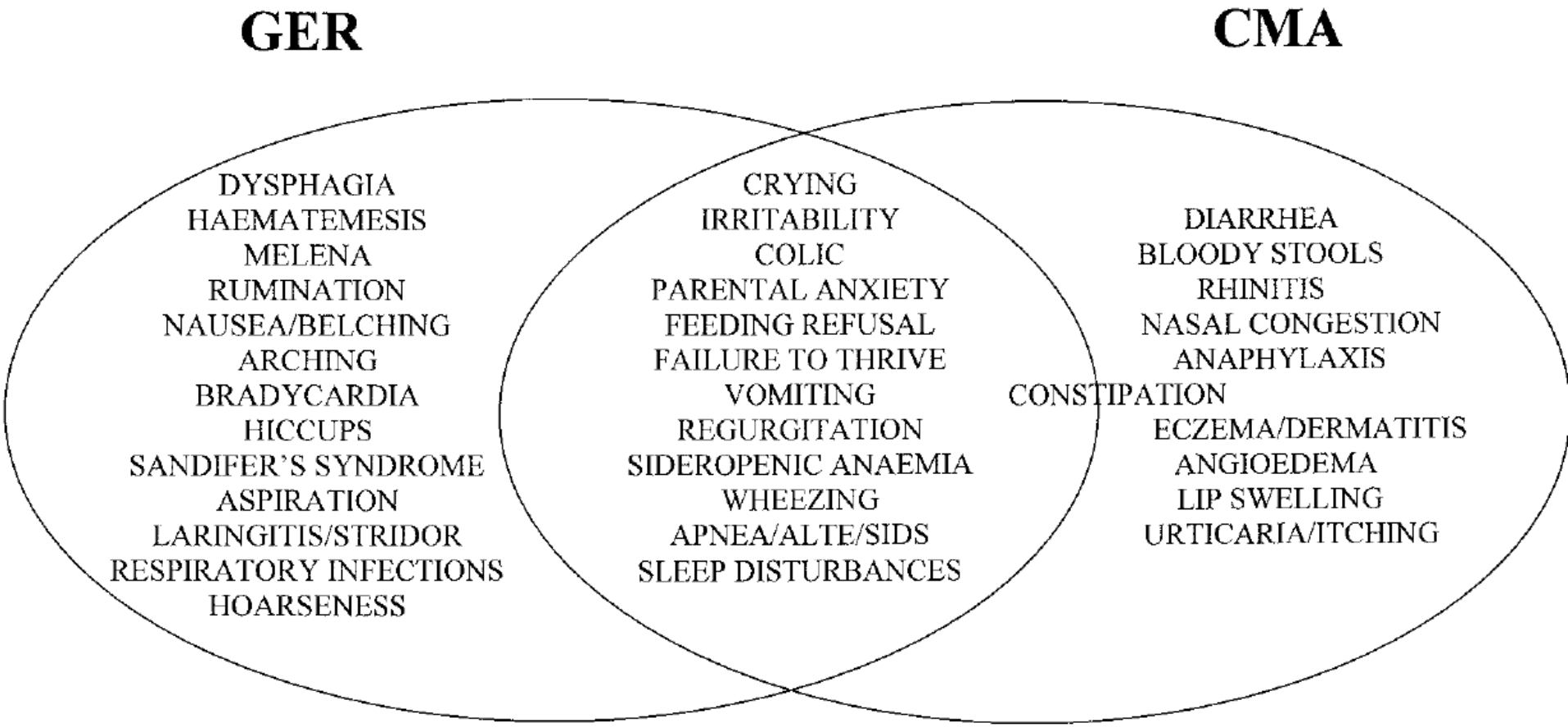
GER
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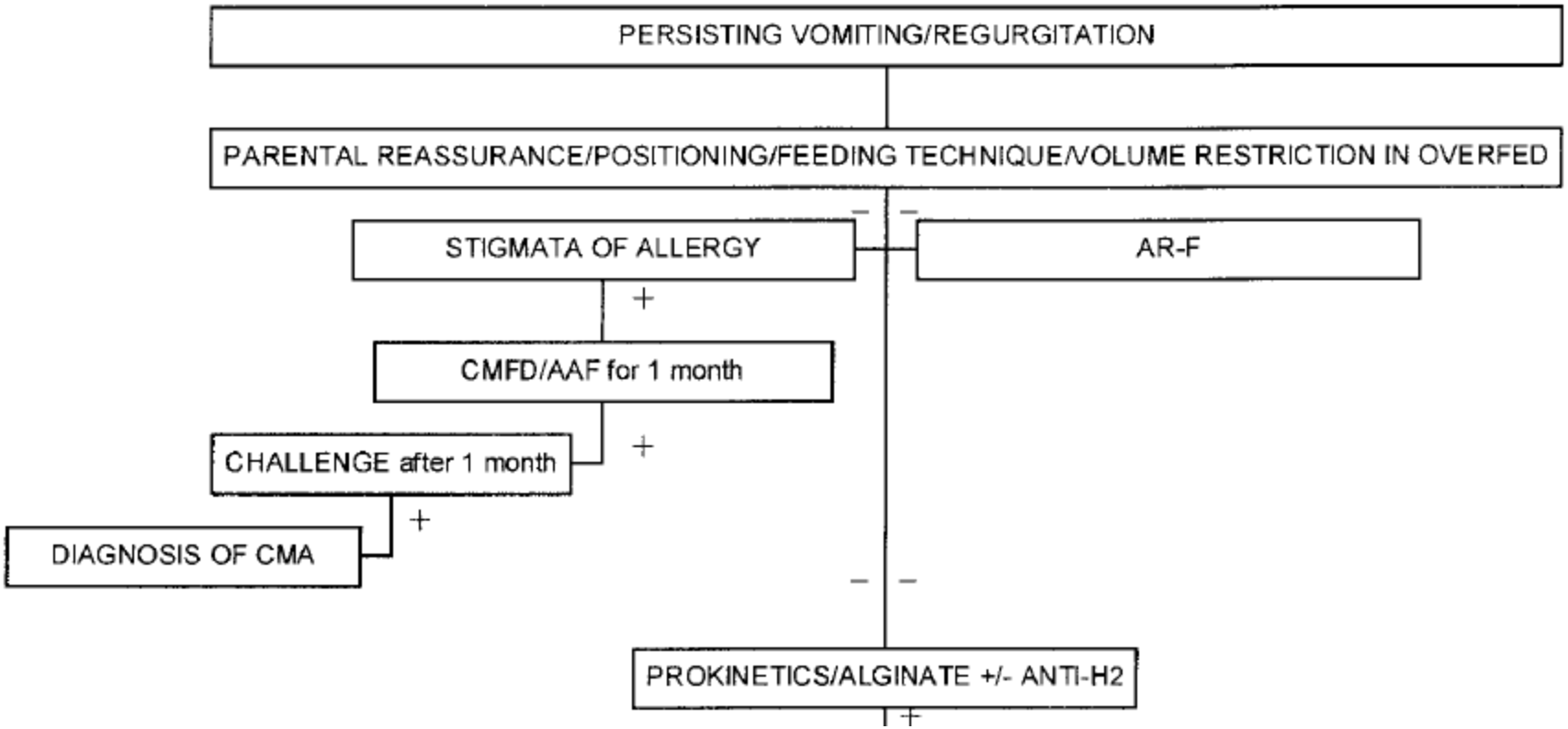
DYSPHAGIA
HAEMATEMESIS
MELENA
RUMINATION
NAUSEA/BELCHING
ARCHING
BRADYCARDIA
HICCUPS
SANDIFER'S SYNDROME
ASPIRATION
LARINGITIS/STRIDOR
RESPIRATORY INFECTIONS
HOARSENESS
CRYING
IRRITABILITY
COLIC
PARENTAL ANXIETY
FEEDING REFUSAL
FAILURE TO THRIVE
VOMITING
REGURGITATION
SIDEROPENIC ANAEMIA
WHEEZING
APNEA/ALTE/SIDS
SLEEP DISTURBANCES
DIARRHEA
BLOODY STOOLS
RHINITIS
NASAL CONGESTION
ANAPHYLAXIS
CONSTIPATION
ECZEMA/DERMATITIS
ANGIOEDEMA
LIP SWELLING
URTICARIA/ITCHING

REVIEW ARTICLE

Gastroesophageal Reflux and Cow Milk Allergy: Is There a Link?

Silvia Salvatore, MD*, and Yvan Vandenplas, MD, PhD‡



Learning points in GOR and infantile colic

Treating reflux when there is little evidence to support the use of anti reflux therapy in infantile colic

Realise that infantile colic is not the same as feed phobia

Options to discuss

- Rising prevalence – real or presumed?
- Manifestations of food allergy
- Cows milk allergy
- Eczema
- Reflux and screaming infants
- Immediate food reactions and adrenaline devices
- Urticaria and hyperactivity
- Testing for food allergy
- Preventing food allergy

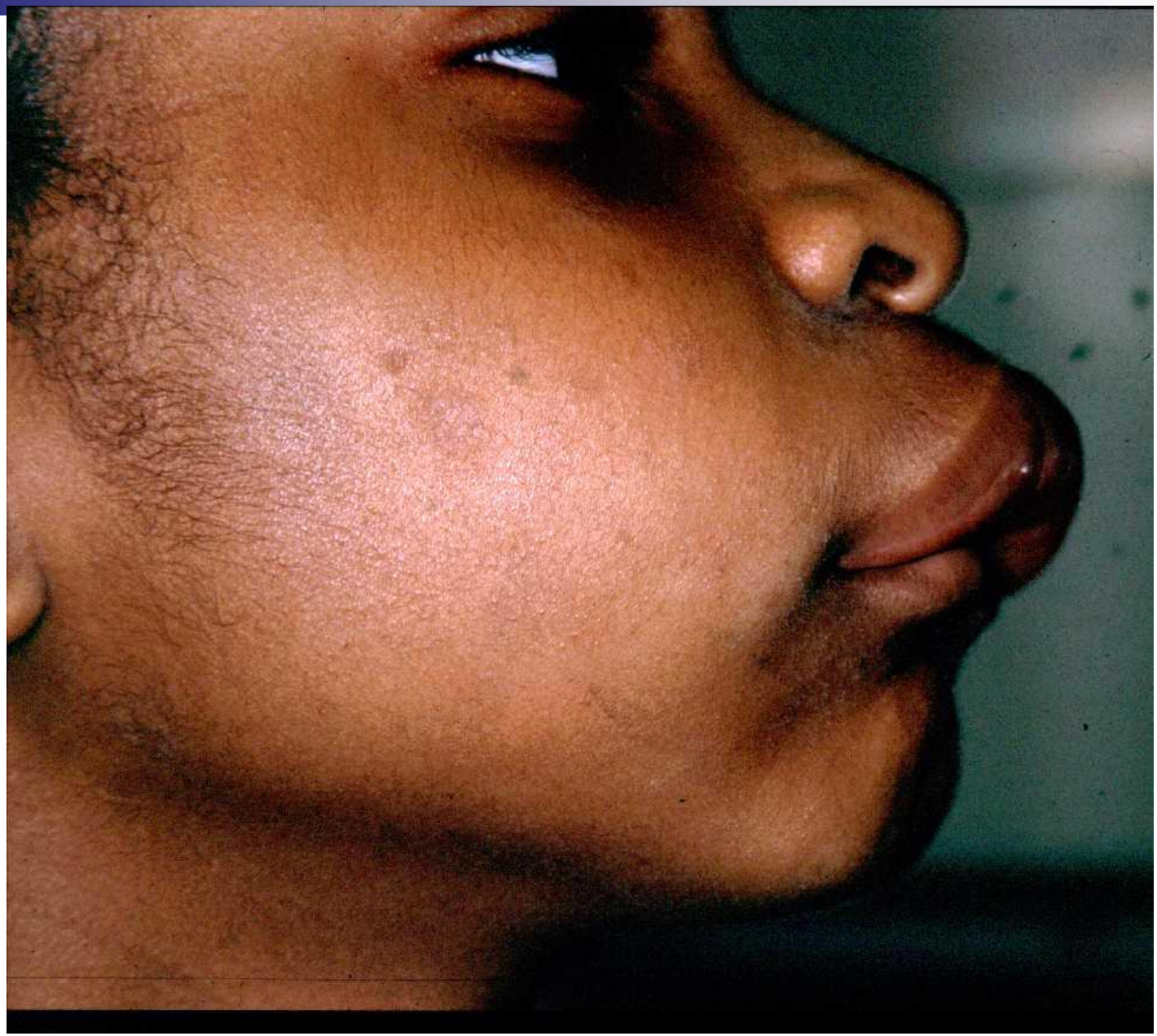


Fig 2 A young boy having a moderately severe allergic reaction, with angio-oedema, urticaria, and obvious anxiety

For and against

Are the dangers of childhood food allergy exaggerated?

The numbers of deaths from food allergy are small and not all are preventable. Allan Colver believes that the increasing prescription of emergency prophylaxis to children fuels anxiety rather than saving lives, but Jonathan Hourihane argues that there are no data to show that prescription of autoinjectors increases anxiety and their provision, as part of an integrated care plan, is justified

Foods that cause more than 90% of IgE mediated allergic reactions in children

- Milk
- Eggs
- Peanuts
- Tree nuts and seeds
- Fish
- Shellfish
- Soya
- Wheat

Commonly asked questions

- Which children benefit from dietary change
- My child has patches of eczema, should I change my/his diet
- Will my child out grow this food allergy?
- How long should I breast feed?
- Should my child have an epinephrine pen?

Will my child die from it?

ORIGINAL ARTICLE

How dangerous is food allergy in childhood? The incidence of severe and fatal allergic reactions across the UK and Ireland

C F Macdougall, A J Cant, A F Colver

Table 1 Deaths 1990–2000

Year	Case	Age	Allergen
1991	1	13 years	Milk
1992	2	15 years	Peanut
1994	3	3 months	Egg white
1994	4	9 years	Milk (in ice cream)
1995	5	13 years	Peanut
1998	6	13 years	Milk
1999	7	15 years	Milk
1999	8	5 years	Mixed food

Will the next exposure be worse?

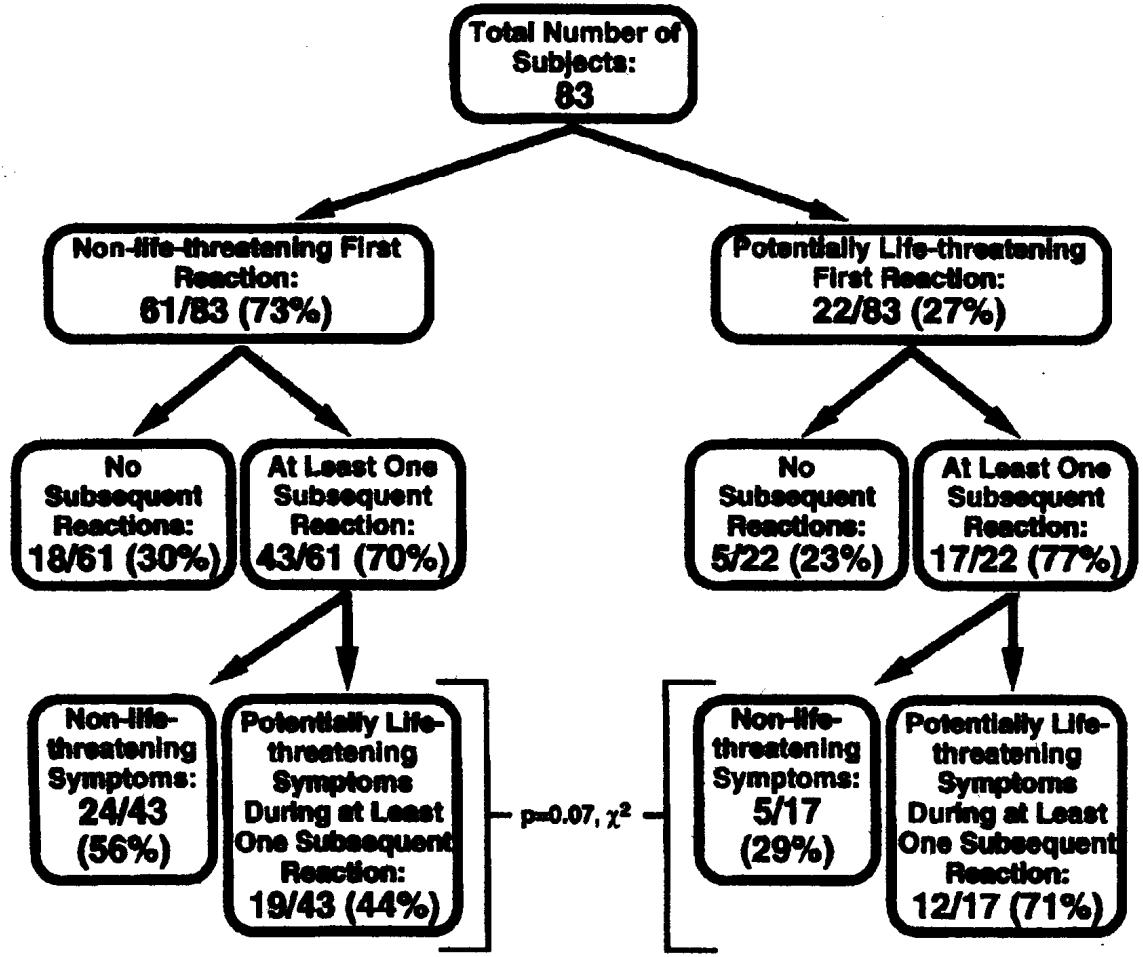


Fig 1. Clinical nature of adverse reactions from accidental peanut exposure based on classification by severity. Of those with potentially life-threatening first reactions who had a subsequent reaction, 71% had another potentially life-threatening reaction. Of note, even if their first reaction was non-life-threatening, 44% had potentially life-threatening subsequent reactions. Note that numbers in this figure refer only to reactions that occurred because of accidental peanut exposures and do not include reactions to peanut challenges.

Will it go away Dr?

Food	Usual Age at Onset	Cross-Reactivity	Usual Age at Resolution
Hen's egg white	6–24 mo	Other avian eggs	7 yr (75% of cases resolve)*
Cow's milk	6–12 mo	Goat's milk, sheep's milk, buffalo milk	5 yr (76% of cases resolve)*
Peanuts	6–24 mo	Other legumes, peas, lentils; coreactivity with tree nuts	Persistent (20% of cases resolve by 5 yr)
Tree nuts	1–7 yr; in adults, onset occurs after cross-reactivity to birch pollen	Other tree nuts; coreactivity with peanuts	Persistent (9% of cases resolve after 5 yr)
Sesame seeds	6–36 mo	None known; coreactivity with peanuts and tree nuts	Persistent (20% of cases resolve by 7 yr)
Fish	Late childhood and adulthood	Other fish (low cross-reactivity with tuna and swordfish)	Persistent†
Shellfish	Adulthood (in 60% of patients with this allergy)	Other shellfish	Persistent
Wheat‡	6–24 mo	Other grains containing gluten	5 yr (80% of cases resolve)
Soybeans‡	6–24 mo	Other legumes	2 yr (67% of cases resolve)

Will he need an adrenaline pen?

J. Paediatr. Child Health (2003) **39**, 372–375

Viewpoint

EpiPen epidemic: Suggestions for rational prescribing in childhood food allergy

AS Kemp

Department of Allergy, Immunology and Infectious Diseases, The Children's Hospital at Westmead, Westmead, New South Wales, Australia

Allergy 2007: 62: 857–871

DOI: 10.1111/j.1398-9995.2007.01421.x

Position paper

The management of anaphylaxis in childhood: position paper of the European academy of allergology and clinical immunology

Anaphylaxis is a growing paediatric clinical emergency that is difficult to diagnose because a consensus definition was lacking until recently. Many European countries have no specific guidelines for anaphylaxis. This position paper prepared by the EAACI Taskforce on Anaphylaxis in Children aims to provide practical guidelines for managing anaphylaxis in childhood based on the limited evidence available. Intramuscular adrenaline is the acknowledged first-line

A. Muraro[1], G. Roberts[2], A. Clark[3], P. A. Eigenmann[4], S. Halken[5], G. Lack[6], A. Moneret-Vautrin[7], B. Niggemann[8], F. Rancé[9], EAACI Task Force on Anaphylaxis in Children

Box 2. Recommended actions for the management of children at risk of anaphylaxis in the community

- Prescription of adrenaline.
- Education of families and care givers.
  - Instructions on allergen avoidance measures.
  - Instructions on prompt recognition of symptoms of anaphylaxis.
  - Regular training on the use of the self-injectable adrenaline.
  - Reinforcement with revision at yearly intervals.
- Provision of emergency kit with tailored medications for self-treatment.
- Provision of individualized management plan.
- Implementation of the management plan to the community.

Action Plan for Allergic Reactions

Name [redacted]

Date of Birth: 26 December 2001

Insert a photo of child

Known allergies:

Anaphylaxis to milk

egg - urticaria

nut sensitised, lentils and gram flour lead to GI symptoms

Parent/ Emergency contact:

Name: Amna
Phone no 1: 0208 903 1675

Phone no2:

Plan prepared by:
Dr: Hyer

Signed……
Date: 01 April 2008

Department of Paediatrics
Food Allergy Service
Dr Warren Hyer, Consultant Paediatrician
Northwick Park Hospital, Harrow HA1 3UJ
Secretary 0208 869 2444
www.dr-hyer.co.uk (for videos of epipen)

Mild to Moderate Allergic Reaction

- Tingling in the mouth
- Swelling of lips, face, eyes
- Hives or welts
- Abdominal pain, vomiting or diarrhoea

Action

- Stay with child and monitor
- Give piriton : **2mg=5ml**
- If wheezy, give 10 puffs salbutomol via spacer device
- Call parent/ emergency contact

WATCH FOR SIGNS OF SEVERE REACTION

- Difficulty/ noisy breathing
- Swelling of tongue
- Swelling/tightness in throat
- Difficulty talking and/ or hoarse voice
- Wheeze or persistent cough
- Loss of consciousness and/or collapse
- Pale and floppy (young children)

THIS IS A SEVERE REACTION

- **Give intramuscular epinephrine: 0.15mg**
- **Call ambulance 999**
- **Give piriton: 2mg=5ml**
- **Stay with child. Repeat epinephrine dose: 0.15mg at 5 minutes if no improvement.**

A managed approach to allergy care – reduction in accidental exposure

Clin Exp Allergy 2005; 35:751–756

doi:10.1111/j.1365-2222.2005.02266.x

Efficacy of a management plan based on severity assessment in longitudinal and case-controlled studies of 747 children with nut allergy: proposal for good practice

P. W. Ewan and A. T. Clark

Department of Allergy, Addenbrookes NHS Trust, University of Cambridge Clinical School, Cambridge, UK

New guidelines

Allergy 62 (8), 857–871.

Position paper

The management of anaphylaxis in childhood: position paper of the European academy of allergology and clinical immunology

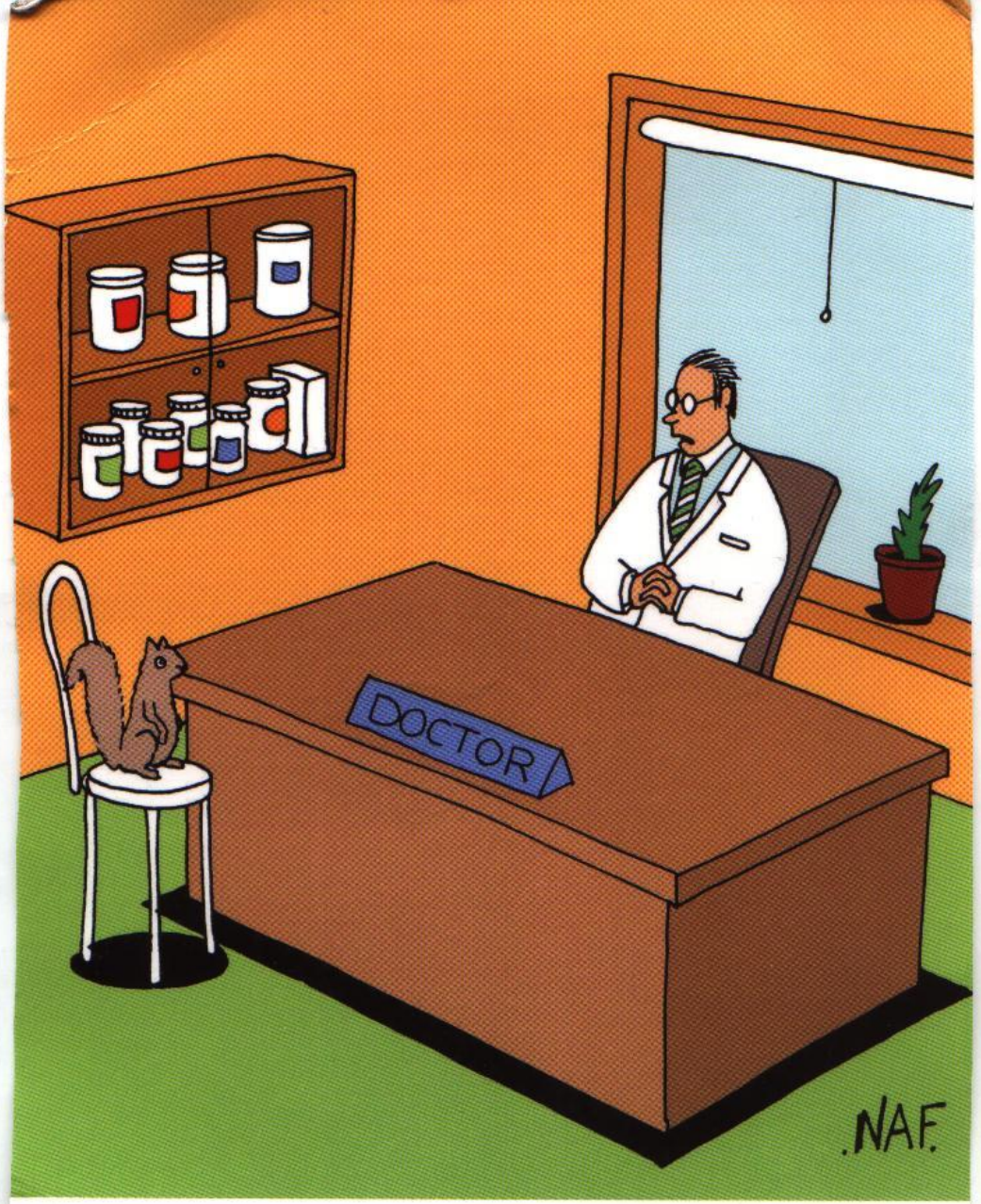
A. Muraro, G. Roberts, A. Clark, P. A. Eigenmann, S. Halken, G. Lack, A. Moneret-Vautrin, B. Niggemann, F. Rancé, AACI Task Force on Anaphylaxis in Children

- Absolute indications for prescribing self-injectable adrenaline:
- prior cardiorespiratory reactions
- exercise-induced anaphylaxis
- idiopathic anaphylaxis
- persistent asthma with food allergy.
- Relative indications include peanut or tree nut allergy, reactions to small quantities of a given food, food allergy in teenagers and living far away from a medical facility.

Box 1. Clinical criteria for the diagnosis of anaphylaxis

Anaphylaxis is highly likely when any one of the following three criteria are fulfilled:

1. Acute onset of an illness (minutes to several hours) with involvement of the skin, mucosal tissue or both (e.g. generalized hives, pruritus or flushing, swollen lips-tongue-uvula).
   And at least one of the following:
   a. Respiratory compromise (e.g. dyspnoea, bronchospasm, stridor, hypoxia).
   b. Cardiovascular compromise (e.g. hypotension, collapse).
2. Two or more of the following that occur rapidly after exposure to a likely allergen for that patient (minutes to several hours):
   a. Involvement of the skin or mucosal tissue (e.g. generalized hives, itch, flushing, swelling).
   b. Respiratory compromise (e.g. dyspnoea, bronchospasm, stridor, hypoxia).
   c. Cardiovascular compromise (e.g. hypotension, collapse).
   d. Persistent gastrointestinal symptoms (e.g. crampy abdominal pain, vomiting).
3. Hypotension after exposure to known allergen for that patient (minutes to several hours):
   Hypotension for children is defined as systolic blood pressure <70 mmHg from 1 month to 1 year [<70 mmHg + (2 × age)] from 1 to 10 years, and <90 mmHg from 11 to 17 years.



"Bit of a bummer really,
you've got a nut allergy."

IgE mediated immediate reaction

- Food allergy like urticaria or anaphylaxis
- Oral allergy syndrome

Non IgE mediated – delayed manifestation

- eczema
- Allergic colitis
- Infantile colic
- GORD
- Allergic dysmotility
- Enteropathy

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Sesame seeds	6–36 mo	None known; coreactivity with peanuts and tree nuts	Persistent (20% of cases resolve by 7 yr)
Fish	Late childhood and adulthood	Other fish (low cross-reactivity with tuna and swordfish)	Persistent†
Shellfish	Adulthood (in 60% of patients with this allergy)	Other shellfish	Persistent
Wheat‡	6–24 mo	Other grains containing gluten	5 yr (80% of cases resolve)
Soybeans‡	6–24 mo	Other legumes	2 yr (67% of cases resolve)
Kiwi	Any age	Banana, avocado, latex	Unknown
Apples, carrots, and peaches§	Late childhood and adulthood	Birch pollen, other fruits, nuts	Unknown

Options to discuss

- Rising prevalence – real or presumed?
- Manifestations of food allergy
- Cows milk allergy
- Eczema
- Reflux and screaming infants
- Immediate food reactions and adrenaline devices
- Urticaria and hyperactivity
- Testing for food allergy
- Preventing food allergy

Oral allergy syndrome

- Fruits
- Berries
- Tree pollen
- Some nuts

- No one dies – no adrenaline pens

Common foods which may cause oral allergy syndrome

- Apple
- Peach
- Pear
- Nectarine
- Strawberries
- Melon
- Camomile tea
- Carrot
- Potato
- Fennel
- Spinach
- Brazil nut
- Watermelon
- Spices e.g. cumin, coriander, parsley
- Walnut
- Peanuts
- Wheat
- Hazelnuts
- Celery
- Cucumber
- Cherries
- Plum
- Honey
- Almonds
- Apricots
- Tomato

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Not the same as wheat allergy

ORIGINAL ARTICLE

The changing clinical presentation of coeliac disease

M Ravikumara, D P Tuthill, H R Jenkins

Arch Dis Child 2006;**91**:969–971. doi: 10.1136/adc.2006.094045

- Median age has risen
- Gastro intestinal manifestations as presenting symptoms decreased
- 1:4 children identified at targeted screening

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- Enteropathy

IgE mediated responses are immediate or within hours
And don’t last for days

ABC of allergies

Allergy and the skin. I–Urticaria

Malcolm W Greaves, Ruth A Sabroe

Causes of acute urticaria

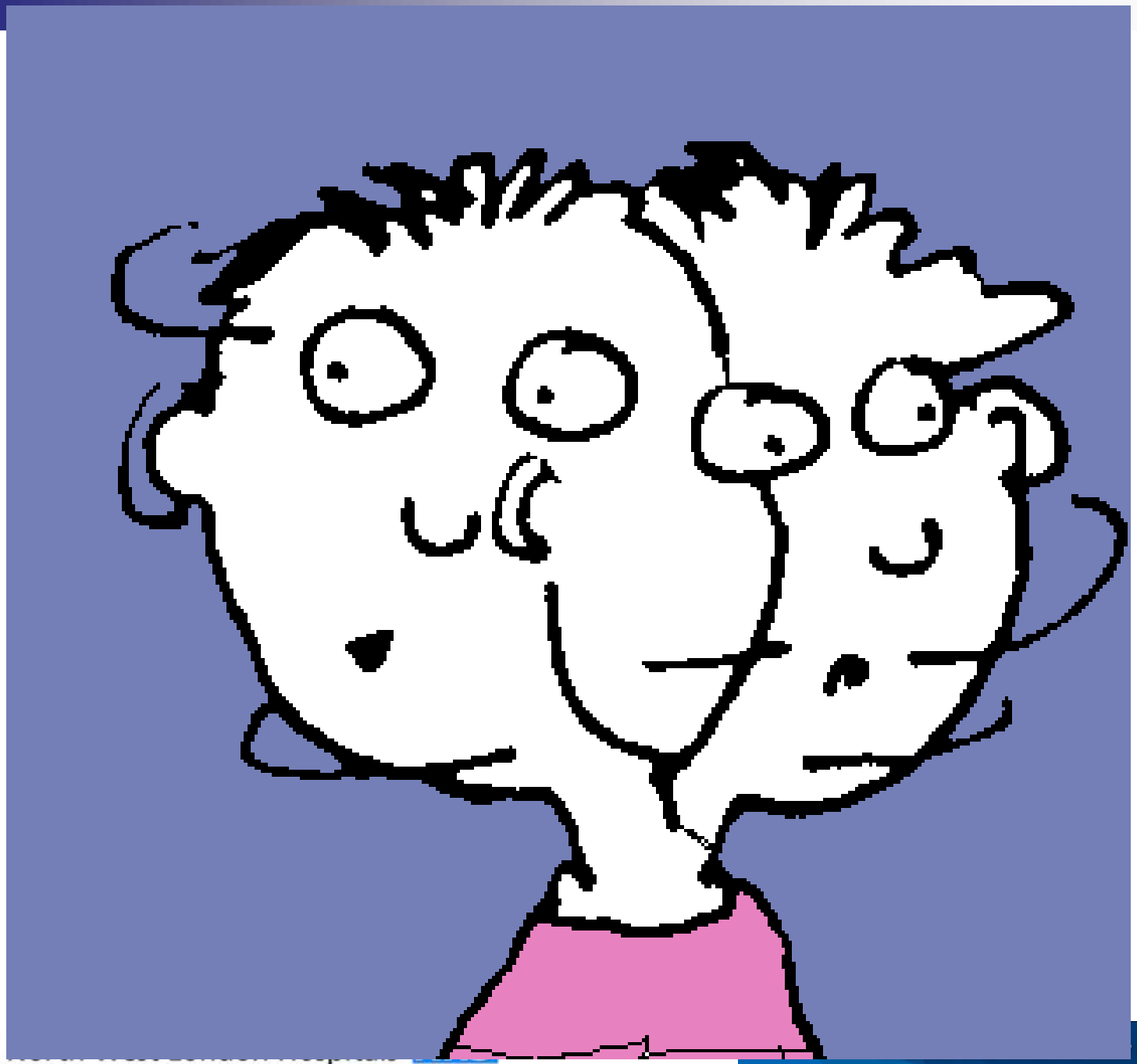
- Idiopathic origin
- Food: fruits (for example, strawberries), seafood, nuts, dairy products, spices, tea, chocolate
- Drugs: antibiotics (for example, penicillin) and sulphonamides; aspirin and non steroidal anti inflammatory drugs; morphine and codeine
- Blood products
- Viral infections and febrile illnesses
- Radio contrast media
- Wasp or bee stings

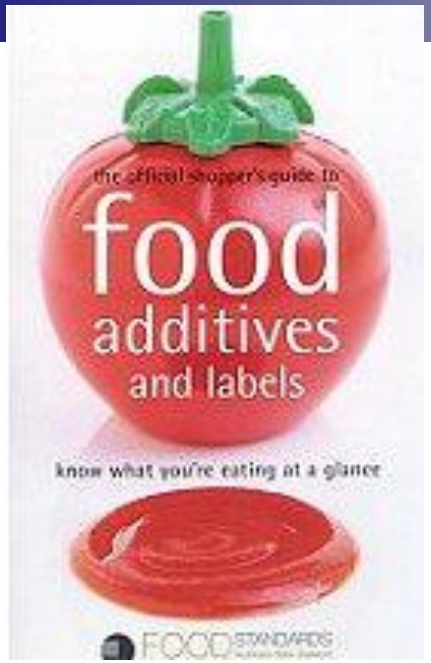
Chronic relapsing urticaria

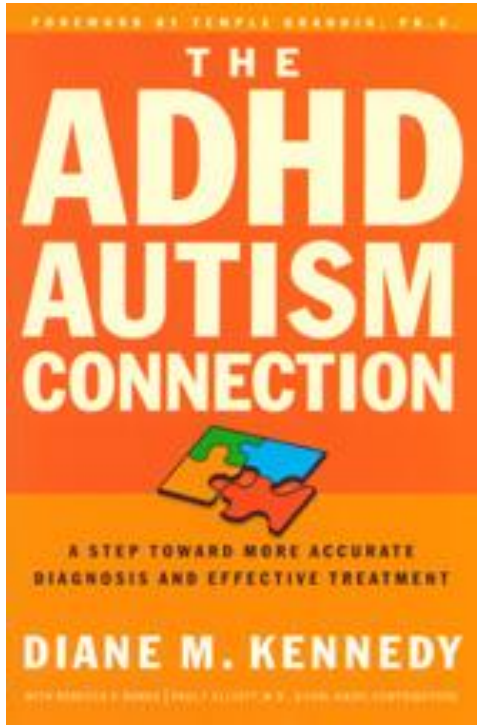
- More likely to be auto-immune than food
- Ask about auto immunity
- If the patient doesn't know the agent that caused a response, then I can't test them

Cyclical vomiting syndrome

- Intense paroxysms of vomiting
- Lasting 2-3 days
- Wiped out
- Not food allergy
- Migraine variant




the official shopper's guide to
food
additives
and labels
know what you're eating at a glance
FOOD STANDARDS


THE
ADHD
AUTISM
CONNECTION
A STEP TOWARD MORE ACCURATE DIAGNOSIS AND EFFECTIVE TREATMENT
DIANE M. KENNEDY


PRINGLES
ORIGINAL
Potato Crisps

?

Finegold diet (1973)

- ? Hyperkinesis in childhood associated with eating products which cross react with salicylates - e.g.: common food additives & flavours & colours
  - At least 6 randomised control studies suggest there is a trend to improve off such additives but not conclusive
    - ? Select children improve

Food allergy and hyperkinetic syndrome

Egger

Reactions to foodstuffs

Food	Number tested	Number reacted (%)
1 *Foods universally tested*		
Colourant and preservatives	34	27 (79)
Soya*	15	11 (73)
Cow's milk	55	35 (64)
Chocolate	34	20 (59)
Grapes	18	9 (50)
Wheat	53	28 (49)
Oranges	49	22 (45)
Cow's cheese	15	6 (40)
Hen's eggs	50	20 (39)
Peanuts	19	6 (32)
Maize	38	11 (29)
Fish	48	11 (23)
Oats	43	10 (23)
Melons	29	6 (21)
Tomatoes	35	7 (20)
Ham/bacon	20	4 (20)
Pineapple	31	6 (19)
Sugar†	55	9 (16)
Beef	49	8 (16)
Beans	34	5 (15)
Peas	33	5 (15)
Malt	20	3 (15)
Apples	53	7 (13)
Pork	38	5 (13)

Food	Number tested	Number reacted
2 *Foods rarely tested and positive*‡		
Plums	9	2
Rabbit	6	3
Sago	5	2
Duck	4	3
3 *Foods tested only in patients who reacted to antigenically related foods*		
To cow's milk:		
Goat's milk	22	15
Ewe's milk	12	4
To wheat:		
Rye	29	15
4 *Foods to which there was no reaction*		
Cabbages	54	
Lettuces	53	
Cauliflowers	50	
Celery	49	
Goat's cheese	4	
Duck eggs	2	

Learning points

Real allergy

- Cows milk protein allergy
- ?colic
- ? Eczema
- Coeliac
- Nut allergy
- Anaphylaxis

No allergy

- Cyclical vomiting
- Relapsing urticaria
- Functional abdominal pain
- ADHD
- Asthma
- Crohns

Options to discuss

- Rising prevalence – real or presumed?
- Manifestations of food allergy
- Cows milk allergy
- Eczema
- Reflux and screaming infants
- Immediate food reactions and adrenaline devices
- Urticaria and hyperactivity
- Testing for food allergy
- Preventing food allergy

“Testing” for allergy

IgE-mediated allergy is suspected

- Offer a skin prick test and/or blood tests for specific IgE antibodies to the suspected foods and likely co-allergens. Base choice of test on:
  - the clinical history **and**
  - the suitability for, safety for, and acceptability to the child (or their parent or carer) **and**
  - the available competencies of the healthcare professional.
- Tests should only be undertaken by healthcare professionals with appropriate competencies.
- Only undertake skin prick tests where there are facilities to deal with an anaphylactic reaction.
- Interpret test results in the context of clinical history.
- Do not use atopy patch testing or oral food challenges to diagnose IgE-mediated allergy in primary care or community settings.

Non-IgE-mediated allergy is suspected

- Try eliminating the suspected allergen for 2–6 weeks, then reintroduce. Consult a dietitian with appropriate competencies about nutritional adequacies, timings and follow-up.
- Taking into account socioeconomic, cultural and religious issues, offer information on:
  - what foods and drinks to avoid
  - how to interpret food labels
  - alternative foods to eat to ensure a balanced diet
  - the duration, safety and limitations of an elimination diet
  - oral food challenge or reintroduction procedures, if appropriate, and their safety and limitations.
- If allergy to cows' milk protein is suspected, offer:
  - food avoidance advice to breastfeeding mothers
  - information on appropriate hypoallergenic formula or milk substitute to mothers of formula-fed babies.

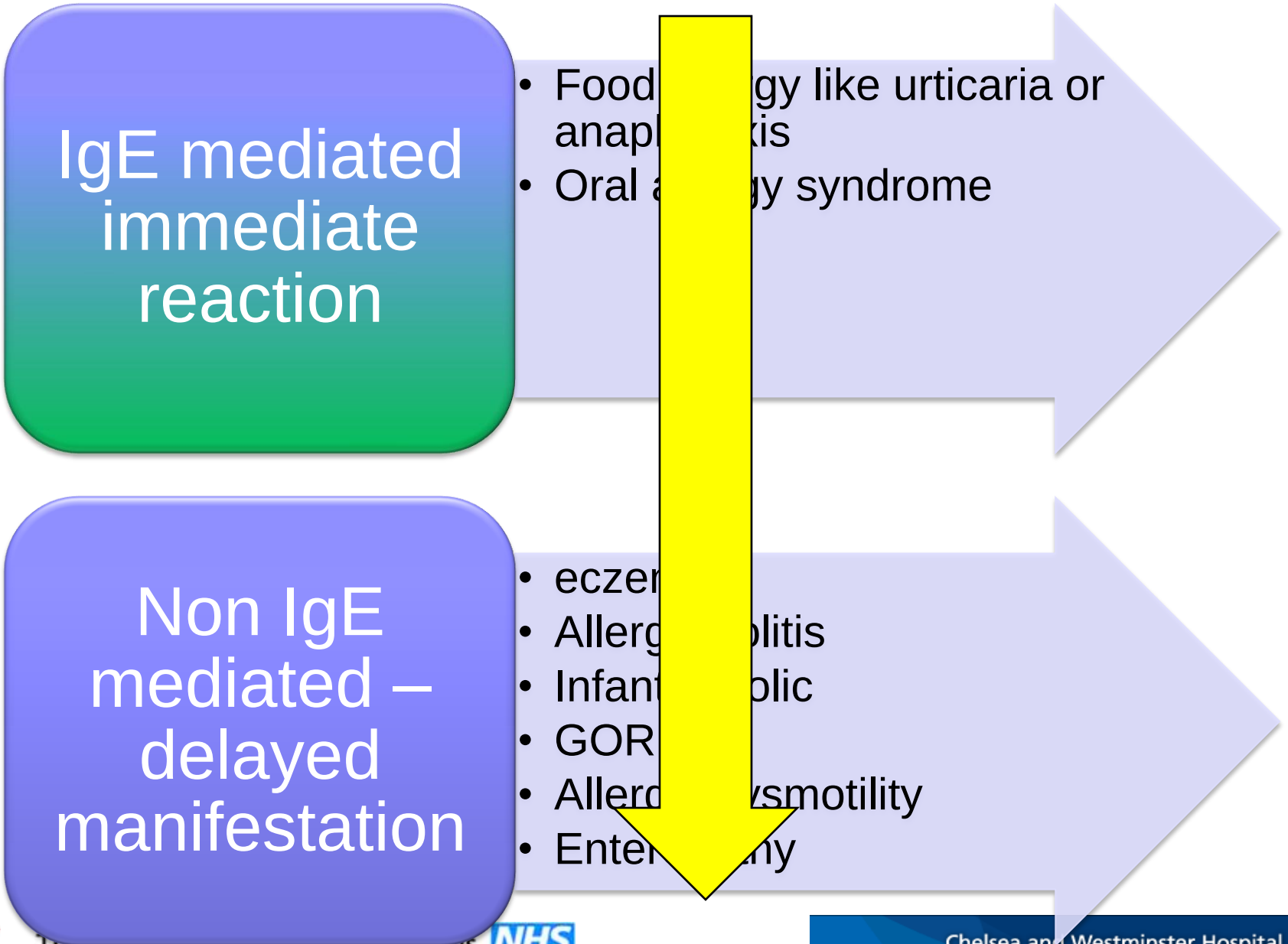
  Consult a dietitian with appropriate competencies.

Inaccuracy of histories

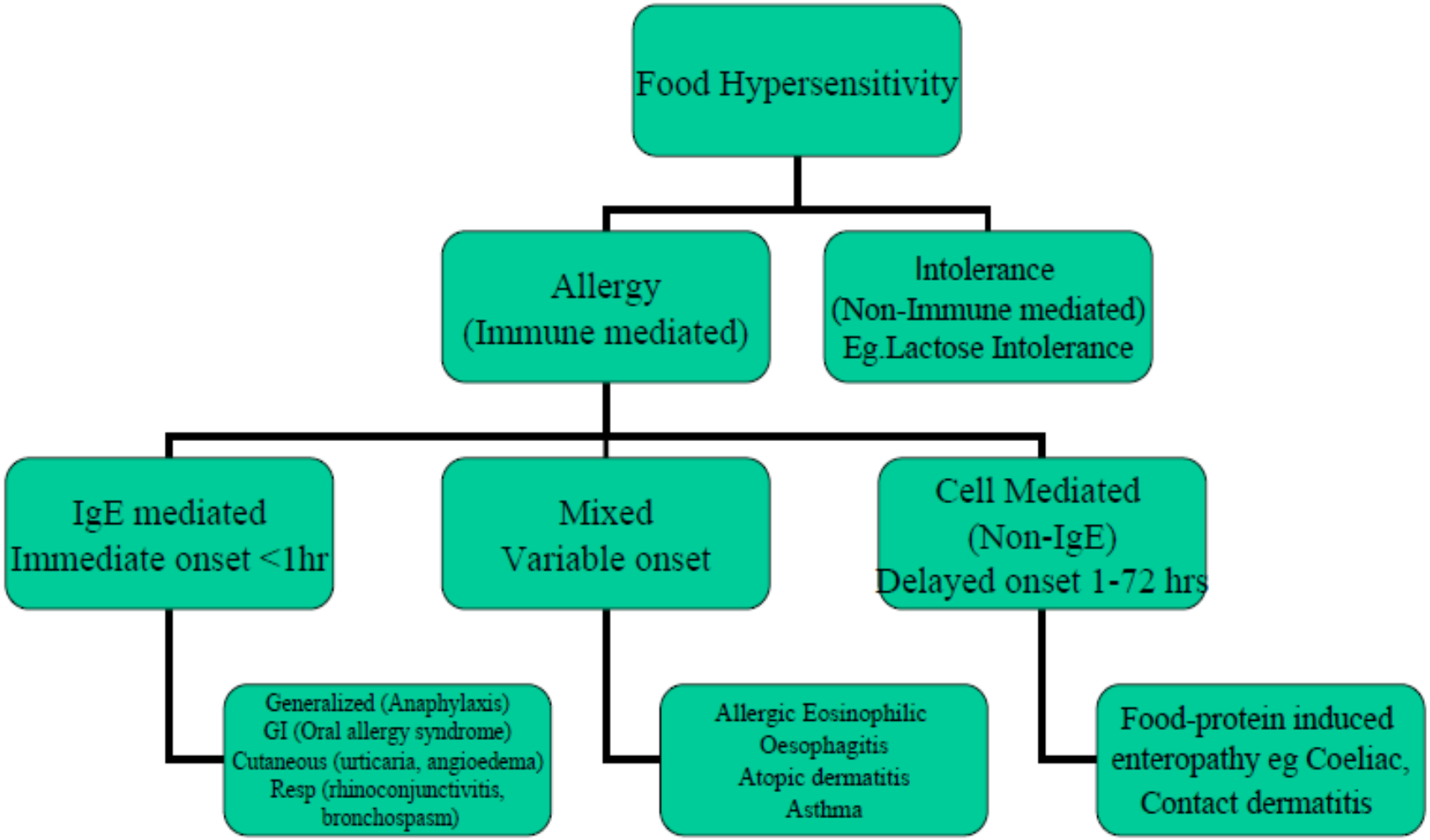
"Unlike any other area in medicine, the history of adverse reaction to food is more often incorrect than it is correct"

Bock, 1998

Professor Paediatrics, Colorada


IgE mediated immediate reaction
• Food gy like urticaria or anapl kis
• Oral a gy syndrome
Non IgE mediated – delayed manifestation
• eczer
• Allerg litis
• Infant olic
• GOR
• Allerd vsmotility
• Enter hy

World Allergy Organisation Definition (2003)
Sampson HA. Improving in-vitro tests for the diagnosis of food hypersensitivity. Current Opinion in Allergy and Immunology 2002: 257-61



The NEW ENGLAND JOURNAL of MEDICINE

CLINICAL PRACTICE

Food Allergy

Gideon Lack, M.D.

Given the frequent coexistence of multiple allergic diseases, children with egg allergy should be tested for other food allergies and evaluated for other atopic diseases, and those presenting with moderate-to-severe eczema at a young age should undergo testing for food allergies. The identifica-

Skin testing

- Negative predictive accuracy 100%
- Positive predictive accuracy approx. 60%
  - Applying an antigen to skin is not the same as ingesting
  - Younger children are more likely to have a false negative
  - positive predictive accuracy in children < 2 is higher, but difficult to perform.

Invitro/blood tests

- New antigens formed by digestion
- RAST testing
  - sensitivity up to 100%
  - specificity 70-90%
- IgE measurements

Food challenges

- Booked on PDCU with advice of dietician
- Administer food hourly doubling the dose
  - difficult if the reactions are late onset
- Often an open study
- Pitfalls
  - eliminate bias
    - blind
    - difficulties in performing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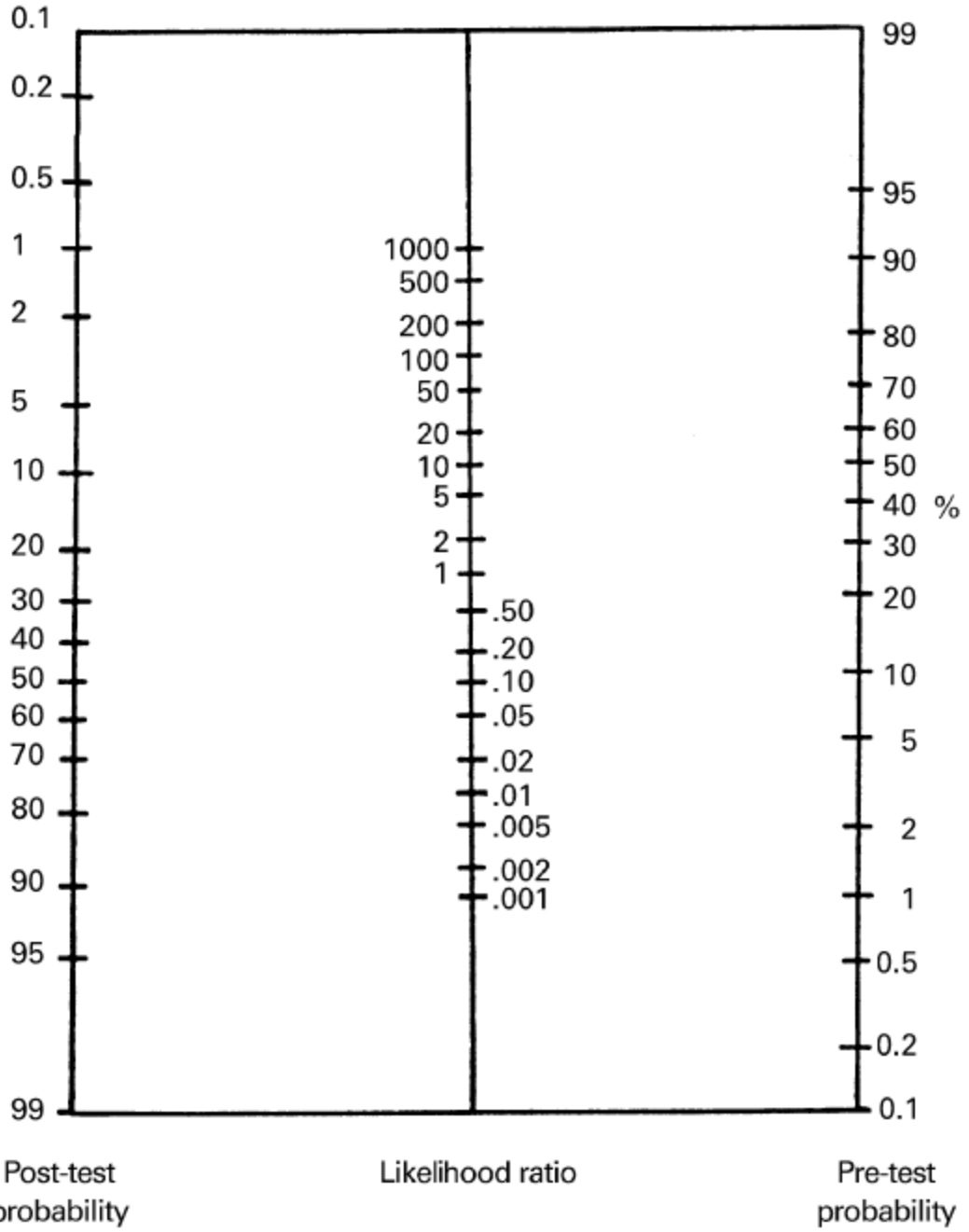
Clinical and Experimental Allergy, 2000, Volume 30, pages 1495–1498

EDITORIAL

Food allergy–getting more out of your skin prick test



Clinical presentation	Pre-test probability		Post-test probability given skin prick testing weal sizes			
			0 mm	3 mm	6 mm	10 mm
		Likelihood ratio	0.05	0.5	6.5	∞
		Sensitivity	100%	95%	85%	45%
		Specificity	0%	70%	95%	100%
Case A – Child who developed a headache and starts vomiting 4 h after eating a peanut butter sandwich.	0.5%		<0.1%	0.2%	5%	>99%
Case B – Sister of a child with proven peanut allergy.	10%		0.5%	5%	45%	>99%
Case C – Child with asthma who has developed urticaria 45 min after eating a small piece of peanut butter sandwich.	50%		5%	35%	90%	>99%
Case D – Child who developed urticaria and wheeze on two occasions within minutes of accidental exposure to peanuts.	80%		15%	70%	96%	>99%

Hill DJ, Heine RG, Hosking CS. The diagnostic value of skin prick testing in children with food allergy. Paed Allergy Immunol 2004:15:435-441

Food item	Weal diameter (mm)	Sensitivity	Specificity	Positive predictive value
Cow's milk	0	0.11	0.36	0.15
	≥3	0.79	0.73	0.75
	≥6	0.49	0.95	0.91
	≥8	**0.30**	**1.00**	**1.00**
Egg	0	0.05	0.83	0.60
	≥3	0.87	0.67	0.93
	≥6	0.68	0.92	0.98
	≥7	**0.52**	**1.00**	**1.00**
Peanut	0	0.04	0.50	0.18
	≥3	0.95	0.72	0.91
	≥6	0.78	0.94	0.98
	≥8	**0.51**	**1.00**	**1.00**

Age >/= 2yrs

Sampson HA. Utility of food- specific IgE concentrations in predicting symptomatic food allergy. J Allergy Clin Immunol 2001 ;107: 891-96

'Decision point' Allergen	[kUA/l]	sensitivity	specificity	PPV
Egg	7	61	95	**98**
Milk	15	57	94	**95**
Peanut	14	57	100	**100**
Fish	3	63	91	56
Soybean	30	44	94	73
Wheat	26	61	92	74

Should I screen this child for nut allergy?

- SPT not available to GP's – rely on IgE
- Aim for CAP FEIA
- 22% of those with –ve CAPs are nut allergic
- 40% with +ve CAPs are misleading to nuts

- Interpretation of tests for nut allergy in 1000 patients, in relation to allergy or tolerance Clark and Ewan Clin Exp Allergy 2003; 33:1041-1045

Interpret your blood allergy tests when screening for nut allergy with caution and respect
Many sensitised children may be nut tolerant.

Unproved diagnostic and therapeutic approaches to food allergy and intolerance

Suzanne S. Teuber[a,b] and Cristina Porch-Curren[a]

- Applied kinesology
- Pulse therapy
- Homeopathy
- Electrodermal testing
- Rotation if foods
- Bioresonance

Only food challenge will discriminate for food allergy

Don’t test before you see the child

No role for blind testing e.g. sending blood off in the post

Options to discuss

- Rising prevalence – real or presumed?
- Manifestations of food allergy
- Cows milk allergy
- Eczema
- Reflux and screaming infants
- Immediate food reactions and adrenaline devices
- Urticaria and hyperactivity
- Testing for food allergy
- Preventing food allergy

Can food allergy be prevented?

Does breast feeding prevent allergy though?

BMJ

Effect of prolonged and exclusive breast feeding on risk of allergy and asthma: cluster randomised trial

Michael S Kramer, Lidia Matush, Irina Vanilovich, Robert Platt, Natalia Bogdanovich, Zinaida Sevkovskaya, Irina Dzikovich, Gyorgy Shishko, Bruce Mazer and the Promotion of Breastfeeding Intervention Trial (PROBIT) Study Group

BMJ 2007;335;815-; originally published online 11 Sep 2007;

WHAT IS ALREADY KNOWN ON THIS TOPIC

Evidence is conflicting as to whether prolonged and exclusive breast feeding increases, decreases, or has no effect on the risks of asthma and allergy

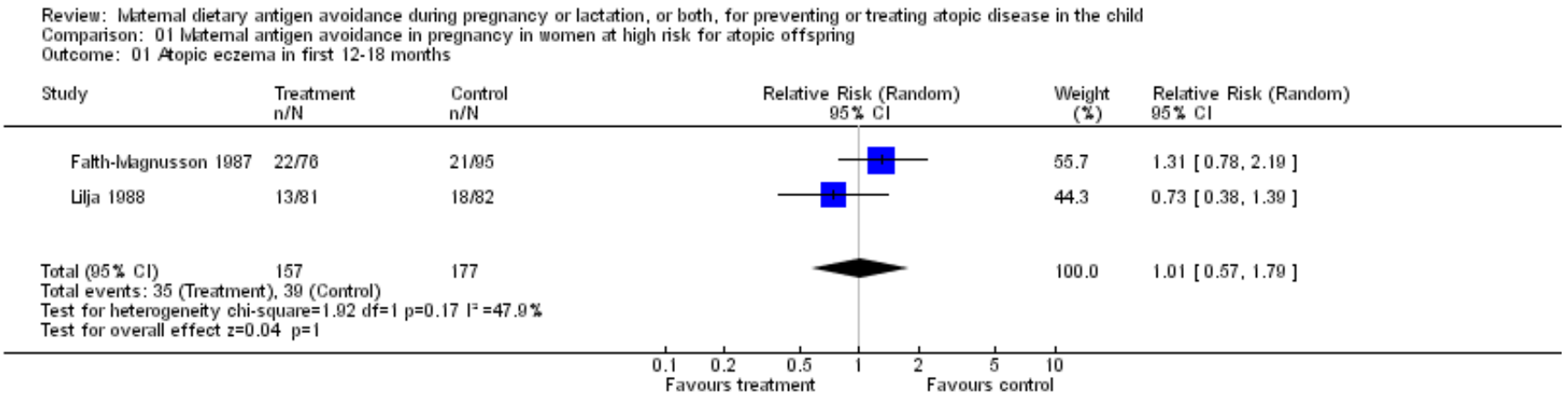
All of the available evidence is based on observational studies

WHAT THIS STUDY ADDS

Prolonged and exclusive breast feeding had no protective effect on allergic symptoms and diagnoses or on positive skin prick tests

What should I tell a breast feeding mother?

- **Maternal dietary antigen avoidance during pregnancy or lactation, or both, for preventing or treating atopic disease in the child**
  MS Kramer, R Kakuma



Evidence is inadequate to advise women to avoid specific foods during pregnancy or breastfeeding to protect their children from allergic diseases like eczema and asthma

Trials of mothers' avoidance of milk, eggs, and other potentially "antigenic" foods during pregnancy or breastfeeding, or both, provide inadequate evidence about whether such avoidance helps prevent atopic eczema or asthma in the child.

- Breast feeding should be better for you.
- After adjustment for social class, the benefit of breast feeding becomes less apparent
- NZ prospective study shows no benefit with asthma but helps with eczema
- Prolonged breast feeding as well as ↑ social class ↑ atopic risk

What formula should she feed her child if I want to decrease the chance of allergy

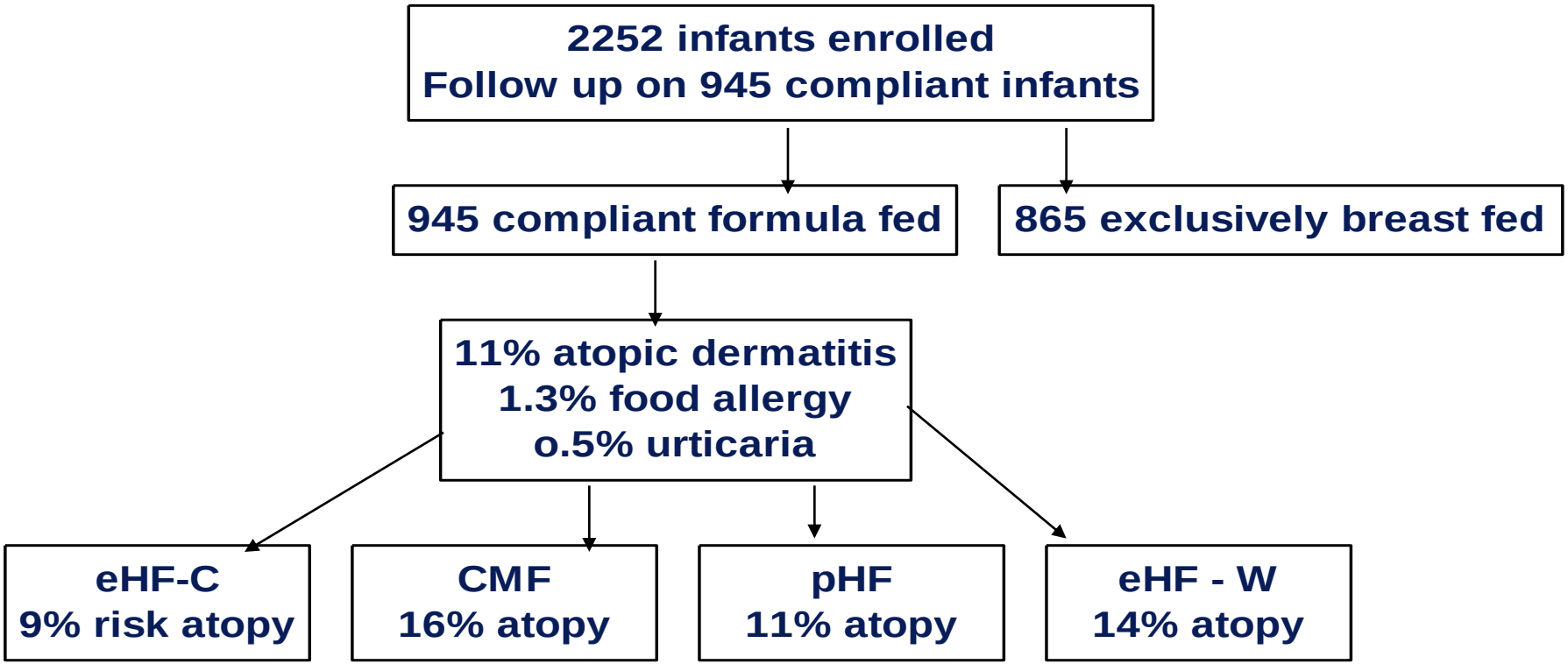
Effect of breast–feeding on the development of atopic dermatitis during the first 3 years of life––results from the GINI–birth cohort study.

Accession number & update

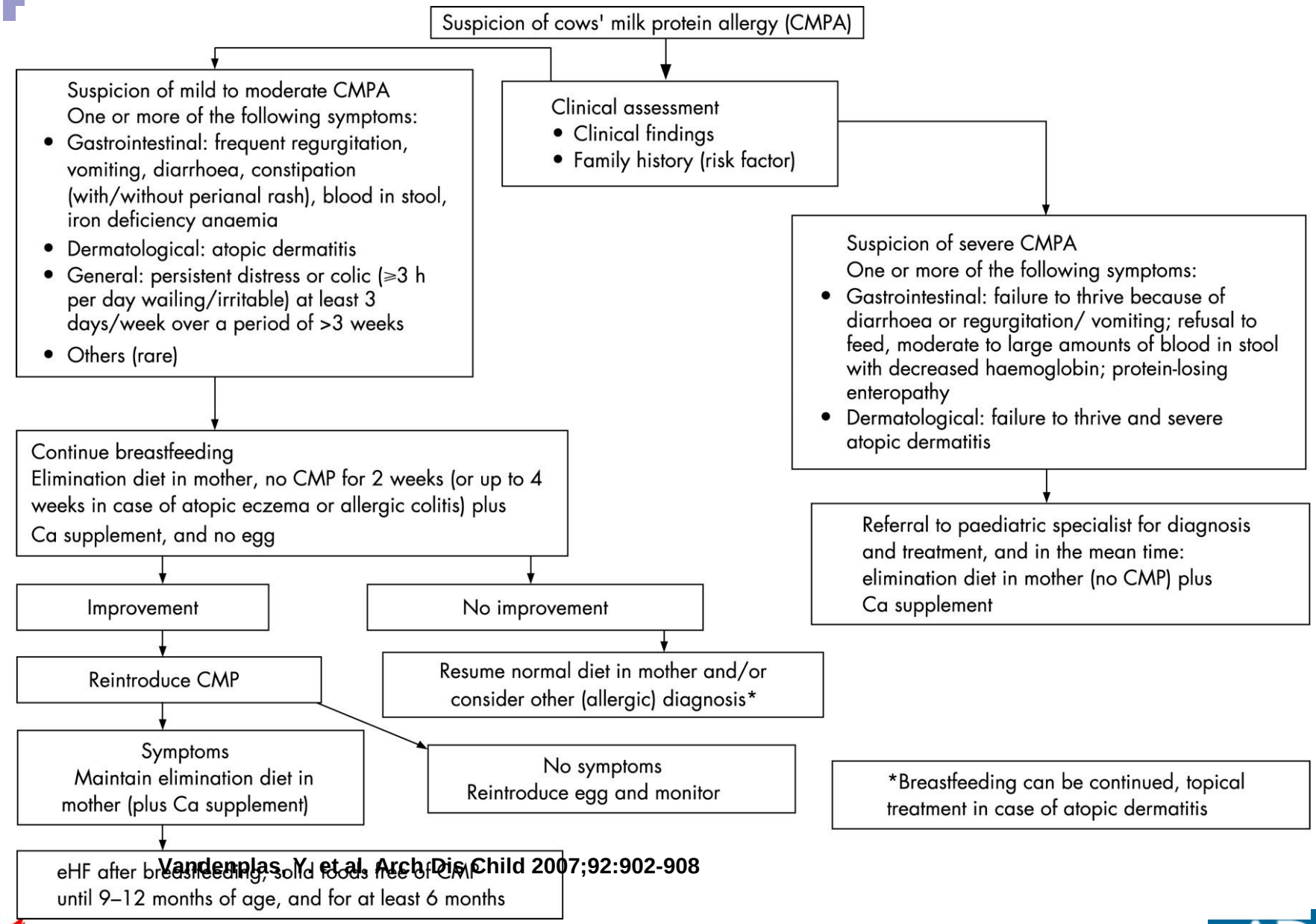
15126993 Medline 20060101.

Source

The Journal of pediatrics, {J–Pediatr}, May 2004, vol. 144, no. 5, p. 602–7, ISSN: 0022–3476.

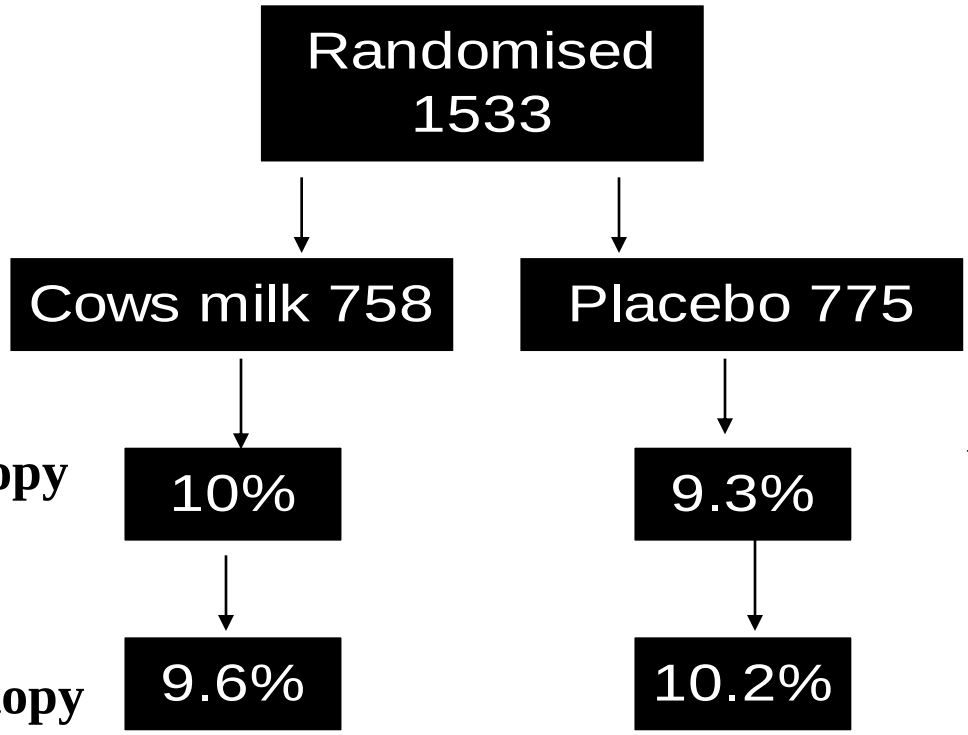


Better protection was achieved in infants without genetic risk



Vandenplas, Y. et al. Arch Dis Child 2007;92:902-908

What about brief exposure to Cow's milk on the development of atopy



Prevalence of atopy at 1 yr n= 1482

Prevalence of atopy at 2 yr n= 1220

Arch Dis Child 1998
79: 126-130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PRIMA

Probiotics in primary prevention of atopic disease: a randomised placebo-controlled trial

Marko Kalliomäki, Seppo Salminen, Heikki Arvilommi, Pentti Kero, Pertti Koskinen, Erika Isolauri

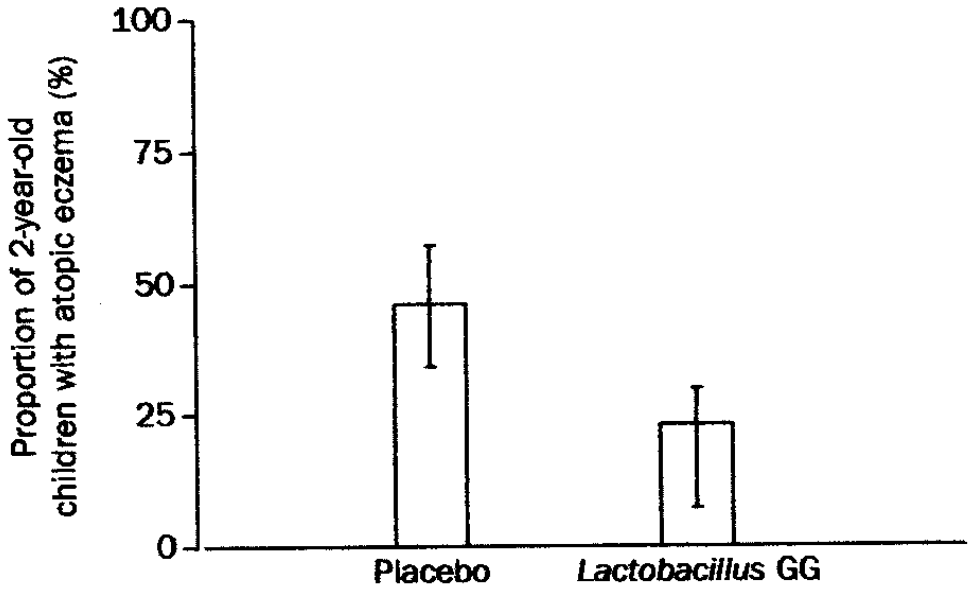
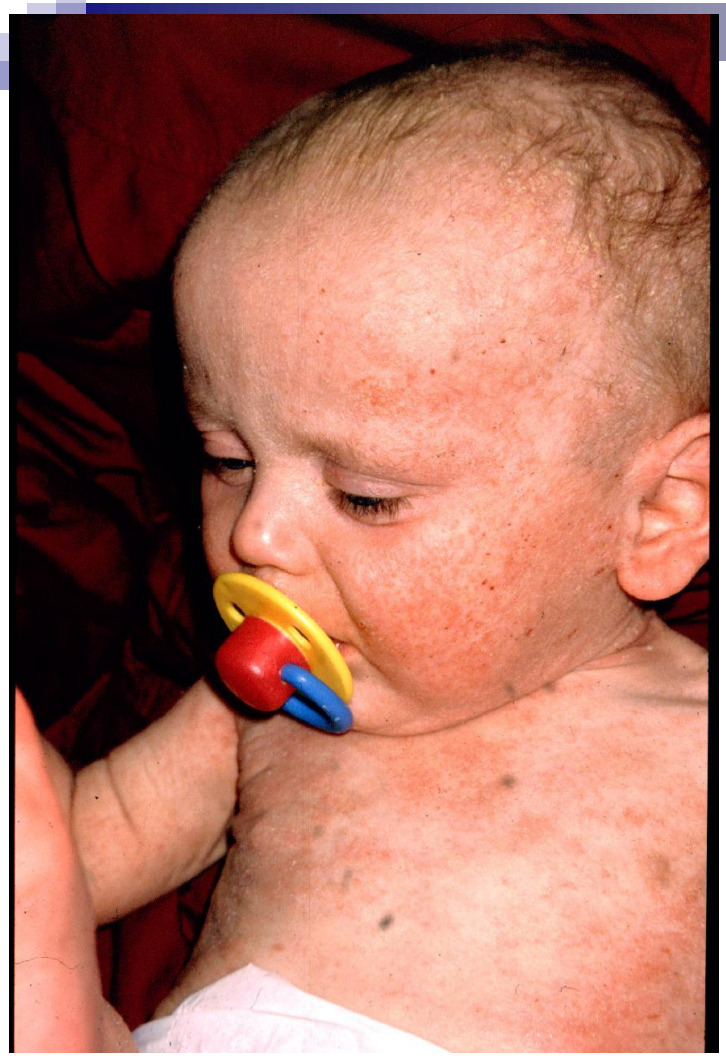


Figure 2: **Treatment effect of *Lactobacillus* GG on atopic disease**
Bars are 95% CI.



Once the child has eczema +/- CMPA, probiotics have a less impressive treatment effect

Viljanen M, Savilahti E, Haahtela T, Juntunen-Backman K, Korpela R, Poussa T, Tuure T, Kuitunen M
Probiotics in the treatment of atopic eczema/dermatitis syndrome in infants: a double-blind placebo-controlled trial.
Allergy. 2005

ORIGINAL ARTICLE

A mixture of prebiotic oligosaccharides reduces the incidence of atopic dermatitis during the first six months of age

G Moro, S Arslanoglu, B Stahl, J Jelinek, U Wahn, G Boehm

Arch Dis Child 2006;**000**:1–6. doi: 10.1136/adc.2006.098251

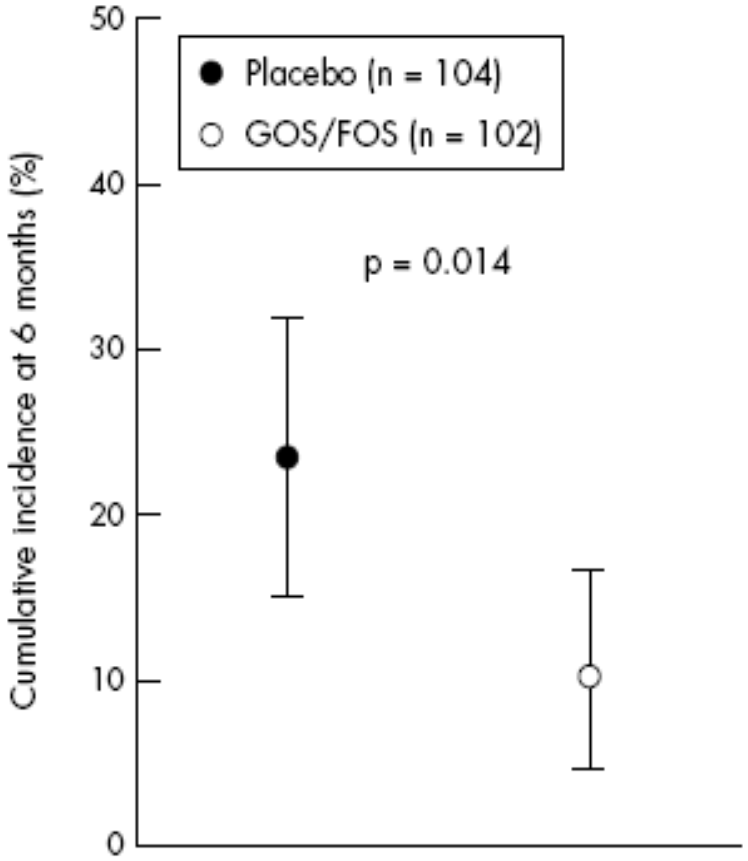
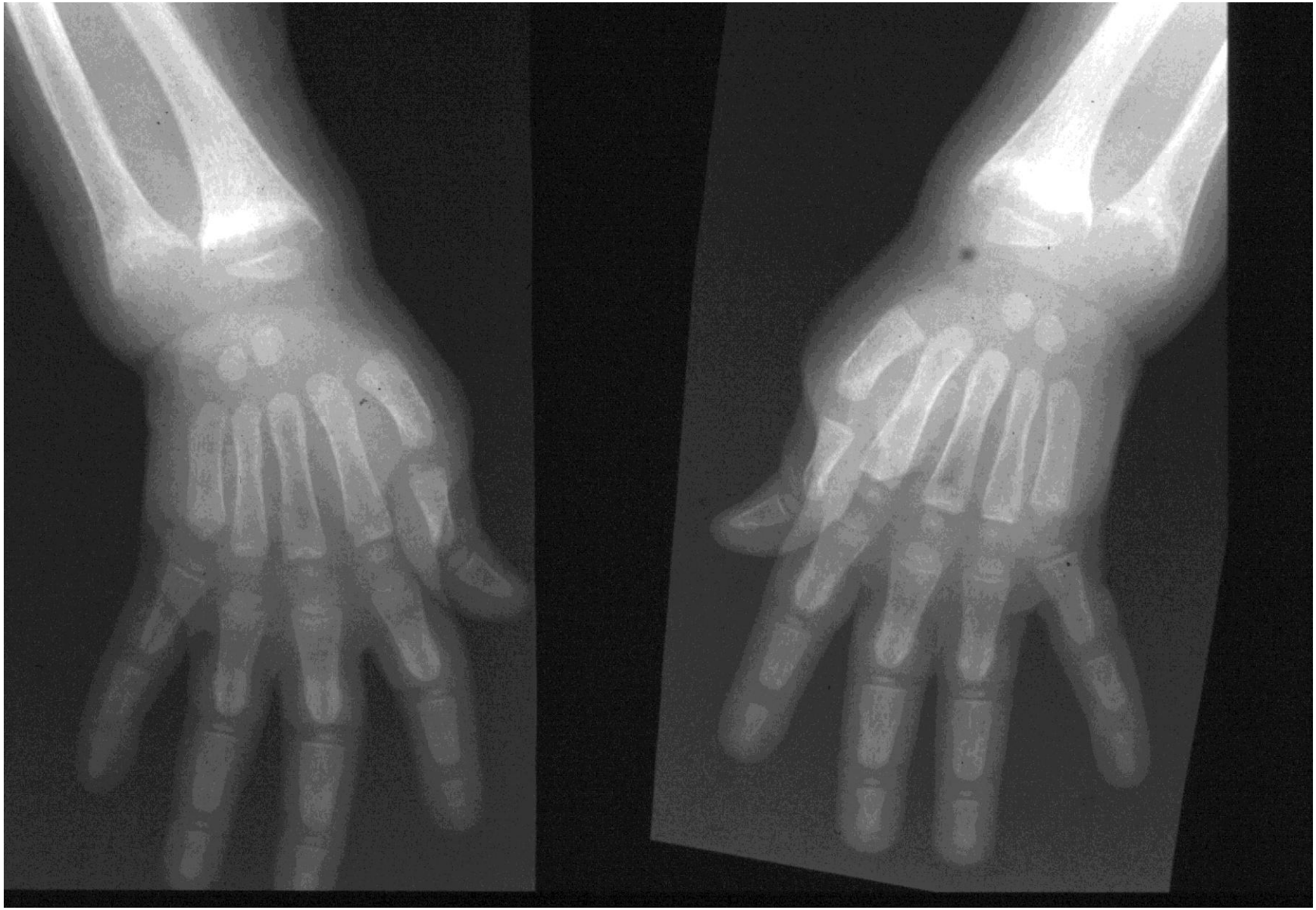


Figure 2 Cumulative incidence of AD at 6 months of age in the group fed a formula supplemented with GOS and FOS or maltodextrins as placebo. Data are expressed as mean (95% CI).



Learning point for prevention:

- At risk infants should
  - breast feed until 4- 6 months
    - consider maternal diet in conjunction with a dietician
  - alternative should be a non cow's milk formula
    - eHF > pHF > soy
  - avoid smoking

New approaches to treatment for food allergy

IgE-mediated allergy is suspected

- Offer a skin prick test and/or blood tests for specific IgE antibodies to the suspected foods and likely co-allergens. Base choice of test on:
  - the clinical history **and**
  - the suitability for, safety for, and acceptability to the child (or their parent or carer) **and**
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- Tests should only be undertaken by healthcare professionals with appropriate competencies.
- Only undertake skin prick tests where there are facilities to deal with an anaphylactic reaction.
- Interpret test results in the context of clinical history.
- Do not use atopy patch testing or oral food challenges to diagnose IgE-mediated allergy in primary care or community settings.

Non-IgE-mediated allergy is suspected

- Try eliminating the suspected allergen for 2–6 weeks, then reintroduce. Consult a dietitian with appropriate competencies about nutritional adequacies, timings and follow-up.
- Taking into account socioeconomic, cultural and religious issues, offer information on:
  - what foods and drinks to avoid
  - how to interpret food labels
  - alternative foods to eat to ensure a balanced diet
  - the duration, safety and limitations of an elimination diet
  - oral food challenge or reintroduction procedures, if appropriate, and their safety and limitations.
- If allergy to cows' milk protein is suspected, offer:
  - food avoidance advice to breastfeeding mothers
  - information on appropriate hypoallergenic formula or milk substitute to mothers of formula-fed babies.

  Consult a dietitian with appropriate competencies.

Consider referral to secondary or specialist care if:

- symptoms do not respond to a single-allergen elimination diet
- the child or young person has confirmed IgE-mediated food allergy and concurrent asthma
- tests are negative but there is strong clinical suspicion of IgE-mediated food allergy.

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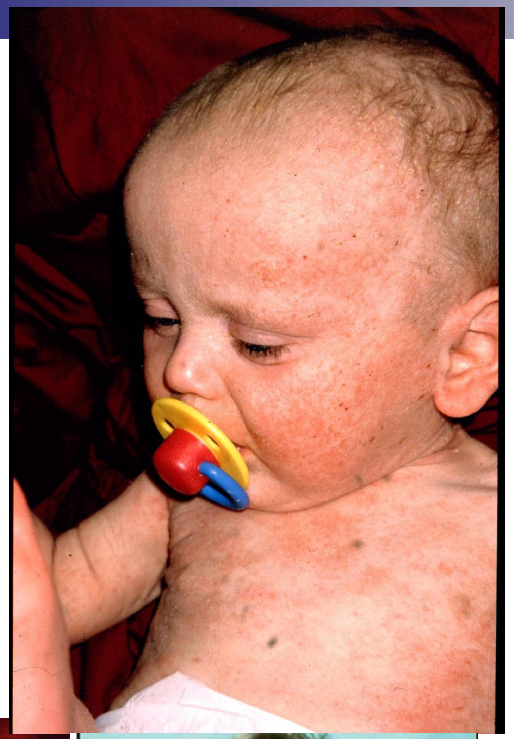
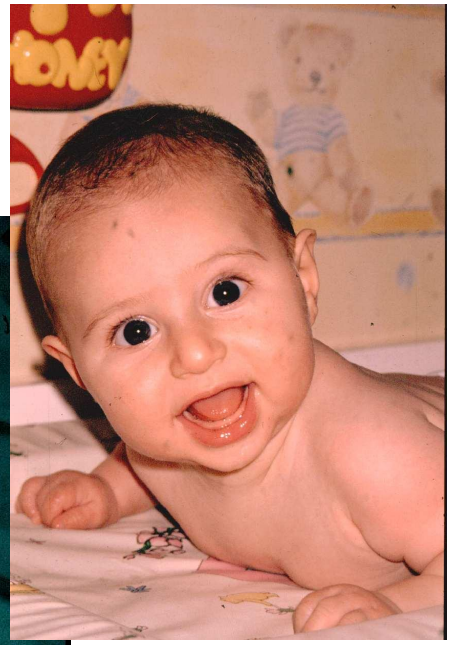
ORIGINAL ARTICLE

Effect of Anti-IgE Therapy in Patients with Peanut Allergy

Donald Y.M. Leung, M.D., Ph.D., Hugh A. Sampson, M.D., John W. Yunginger, M.D., A. Wesley Burks, Jr., M.D., Lynda C. Schneider, M.D., Cornelis H. Wortel, M.D., Ph.D., Frances M. Davis, Ph.D., John D. Hyun, B.S., and William R. Shanahan, Jr., M.D., for the TNX-901 Peanut Allergy Study Group*





Options to discuss

- Rising prevalence – real or presumed?
- Manifestations of food allergy
- Cows milk allergy
- Eczema
- Reflux and screaming infants
- Immediate food reactions and adrenaline devices
- Urticaria and hyperactivity
- Testing for food allergy
- Preventing food allergy

Learning points

Food allergy is real

IgE mediated disease can be tested

Food intolerance cannot be tested

Milk allergy has many manifestations