FOOD ALLERGY MISSION: REMISSION

INFANTS & TODDLERS

Jean Ly, MD

"We hold these food allergy truths to be self-evident"

- Almost anyone of any age can be desensitized without a biologic using OIT &/or SLIT (A few could use it)
- Start young- Infant/toddler OIT is safe, simple, & has a higher chance of remission
- Most kids need <3 food challenges and one round of multi-food OIT

Why Treat Early?

- More Treg cells, greater immune plasticity, receptive gut immune axis.
- Peanut specific IgE increases over 1st 5 years of life
- A lower baseline sIgE is associated with a greater chance of developing tolerance with OIT
- THE REAL WHY? No kid anxiety, most are good eaters, no sports, NAPS ☺

CONS- picky eaters, daycaritis

Each year of delay after
age 5 decreases the likelihood of successful desensitization by 17%

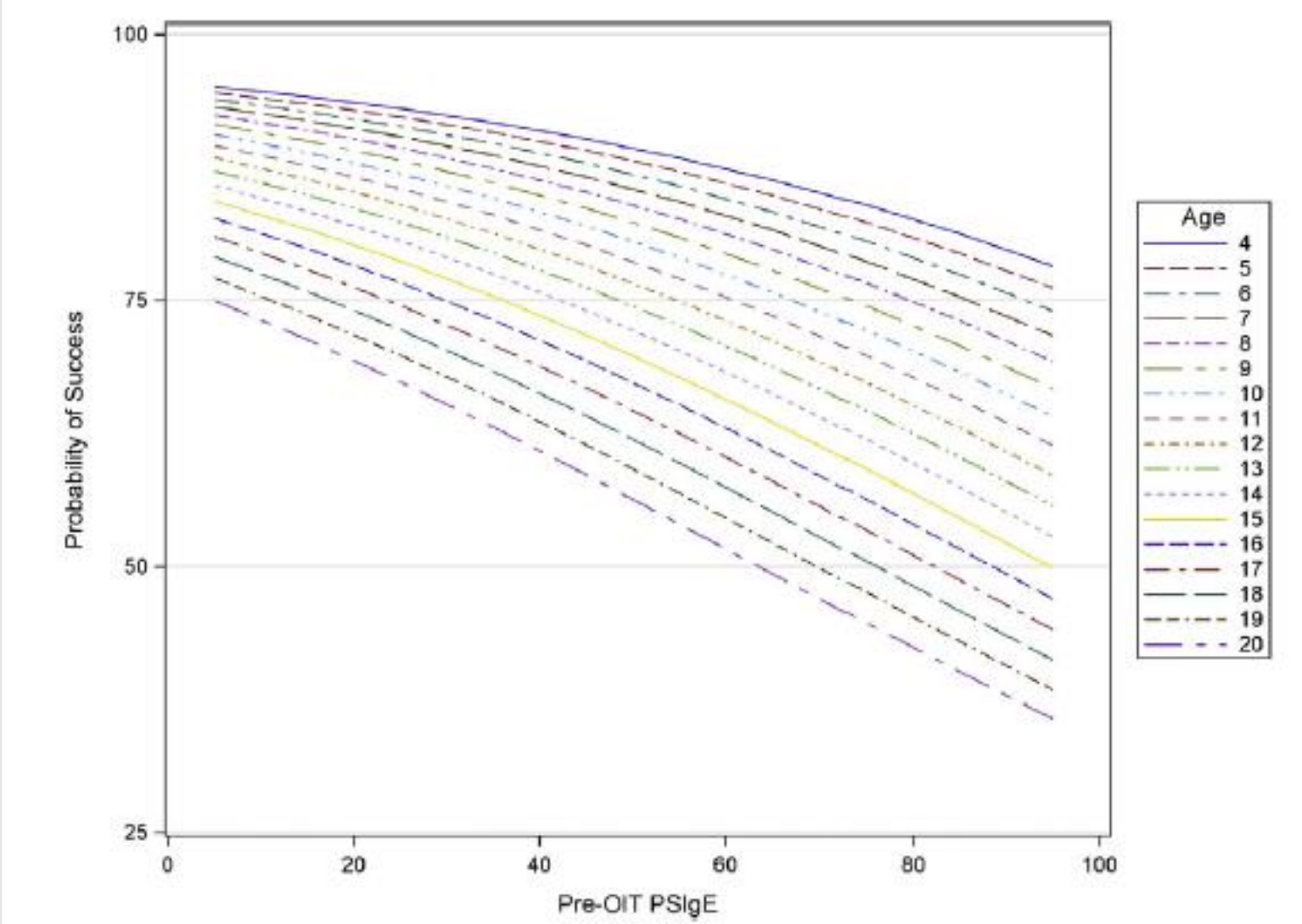
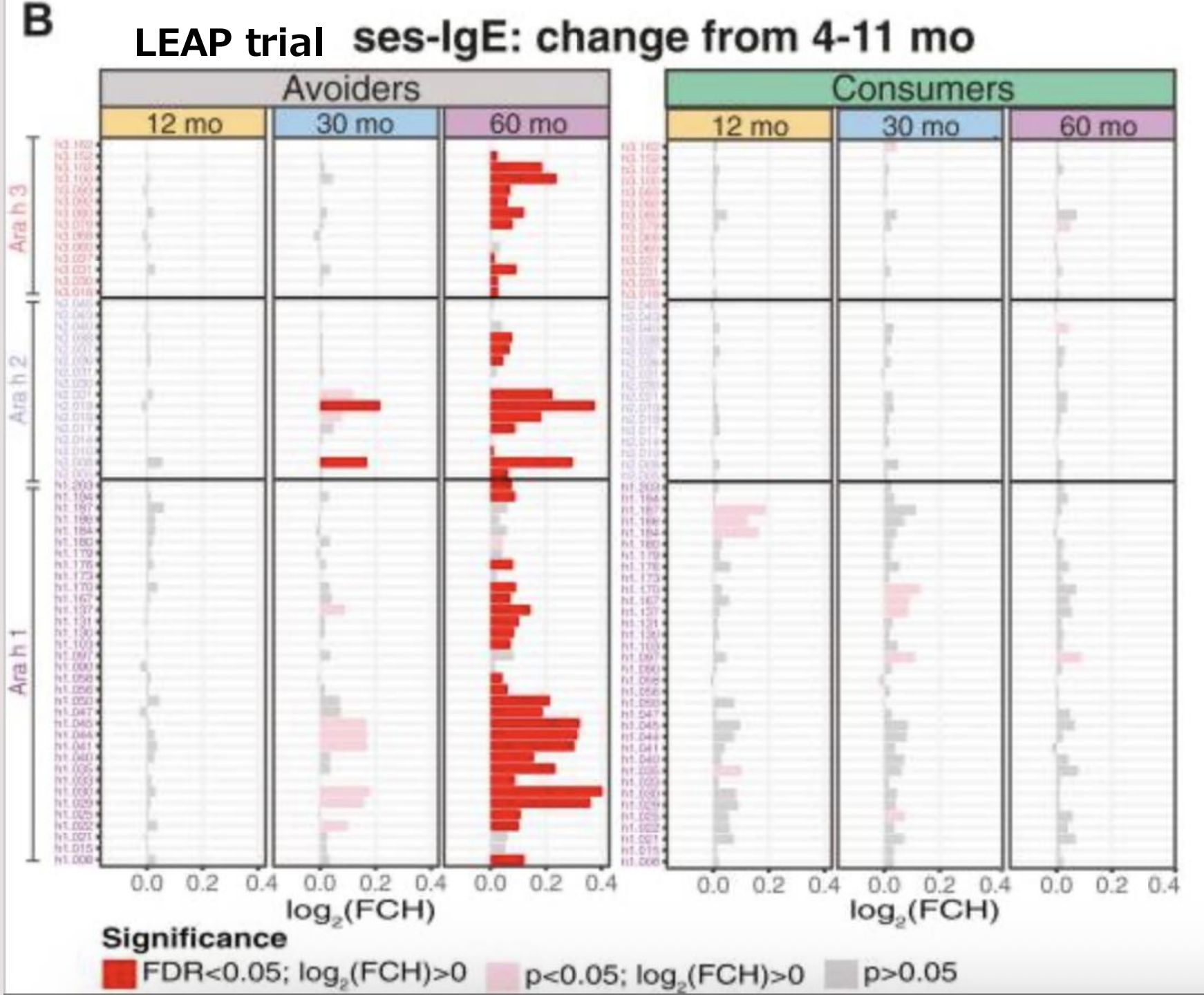


FIGURE 4. The probability of reaching the escalation target based on pretreatment PSIgE level and age at the start of therapy.

2.5 YEAR PIVOT POINT

LEAP – Eating peanuts early in high-risk infants decreased peanut allergy

Peanut avoiders who became allergic-
The bulk of peanut component-IgE did not develop until after 2.5 yo



Early Peanut OIT is Safe and Highly Effective

- 37 toddlers
- Randomized 1:1 to **1 or 10 peanuts**
  - Build up: 89% reached target
    - Reactions: 85% mild, 15% mod., 1 epi
  - Maintenance ~1.5 yr→16 peanut challenge: 81% passed
  - 1 month no peanut→ re-challenge: 78% sustained unresponsiveness
- **No differences** in immunologic responses between groups

First Real-World Safety Analysis/Effectiveness of Preschool Peanut OIT

- 270 Canadian preschoolers

  Build up to target dose 1 peanut

  90% Reached target

  68% Had OIT reactions-

  - most mild/moderate, 1 severe

  - 11 Received epi (4%)

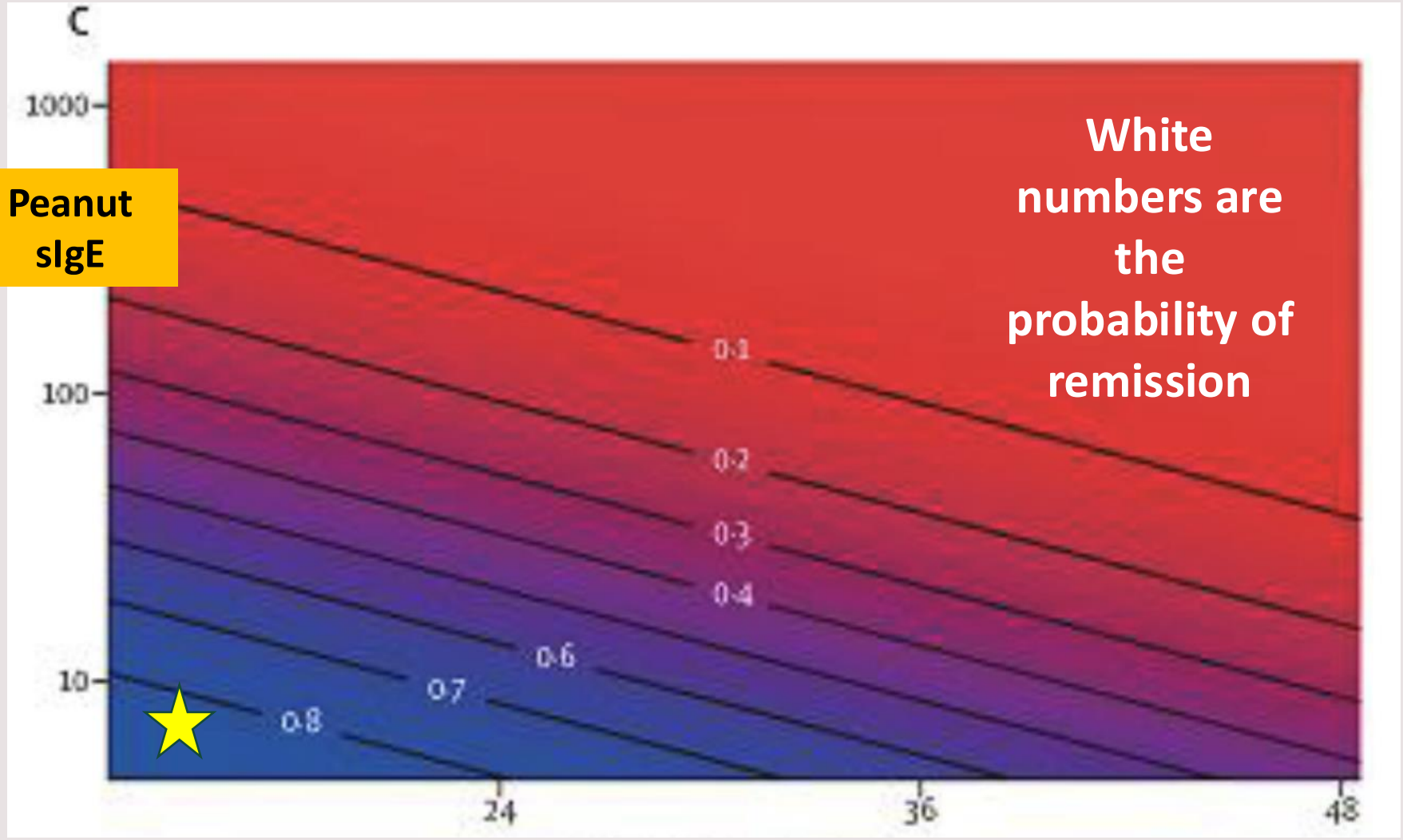
- **Follow up:** 1 year on 1 peanut daily

  79% Passed 13 peanuts (Vickery 85%)

  98% Passed >3 peanuts

OIT

IMPACT Trial- Mission Critical



- 96 children 8 peanuts/day
- 50 children given placebo for ~2.5 years
- 71% Passed 20 peanut challenge = **desensitization**
- →6 months of avoidance
- 21% Rechallenged to 20 peanuts and passed = **remission**

Rate of epinephrine use

in Peanut infant/toddler OIT

- 0- 22%???!!!
- IMPACT trial was 22% and most were moderate grade
- Even the PALISADES trial (4-17 y.o's) was 14%
- Personal opinion- epi rate is 0-4%

OIT Warning and Risk of EoE

What is the risk of EoE in food allergic patients in general?

4.7%

Highest risk: egg, milk, shellfish allergic, **multi food allergic, white male**

What is the risk of EoE in OIT?

0.7% to 2.7%

Buckey et al 2026, Spergel JACI Prac 2016, Lucendo Annals 2014, Torrijos JIACAI 2017

But Are They Likely To Outgrow Peanut Allergy?

95% PPV persistent Peanut allergy	1 yo HealthNuts	4yo HealthNuts
Skin test	≧13mm wheal	≧8 mm wheal
sIgE	≧ 5	≧ 2

- Persistence- early onset severe eczema, tree nut sensitization- HealthNuts
- Resolution- Absence of eczema and egg allergy, low testing- EAT/LEAP 2025
- Resolution: Decrease in testing
- ?still not sure?: sIgE/total IgE, components, repeat testing in 6-12 mon.

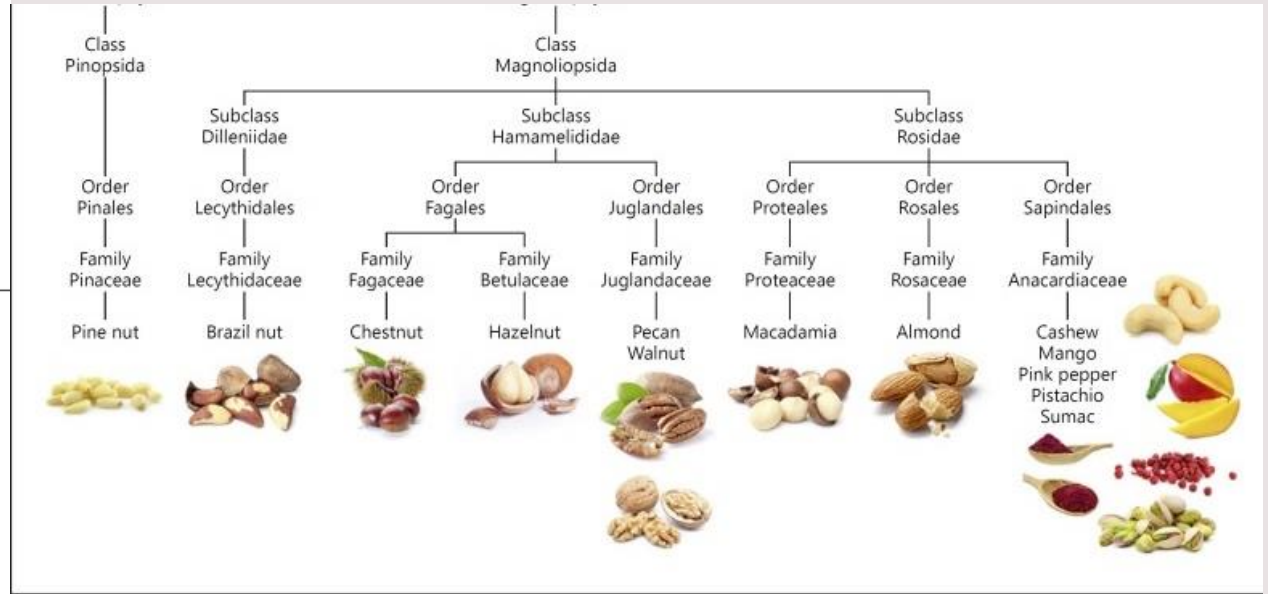
Starting tomorrow, «FirstName» will consume the circled dose below on a daily basis (2 doses below threshold dose). Standard OIT safety rules apply. After an uneventful month, return to the office for a mini-OFC to that dose and the one to the right of it below.The top dose will be continued for a year.

	1 mg protein	3 mg protein	10 mg protein	30 mg protein	100 mg protein	300 mg protein	1 gm
Peanut	2 ml (1 mg/ml flour)	6 ml (1 mg/ml flour)	0.04 gm nut	0.12 gm	0.4 gm	1.2 gm	-
Egg	-	0.03 ml EWL	0.09 ml	0.27 ml	0.9 ml	2.7 ml	9 ml
Milk	-	0.09 ml milk	0.3 ml	0.9 ml	3 ml	9 ml	30 ml
Cashew	0.06 ml (milk)	0.18 ml	0.6 ml (50 mg nut)	1.8 ml (0.15 gm)	6 ml (0.5 gm)	18 ml (1.5 gm)	-
Walnut	0.8 ml (1:10 milk)	0.25 ml milk	0.8 ml (0.2 gm nut)	2.4 ml (0.67 gm)	8 ml (2 gm)	24 ml (6.7 gm)	-
Wheat	-	3.8 ml (6 mg/ml flour)	0.07 gm bread	0.2 gm	0.65 gm	1.95 gm	6.5 gm (1/4 slice)
Sesame	2.5 ml (1 mg/ml flour)	0.75 ml (10 mg/ml flour)	0.05 gm seeds	0.16 gm	0.55 gm	1.7 gm	-

Personalized Oral Immunotherapy

	Mollusks/Bivalves (Clam, Mussel, Oyster, Squid)	<50%
Mollusks/Bivalves	Crustaceans (Crab, Shrimp, Lobster)	>70%
Finned Bony Fish	Other Finned Bony Fish	~50%
	Cartilaginous Fish (Dogfish, Ray, Shark)	<5%
Peanut	Tree Nuts (co-allergy)	~33%
	Lupine	~20%
	Sesame (co-allergy)	10-15%
	Green Bean, Pea, Soy	5-20%
Other Legumes		
If Soy	Peanut	>75%
If Chick Pea	Lentil, Pea	>50%
Tree Nuts	Other Tree Nuts	15-33%
	Sesame (co-allergy)	10-15%
If Walnut	Pecan	~66-75%
If Pecan	Walnut	>95%
If Cashew	Pistachio	~66-83%
If Pistachio	Cashew	>95%
If Peanut and Tree Nut	Sesame (co-allergy)	50%
Milk (Cow)	Milk (Sheep, Goat)	>90%
	Milk (Camel, Mare)	<5%
	Beef	~10-20%

" EAT EARLY AND EAT OFTEN"
(but are they really?)



Omalizumab for Food Allergy

Discuss through shared decision making

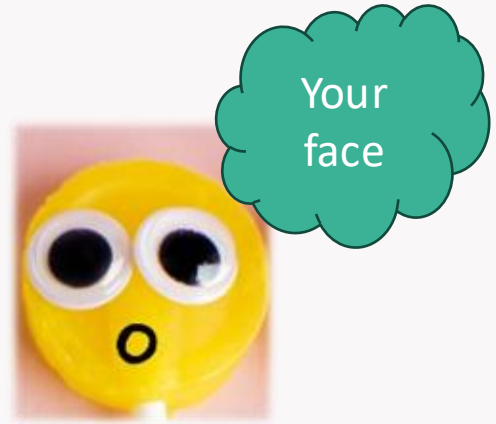
Peanut OIT vs SLIT Sustained Unresponsiveness

	Number patients on peanut	Peanut Amount	Time on maintenance	Avoidance	Peanut Challenged	SU Intent to Treat	Epi
DEVIL-OIT	37	1 to 10 peanuts	36 mon.	1 mon.	16 peanuts	78%	3%
IMPACT-OIT	96	8 peanuts	32 mon.	6 mon.	20 peanuts	21%	22%
KIM-SLIT	25	4 mg peanut protein (1/60th) peanut	36 mon.	3 mon.	17 peanuts	48%	0 %

3 year old with h/o swollen lips after a lick of buttercream frosting as an infant

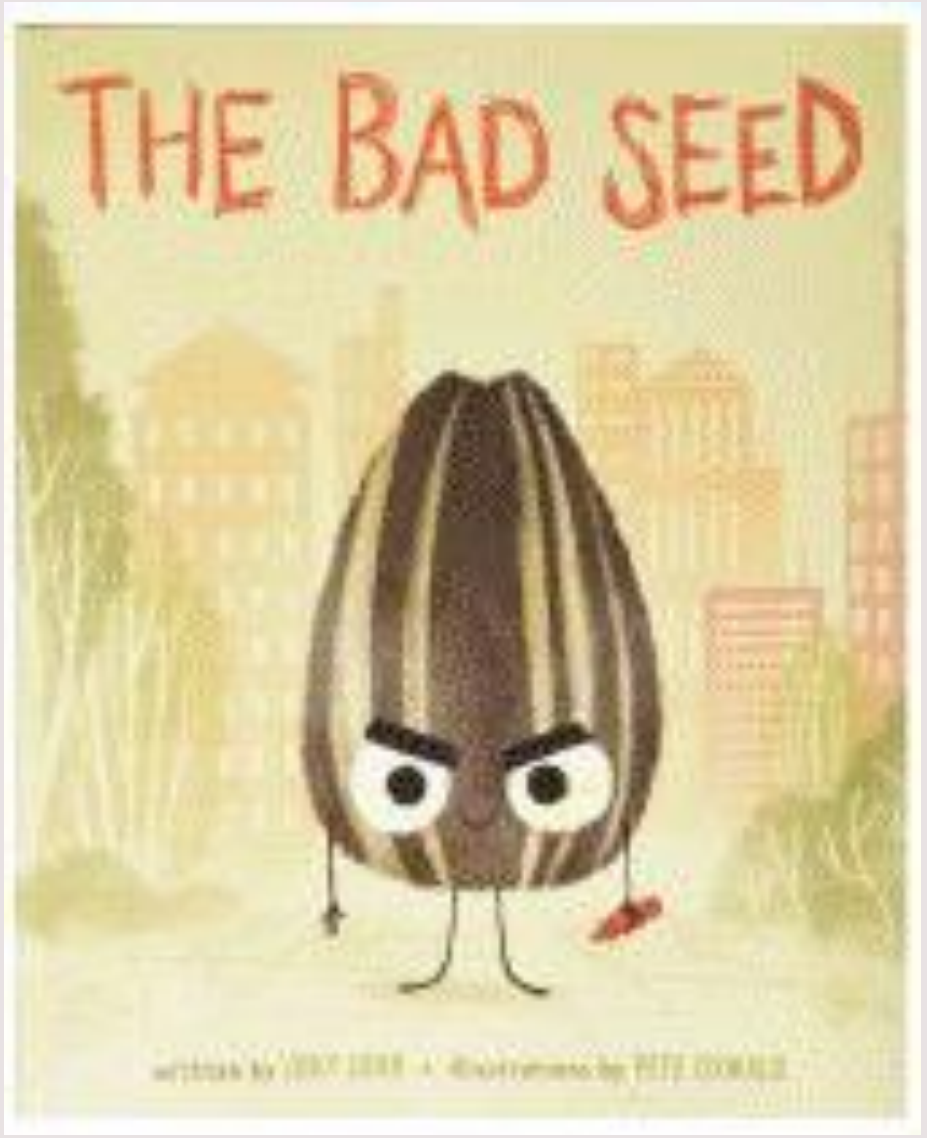
	2025	Skin Test
Total IgE	1439	
Egg	90	15/35mm
Peanut	>100	8/15 mm
Arah2	>100	”
Sesame	9	6/14mm

Scroll down for more “unsafe foods”



- Passed sesame challenge
- Started egg and peanut OIT

- Failed day 1 egg peanut- hives vomiting
- Failed repeat day 1 egg only- hives vomiting after 2nd dose



<u>Bottom Line: The first 3 months the immune system is revved up and potentially more reactive</u>

- **Be patient**
- … Started sublingual immunotherapy
- OIT is still possible- we will reattempt in 6 months from the beginning
- Getting omalizumab PA for back up

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