

Food

Sublingual Immunotherapy

Hugh H. Windom, MD
Sarasota, FL



Why Food SLIT?

- OIT may not appeal to your patient (choices are nice)
- OIT dropouts
- Achieving free eating unlikely in >5 yo or >50 sIgE
- If your goal is safety, SLIT is safer and easier

OIT Struggles

Adverse events associated with higher sIgE, sIgE/IgE ratio, and araH1 and H2; high araH2/sIgE ratio associated with treatment failure

Poised study, [Lancet 2019;394:1437-49](#)

High baseline milk IgE associated with treatment failure

[Pediat Allergy Immunol 2019;30:356-62](#), [JACI 2013;132:737-9](#)

Higher baseline milk IgE, lower probability reaching maintenance

[J Allergy Clin Immunol Practice 2022;10:215-21](#)

Unanswered Questions 2023



- Build up, can we go faster?
 - Extracts - why not real food?
 - Post-dose rest period, why?



Original Article

Food Sublingual Immunotherapy: Safety and Simplicity of a Real Food Updosing Protocol

[Reed R. Windom^a, Samantha Seitz^b, Jean B. Ly, MD^c, Neha Dunn, MD^c, Jennifer Fergeson, DO^c, and Hugh H. Windom, MD^c Philadelphia, Pa; Omaha, Neb; and Sarasota, Fla](#)

J Allergy Clin Immunol Pract 2024;12:2447-53

Real Food – Are you still using extracts? (AKA is anyone using Palforzia?)

- Potency – mg of protein on label (extracts don't list protein content)
- Stability – store bought foods, use expiration date or freeze
 - flour solutions using 50% glycerin – 6 months (skin testing at 6 months unchanged)

Thermal Stability of Glycerinated Extracts

retained over 70% of their activity compared to refrigerated sample controls when stored at room temperature for up to 12 months

Data on file: Miscellaneous Data Summaries from 2009-2012. Stallergenes Greer Research & Development department archives.

JACI In Practice Summary

- 50 SLIT patients, 1st 20 started at 1:1,000 dilution, rest at 1:100
- 88% reached Maintenance
- No epi reactions
- Real food solutions are stable in glycerin or frozen
- No rest period needed post-dosing

Unanswered Questions 2025



- Build up - can/should we go even faster?
- Dosing - 1 minute hold, swallow, 5 minute no eat?
- Do other foods work as well as peanut?

SLIT Logistics

- 3-4 visit buildup to 4-10 mg protein in 0.1-0.5 ml dose
- Store bought food when available in liquid form
- No rest period or holding dose except asthma flare or vomiting
- Skip 3-4 months with little loss of protection
- Annual OFC, +/- labs to assess response

Peanut SLIT Protocol

Visit	Dilution of peanut flour solution	Dose	Reaction	peanut protein/dose (mg)
1	0.4 mg/ml	0.05 0.15 0.3		0.01 0.03 0.06
2	4 mg/ml	0.05 0.15 0.3		0.1 0.3 0.6
3	40 mg/ml	0.05 0.1		1 2
4	“ “	0.1 0.3		2 6

Is it Working?



To find out, we recommend annual food challenge(s)

	Year 1	Year 2	Year 3	Year 4
Milk	Baked	1, 3, 10 ml	10, 30 ml	30, 60 ml
Egg (EWL)	Baked	0.5, 1, 3 ml	3, 10 ml	10, 30 ml
Others (mg protein)	10, 30, 100	100, 300	300, 1 gm	1 gm x 2

Food SLIT Efficacy at 1-2 yrs

- 20 patients, median 11 y.o. (4-17), single and multi-food SLIT with 2-4 mg protein
- OFC 10-30-100-200 mg protein at 1-2 years
- 70% passed, 14% reacted at ≤ 140 mg (mild)
- Our protocol: OFC to 140 mg year 1, 13% reacted



SLIT Bridge to OIT

- SLIT is a highway to heaven, no bridges necessary, in fact OIT to SLIT more common
- Except milk/egg, add food to diet after each OFC
- Canadian study switched to OIT if passed 340 mg protein OFC after 1-2 yrs SLIT

Case Study – OIT to SLIT

- Started peanut OIT at 5 y.o., sIgE 58
- Annual sIgE: 52>18>26>12>13>11>7; Total IgE 320-460
- Hates peanuts, Epi use twice on ~3 peanut dose
- Switch to SLIT 2024, 1 year later sIgE 4
- OFC failed at 3 peanuts, despite declining sIgE

Our SLIT Data

Initial 50 cases

Baseline – in paper, 28% prior OIT

Current – 68% active dosing, 12% failed to reach M, 20% quit

Reactions – 1 dose altering rxn, used Epi

Labs - at year 1 sIgE went down 61% of the time, stayed the same 17%, and went up 22%

OFC – 38% had one, with 89% of them passing

Our SLIT Data

100 cases at ≥ 1 year

Baseline – 3-50 yo. (median 12), median sIgE 29 (24% >100), multi-food 52% (57% 2 foods, 35% 3 foods, 8% 4 foods), 38% prior OIT

Progress – 90% reached Maintenance, 77% active, median sIgE 29 at 1 yr: 50% down, 28% same, and 22% up; 23 had 1 yr OFC – 87% passed

Case Highlights

Case 1 – peanut sIgE from 1-14 yo: 13-8-6-12-11-10, after 1 yr SLIT – 30; he passed Year 1 OFC

Case 2 – 6 yo, 2 food SLIT x 1 yr: egg 57 → 7, peanut 11 → 9, total IgE 1,506 → 2,011; he passed Year 1 OFC

Case 3 – 11 yo, 3 food SLIT x 1 yr: cashew 32 (anaO3-25) → 1, hazel 9 → 4, walnut 19 →, tIgE 1,534 → 1,957; passed OFC

Food SLIT Future

- 2-3 visit buildup or even remote
- Hold for 15-30 seconds
- Spit or swallow
- Resume eat/drink in 1-2 minutes
- Reduce dosing frequency 2-3 days/week



