Eastern Food Allergy and Comorbidity Conference
Eau Palm Beach Resort & Spa ~ Florida
January 8 – 11, 2026
easternfoodallergyconference.org

ALL ABOUT FOOD ALLERGY THERAPIES

WHAT OPTIONS SHOULD I BE OFFERING

MY PATIENTS IN 2026?

EASTERN FOOD ALLERGY AND COMORBIDITY CONFERENCE

JAN 8, 2026

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ACUTE MANAGEMENT: WHAT TO DO & WHAT'S NEW

ACUTE MANAGEMENT OF ANAPHYLAXIS

5 emergency steps
for treating anaphylaxis

Food Allergy Canada

If an **anaphylactic reaction** happens, follow these steps:

Image courtesy of Kids' CAP

Give an **epinephrine auto-injector** (e.g., EpiPen®) right away. Follow the instructions on the device.

Call 9-1-1 or your local EMS immediately and tell them someone is having an anaphylactic reaction.

Image courtesy of Kids' CAP

Use a **second auto-injector** as early as 5 minutes after giving the first dose if there is no improvement in symptoms.

Go to the nearest **hospital** right away (ideally by ambulance), even if symptoms are mild or have stopped. The reaction could get worse or come back.

Call **emergency contact** person (e.g., parent, guardian, spouse).

The allergic reaction is the reason for going to the hospital, not because epinephrine has been used.

foodallergycanada.ca

LEARNING OBJECTIVES

Upon completion of this learning activity, participants should be able to…

- Describe new acute anaphylaxis approaches with needle-free epinephrine and home management
- Compare avoidance and partial avoidance and when partial avoidance may be preferred
- Design a treatment plan for food allergy considering risk of reaction, threshold, and patient preferences

DO WE NEED A NEEDLE?

Needle-Free Epinephrine

Intranasal epinephrine offers a needle-free alternative with similar effectiveness to injections, improving patient accessibility.

Assessed by

Pharmacokinetics (can we detect it in the blood?)

Pharmacodynamics (does it have a physiological effect?)

NEEDLE-FREE EPINEPHRINE

Intranasal and sublingual

Here! (USA and Europe) and likely on its way…

NEEDLE-FREE EPINEPHRINE

Ellis, A.K. et al. Pharmaceutics **2024**, 16, 811.
https://doi.org/10.3390/pharmaceutics16060811

> 9 FDA approvals in allergy
(> 100 years of clinical experience)

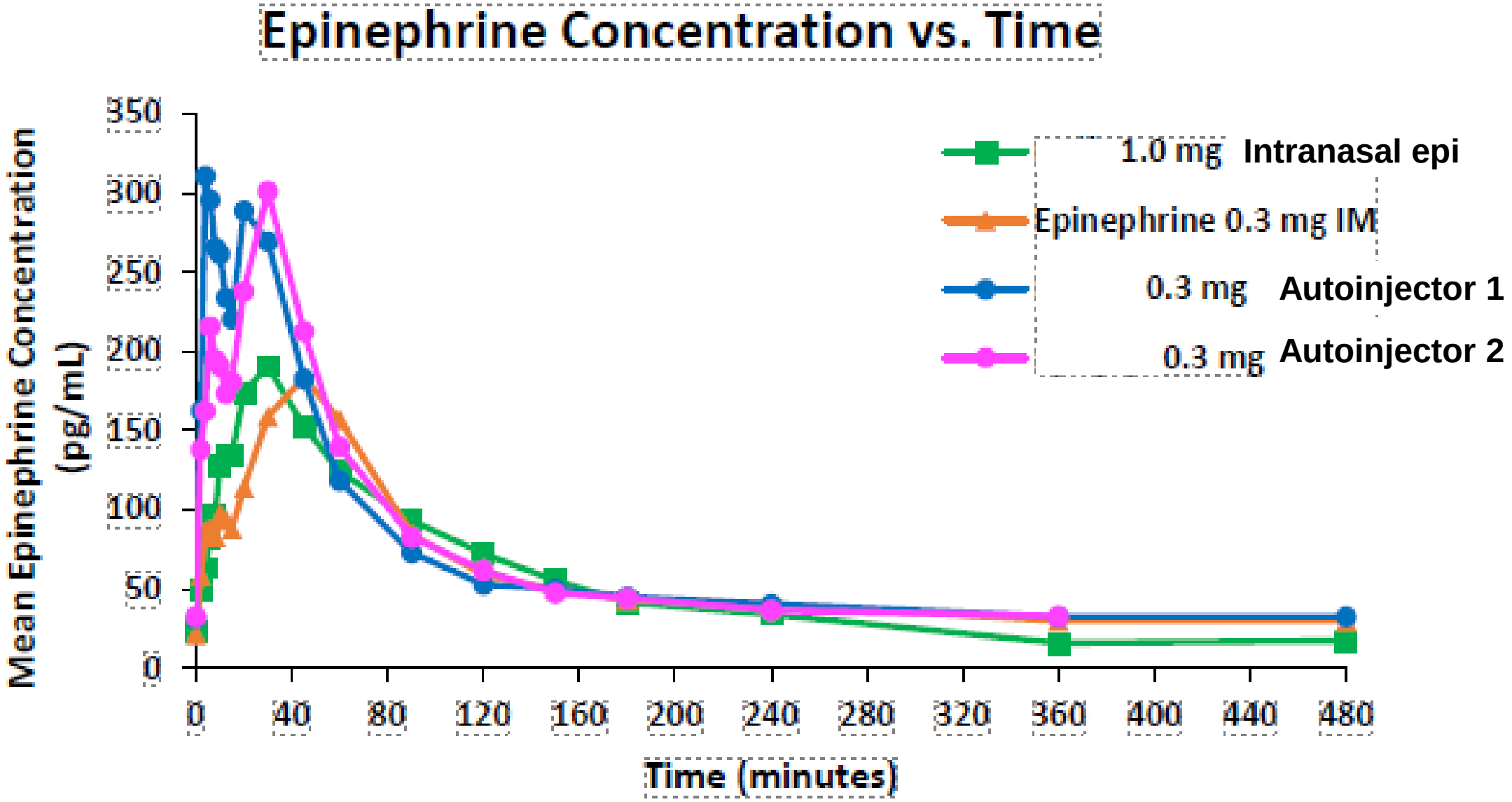
Epinephrine

7 FDA approvals
(> 55 million Rx)

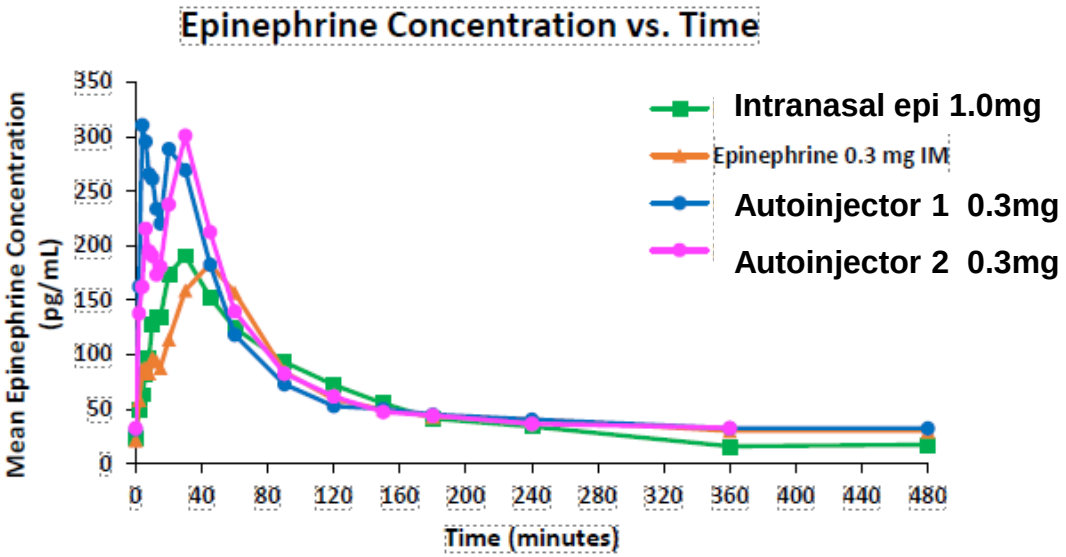
3 FDA approvals
(> 1 million Rx)

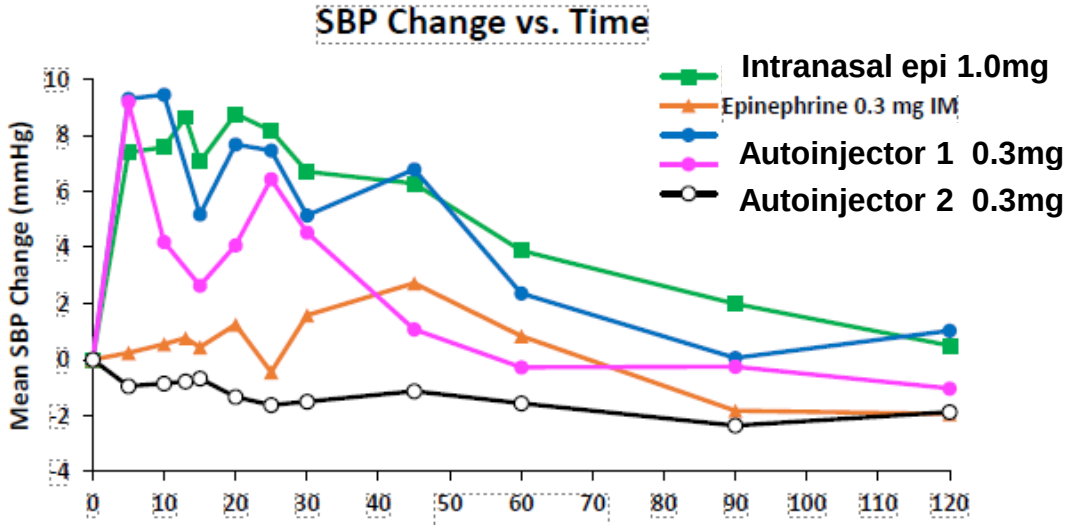
dodecyl-maltoside: GRAS absorption enhancer

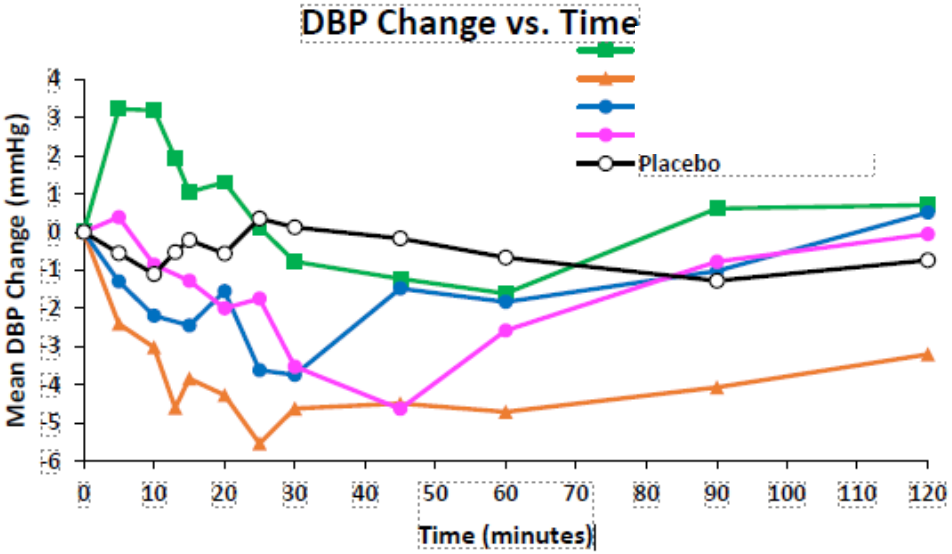
Spray

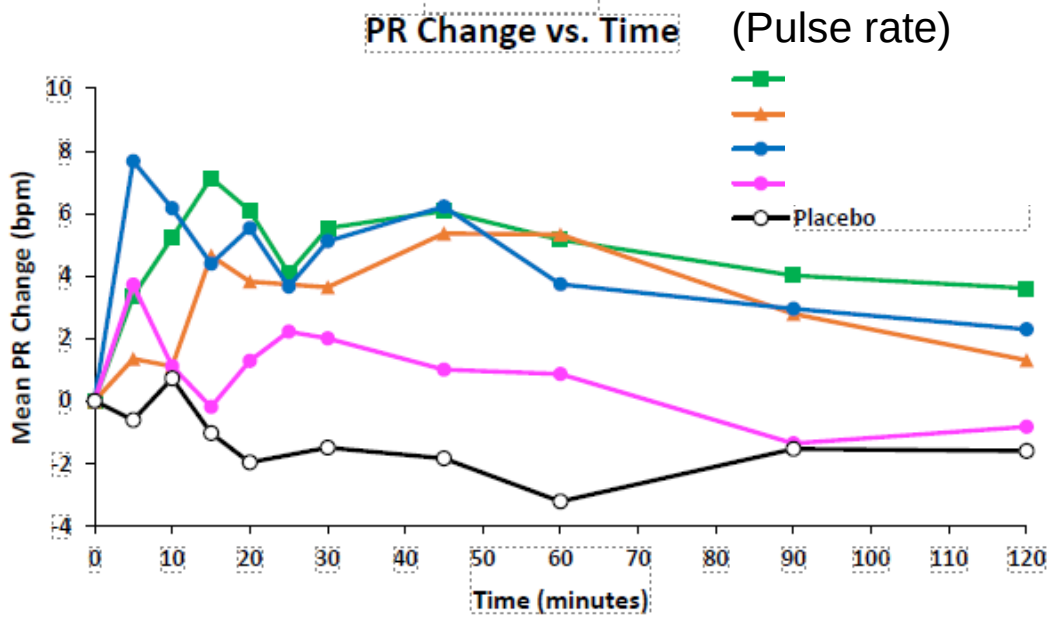


Tanimoto et al., (2023): Pharmacokinetic and pharmacodynamic comparison of epinephrine, administered intranasally and intramuscularly. Am Integrated Analysis. Ann Allergy Asthma Immunol 130 (2023) 508- 514.









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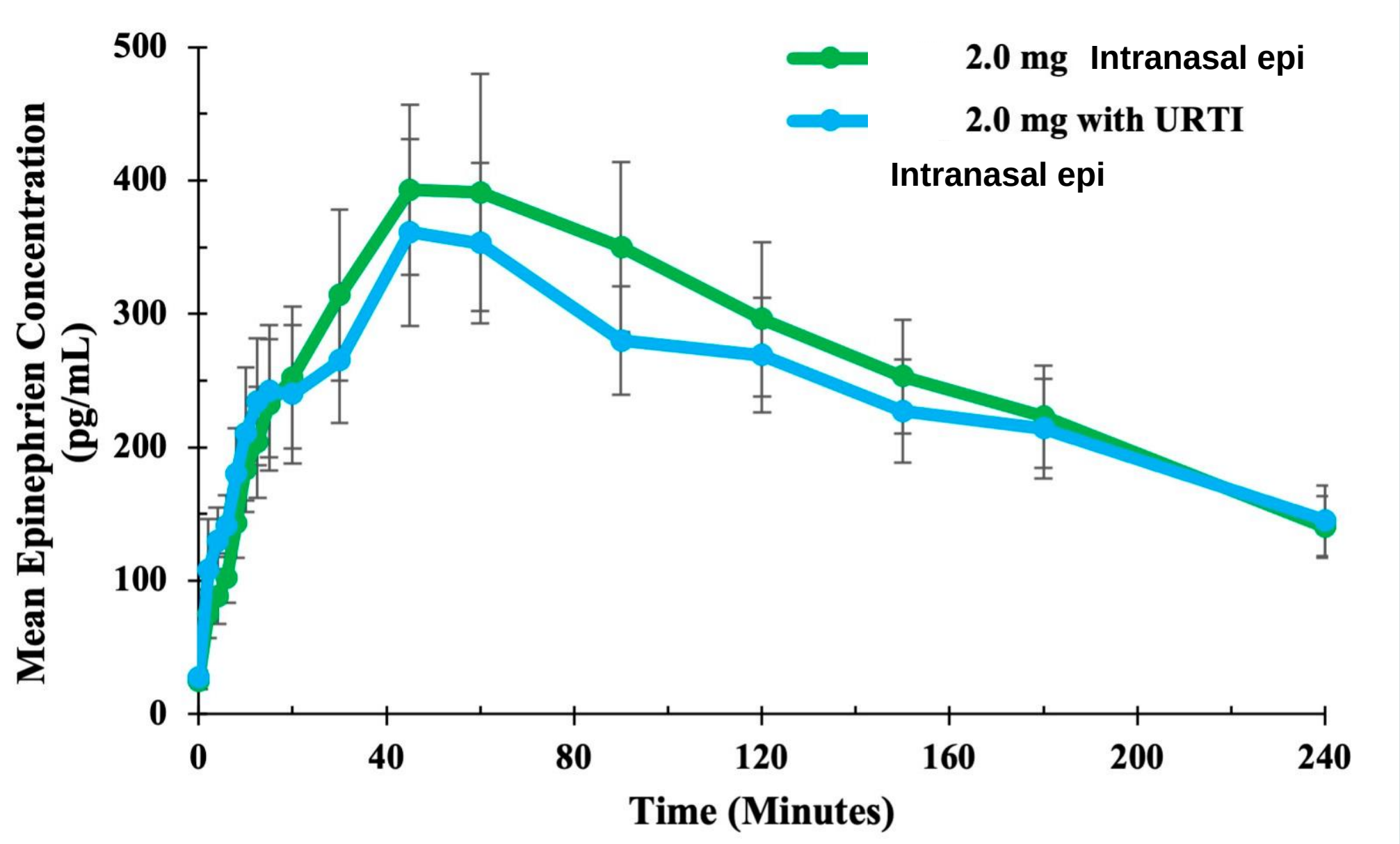

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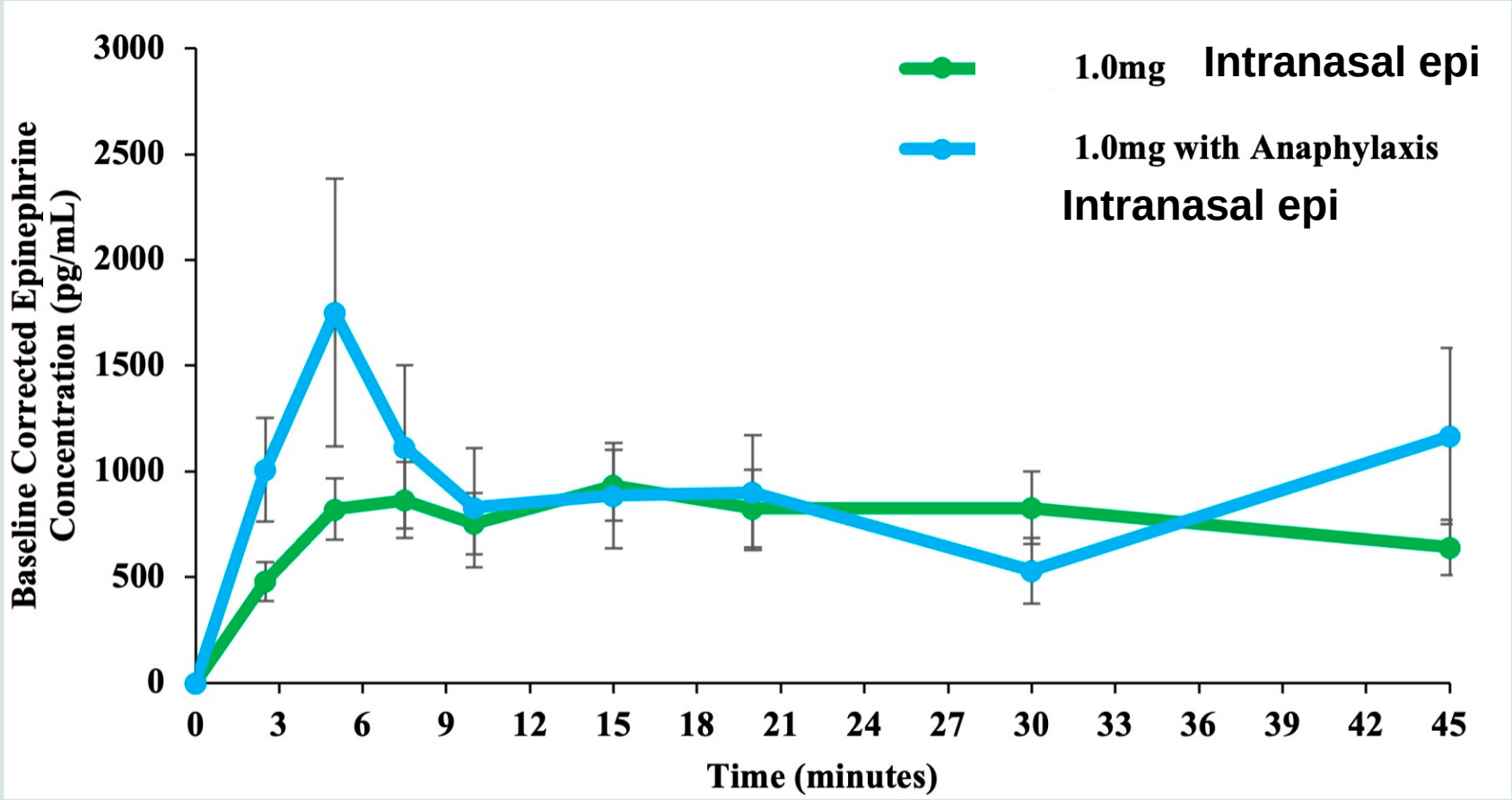
IN DOGS WITH ANAPHYLAXIS



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NEEDLE-FREE EPINEPHRINE: AVOIDS NEEDLE RELATED ADVERSE REACTIONS

Accidental injection (fingers), improper technique or incorrect locations

Lacerations or injection related injury (bent or embedded needles, bone injury)

Intravenous injection via blood vessel (may result in cerebral hemorrhage)

ACUTE MANAGEMENT OF ANAPHYLAXIS: TO ED OR NOT TO ED?

Guidelines

Home observation is supported for select cases after symptom resolution, emphasizing shared decision-making

Oppenheimer J, Shaker MS, Wallace DV, Waserman S; Joint Task Force on Practice Parameters Reviewers; Abrams EM, Bernstein JA, Chu DK, Ellis AK, Golden DBK, Greenhawt M, Horner CC, Ledford DK, Lieberman J, Rank MA, Shaker MS, Stukus DR, Wang J. Anaphylaxis: A 2023 practice parameter update. Ann Allergy Asthma Immunol. 2024 Feb;132(2):124-176. doi: 10.1016/j.anai.2023.09.015. Epub 2023 Dec 18. PMID: 38108678.

ACUTE MANAGEMENT OF ANAPHYLAXIS: TO ED OR NOT TO ED?

D.B.K. Golden et al. / Ann Allergy Asthma Immunol 132 (2024) 124–176

Home observation following first dose of epinephrine	Signs and symptoms that had emerged prior to epinephrine administration resolve within minutes of epinephrine administration, without recurrence, or the patient is asymptomatic. Patients with scattered residual hives or other rash (including erythema), even those with newly emerging but isolated hives or erythema without other symptoms occurring after epinephrine administration may be observed at home provided no additional new symptoms develop.

ACUTE MANAGEMENT OF ANAPHYLAXIS: TO ED OR NOT TO ED?

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Consider EMS activation and possibly second dose of epinephrine but may continue to observe at home if comfortable	Signs and symptoms that had emerged prior to administration of the first dose of epinephrine are improving or resolving within minutes of epinephrine administration. For example, persistence of a mild sensation of globus, nausea, coughing, or stomachache may be closely observed at home provided symptoms are improving (not worsening and are perceived to be getting better) and do not persist for longer than 10-20 minutes without any additional signs of improvement.

ACUTE MANAGEMENT OF ANAPHYLAXIS: TO ED OR NOT TO ED?

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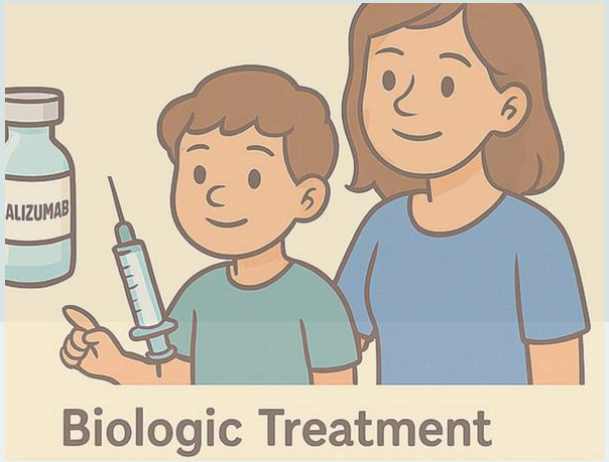
Activate EMS immediately, consider second dose of epinephrine, do not observe at home	Signs and symptoms that had emerged prior to epinephrine administration are not resolving. Particularly concerning symptoms would include respiratory distress, stridor, altered consciousness, cardiovascular instability, cyanosis, or incontinence not typical for their age. This would also include non-skin symptoms that fail to resolve or worsen, including but not limited to repeated (>2 total) episodes of vomiting, persistent hoarseness, cough, dysphagia, wheezing, or lightheadedness.

Figure 5. General guidance for activation of EMS and administration of a second dose of epinephrine. EMS, emergency medical services.

ONGOING MANAGEMENT

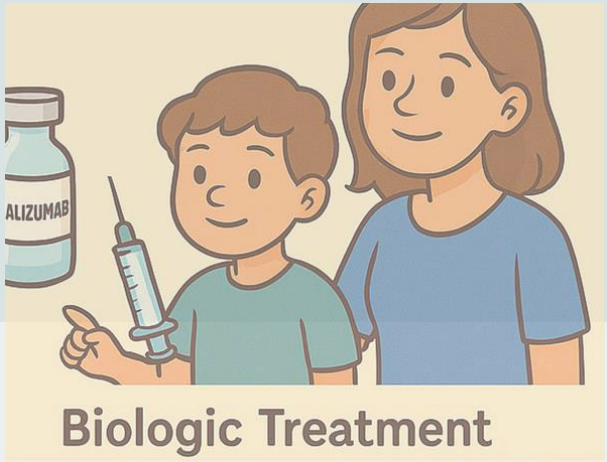
Avoidance approaches

Active approaches



Avoidance approaches

Active approaches



AVOIDANCE

- In the sensitized children in the LEAP study Peanut-specific IgE rose overtime in children eating or avoiding peanut
  - But only very high peanut IgE levels in those avoiding.
- IgG4 levels rose at a higher rate in the early peanut exposure group than in the avoidance group
- High threshold reactors in the CAFTERIA study

Du YJ, Guo JC, Upton JEM. Eating away at food allergy. Pediatr Allergy Immunol. 2025 Dec;36(12):e70251. doi: 10.1111/pai.70251. PMID: 41324152; PMCID: PMC12666998
Du Toit G, Roberts G, Sayre PH, et al. Randomized trial of peanut consumption in infants at risk for peanut allergy. N Engl J Med.2015;372(9):803-813
Cherkaoui S, Ben-Shoshan M, Alizadehfar R. Accidental exposure(AE) to peanut in a large cohort of Canadian children with peanutallergy. Clin Transl Allergy. 2014;10:A32

AVOIDANCE

- Elimination diets pose many adverse effects to patients as they could lead to nutritional deficits, perpetuate the fear around food, and impinge on quality of life (QOL).
- Avoidance diets are also not completely effective as evidenced by accidental exposure to peanut in peanut-allergic children of over 10%.

Du YJ, Guo JC, Upton JEM. Eating away at food allergy. Pediatr Allergy Immunol. 2025 Dec;36(12):e70251. doi: 10.1111/pai.70251. PMID: 41324152; PMCID: PMC12666998
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PARTIAL AVOIDANCE

- Baked milk and egg “ladders”
- Tailoring avoidance to threshold
- When threshold was known
  - Allowing ingestion up to a specified amount (57%)
  - Proactively advising ingestion to a certain amount (56%)
  - Oral immunotherapy (47%)
- Important factors that influenced the approach included
  - Severity of reaction (52%)
  - Comfort with family/patient using emergency medications (42%)
  - Family/patient preferences (41%)

Upton JEM, Wong D, Nowak-Wegrzyn A. Baked milk and egg diets revisited. Ann Allergy Asthma Immunol. 2024 Mar;132(3):328-336.e5.

Oriel RC, Shah A, Anagnostou A, Greenhawt M, Khan F, Leeds S, Ravindran M, Stoffels G, Vickery BP, Virkud YV, Sicherer SH. Food Allergy Management Practices Utilizing Individual Patient Thresholds: A Work Group Report of the AAAAI Adverse Reactions to Foods Committee. J Allergy Clin Immunol Pract. 2023 Apr;11(4):1083-1086.e1

ACTIVE TREATMENT

ORAL IMMUNOTHERAPY (OIT)

Standardized OIT Protocols Store Bought OIT

- Palforzia provides a standardized peanut OIT protocol for children aged 1 to 17
- Store bought provides ability to treat any food

Safety and Patient Selection

- OIT requires careful patient selection, asthma control, and informed consent to manage risks like anaphylaxis and eosinophilic esophagitis.

Early Intervention Benefits

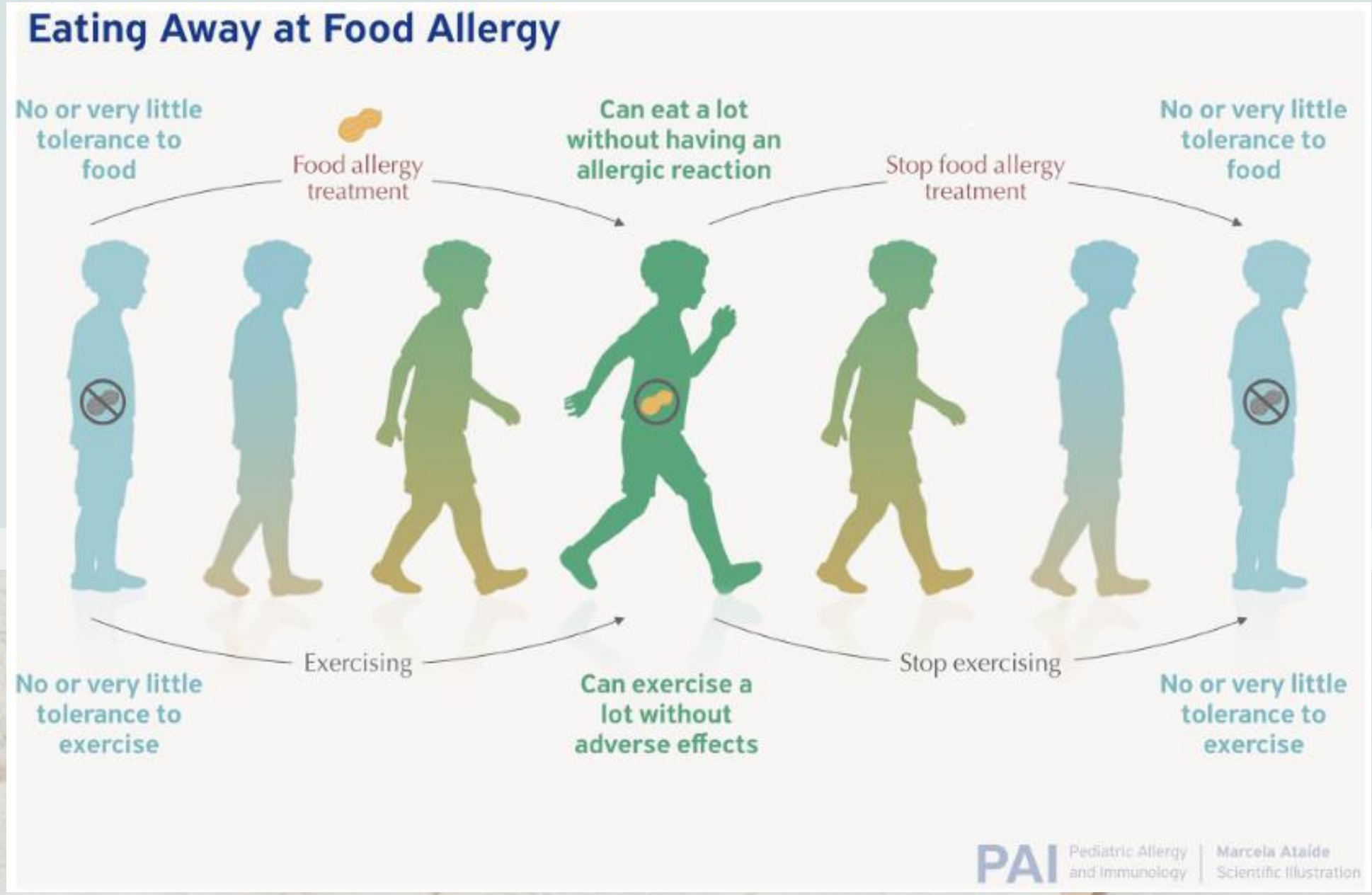
- Early intervention in younger children shows improved immunologic response and likely higher sustained unresponsiveness/remission in OIT

Safety and Contraindications

- Gastrointestinal symptoms and risk of EoE are common; contraindicated in uncontrolled asthma and prior EoE history.

Adverse Reaction Factors

- Exercise, hot water, illness, fasting, and sleep deprivation can worsen adverse reactions during treatment.



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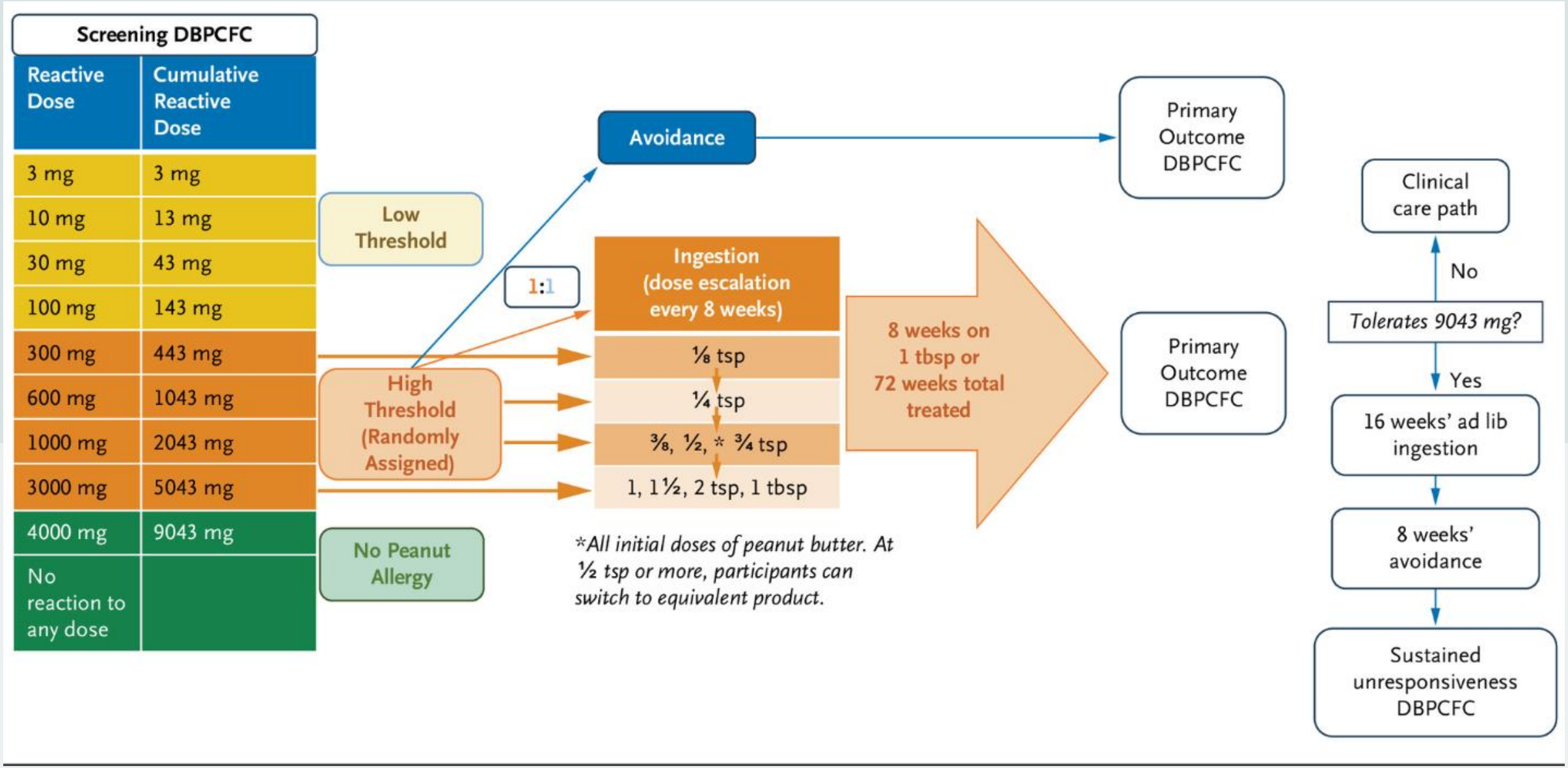
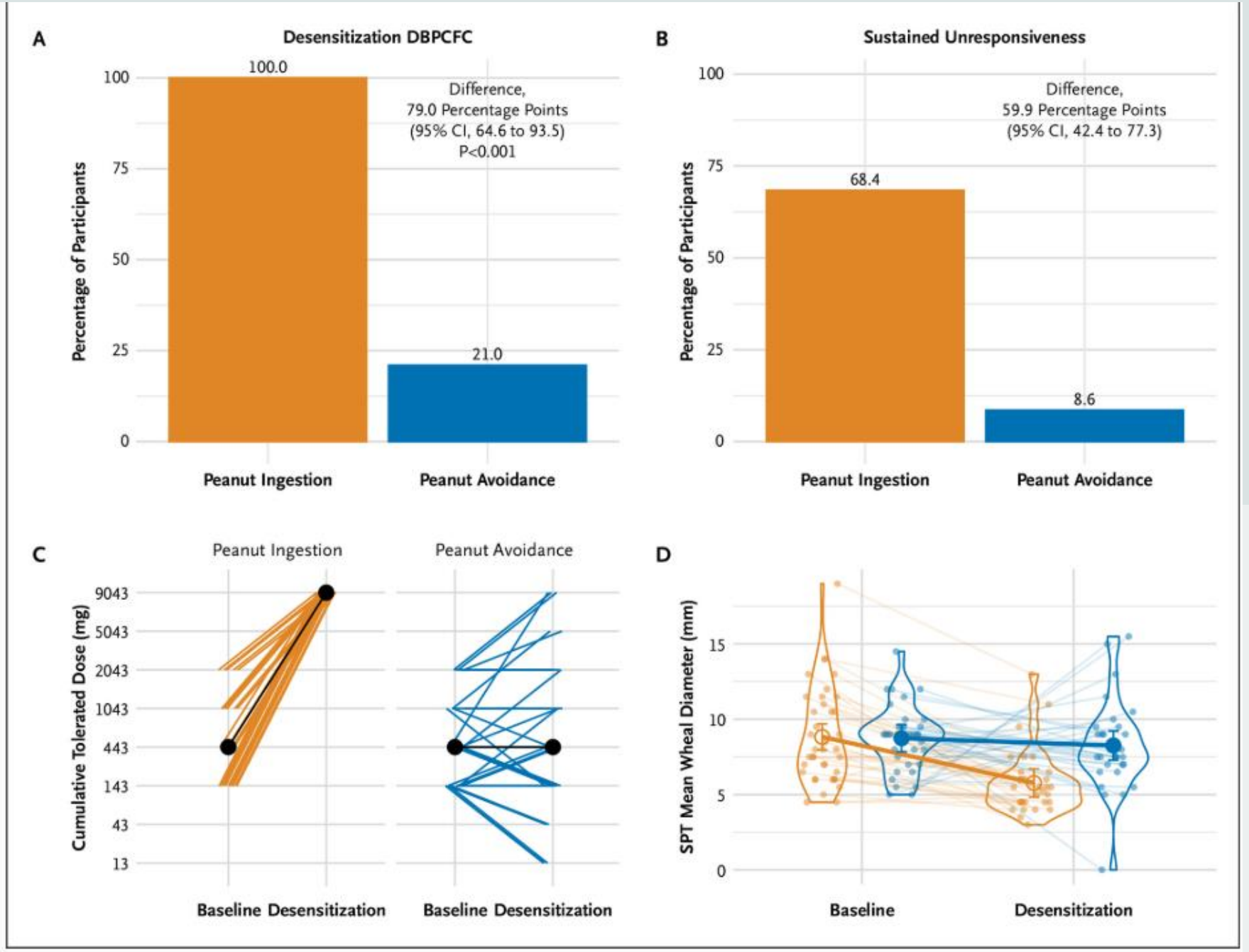
CAFETERIA



Sicherer SH, Bunyavanich S, Berin MC, Lo T, Groetch M, Schaible A, Perry SA, Wheatley LM, Fulkerson PC, Chang HL, Suárez-Fariñas M, Sampson HA, Wang J. Peanut Oral Immunotherapy in Children with High-Threshold Peanut Allergy. NEJM Evid. 2025 Mar;4(3):EVIDoa2400306. doi: 10.1056/EVIDoa2400306. Epub 2025 Feb 10. PMID: 39928078.



doi: 10.1056/EVIDoa2400306.

LOW DOSE OIT
WHY EXPLORE LOW-DOSE OIT?

Traditional OIT Dosage

Many Peanut OIT protocols use 300 mg maintenance dose or higher, effective but with risks like allergic reactions and EoE

Low-Dose OIT Hypothesis

Lower doses such as 30 mg may maintain desensitization benefits while reducing adverse events and improving quality of life.

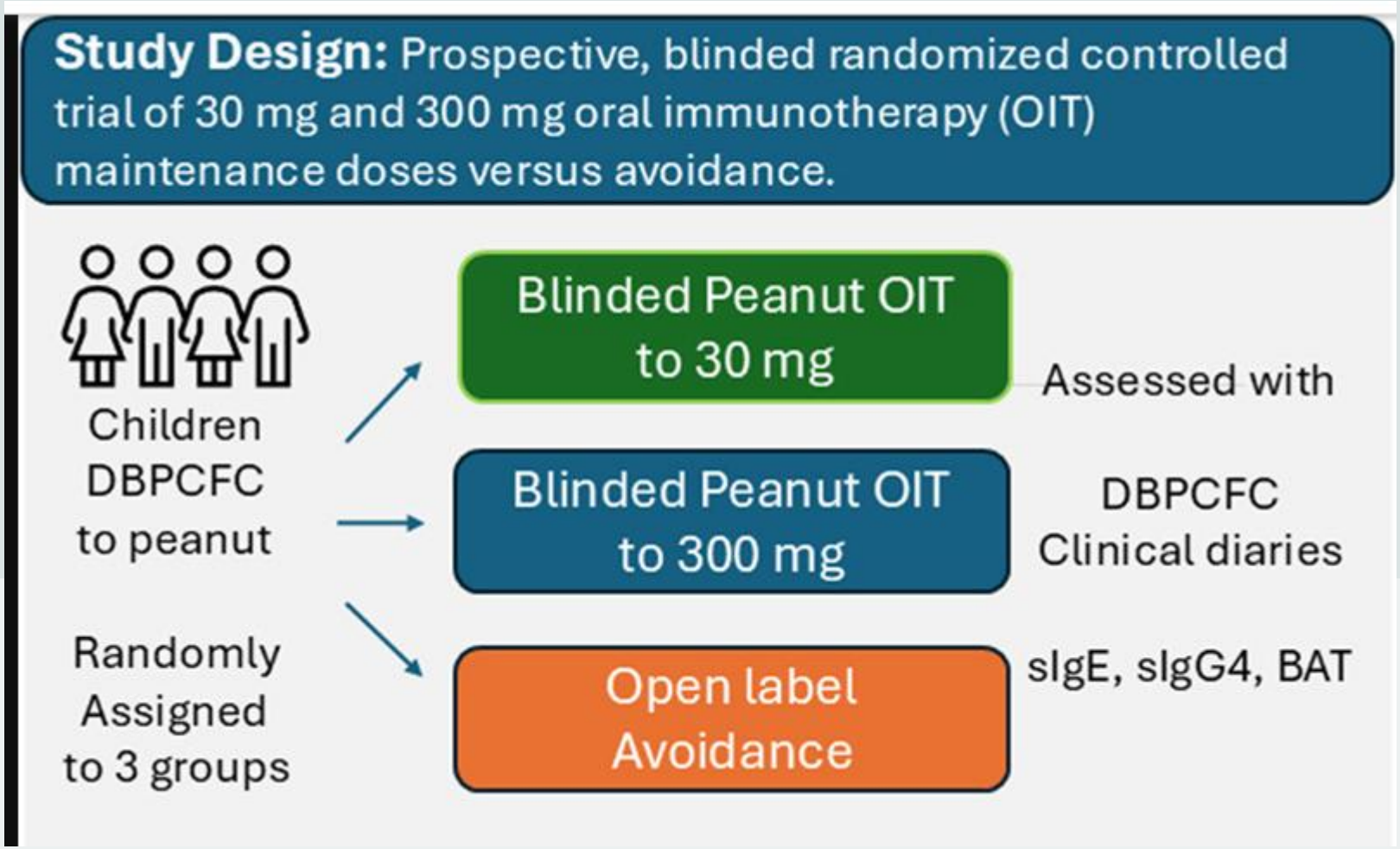
Clinical Trial Comparison

RCT compared 30 mg and 300 mg doses to evaluate efficacy, safety, and patient outcomes.

Relevance to Pediatric Care

Low-dose OIT is particularly important for pediatric patients prioritizing safety and treatment adherence.

1/32 tsp peanut butter is approx. 30mg Peanut protein

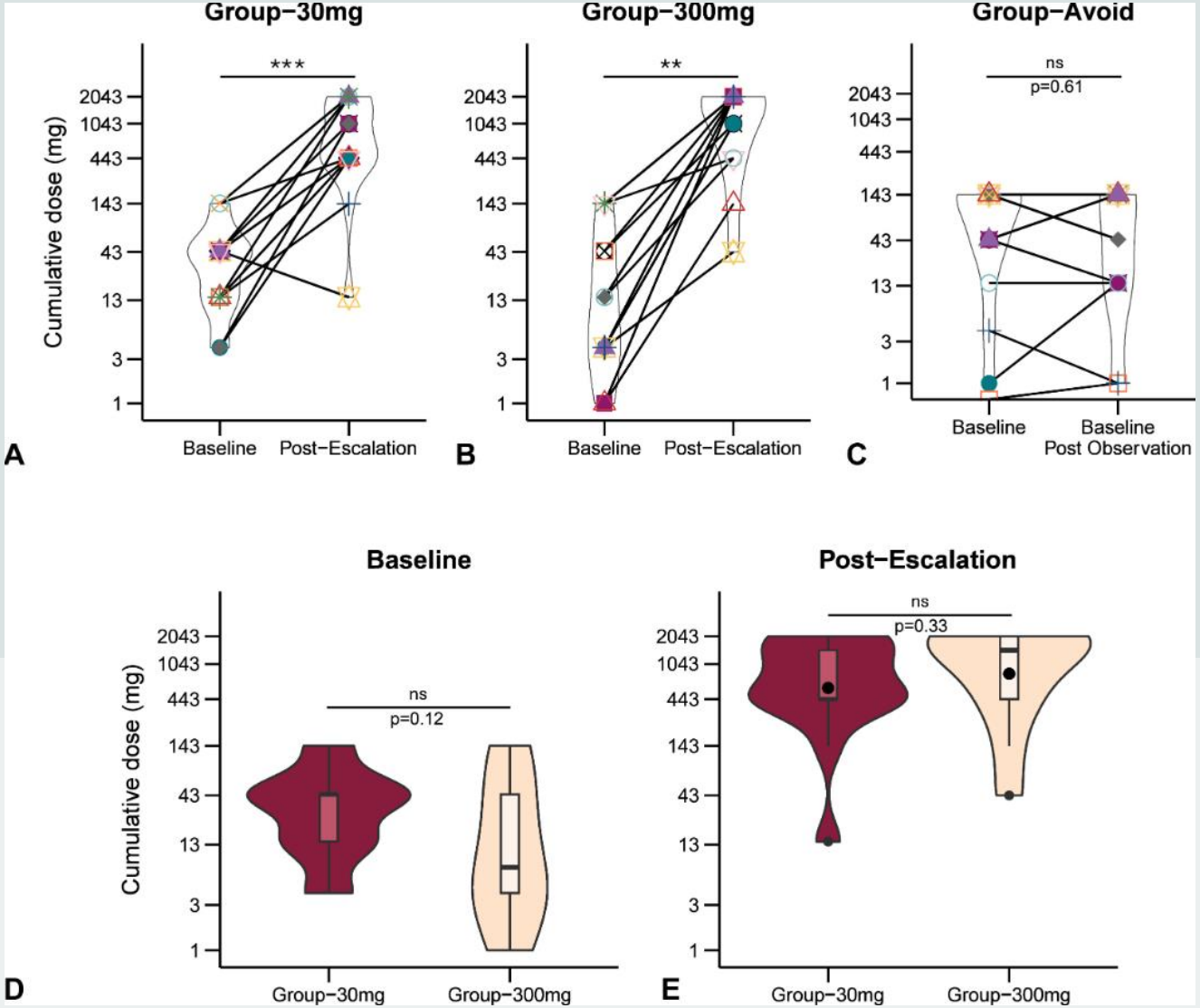


Upton JEM, Toscano-Rivero D, Ke D, Berenjy A, Lejtenyi D, Beaudette L, Yin X, Li CH, Duan LY, Cohen CG, Kim V, Marzouk S, Grunebaum E, McCusker CT, Mazer B, Eiwegger T, Ben-Shoshan M. Peanut Oral Immunotherapy Using 30 and 300 mg Maintenance Doses. J Allergy Clin Immunol Pract. 2025 Oct 16:S2213-2198(25)00958-4. doi: 10.1016/j.jaip.2025.10.007. Epub ahead of print. PMID: 41109568.

Table I. Demographic and baseline characteristics

Clinical characteristics	Group 30 mg	Group 300 mg	Group Avoid
Participants, n	n = 17	n = 17	n = 17
Female sex, n (%)	9 (52.9%)	8 (47.1%)	8 (47.1%)
Age at baseline, y (median [min, max])	10 (5, 17)	12 (3, 18)	9 (2, 18)
Cumulative tolerated dose of peanut, mg (interquartile range)	44 (14-44)	14 (4-44)	44 (4-144)
Modified Consortium of Food Allergy Research scale (interquartile range)	3 (3, 3)	3 (2, 3)	3 (2, 3)
Epinephrine treatment, n (%)	13 (76.5%)	13 (76.5%)	12 (70.6%)

Upton JEM, Toscano-Rivero D, Ke D, Berenjy A, Lejtenyi D, Beaudette L, Yin X, Li CH, Duan LY, Cohen CG, Kim V, Marzouk S, Grunebaum E, McCusker CT, Mazer B, Eiwegger T, Ben-Shoshan M. Peanut Oral Immunotherapy Using 30 and 300 mg Maintenance Doses. J Allergy Clin Immunol Pract. 2025 Oct 16:S2213-2198(25)00958-4. doi: 10.1016/j.jaip.2025.10.007. Epub ahead of print. PMID: 41109568.



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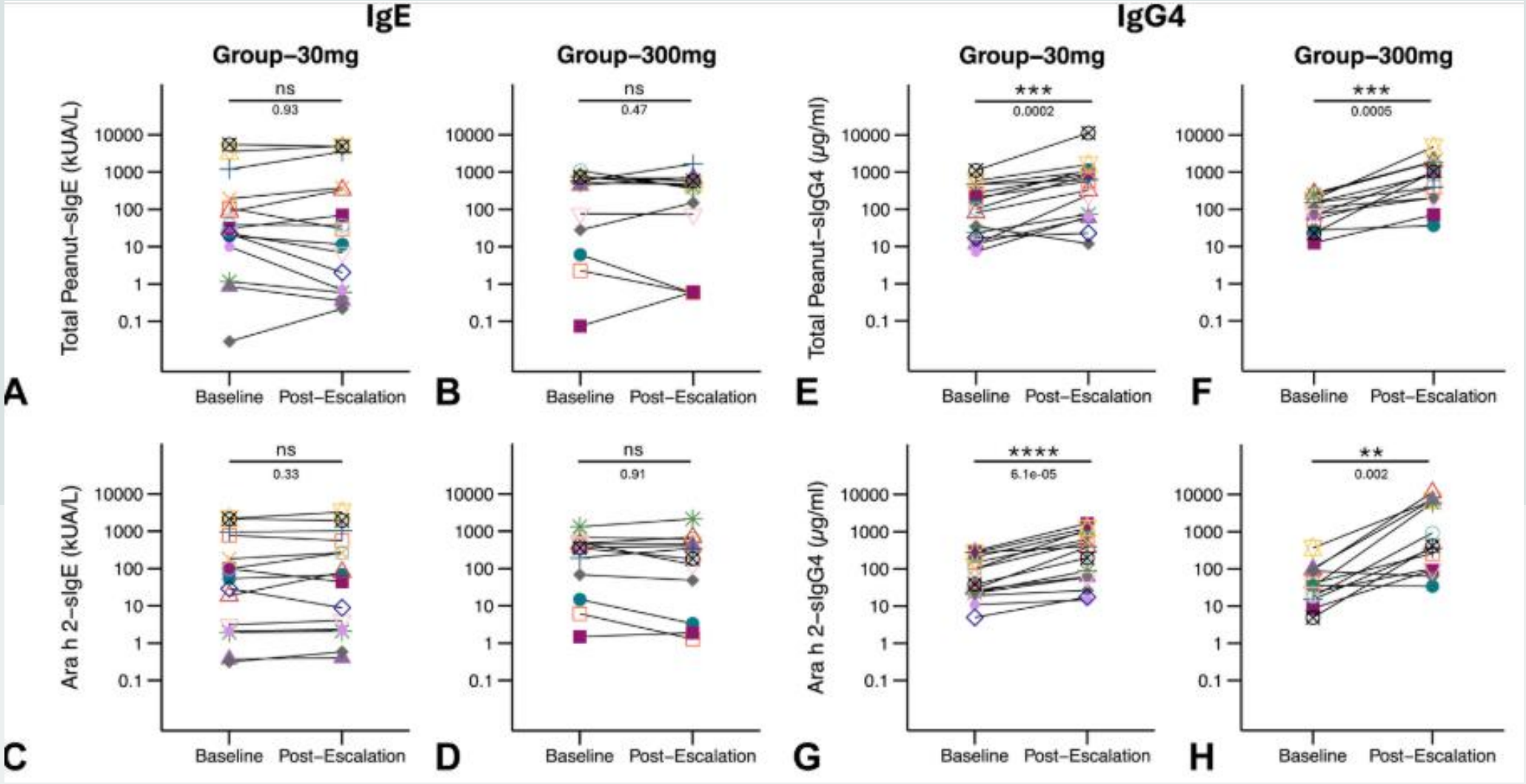

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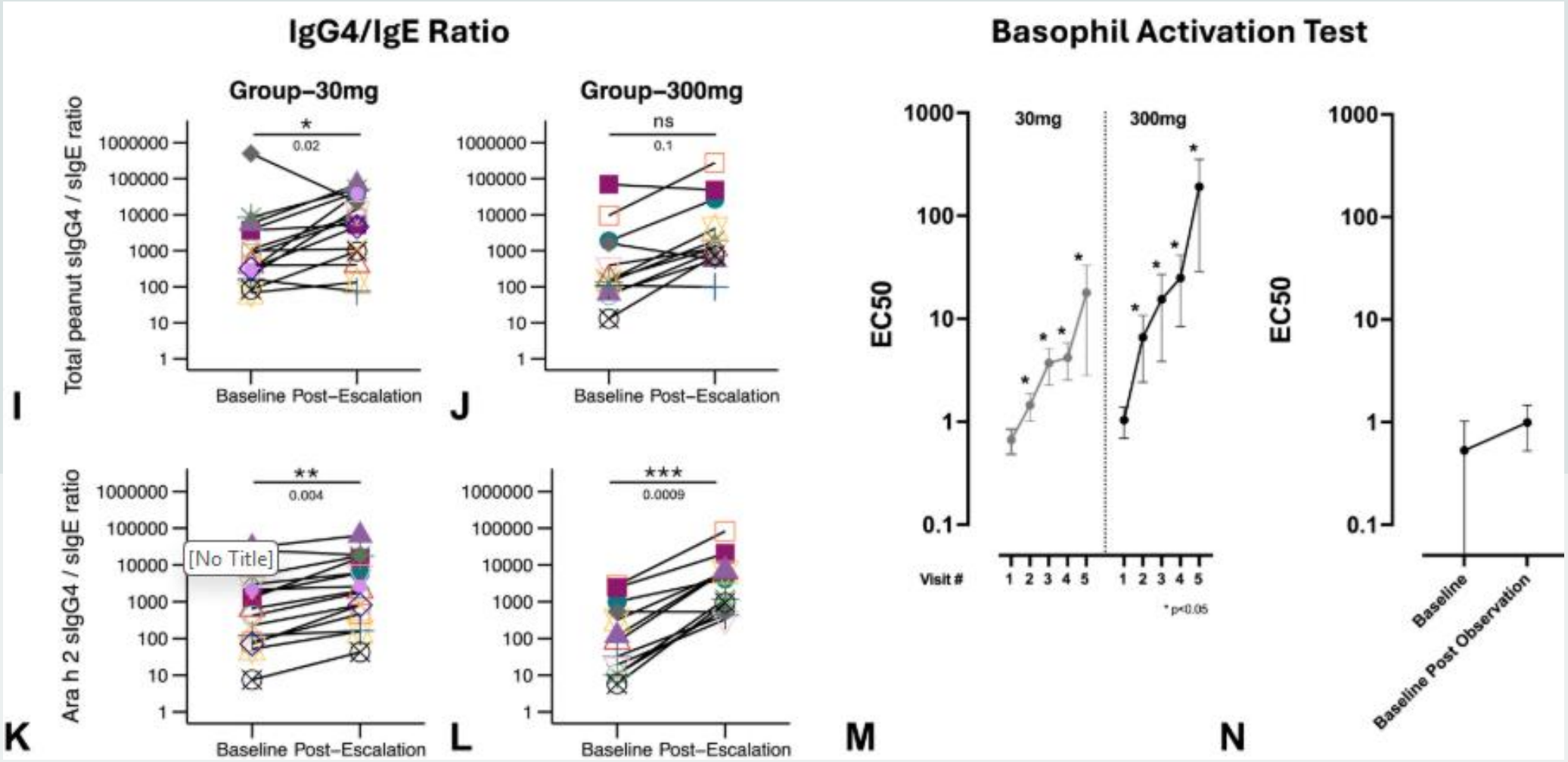

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ADVERSE EVENTS AND DISCONTINUATIONS

Safety Profile Comparison

The 30 mg dose showed fewer systemic allergic reactions compared to 300 mg

When adjusted for atopic conditions and SPT, Group 300 mg had a fivefold increase in the incidence of moderate or severe non-anaphylactic reactions (incidence rate ratio = 5.06; 95% CI, 1.16-22.70; *P* = .02) compared with Group 30 mg.

Lower discontinuation rates due to adverse events were observed in the 30 mg group (0) versus the 300 mg group (3), not statistically significant.

WHEN TO CONSIDER LOWER DOSES

- **Severity**
- **Taste**
- **Risk taking**
- **Preferences**

Can apply low doses to multi-OIT too

CTA Clinical and Translational Allergy

EAACI

ORIGINAL ARTICLE | Open Access

Safety and Efficacy of Very Low-Dose Multi-Nut Oral Immunotherapy in Children

Julia E. M. Upton, Carmen H. Li, Alireza Berenjy, Alana Galper, Xiaojun Yin, Alper Celik, Lucy Duan, Samantha Wong, Christina M. Ditlof, Kristen E. San Diego, Jennifer A. Hoang, Moshe Ben-shoshan, Akash Kothari, Lisa Hung, Mikhail Monteiro, Wut Hmone Phue, Theo J. Moraes, Thomas Eiwegger

... See fewer authors

First published: 12 December 2025 |

https://doi-org.myaccess.library.utoronto.ca/10.1002/clt2.70125 | VIEW METRICS

Get it UTL

Julia E. M. Upton, Carmen H. Li are the co-first author.

SUBLINGUAL AND EPICUTANEOUS IMMUNOTHERAPY

Sublingual Immunotherapy (SLIT)

SLIT is effective in toddlers with a 4 mg daily dose inducing desensitization and remission, with mild oropharyngeal side effects.

Being actively investigated as pharmaceutical product in older children and adults

Epicutaneous Immunotherapy (EPIT)

EPIT uses peanut patches showing over 67% responder rate at 12 months in ages 1-3 and minimal systemic reactions, and top line results of age 4-7 are forthcoming

Safety and Accessibility

Both SLIT and EPIT offer safe, low dose, less invasive immunotherapy options

Greenhawt M, Sindher SB, Wang J, et al. Phase 3 trial of epicutaneous immunotherapy in toddlers with peanut allergy. N Engl J Med.2023;388(19):1755-1766
Kim EH, Bird JA, Keet CA, et al. Desensitization and remission after peanut sublingual immunotherapy in 1- to 4-year-old peanut-allergic children: A randomized, placebo-controlled trial. J Allergy Clin Immunol. 2024;153(1):173-181

OMALIZUMAB

MECHANISM, CLINICAL EVIDENCE, AND SAFETY PROFILE

Mechanism of Action

Omalizumab binds IgE at Cε3 locus, blocking interaction with FcεRI receptors on mast cells and basophils to reduce allergic mediator release.

Clinical Evidence

The OUtMATCH trial showed 16 weeks of treatment raised allergy reaction thresholds for peanut, cashew, egg, and milk allergens.

Safety Profile

Omalizumab is generally safe with the most common side effect being injection site reactions; continued allergen avoidance remains essential.

Wood RA, Togias A, Sicherer SH, et al. Omalizumab for the treatment of multiple food allergies. N Engl J Med. 2024;390(10):889-899.

OMALIZUMAB WITH OIT

RESEARCH Open Access

Protocol for a double-blind, randomized controlled trial on the dose-related efficacy of omalizumab in multi-food oral immunotherapy

Alexandra Langlois[1], Marie-Hélène Lavergne[2], Hélène Leroux[2], Kerstin Killer[2], Pauline Azzano[1], Louis Paradis[1,3], Kathryn Samaan[1], Jonathan Lacombe-Barrios[1], Thomas Eiwegger[4], Julia Upton[4], Gordon Sussman[5], Thomas Poder[6,7], Benoît Mâsse[2,8], Anne Des Roches[1,2] and Philippe Bégin[1,2,3*]

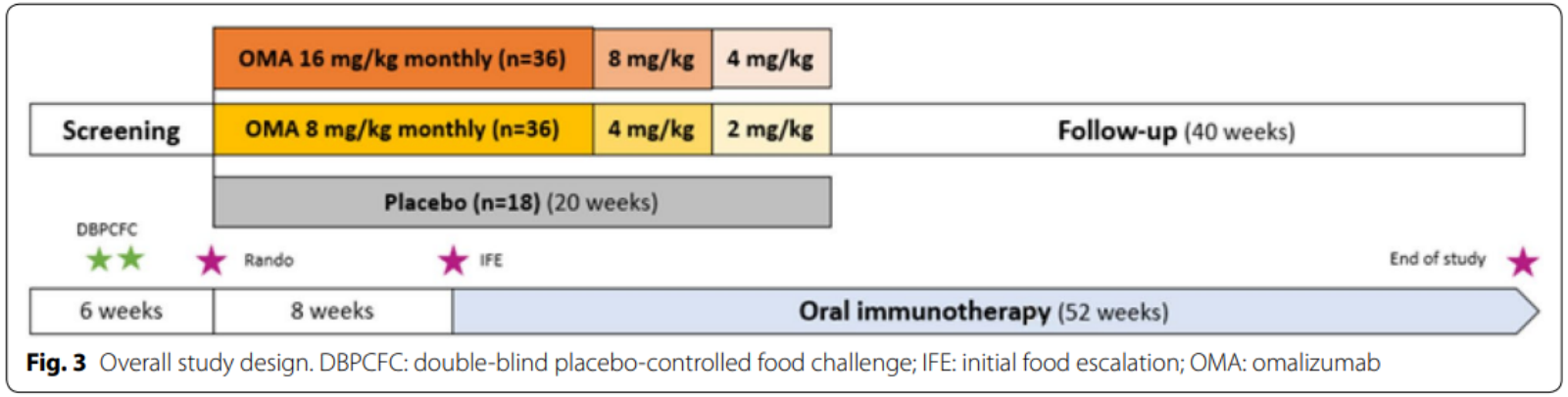
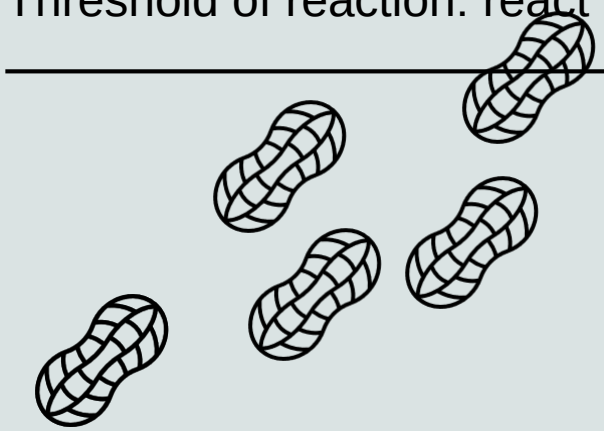


Fig. 3 Overall study design. DBPCFC: double-blind placebo-controlled food challenge; IFE: initial food escalation; OMA: omalizumab

Threshold of reaction

Threshold of reaction: react if threshold drops or too much allergic food or both!



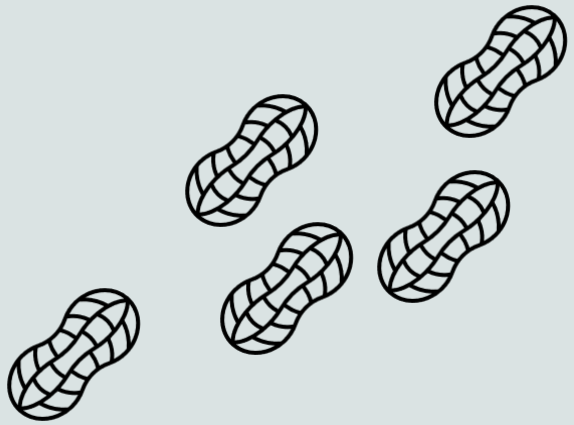
Threshold of reaction

We want dosing which can handle when the threshold drops due to illness, heat, etc

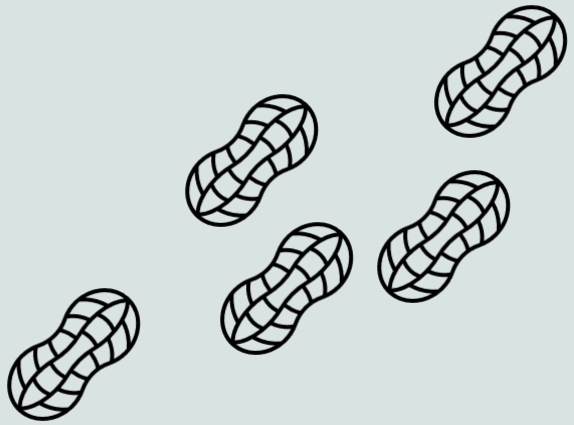
Threshold of reaction

- SLIT/EPIT/low dose OIT usually keep below the threshold

Threshold of reaction, omalizumab raises it greatly, dependent on ongoing exposure



Threshold of reaction, immunotherapy raises it greatly, for most dependent on ongoing exposure

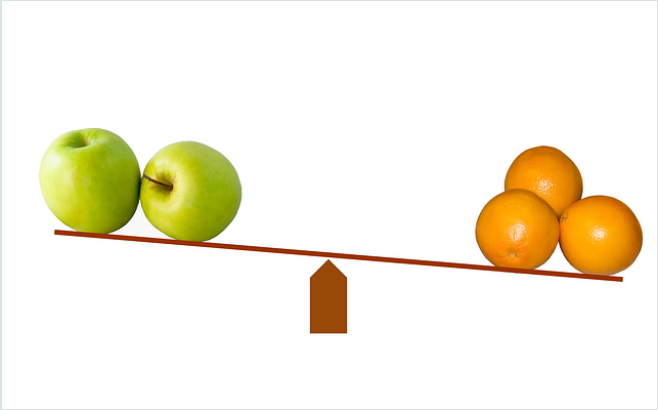


SUMMARY ACUTE MANAGEMENT 2026

Needle free epinephrine options

Consideration of home management

COMPARING THERAPY OPTIONS



Avoidance Strategy

- Psychosocial and nutritional challenges for patients. Allergy shows minimal improvement overtime. Can get worse.
- Avoidance can be tailored

Oral Immunotherapy (OIT)

- OIT offers desensitization with risk of side effects. Dose can be tailored.

Sublingual and Epicutaneous Immunotherapy

- Extremely low doses with clinically meaningful outcomes

Biologic Therapy with Omalizumab

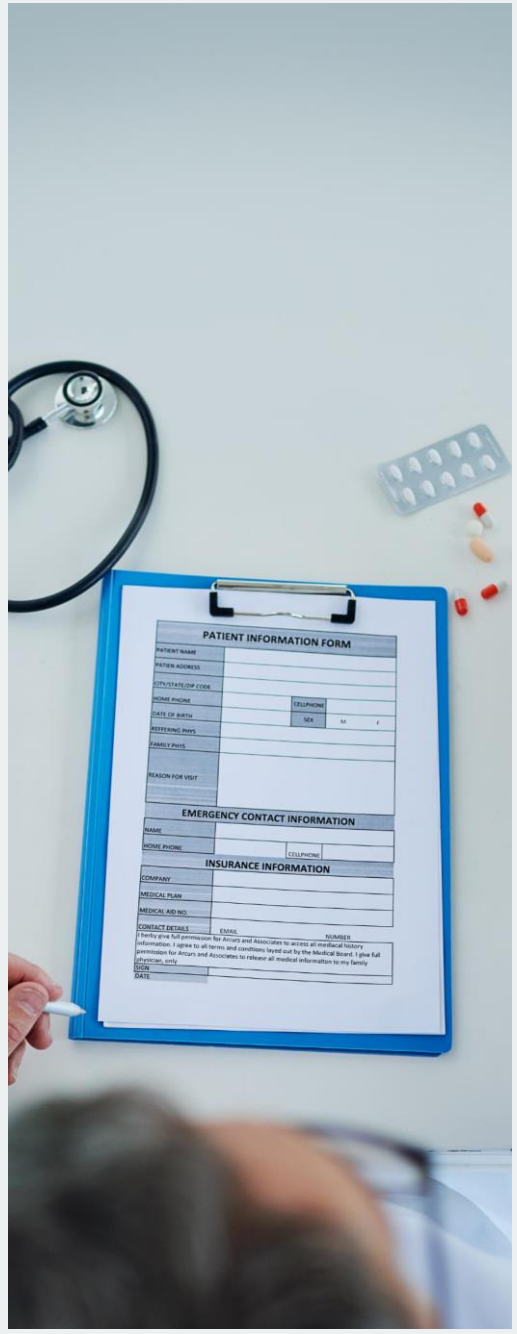
- Omalizumab reduces accidental reaction severity and is used alone or likely in the future with other therapies for multi-food allergies

TREATMENT SUMMARY: HOW SHOULD CLINICIANS APPLY THE NEW OIT FINDINGS?

Individualized OIT Strategies

Clinicians should tailor maintenance doses based on patient-specific factors such as age and baseline eliciting dose.

- **Consider high doses in high threshold reactors**
- **Consider Lower-Dose rather than quitting!**



QUESTIONS

Thank you