Updates in Paediatric Allergy

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Aims of session

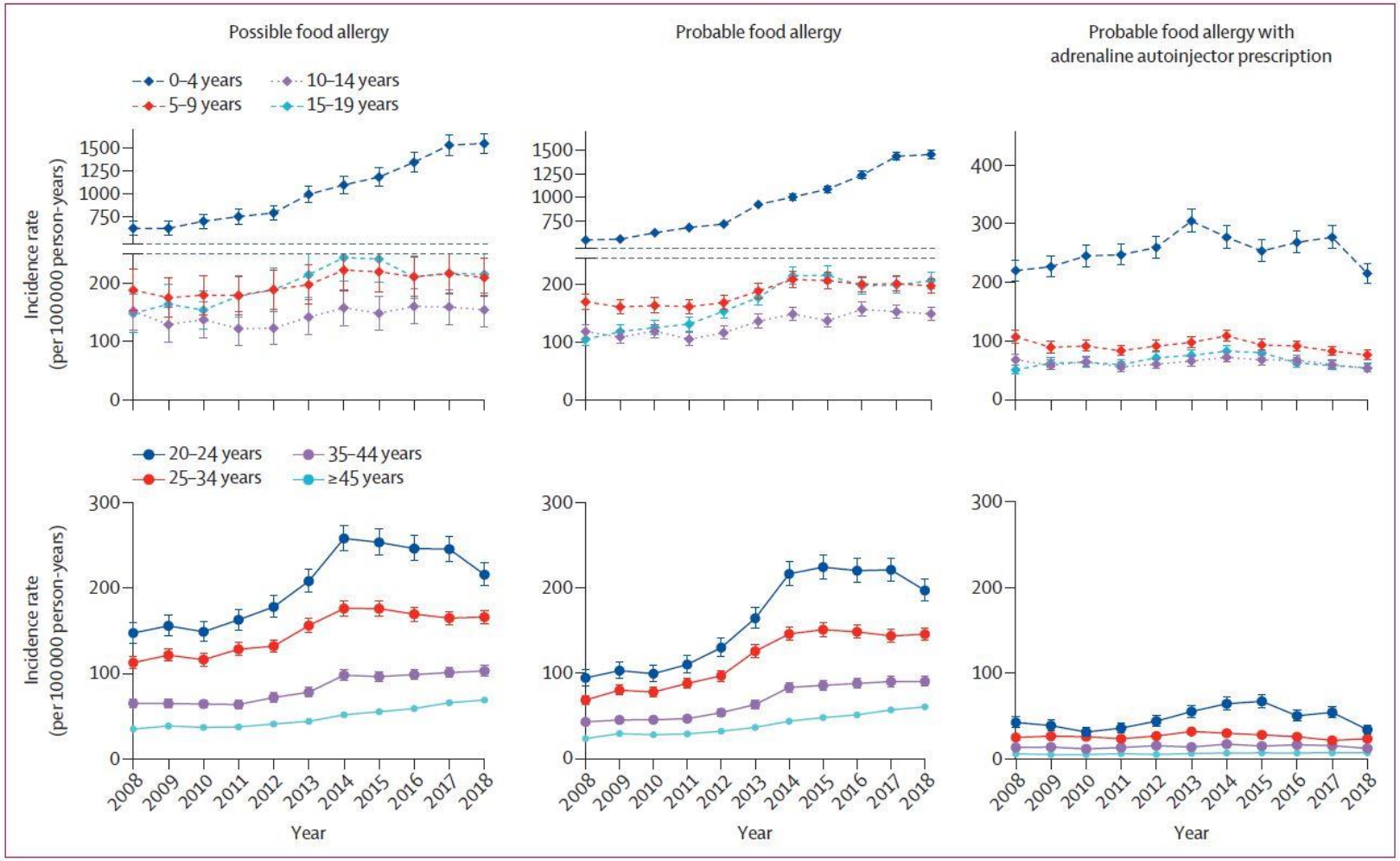
- Latest data on weaning infants
- Early food introduction
- Eczema and food allergy
- OIT
- Immunotherapy in toddlers
- The future
- Recent publications to read

Food allergy update

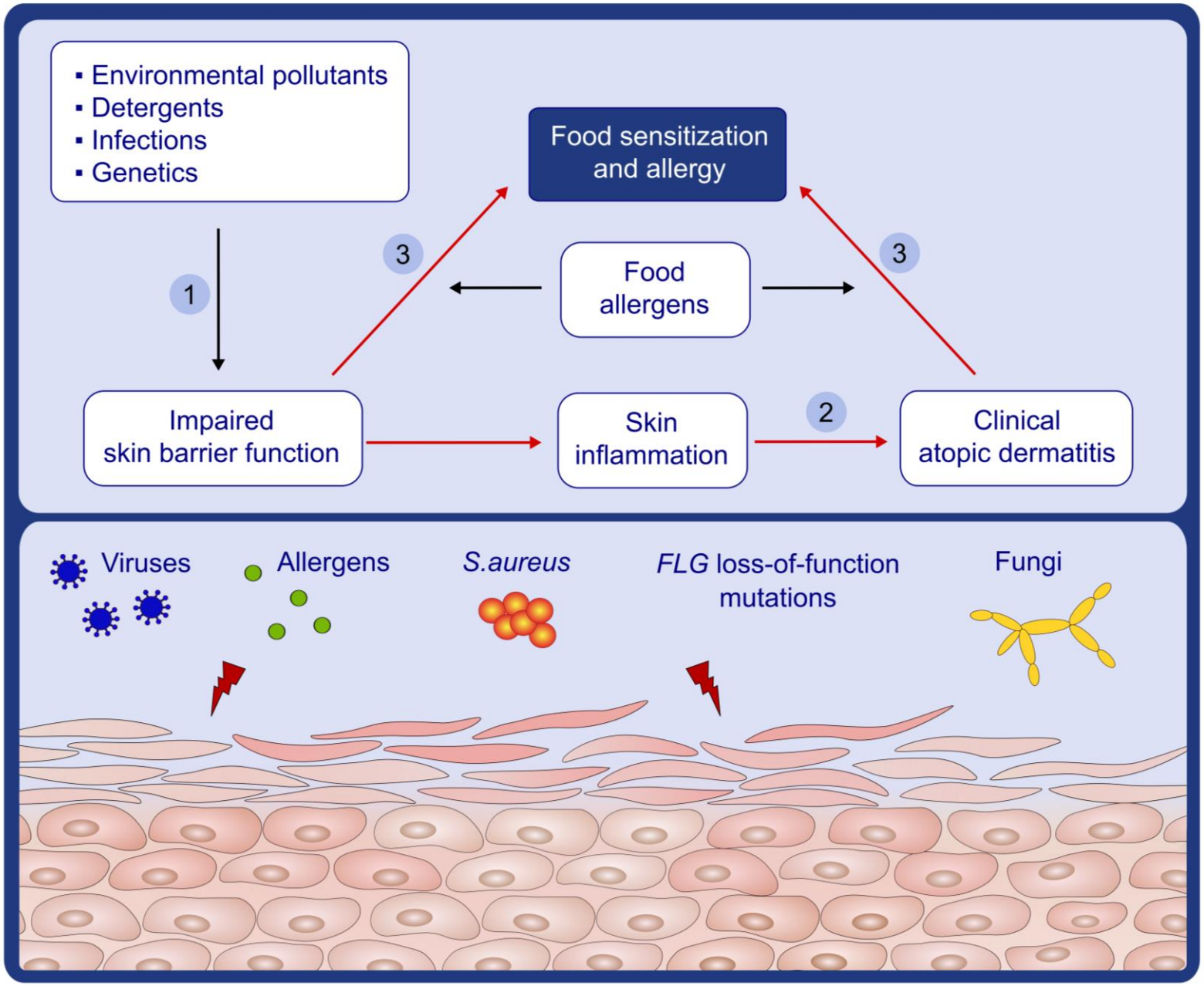
- FA affects 8% of children in Western Countries
- Food causes 37% of ICU anaphylaxis admissions
- Increase in prevalence in Vietnam, South Africa, Asia and Africa
- New and emerging allergens eg Royal Jelly, tropical fruits, exotic foods
- Affects disproportionally children from ethnic minorities
- Three fold increase risk of PA and FA in infants born to Asian parents in Australia
- In the past 10 years we have moved from avoidance and ‘watch and wait’ to active allergy management whereby we are introducing foods which the patient is known to be allergic
- There are new and emerging ways to introduce food which the patient is allergic to but when and how should we do it?

Peters et al, Update on Food Allergy, JACI 2020 Vol 32, Issue 4 p 647-657

Food allergy is becoming more prevalent



Turner, Conrado, Kallis et al. 2024 Lancet. Time Trends in food allergy; 98-14



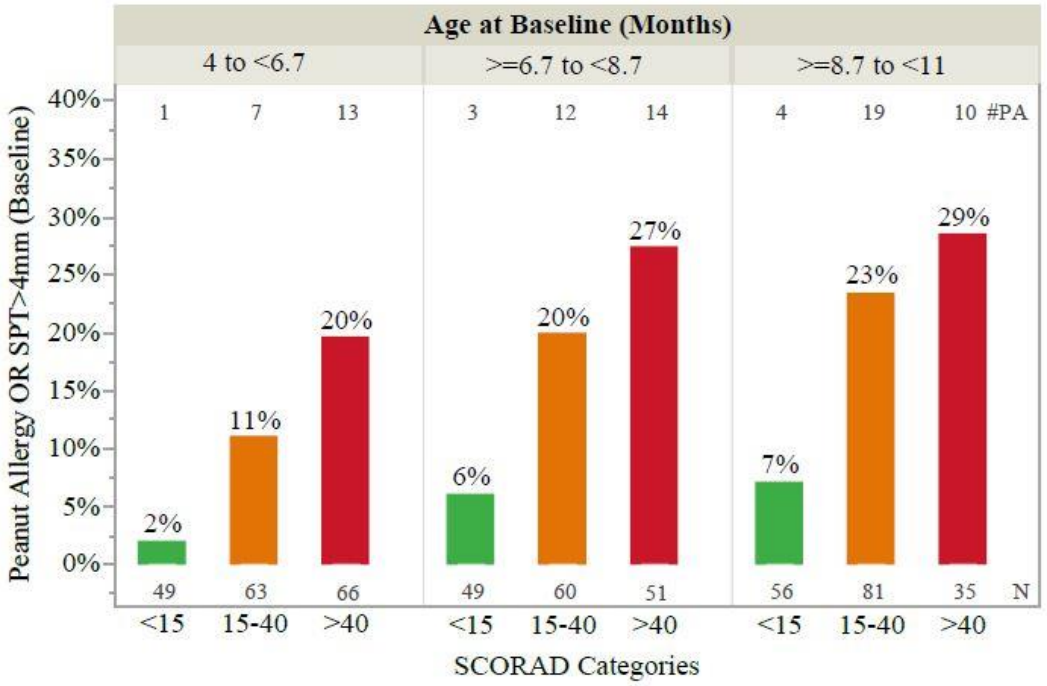
1) Skin barrier impairment due to environmental pollutants, detergents, infections, and genetics

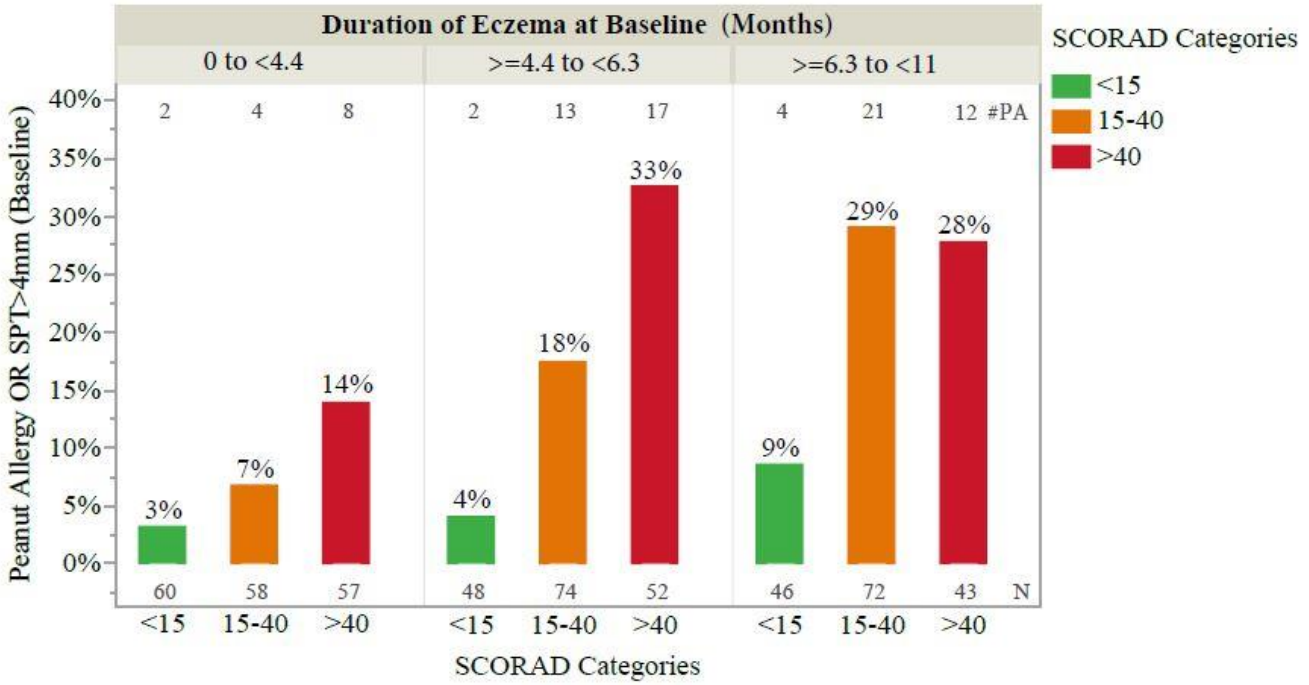
2) Skin barrier impairment leads to skin inflammation and clinical AD

3) Exposure to food allergens through skin that has an impaired barrier (dry) or clinical AD leading to sensitization and FA

Brough H.A. et al. Allergy 2020; 75 (9):2185-2205

Increased eczema and severity predicts PA



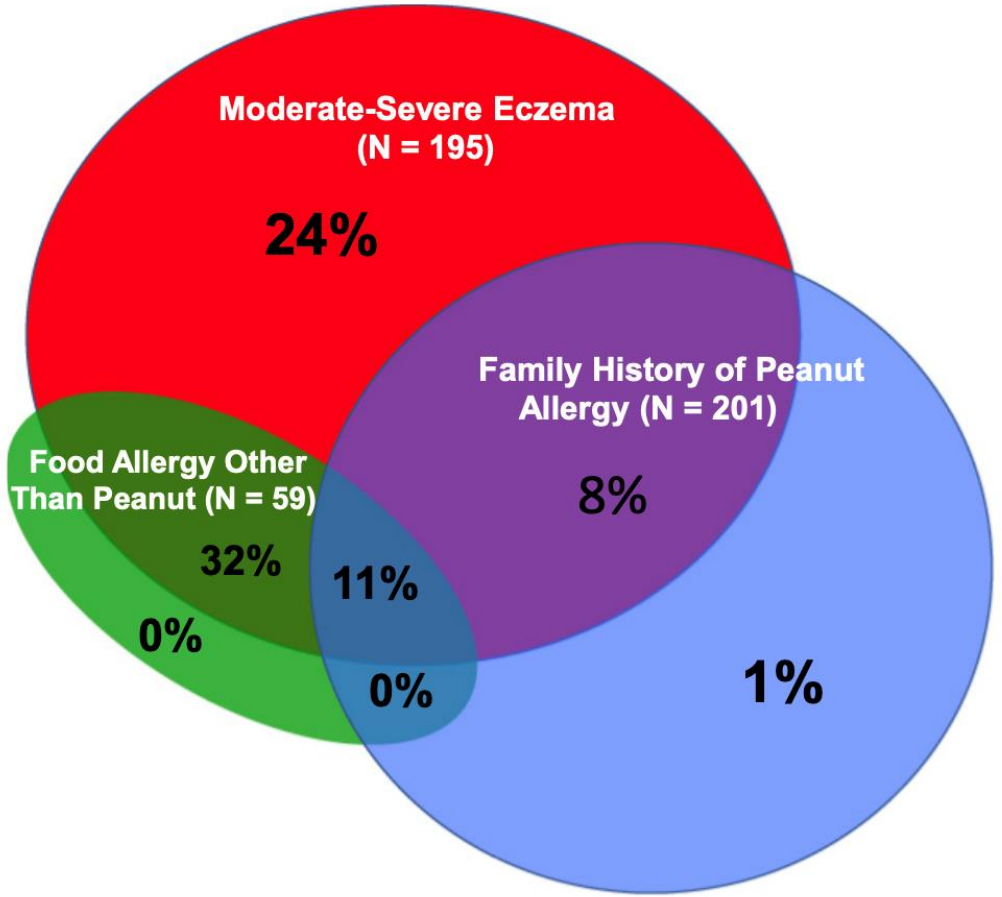


Roberts, Bahnson et al 2022; JACI - Defining the window of opportunity and the target populations to prevent peanut allergy

GRAPHICAL ABSTRACT

Age and eczema severity, but not family history, are major risk factors for peanut allergy in infancy

Rates of peanut allergy



Population:

- 321 infants 4-11 months of age with:
  - no history of peanut exposure or allergy testing
  - at least one risk factor

Procedures:

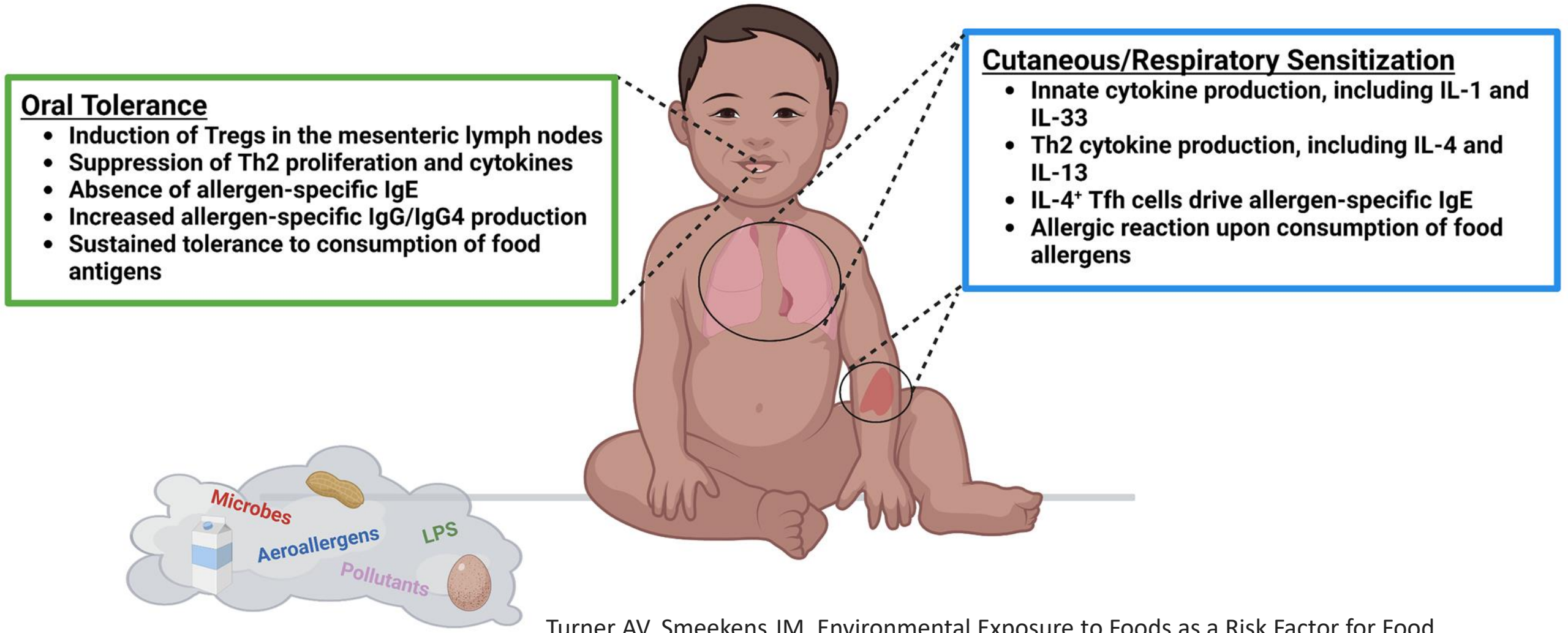
- Skin prick test and oral food challenge (or observed feeding) to determine peanut allergy status

Risk Modification:

- Higher age and SCORAD (SCORing Atopic Dermatitis) score increase risk
- In the absence of eczema, family history confers very little risk
- Among those with eczema, food allergy other than peanut increases risk

Keet C et al. J Allergy Clin Immunol. 2021 Mar;147(3):984-991.e5.

Environmental exposure to food



Turner AV, Smeekens JM. Environmental Exposure to Foods as a Risk Factor for Food Allergy. Curr Allergy Asthma Rep. 2023 May 25. doi: 10.1007/s11882-023-01091-0.

Preventing allergy

Train the immune system

Target the skin

Oral tolerance induction

Venter C, et al. Food allergy prevention: Where are we in 2023? Asia Pac Allergy. 2023;13(1):15-27

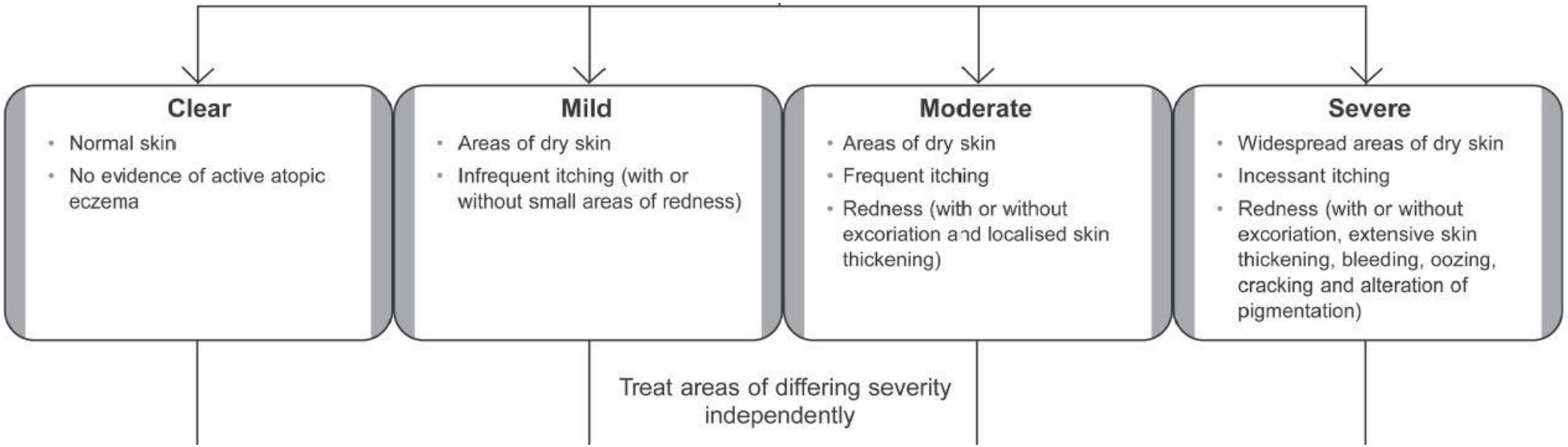
Skin care interventions for preventing food allergy

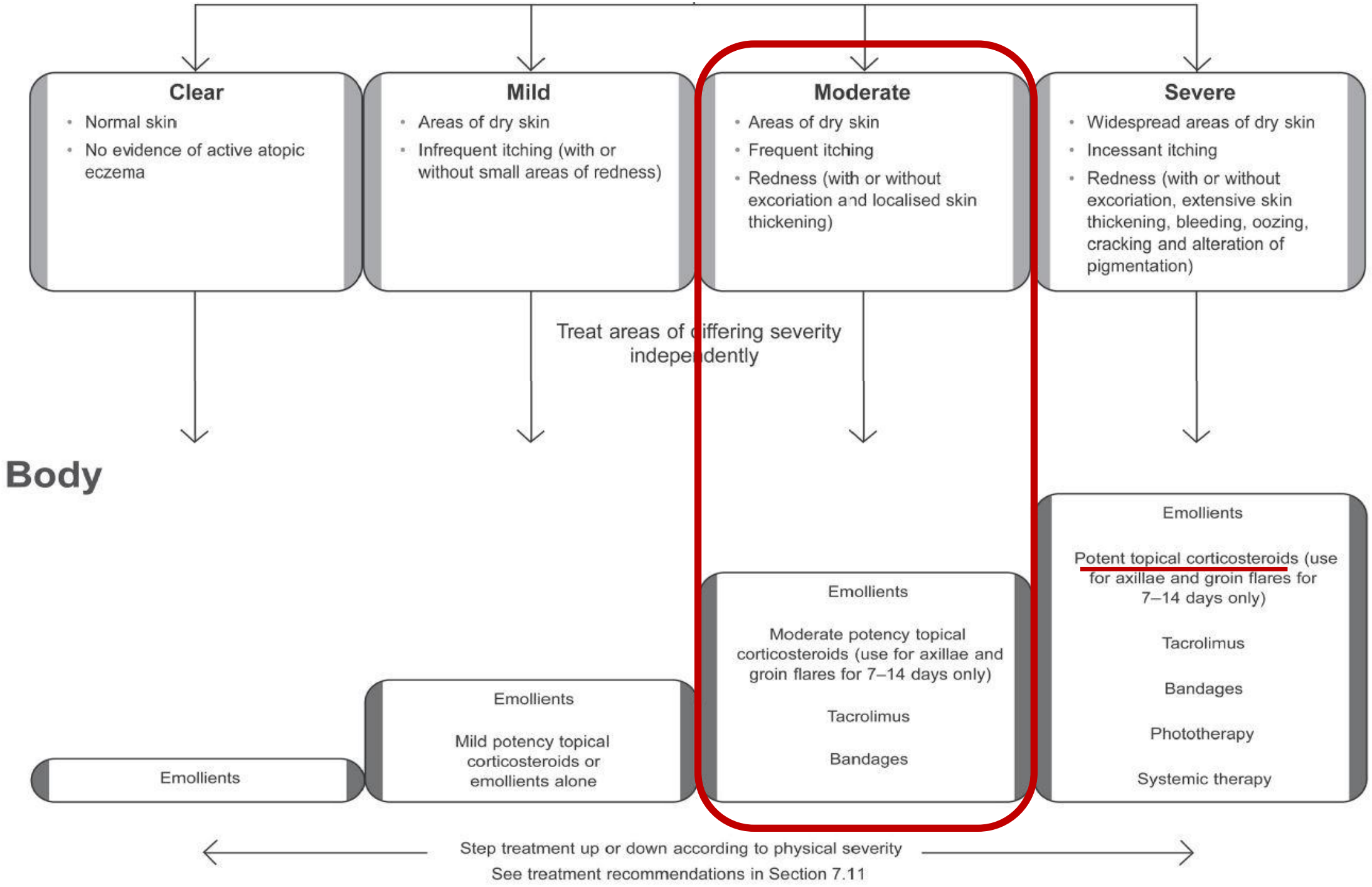
- **Low-certainty evidence**
- May increase IgE-mediated food allergy by 1-3 years (BEEP)
- May not change food sensitisation by age 1-3 years (BEEP, PreventADALL and PEBBLES)

- **Moderate-certainty evidence (n= 2728 in 6 trials)**
- Probably increases risk of skin infection
- 17 more cases per 1000 infants

Kelleher MM et al. Skin care interventions in infants for preventing eczema and food allergy. Cochrane Database Syst Rev. 2022 Nov 14;11(11):CD013534.

Eczema treatment according to severity




Clear
Normal skin
No evidence of active atopic eczema
Mild
Areas of dry skin
Infrequent itching (with or without small areas of redness)
Moderate
Areas of dry skin
Frequent itching
Redness (with or without excoriation and localised skin thickening)
Severe
Widespread areas of dry skin
Incessant itching
Redness (with or without excoriation, extensive skin thickening, bleeding, oozing, cracking and alteration of pigmentation)
Treat areas of differing severity independently
Body
Emollients
Emollients
Mild potency topical corticosteroids or emollients alone
Emollients
Moderate potency topical corticosteroids (use for axillae and groin flares for 7–14 days only)
Tacrolimus
Bandages
Emollients
Potent topical corticosteroids (use for axillae and groin flares for 7–14 days only)
Tacrolimus
Bandages
Phototherapy
Systemic therapy
Step treatment up or down according to physical severity
See treatment recommendations in Section 7.11

Steroid Phobia

Open access Original research

BMJ Open

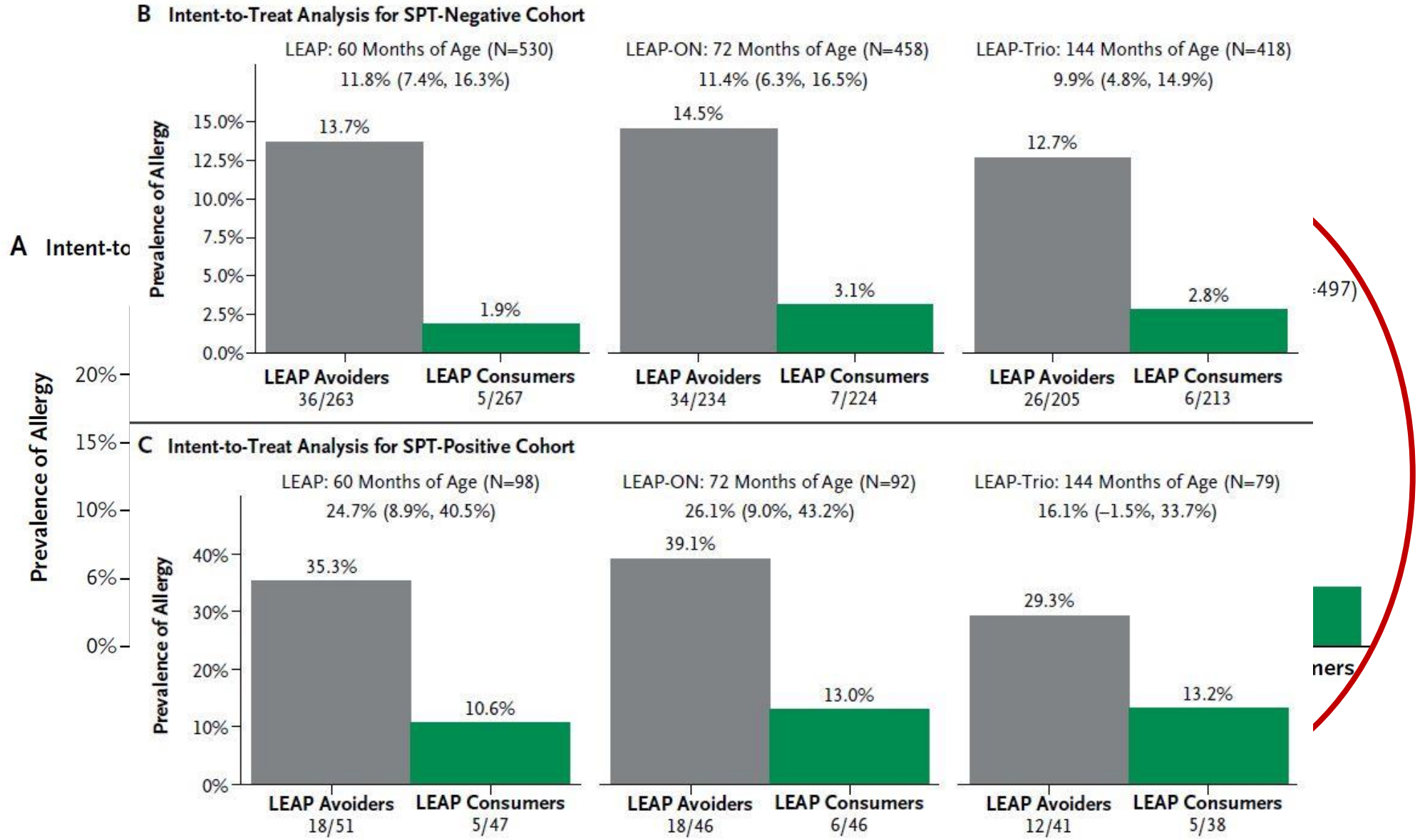
Safety of topical corticosteroids in atopic eczema: an umbrella review

Table 2 Summary of main findings for key safety outcomes

	Cutaneous adverse events	Systemic adverse events
How safe are TCS compared with emollient or vehicle, or no comparison? 13 reviews: 1 moderate quality 2 low quality 10 critically low quality	► **Skin thinning:** No significant differences in 2 RCTs of 2–4 weeks compared with emollient/vehicle: (1) 0/196 children with very potent TCS and 0/33 vehicle, (2) 6/109 very potent TCS vs 2/50 vehicle, p=0.69. Very low rates. ► **Other cutaneous adverse events:** No significant differences in 5 RCTs (2–4 weeks) between TCS (various potencies) and emollient/vehicle (n=172, plus one study, n not specified). Low event rates.	► **Biochemical evidence of adrenal suppression:** Meta-analysis (11 observational studies, max 4 weeks)—20/522 children with any potency TCS (3.8%, 95% CI 2.4% to 5.8%), 3/148 children (2%) with mild potency TCS. Effects were transient. ► **Clinical symptoms or signs of adrenal suppression:** none observed in same as above observational studies.

Axon, Chalmers et al. Kim 2021 BMJ Open; Safety of TCS in eczema

LEAP Protection from PA is Likely Lifelong



Du Toit, Huffaker, Radulovic, et al. NEJM Evidence 2024; Follow up to Adolescence of Early Peanut Introduction Inducing Prevention

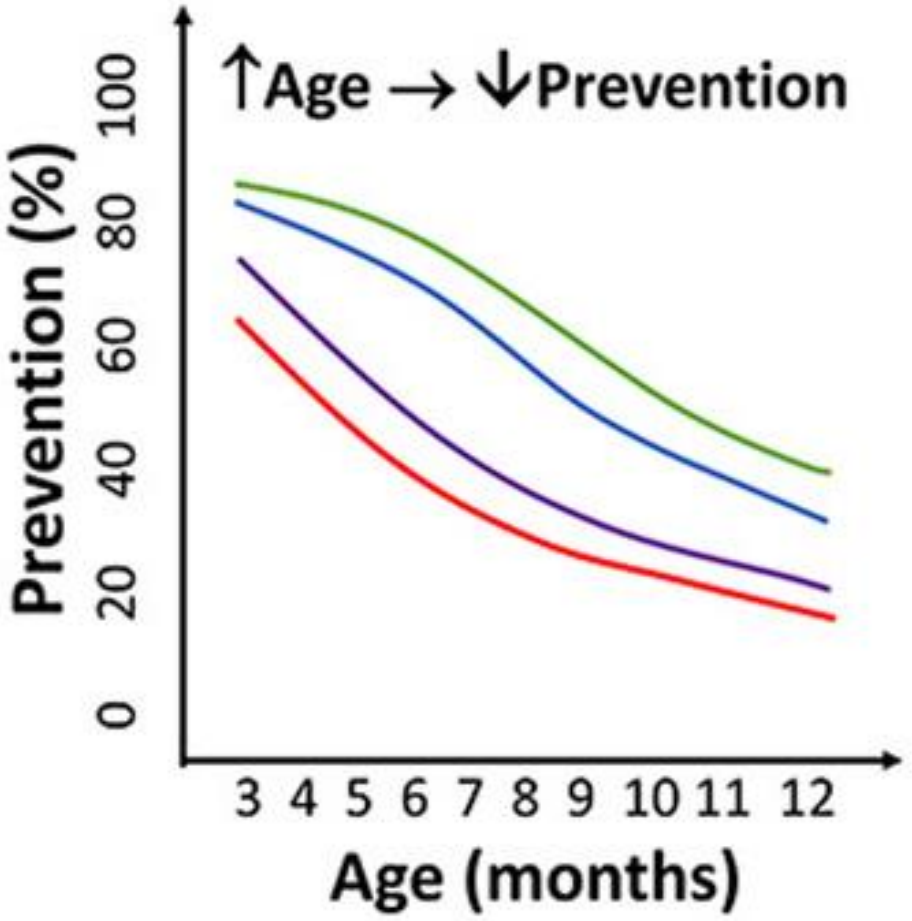
- LEAP demonstrated that early introduction reduced risk of PA by 81% at 5 yrs
- EAACI (2021) prevention guideline suggested introduction at 4-6 months
- Preventative benefit decreases with age
- 77% reduction in PA to all infants at 4 months with eczema and at 6 months without eczema
- If introduction delayed to 12 months PA only reduced by 33%
- Australia prevalence remains at 3.1% despite a huge increase in peanut consumption in infants <1 year (Soriano 2022)

Roberts et al. Defining the window of opportunity and target populations to prevent peanut allergy. JACI Dec 2022, Vol 42 Issue 9

Limitations of oral tolerance induction

Risk factors for peanut allergy:

- Eczema severity
- Eczema duration
- Non-white ethnicity



Roberts G. et al. J Allergy Clin Immunol. 2023 May;151(5):1329-1336. doi: 10.1016/j.jaci.2022.09.042

The ‘tastes’ of food allergen: PreventADALL

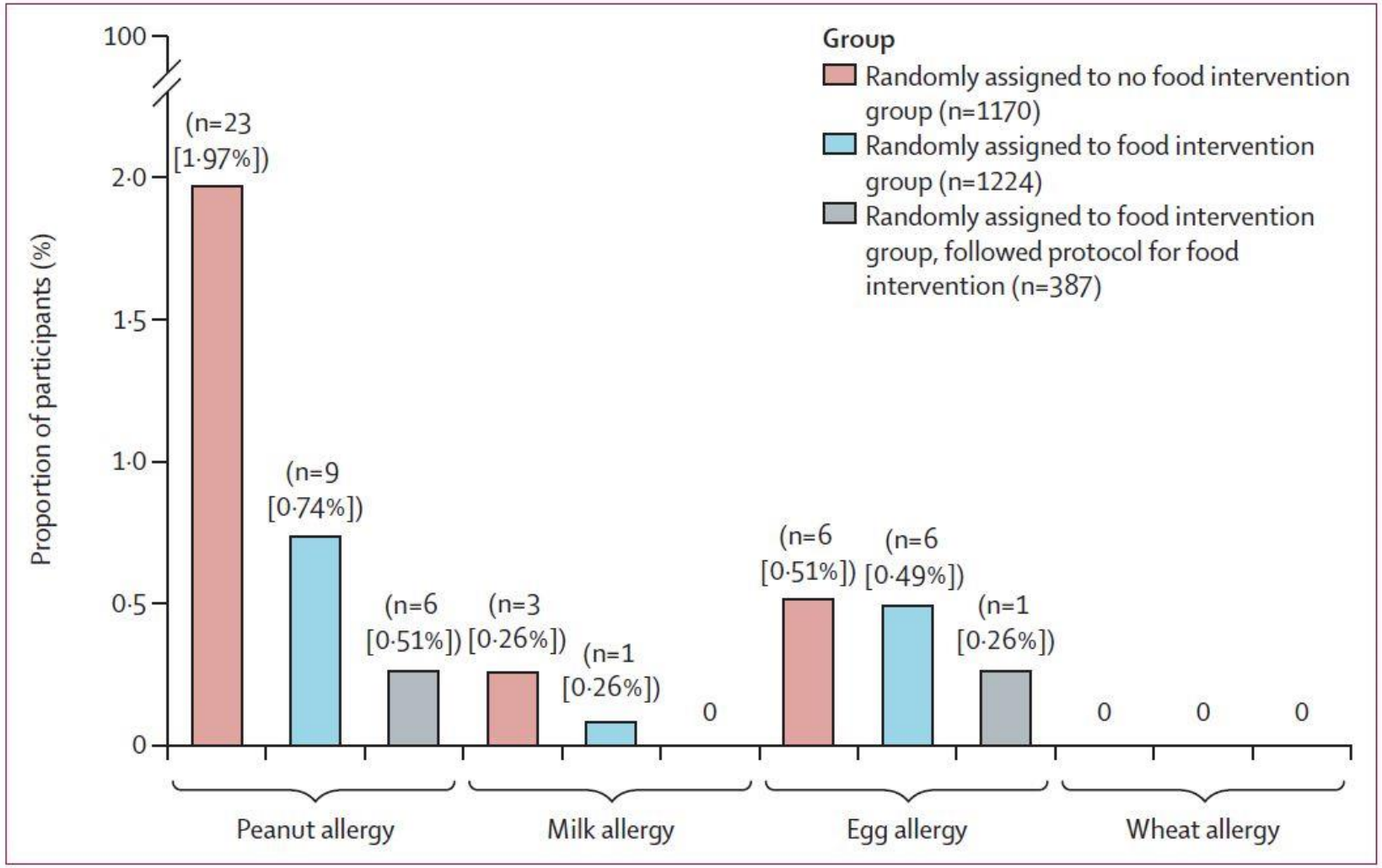
Early food intervention and skin emollients to prevent food allergy in young children (PreventADALL): a factorial, multicentre, cluster-randomised trial

Håvard Ove Skjerven, Anine Lie, Riyas Vettukattil*, Eva Maria Rehbinder, Marissa LeBlanc, Anna Asarnoj, Kai-Håkon Carlsen†, Åshild Wik Despriee, Martin Färdig, Sabina Wärnberg Gerdin, Berit Granum, Hrefna Katrín Gudmundsdóttir, Guttorm Haugen, Gunilla Hedlin, Geir Håland, Christine Monceyron Jonassen, Linn Landrø, Caroline-Aleksi Olsson Mägi, Inge Christoffer Olsen, Knut Rudi, Carina Madelen Saunders, Marius Kurås Skram, Anne Cathrine Staff, Cilla Söderhäll, Sandra G Tedner, Sigve Aadalen, Hilde Aaneland, Björn Nordlund, Karin C Lødrup Carlsen*

Lancet 2022; 399: 2398–411

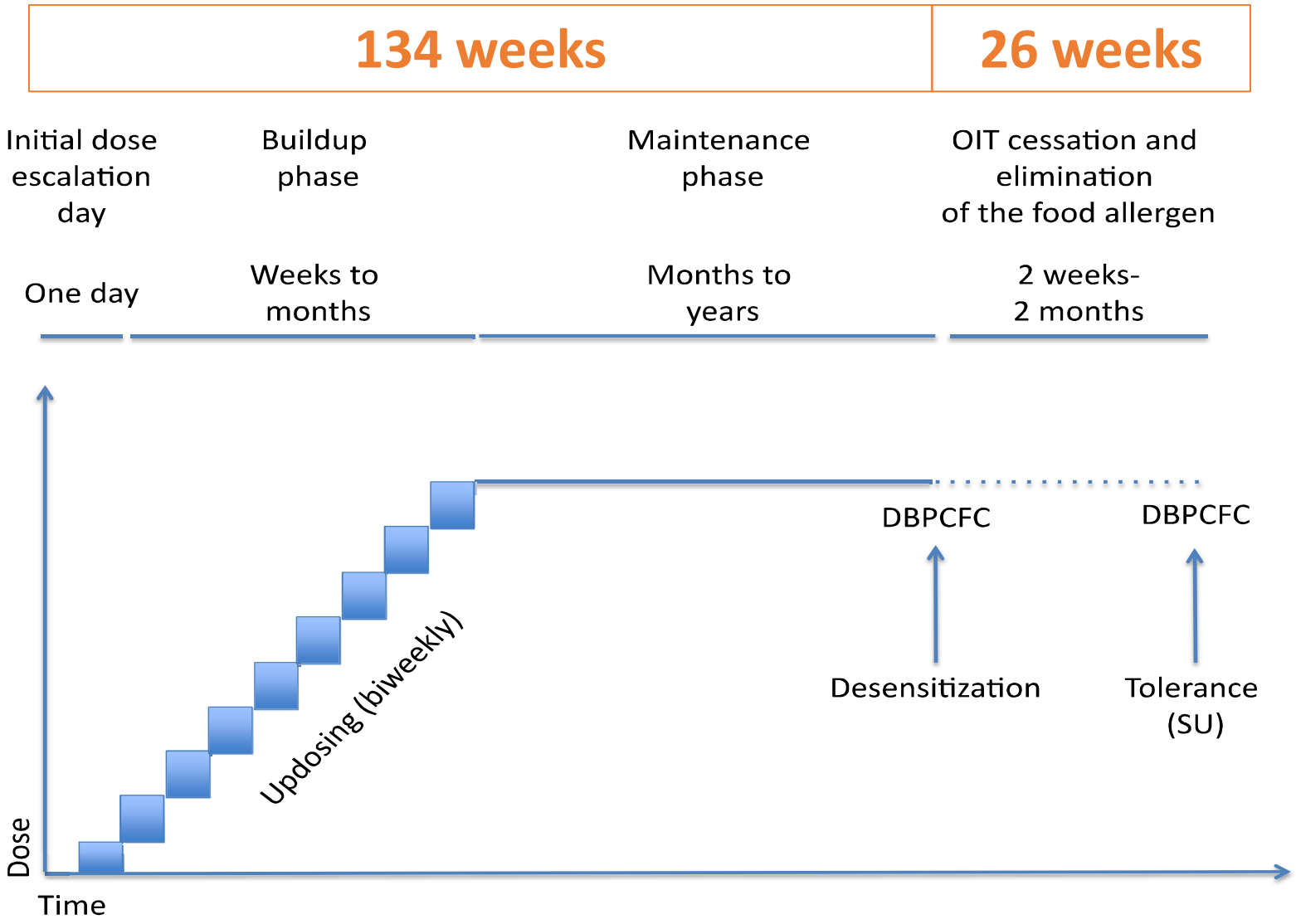
Summary

The ‘tastes’ of food allergen: PreventADALL



Skjerven, Lie, Vettukatil, et al. Lancet 2022; Early food intervention to prevent food allergy

IMPACT Study: Peanut OIT in toddlers



146 children were randomly assigned 2:1

Jones, Kim, Nadeau et al. Lancet 2022 'Efficacy safety of POIT in 1-3 yrs: IMPACT'

IMPACT Study: Peanut OIT in toddlers

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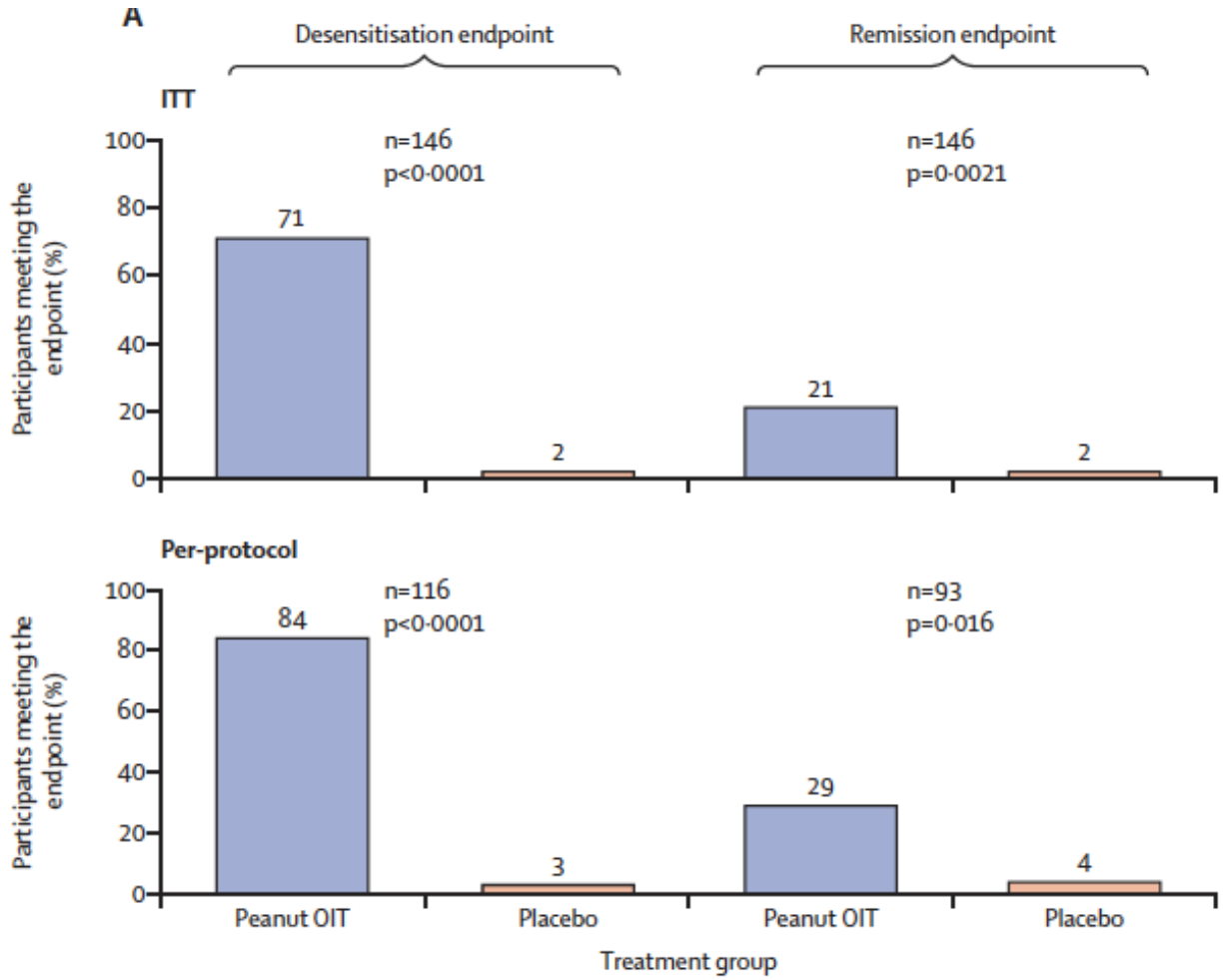


Jones, Kim, Nadeau et al. Lancet 2022
'Efficacy safety of POIT in 1-3 yrs: IMPACT'

Feasibility of early food allergen introduction








Can we get all these food allergens in at high enough doses to prevent food allergy?





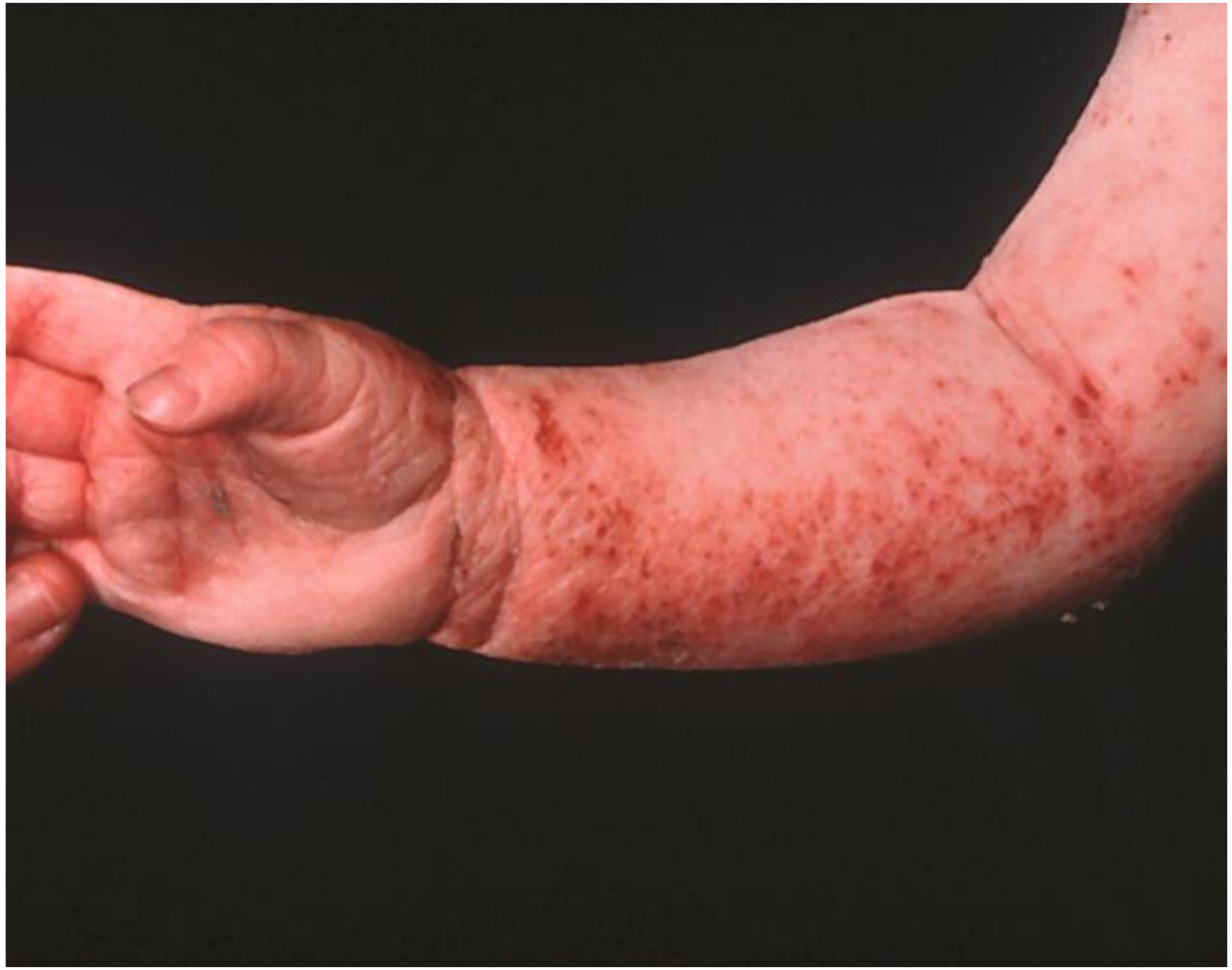


Is Peanut Doing This?

- Eczema from 2 months
- Avoiding milk and egg
- Saw paediatrician at 6 months
- Recommended peanut
- Eating a teaspoon of peanut in cereal
- Now eczema flaring each morning

- GP blood testing
  - Peanut sIgE 15.0kUA/l
  - GP says stop the regular peanut

What do you do?



When to stop peanut prevention

Aim to continue

- Flares of eczema
- Control w regular moderate TCS
- Aversion
- Consider family safety

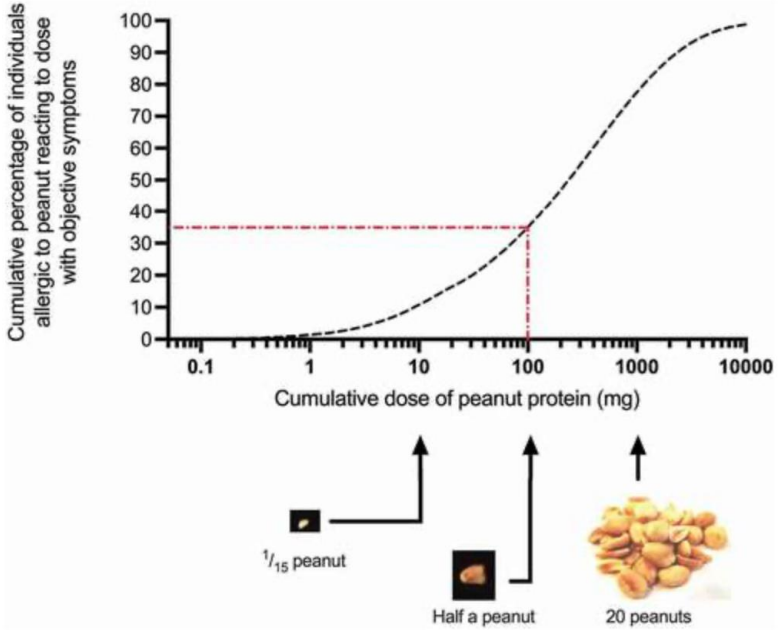
Discuss stopping

- Consider if confirmed immediate reactions
- Pauses between regular eating
- Unsafe decision-making (eg still giving peanut pieces)
- Constant constitutional illness

Shared decision making

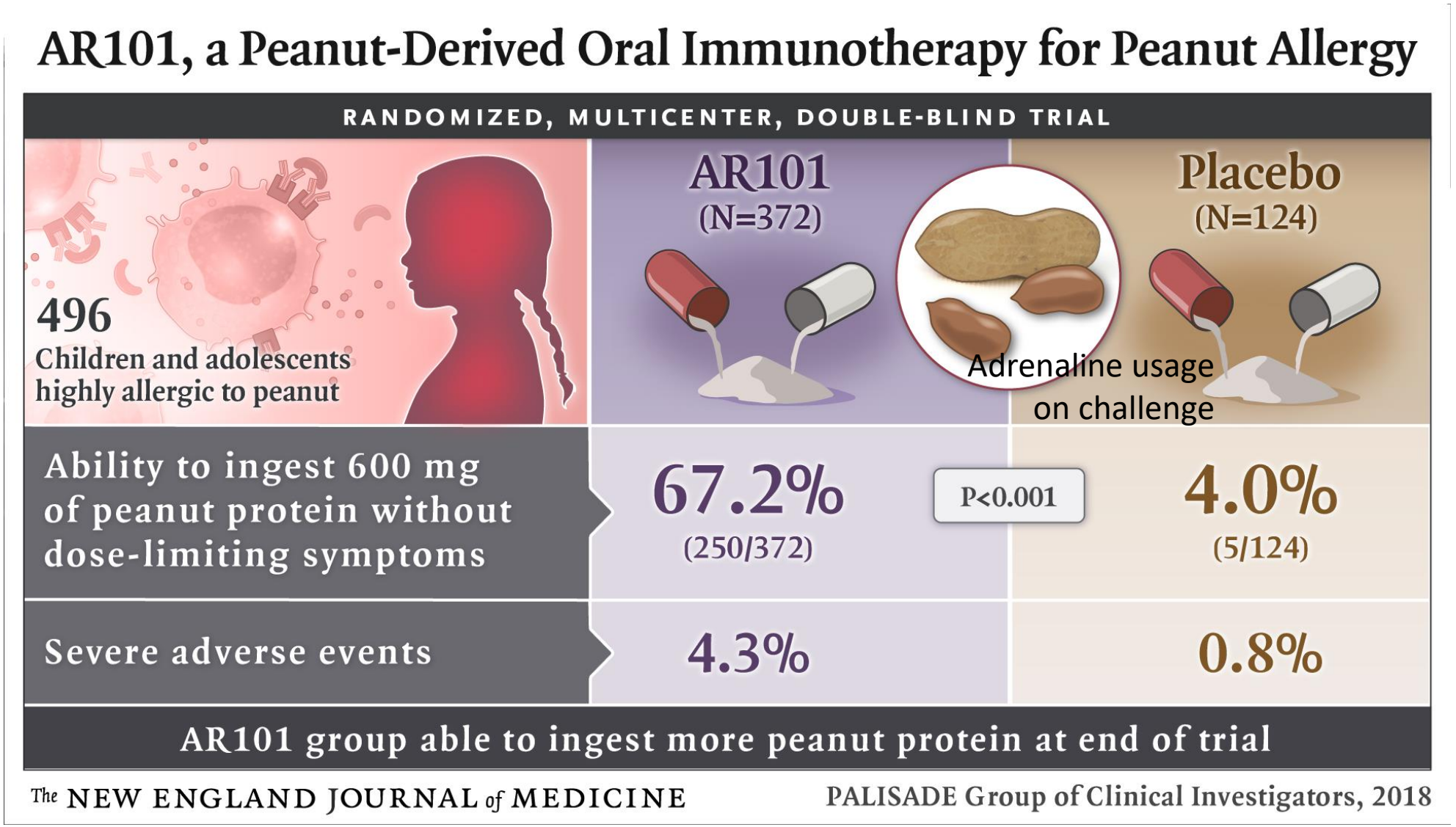
Food Oral Immunotherapy

- OIT offers disease modifying treatment
- Increases the reaction threshold and severity
- Overall success in around 80% of individuals
- Good safety data
- Reduces SPT/sIgE levels but is dependent on ongoing maintenance dosing
- Liberated diet, can eat ‘may contain’
- Reduces anxiety and social restrictions although taste aversion remains a major barrier

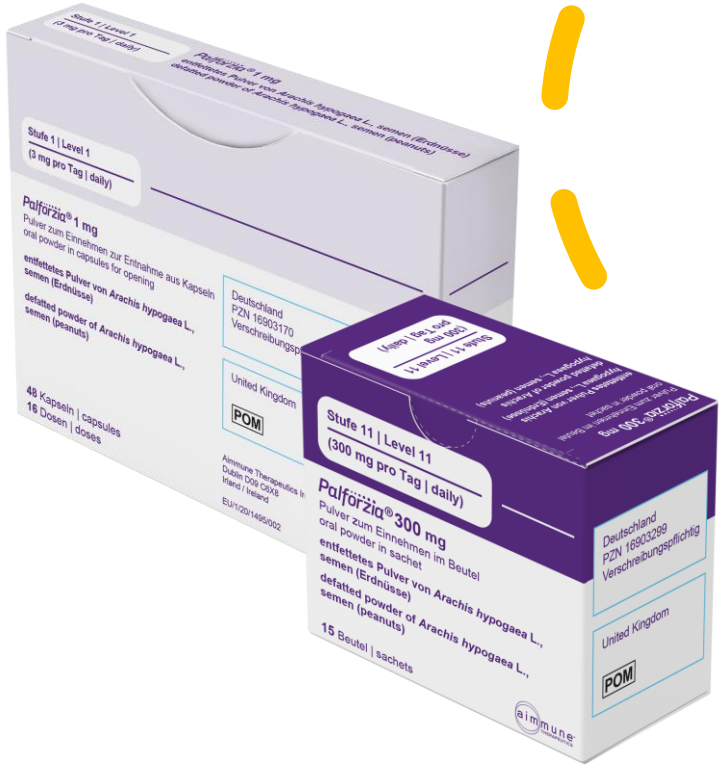


Nagendran et al. March 2022. Oral immunotherapy for food allergy in children: is it worth it? Expert Review of Clinical Immunology Vol 18 Issue 4

Palforzia results: desensitisation @ 24 weeks 300mg



Palforzia®

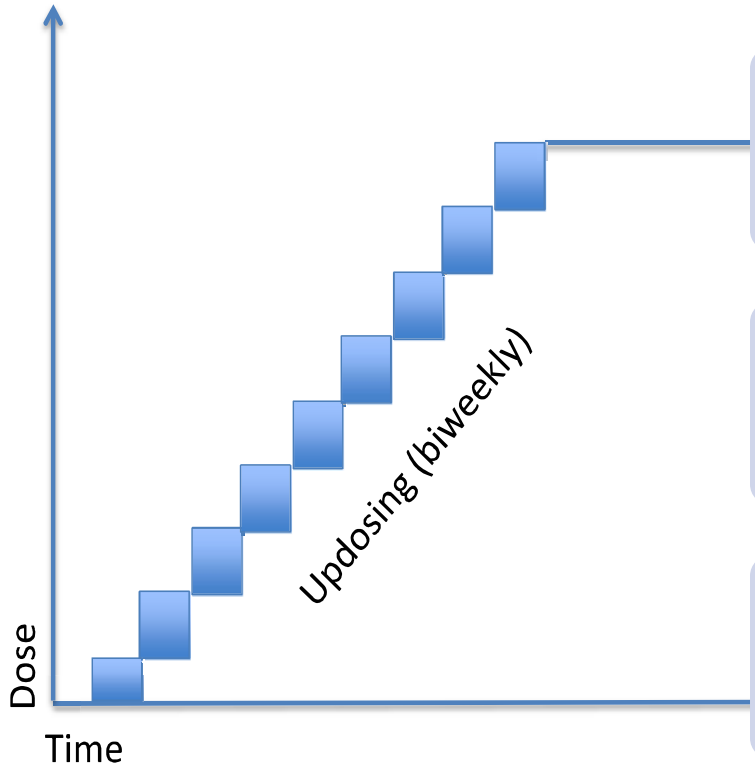


- Defatted (12% fat) lightly roasted peanut flour
- Pharmaceutical grade food product
- Only commercial NICE approved product for OIT (now high-cost drug)
- 4 to 17 years with a confirmed diagnosis of PA and may be continued in patients 18 years of age and older
- Palforzia® is used in conjunction with a peanut-avoidant diet and adrenaline needs to continue to be carried at all times
- BSACI guidance published 2024

Ref BSACI guidelines

Oral food immunotherapy

- A titrated multiple-step desensitization aiming to increase allergen reactivity threshold and decrease reaction severity



In clinic up-dosing visits - 2-8 weekly intervals

Continues tolerated dose daily at home at the same time each day until next updosing visit

Once maintenance dose reached they usually remain on this dose daily long-term

Multiple risk-mitigating safe dosing rules

- Dosing rules:
  - Take at the same time each day
  - Must take on a full stomach
  - No sport for 3 hours after and 1 hour before dose
  - No hot baths for 3 hours after and 1 hour before dose
  - Avoid NSAIDS
- Miss dosing for:
  - Uncontrolled asthma, eczema or rhinitis
  - Infections
  - Tiredness/jetlag
  - Menstruation
- Missed doses schedule – stepping back after missed doses

Milk OIT

- Up to 75% of CMP allergic children can tolerate baked milk
- 16 x more likely to tolerate milk if baked is eaten – speeds up tolerance
- Increasingly food ladders are being used to deliver immunotherapy for IgE mediated allergy in some countries
- Debate on when and how to use these safely
- Those with persistent allergy to baked milk often report delayed and more severe reactions (Yonkof 2021)
- One fatality reported in Canada using baked milk as OIT
- Limited to older children

De Silva et al Allergen immunotherapy and/or biologicals for IgE-mediated food allergy: A systematic review and meta-analysis. Allergy Dec 2022 Vol 77 issue 6

OIT considerations

OIT is a resource intensive treatment requiring short-medium term requirements
Many barriers to implementation
Cost effectiveness is dependent in improvements in quality of life rather than reducing mortality
Needs to be accessible and equal in order to minimize any further disparities in healthcare
Real world safety, efficacy and long term data is needed in order to improve safety outcomes
The need for standardized products Vs food is controversial
Food OIT and Biologic Trials ongoing and planned but if everyone was treated $1 trillion per year in US alone

De Silva et al Allergen immunotherapy and/or biologicals for IgE-mediated food allergy: A systematic review and meta-analysis. Dec 2022 Allergy Vol 77 issue 6

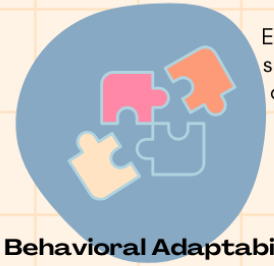
STARTING OIT BEFORE THE AGE OF 5

PROS

Lower Risk of Adverse Reactions:
Lower risk of severe adverse reactions.

Early Improvement in Quality of Life:
Reduces anxiety and limitations associated with food allergies, improving the family's quality of life sooner.

Potential for Long-Term Remission:
Early intervention may result in sustained unresponsiveness to allergens, reducing the need for ongoing treatment.



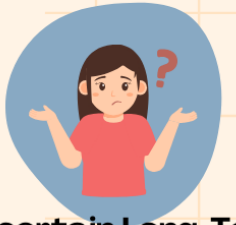
Behavioral Adaptability:
Preschoolers may adapt more easily to the routine of daily OIT dosing and medical visits.

Enhanced Immune System Plasticity:
Younger children have more adaptable immune systems, potentially leading to more effective desensitization.

CONS

Frequent illnesses:
Frequent illnesses in preschool children can disrupt food OIT progress.

Intensive Parental Involvement:
Requires rigorous management by parents, which can be demanding and stressful.



Uncertain Long-Term Efficacy:
The long-term benefits and safety of early OIT are still under study, with the durability of desensitization not fully known.

Developmental Disruptions:
Frequent medical appointments and strict therapy schedules can disrupt a child's routine, affecting social and emotional development.

Future possibility
Would child have naturally outgrown food allergy?

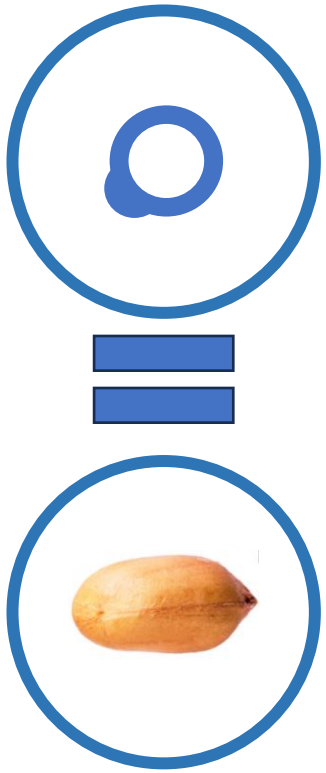
children's allergy doctors

The Natasha Clinical Trial

- Research currently underway at University of Southampton, Imperial, Leicester, Newcastle, Sheffield and WAO
- Everyday foods rather than expensive pharmaceutical products
- 216 participants 3-23yrs with FA to CMP and Peanut
- 12 months desensitization following standardized protocol
- Monitored for two years to assess long term safety and cost-effectiveness
- Plans in place to monitor participants after 3 yrs to establish if longer term desensitization is achievable without regular consumption
- Study due to end in 2025

Natasha Allergy Research Foundation

VIASKIN® Peanut patch
Key features

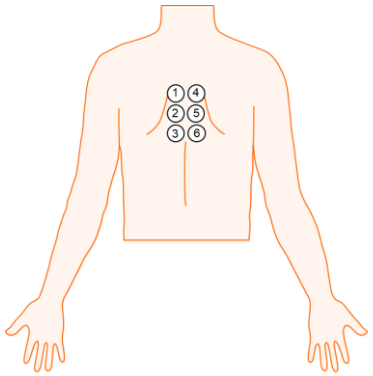


3 years of treatment with VIASKIN Peanut 250 µg
(1 patch per day)

≈ 1 peanut kernel*
(≈250-300 mg of peanut proteins)[1]

Use during phase III clinical trials (1-3 years old) [3]:

- **Single, daily dose**, 250 µg Viaskin® Peanut applied to the child's back
- **Small** patch, ~3.4 x 3.4 cm
- **Gradual increase of the wear time at home** over a period of 4 weeks
- **No protocol mandated restrictions** related to **daily activities**
- **No disruption** during **viral infections** with fever/other illness or **asthma exacerbation**



No oral consumption / ingestion of peanut required:

- No limitation due to taste aversion
- No direct contact with the gastro-intestinal tract

* Large kernel snack peanut such as Virginia

Four classes of peanut consumed in Western countries (Runner, Virginia, Spanish, and Valencia), protein content and profiles highly comparable, size may differ[2]

Epicutaneous immunotherapy and Viaskin are under clinical investigation and have not yet been approved by any health or regulatory authority.

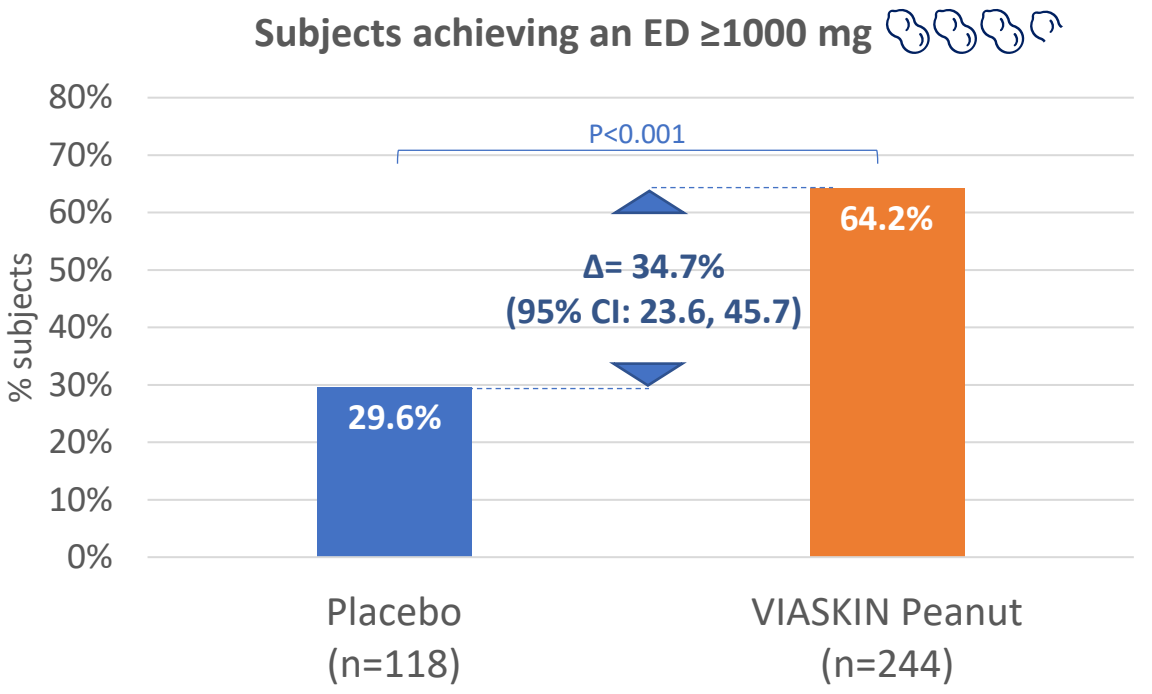
1. Baumert JL, et al. J Allergy Clin Immunol Pract. 2017 2. Koppelman et al. Food and Chem Toxicol 91 (2016) 82-90 3. Greenhawt et al. N Engl J Med 2023;388:1755-66. DOI: 10.1056/NEJMoa2212895.

VIASKIN® Peanut – Toddler 1-3 years old

Phase III EPITOPE - Efficacy results at 1 year

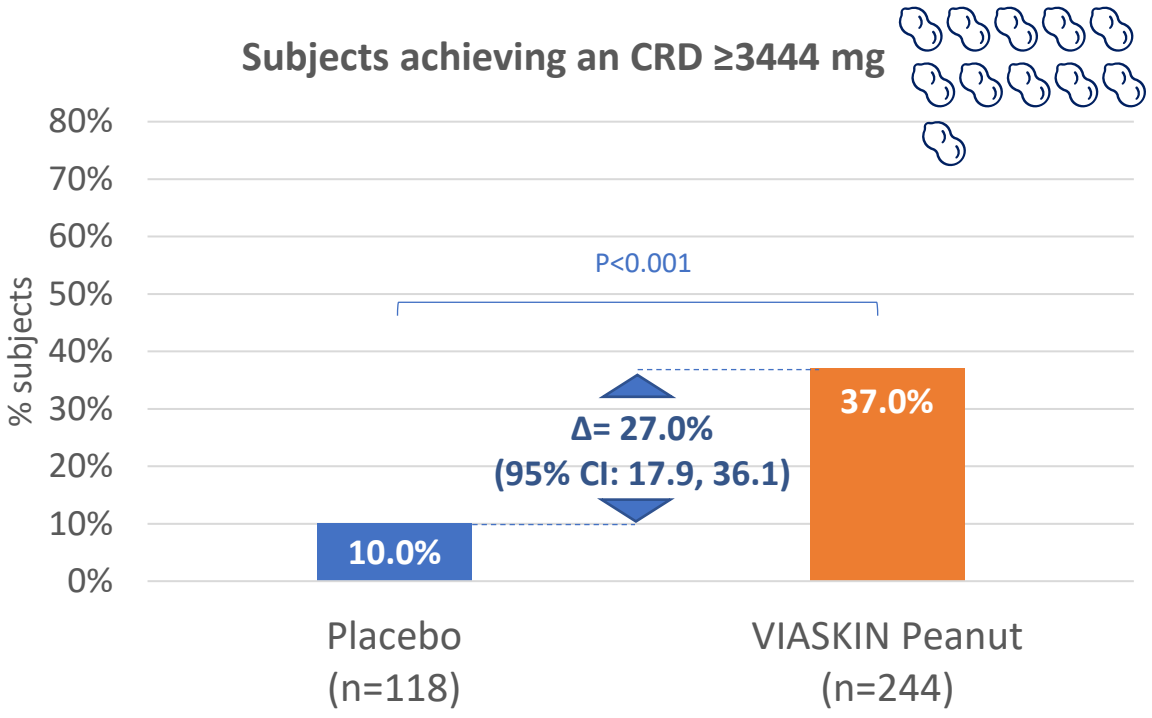
After one year of treatment, 64% of the subjects reached an ED ≥1000 mg of peanut proteins

regardless of baseline ED (pre-specified efficacy analysis)



After one year of treatment, 37% of the subjects reached a CRD ≥3444 mg of peanut proteins

(pre-specified efficacy analysis)



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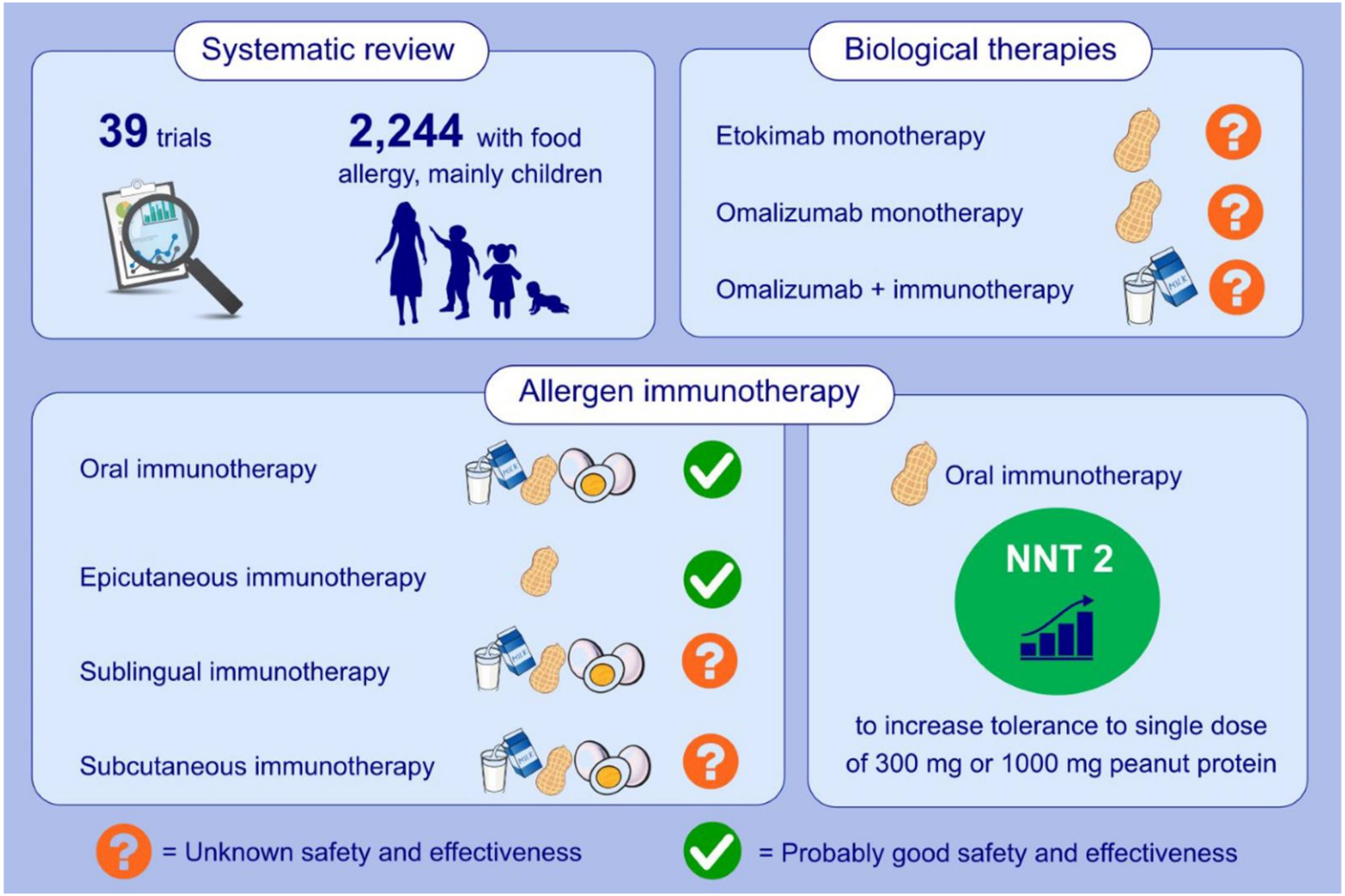
Greenhawt et al. N Engl J Med 2023;388:1755-66. DOI: 10.1056/NEJMoa2212895.

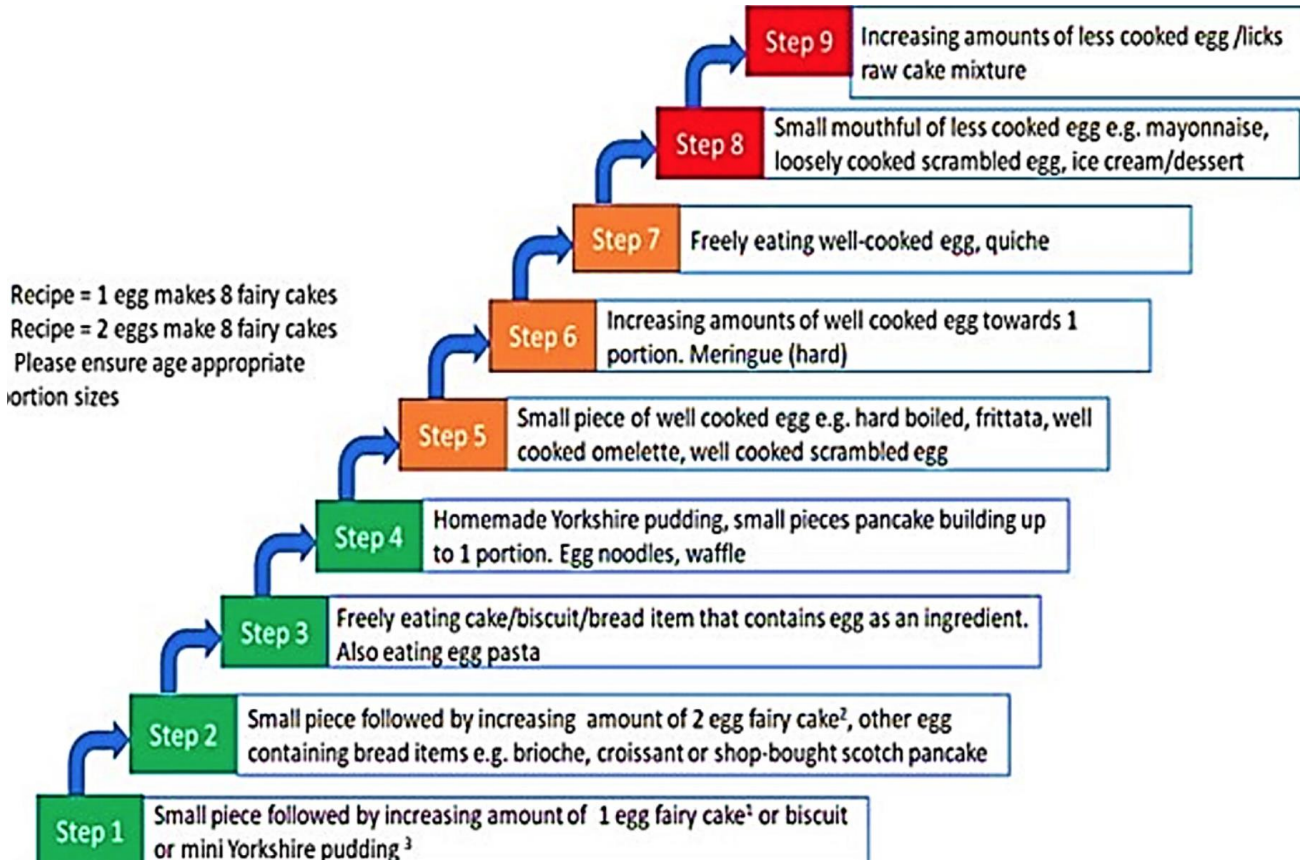
Food Allergen Immunotherapy Summary



de Silva D, Rodríguez Del Río P, de Jong NW, Khaleva E, Singh C, Nowak-Wegrzyn A, et al. Allergen immunotherapy and/or biologicals for IgE-mediated food allergy: a systematic review and meta-analysis. Allergy 2022;77:1852-62

BSACI Egg ladder home introduction

- Can be started in younger children from 12 months
- Mild-moderate egg allergy with no or mild/well controlled asthma
- History of mild cutaneous reactions only
- Starts with well cooked baked egg in small amounts (pea size)
- Once baked egg is tolerated it needs to be eaten 2-3 times per week
- Timing is individually assessed



Stopping Eczema and ALlergy (SEAL)

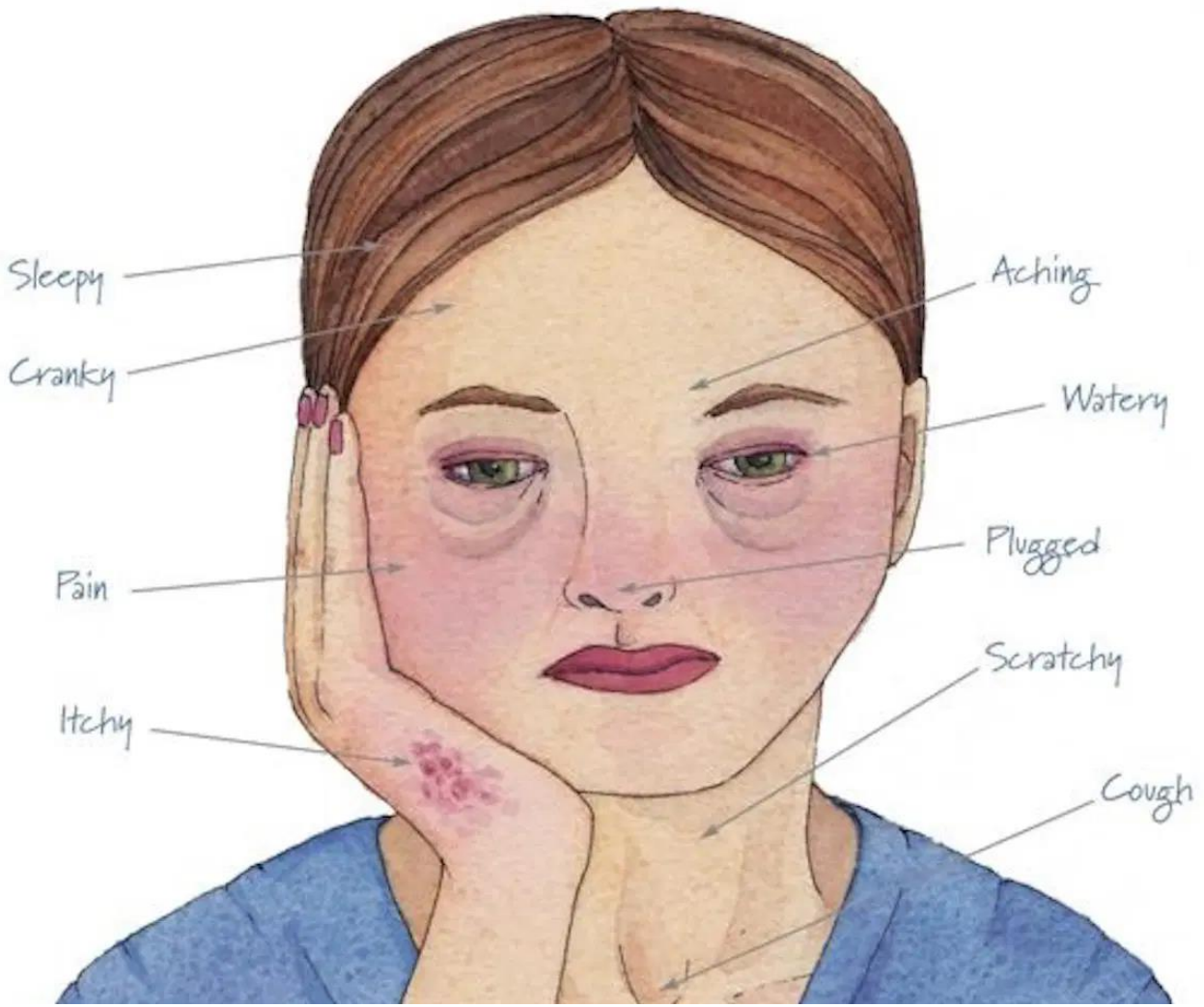
U01 # AI147462 National Institutes of Health

A NIAID funded Multi-PI Study (Harvard, Stanford, National Jewish, King's College London/GSTT; University of Chicago)

Overall Hypothesis

Proactive skin care (combination emollient and topical steroids) in high-risk infants will maintain normal skin barrier function and thus prevent transcutaneous allergen sensitization and the development of food allergy.

Recent articles to read



The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Omalizumab for the Treatment of Multiple Food Allergies

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ABSTRACT

BACKGROUND

Food allergies are common and are associated with substantial morbidity; the only approved treatment is oral immunotherapy for peanut allergy.

METHODS

In this trial, we assessed whether omalizumab, a monoclonal anti-IgE antibody, would be effective and safe as monotherapy in patients with multiple food allergies. Persons 1 to 55 years of age who were allergic to peanuts and at least two other trial-specified foods (cashew, milk, egg, walnut, wheat, and hazelnut) were screened. Inclusion required a reaction to a food challenge of 100 mg or less of peanut protein and 300 mg or less of the two other foods. Participants were randomly assigned, in a 2:1 ratio, to receive omalizumab or placebo administered subcutaneously (with the dose based on weight and IgE levels) every 2 to 4 weeks for 16 to 20 weeks, after which the challenges were repeated. The primary end point was ingestion of peanut protein in a single dose of 600 mg or more without dose-limiting symptoms. The three key secondary end points were the consumption of cashew, of milk, and of egg in single doses of at least 1000 mg each without dose-limiting symptoms. The first 60 participants (59 of whom were children or adolescents) who completed this first stage were enrolled in a 24-week open-label extension.

The authors' full names, academic degrees, and affiliations are listed in the Appendix. Dr. Wood can be contacted at rwood@jhmi.edu or at the Department of Pediatrics, Johns Hopkins University School of Medicine, 600 North Wolfe St., Baltimore, MD 21287.

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Allergy EAACI WILEY

GUIDELINE

EAACI guidelines on the diagnosis of IgE-mediated food allergy

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European Academy of Allergy and Clinical Immunology

Abstract

This European Academy of Allergy and Clinical Immunology guideline provides recommendations for diagnosing IgE-mediated food allergy and was developed using the Grading of Recommendations, Assessment, Development and Evaluations (GRADE) approach. Food allergy diagnosis starts with an allergy-focused clinical history followed by tests to determine IgE sensitization, such as serum allergen-specific IgE (sIgE) and skin prick test (SPT), and the basophil activation test (BAT), if available. Evidence for IgE sensitization should be sought for any suspected foods. The diagnosis of allergy to some foods, such as peanut and cashew nut, is well supported by SPT and serum sIgE, whereas there are less data and the performance of these tests is poorer for other foods, such as

OPEN ACCESS

Flying with nut and other food allergies: unravelling fact from fiction

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ABSTRACT

There is a common perception that peanut/tree nut particles can be transmitted through aircraft ventilation systems and pose a significant risk to passengers with food allergies. In fact, food-induced allergic reactions are around 10–100 times less common during flights than 'on the ground', perhaps because of the multiple precautions food-allergic passengers take when flying. We review the evidence for strategies to help prevent accidental allergic reactions while travelling on commercial flights (review registered at PROSPERO, ref CRD42022384341). Research studies (including aircraft simulations) show no evidence to support airborne transmission of nut allergens as a likely phenomenon. Announcements requesting 'nut bans' are not therefore supported, and may instal a false sense of security. The most effective measure is for passengers to wipe down their seat area (including tray table and seat-back entertainment system). Food proteins are often 'sticky' and adhere to these surfaces, from where they are easily transferred to a person's hands and onto food that might be consumed. Airline companies can help to facilitate this through pre-boarding. Passengers at risk of anaphylaxis should be prescribed two adrenaline [epinephrine] autoinjector devices, to carry on their person at all times—including when flying. Airlines should consider including a separate supply of 'general use' adrenaline autoinjectors in the onboard medical kit for use in an emergency. All airlines should have clear policies relating to food allergies which are easily available from their websites or on request. These policies should be applied consistently by both ground staff and cabin crew, in order to provide reassurance to food-allergic passengers

There is a common perception that the risk of allergic reactions is increased when travelling by air[4 5]; however, a recent meta-analysis found that allergic reactions during commercial air travel are around 10–100 times less common than when 'on the ground' (figure 1).[6] However, this needs to be interpreted in the context of the multiple precautions taken by food-allergic passengers when travelling, ranging from avoiding flying in the first place to bringing their own food to consume.[7] This is likely to have an impact on actual risk. Disagreements with airline staff are not uncommon, and occasionally result in forced disembarkment (as evidenced by media reports). Airline policies with respect to food allergies are not always readily available,[8 9] and can differ significantly between air carriers; policies may be implemented inconsistently by cabin crew and ground staff.[4 5 7]

In 2023, the UK's Civil Aviation Authority (CAA) commissioned a systematic review of the literature published from 1 January 1980 until 31 December 2022 relating to risks posed to food-allergic individuals on commercial flights, and how these might be mitigated. The review was registered with the International Prospective Register of Systematic Reviews (PROSPERO, reference CRD42022384341). We summarise the findings of the CAA report,[10] highlighting some of the misconceptions which can hinder providing a safe flying environment for food-allergic individuals.

REVIEW

CURRENT OPINION

Food-triggered anaphylaxis in adults

Tricia Chong[a,*], *Bianca Olivieri*[b,*] *and Isabel J. Skypala*[c,d]

Purpose of review

Adult food allergy, either unresolved from childhood, or new-onset in adult-life, is known to be increasingly prevalent. Although much of the reported anaphylaxis in adults is due to drug reactions, foods are becoming an increasingly important trigger, affecting adults of all ages, with a wide variation in food triggers which are often quite different to those reported in children.

Recent findings

Peanuts are well known to cause anaphylaxis in some adult populations, but other legumes such as soy may be more relevant in others. Reactions to natto, fermented soybeans, are currently mainly reported in Japan, but changing dietary practices and an increase in plant-based eating mean natto, other forms of soy and other legumes are increasingly linked to anaphylaxis in Western countries. Anaphylaxis to red meat, caused by sensitization to galactose-α-1,3-galactose and first reported in North America, is now a more world-wide concern. Co-factor induced anaphylaxis is increasingly associated with both wheat allergy and lipid transfer protein allergy.

Summary

More research is urgently needed to characterize adult food allergy, its triggers and symptom severity. Unusual food triggers and potential co-factors should be considered, so that anaphylaxis in adults can be correctly managed, not merely labelled as idiopathic.

Keywords
adult, anaphylaxis, food allergy

INTRODUCTION

Although young children more often present in hospital with anaphylaxis, severe food allergic reactions, including fatal anaphylaxis, are more likely to occur in adolescents and young adults [1]. A systematic review in 2018 confirmed that fatal food anaphylaxis to be mammalian meat/offal, legumes, fruits and vegetables, shellfish, tree nuts, and cereals [4]. Data from the European Anaphylaxis registry [5▪▪] cited wheat flour, shellfish, hazelnut and soy as being the most frequent elicitors in adults, although the triggers may vary depending on geographical

Improving inpatient paediatric de-labelling of allergies to beta-lactams: a quality improvement study

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► Additional supplemental material is published online only. To view, please visit the journal online (https://doi.org/10.1136/archdischild-2023-326533).

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Preliminary data from this work were presented in part at the 56th Annual Meeting of the Infectious Diseases Society of America (IDWeek); 4 October 2018; San Francisco, California, USA; Abstract 269 (Wong J, Timberlake K, Atkinson A, Science M. 269. De-Labeling of Allergies to B-Lactam Antibiotics (De-LABeL) Program: Development and Pilot of an INpatient Pediatric Program. Open Forum Infectious Diseases. 2018;5(suppl_1):S112-S). It was also presented in part at the 9th Annual International Pediatric Antimicrobial Stewardship

ABSTRACT

Objective To evaluate the implementation of an antimicrobial stewardship programme-led inpatient beta-lactam allergy de-labelling programme using a direct oral provocation test (OPT).

Design One-year quality improvement study using a before–after design.

Setting Free-standing tertiary care paediatric hospital.

Patients Patients with a reported beta-lactam allergy admitted to the paediatric medicine inpatient unit.

Interventions Following standardised assessment and risk stratification of reported symptoms, patients with a low-risk history were offered an OPT. Beta-lactam allergy labels were removed if a reported history was considered non-allergic or after successful OPT.

Main outcome measures Removal of inappropriate beta-lactam allergy labels.

Results 80 patients with 85 reported beta-lactam allergies were assessed. Median age was 8.1 years (IQR 4.8–12.9) and 34 (42%) were female. The majority (n=55, 69%) had an underlying medical condition. Amoxicillin was the most reported allergy (n=25, 29%). Reported reactions were primarily dermatological (n=65, 77%). Half of participants (n=40) were ineligible for OPT, with equal proportions due to clinical reasons or the nature of the reported reaction. Of the 40 eligible patients, 28 patients (70%) were de-labelled either

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Self-reported beta-lactam allergies are often inaccurate and and have negative individual and population health implications.

⇒ Mounting evidence supports the safety and diagnostic accuracy of a direct oral provocation test (OPT) among those with low-risk histories in the paediatric allergy clinic setting.

WHAT THIS STUDY ADDS

⇒ An antimicrobial stewardship program-led paediatric inpatient beta-lactam allergy de-labelling programme using an OPT was safe and feasible.

⇒ The majority of reported reactions to oral beta-lactams (including cephalosporins and other penicillin-based antibiotics) were considered low risk.

⇒ De-labelling during hospital admission yielded both immediate and short-term benefits to the care received by paediatric patients.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ With the increasing awareness of the potential harm and burden of inappropriate beta-lactam allergy labels, allergy specialists alone cannot meet this demand for assessments.

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LETTER

WILEY

"Playing possum": The potential importance of neurological clinical manifestations occurring during anaphylaxis in infants and toddlers

To the Editor,

According to the definition of the European Academy of Allergy and Clinical Immunology, anaphylaxis is a severe systemic hypersensitivity reaction that can be life-threatening. It is characterized by a rapid onset of clinical manifestations of multiple organ systems, which can lead to potentially fatal systemic compromise; therefore, it is considered a medical emergency.[1] Given the multisystem nature of anaphylaxis, the clinical manifestations can vary enormously between and within patient episodes. Compilating this further, anaphylaxis can have age-based presentation differences, in particular between infants and toddlers compared with older children and adults.

Cardiovascular manifestations are more common in adults and respiratory manifestations more common in younger children. The European Anaphylaxis Registry had noted vomiting as a predominant clinical manifestation in preschool children compared with nausea in adolescents. As well, cough is a more common sign in children under 10 years of age, with throat and chest tightness symptoms more common over 10 years. Finally, cardiac and

Time trends in the epidemiology of food allergy in England: an observational analysis of Clinical Practice Research Datalink data

Paul J Turner, Alessia Baseggio Conrado*, Constantinos Kallis, Eimear O'Rourke, Sadia Haider, Anhar Ullah, Darije Custovic, Adnan Custovic, Jennifer K Quint*

Summary

Background Estimates for the prevalence of food allergy vary widely, with a paucity of data for adults. The aim of this analysis was to report trends in the incidence and prevalence of food allergy in England, using a national primary care dataset.

Methods We analysed data from Clinical Practice Research Datalink between 1998 and 2018, with linked data to relevant hospital encounters in England. The main outcomes were incidence and prevalence of food allergy, according to three definitions of food allergy: possible food allergy, probable food allergy, and probable food allergy with adrenaline autoinjectors prescription. We also evaluated the difference in proportion of patients prescribed adrenaline autoinjectors by English Index of Multiple Deprivation (IMD), age, and by previous food anaphylaxis, and explored differences in patient encounters (general practice *vs* emergency department setting).

Findings 7 627 607 individuals in the dataset were eligible for inclusion, of whom 150 018 (median age 19 years [IQR 4–34]; 82 614 [55·1%] female and 67 404 [44·9%] male) had a possible food allergy. 121 706 met diagnostic criteria for probable food allergy, of whom 38 288 were prescribed adrenaline autoinjectors. Estimated incidence of probable food allergy doubled between 2008 and 2018, from 75·8 individuals per 100 000 person-years (95% CI 73·7–77·9) in 2008 to 159·5 (156·6–162·3) individuals per 100 000 person-years in 2018. Prevalence increased from 0·4% (23 399 of 6 432 383) to 1·1% (82 262 of 7 627 607) over the same period and was highest in children under 5 years (11 951 [4·0%] of 296 406 in 2018) with lower prevalence in school-aged children (from 11 353 [2·4%] of 473 597 in 2018 for children aged 5–9 years to 6896 [1·7%] of 404 525 for those aged 15–19 years) and adults (42 848 [0·7%] of 5 992 454 in 2018). In those with previous food anaphylaxis, only 2321 (58·3%) of 3980 (975 [64·0%] of 1524 children and young people and 1346 [54·8%] of 2456 adults) had a prescription for adrenaline autoinjector. Adrenaline autoinjectors prescription was less common in those resident in more deprived areas (according to IMD). In the analysis of health-care encounters, 488 604 (97·1%) of 503 198 visits recorded for food allergy occurred in primary care, with 115 655 (88·4%) of 130 832 patients managed exclusively in primary care.

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See Comment page e640

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CLINICAL PRACTICE GUIDELINE

WILEY

BSACI guidance for the implementation of Palforzia® peanut oral immunotherapy in the United Kingdom: A Delphi consensus study

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ORIGINAL ARTICLE

Oral Immunotherapy for Peanut Allergy in Children 1 to Less Than 4 Years of Age

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Abstract

BACKGROUND Peanut allergy is a common childhood allergy, and the only approved treatment for children 4 to 17 years of age is peanut allergen powder-dnfp (PTAH) oral immunotherapy.

METHODS For this phase 3, randomized, double-blind, placebo-controlled trial, we enrolled peanut-allergic children 1 to <4 years of age who experienced dose-limiting symptoms from ≤300 mg peanut protein during a screening double-blind, placebo-controlled food challenge (DBPCFC). Participants received PTAH or placebo, randomized in a 2:1 ratio, for approximately 12 months. At the trial conclusion, all participants underwent an exit BDPCFC. The primary end point was desensitization (i.e., tolerating a ≥600-mg single dose of peanut protein with only mild allergy symptoms).

RESULTS In the PTAH-treated group (n=98), 73.5% of participants tolerated a single dose of ≥600 mg peanut protein at exit DBPCFC compared with 6.3% in the placebo group (n=48). Most participants experienced an adverse event (98.0% of PTAH-treated and 97.9% of placebo-treated participants), which was mild or moderate in grade for 93.2% of participants (92.9% in PTAH-treated and 93.8% in placebo-treated participants)

*A complete list of investigators in the POSEIDON Study Group is provided in the Supplementary Appendix, available at evidence.

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Practice Parameters

Anaphylaxis: A 2023 practice parameter update

Check for updates

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REVIEW ARTICLE

Allergy WILEY

The future of food allergy: Challenging existing paradigms of clinical practice

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Abstract

The field of food allergy has seen tremendous change over the past 5–10 years with seminal studies redefining our approach to prevention and management and novel testing modalities in the horizon. Early introduction of allergenic foods is now recommended, challenging the previous paradigm of restrictive avoidance. The management of food allergy has shifted from a passive avoidance approach to active interventions that aim to provide protection from accidental exposures, decrease allergic reaction severity and improve the quality of life of food-allergic patients and their families. Additionally, novel diagnostic tools are making their way into clinical practice with the goal to reduce the need for food challenges and assist physicians in the—often complex—diagnostic process. With all the new developments and available choices for diagnosis, prevention and therapy, shared decision-making has become a key part

Summary

- Eczema severity remains the greatest risk factor for FA
- No convincing evidence for reduction in prevalence with barrier creams
- Weaning onto regular peanut is highly protective in the long-term
- Immunotherapy in toddlers is more effective and can even ‘cure’ allergy
- OIT is enormously resource intensive and not available to all
- Is the patch the way forward?
- Will we have evidence for improved skin barrier care to really prevent food allergy?