TODDLER OIT STORY TIME

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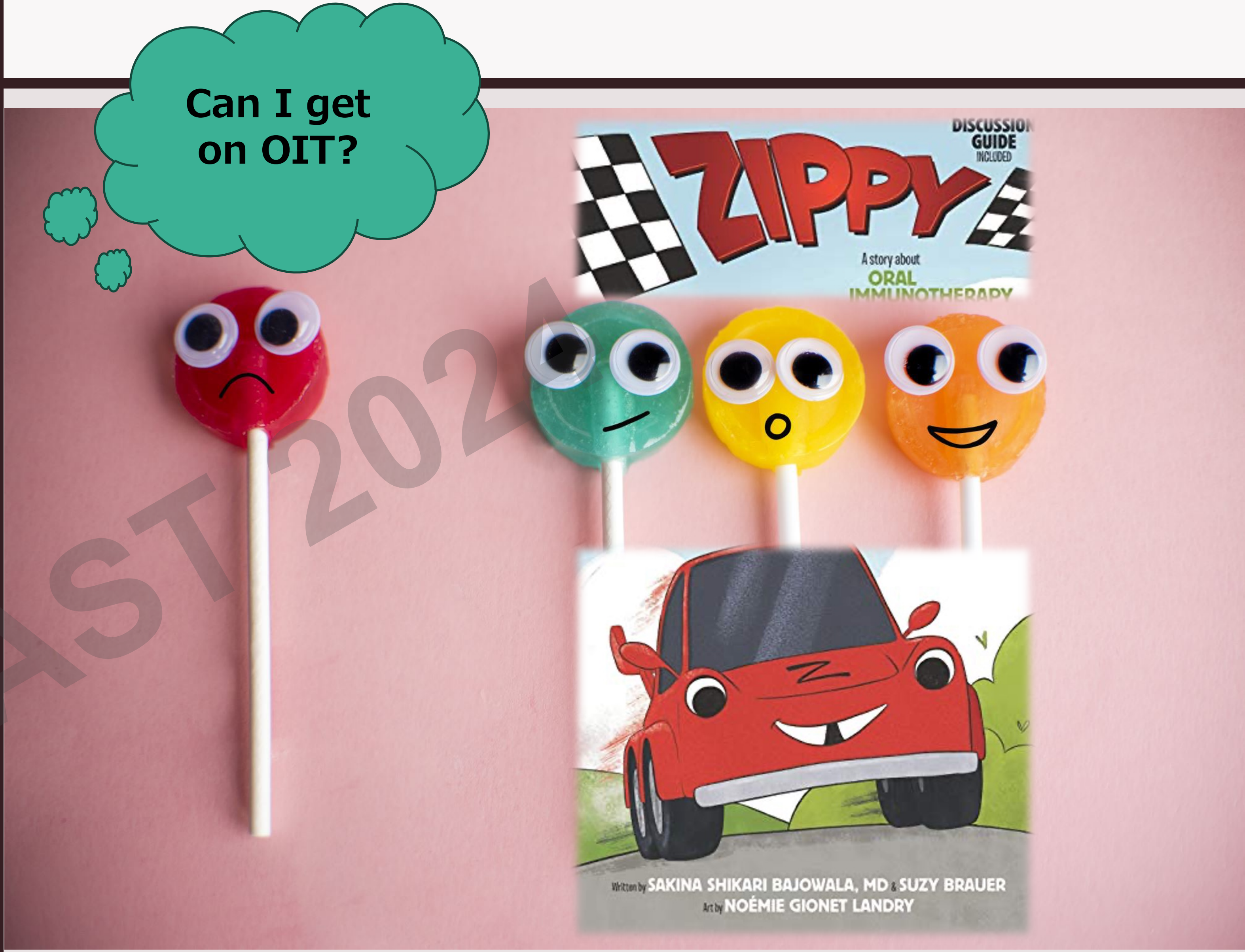
BOTTOM LINE

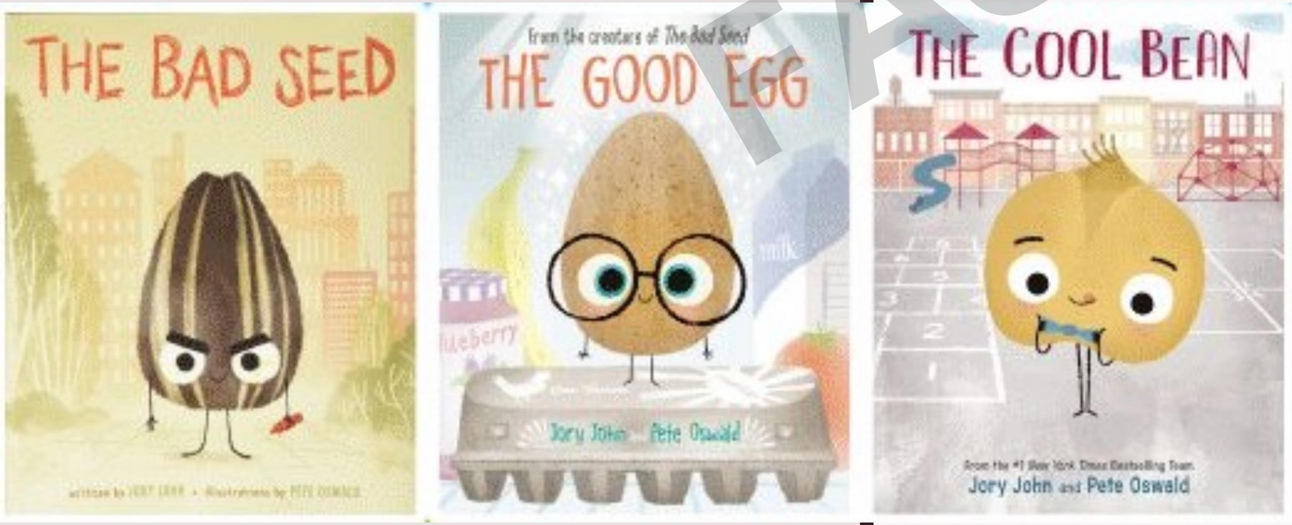
Oral Immunotherapy (OIT) under the age of 4 years:

- Safe
- Effective
- Possible Sustained Tolerance
- "Easier"



My Toddler OIT Musings

- **Target dose- 1 peanut or less, milk 30 mL**
- **Maintenance- after 3 months triple dose challenge**
- **Sustained oral tolerance challenge???**
- **Which foods? Any**
  - Milk &Egg Ladders
  - Peanut ≠ Garden pea
  - Tree nuts ≠ Seeds
  - Garden Pea = Chickpea= Lentils



A TALE OF TWO TODDLERS
TO START OIT OR NOT?

<u>Toddler 1 "Mischief": </u>15 month old-

- minor diffuse hives multiple times
- Total IgE 10, Peanut sIgE 1

<u>Toddler 2 "Mayhem": </u>3 year old-

- Anaphylaxis to multiple foods

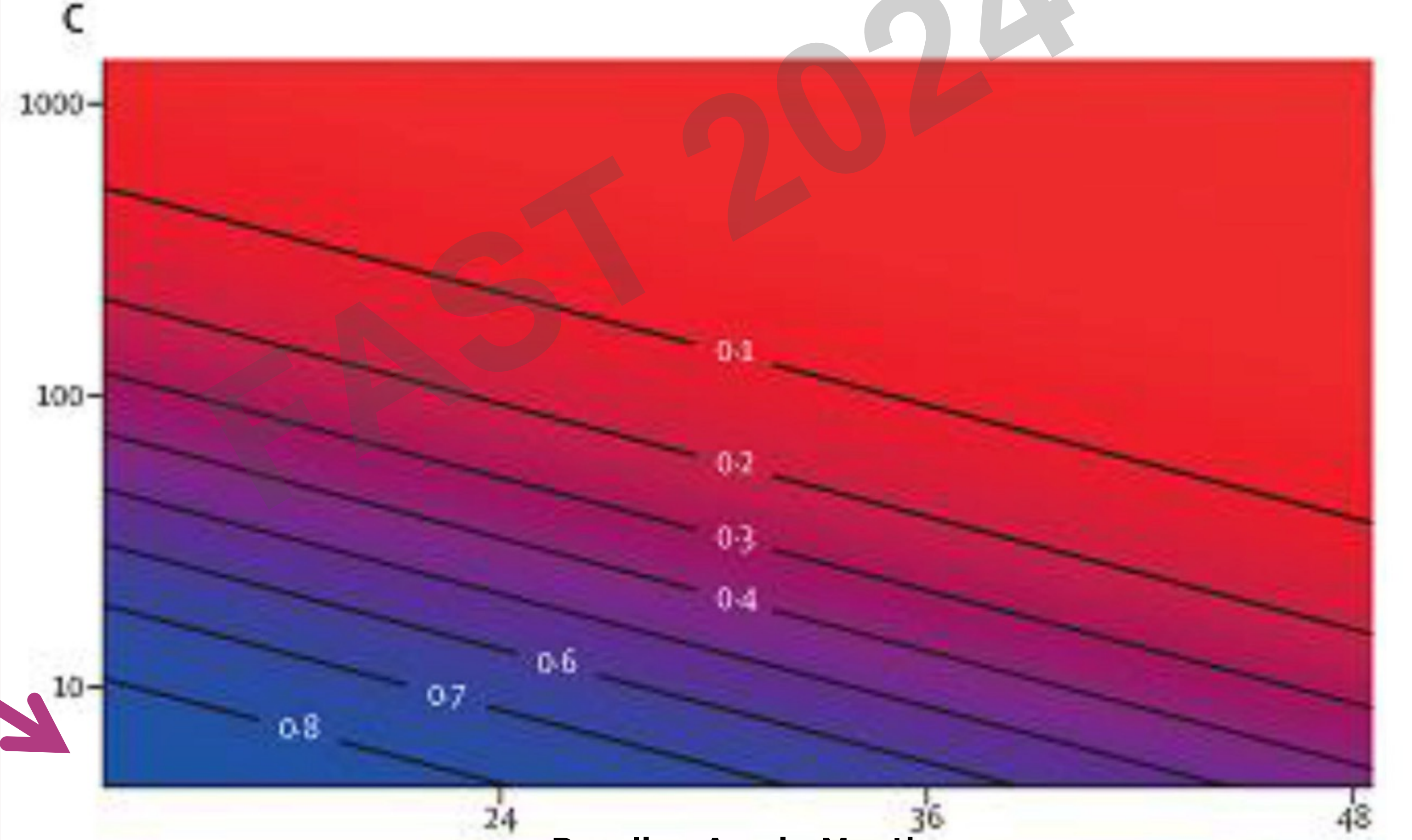
How I Select Preschool OIT Candidates

Are they likely to outgrow peanut allergy?

- Severity of reaction
- Severity of eczema
- Testing 95% PPV persistent **peanut** allergy:
- 6 to 13 mm wheal 
- sIgE 3 to 5
- Resolution: Decrease in testing
- Windom Allergy: sIgE/total IgE, components, repeat testing in 6 mon
- Proactive Parents/Anxiety/Shared Decision

IMPACT Trial Results

Peanut sIgE



Baseline Age in Months

< 3 IgE, there's hope for "Mischief"

White numbers are the probability of remission

Toddler 2 "Mayhem"

3 year old Anaphylaxis to multiple foods

	B	C	D	E	F	G	H
3		January 2020	March 2020	December 2020	May 2021	July 2022	July 2023
4	Almond		2.74	17.06			
5	Cashew		17.89	96.35	45.58	18.67	10.04
6	Hazelnut		7.07	29.08	34.92	17.1	6.44
7	Pistachio		12.35	51.05			12.51
8	Walnut		0.16	4.85			5.6
9	Peanut IGE	21.2		27.38	23.08	12.11	9
10	Mild Peanut ARA H8	<0.10		<0.10	0.15	1.16	0.42
11	Severe Peanut ARA H1	7.41		20.1	16.16	7.05	4.04
12	Severe Peanut ARA H2	28.4		21.46	13.7	9.09	3.81
13	Severe Peanut ARA H3	1.84		17.62	10.12	2.28	2.09
14	Severe Peanut ARA H9	<0.10		9.71	17.21	17.74	14.71
15	ARA H6			2.84	1.52	2.29	0.96
16	Egg White		25.72	30	25.82	46.61	29.7
17	Ovomucoid		16.64	8.58			
18	Ovalbumin		20.7	23.36			
19	Egg Yolk		3.09	8.64			
20	Wheat		29.49	>100	91.5	29.87	18.01
21	Pecan			0.33			0.81
22	Barley			50.58	31.6	20.73	10.18

+ ≡ Sheet1 Sheet2

Scroll down for more "unsafe foods"

Your face

Toddler 2

"Mayhem"

- Passed many challenges with high sIGE's
- Started OIT

Then reactive to "passed foods"

This is one of our patients just this week - tolerant of almond, peanut, hazelnut and sesame, lentil. Reactive to cashew, walnut - we just saved them a WHOLE lotta OIT.

AVOCADO	1.92
CASHEW NUT	59.80
CHICK PEA	40.70
EGG WHITE	18.60
HAZEL NUT	21.90
INTERPRETATION:	Cautior
LENTIL	44.50
PEANUT	26.00
PEANUT rAra h2	14.70
PECAN NUT	3.80
PISTACHIO	77.30
SESAME SEED	19.90
TOTAL IGE	828
WALNUT	48.10

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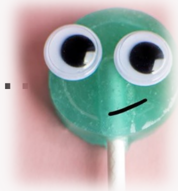
Toddler 2 "Mayhem"

OIT is still possible

Your face the first 3 months

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

- **Be patient**
- **Go low and slow for all "passed safe foods from food challenges, and OIT foods**
- **Problem shoot**
  - Daycare, time of day dosing



Consider Sublingual Immunotherapy

Peanut SLIT in 1 to 4 yo. Bottom Line: Safe and effective

- 25 toddlers on 4mg of peanut SLIT
- At 36 months OFC, 60% desensitized, median tolerated cumulative dose was 4443mg
- If you tolerated at least 443 mg, stopped treatment for 3 months
- 48% passed 2nd OFC = remission

- Pre-SLIT 143mg → Post SLIT 4443mg

31 x

Toddler SLIT Tips

Summary from Nikhila Schroeder, MD email OITadvisors

- **How to hold SLIT for more than 15 seconds...**
- **Hold the dropper/bottle tip (really anything) at the edge of the mouth while distracting. Helps delay swallowing**
- **Play a game/make it a competition between them and the parent. “How long can they hold the mouth open” with the parent strategically "losing" at the appropriate time**
- **Sing a song(s) in a silly voice with the mouth open to reach the desired amount of time (like twinkle twinkle)**
- **Use a toddler timer" (visual timer) or screen time**
- **Keep it stress free and positive for the kiddo**
- **Build up to 30 seconds**

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*

What is already known about this topic? Food sublingual immunotherapy using skin test extracts has been shown to be highly effective in desensitizing patients with food allergies.

What does the article add to our knowledge? Similar to how real food is routinely used in food oral immunotherapy, this study shows that real food can safely and cost-effectively be used in food SLIT.

How does this study impact current management guidelines? The safety and simplicity of food sublingual immunotherapy treatment makes it an appealing therapeutic option for patients suffering from severe food allergy.

BACKGROUND: Sublingual immunotherapy (SLIT) using food extracts is safe and effective in desensitizing patients with food allergy, yet not often used in clinical practice.
OBJECTIVES: To propose a cost-effective, expedited SLIT protocol using real food.
METHODS: Patients with food allergy aged 5 to 50 years (median, 11 years) initiated food SLIT in a single-clinic setting. The daily maintenance dose was 4 to 11 mg protein in 0.1 to 0.5 mL volume, depending on the food. Some foods were available in liquid form at the local grocery (milk, egg white liquid, and cashew/walnut/sunflower/hazelnut milk), whereas others were prepared in the office using flour and 50% glycerin saline (peanut/sesame/wheat). The first cohort of 20 patients began dosing at a 1:1000 dilution, the next 30 patients at 1:100 dilution. An exercise challenge was performed in a subset of patients on maintenance dosing to evaluate the need for a predose or postdose rest period.
RESULTS: The 1:1000 and 1:100 cohorts both completed day 1 without adverse reactions beyond itchy mouth. There were no systemic reactions requiring epinephrine throughout the study period and 88% reached their maintenance dose. Skin testing of 6-month-old peanut flour solution was not diminished from fresh solution and similar to food extract. Exercise challenge test results in 12 patients were negative.
CONCLUSIONS: Allergen extract food SLIT as used in published trials has limitations of cost and multiple office visits. Inexpensive real food, at the same or slightly higher protein dose, was well tolerated in 4 updose visits, a minimum of a week apart. Unlike food oral immunotherapy, a predose or postdose rest period may not be necessary. **(J Allergy Clin Immunol Pract 2024;■:■-■)**

Key words: *Sublingual immunotherapy; Food allergy; Food desensitization; Food allergy treatment*

INTRODUCTION

In the early 2000s, studies demonstrating food allergy desensitization via oral immunotherapy (OIT) started to emerge, initially as case reports, then clinical trials, and finally large collaborative studies in clinical practice.[1-3] The gradual introduction of a food up to a daily maintenance dose between 300 mg and more than 2 g of protein was routinely accomplished in 75% to 85% of patients.[4,5] The Food and Drug Administration (FDA) approval of a peanut flour capsule, ordained OIT as a viable treatment option for patients with food allergy.[6] A 2023 survey of 100 US allergy/immunology practices engaged in the treatment of food allergy revealed that more than 25,000 patients have undergone food OIT treatment in this group alone.[7]

Personalized Oral Immunotherapy **(P-OIT)**

Name: «FirstName» «LastName» DOB: «DOB»

Oral food challenge: Date - «encDate» Food - ___________ Threshold dose - ___________

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	-

«FirstName» will have a follow-up visit in 6 months to assess dosing compliance. We will repeat diagnostic testing and food challenges annually.

M.D. initials ______

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THANKS!
QUESTIONS?

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