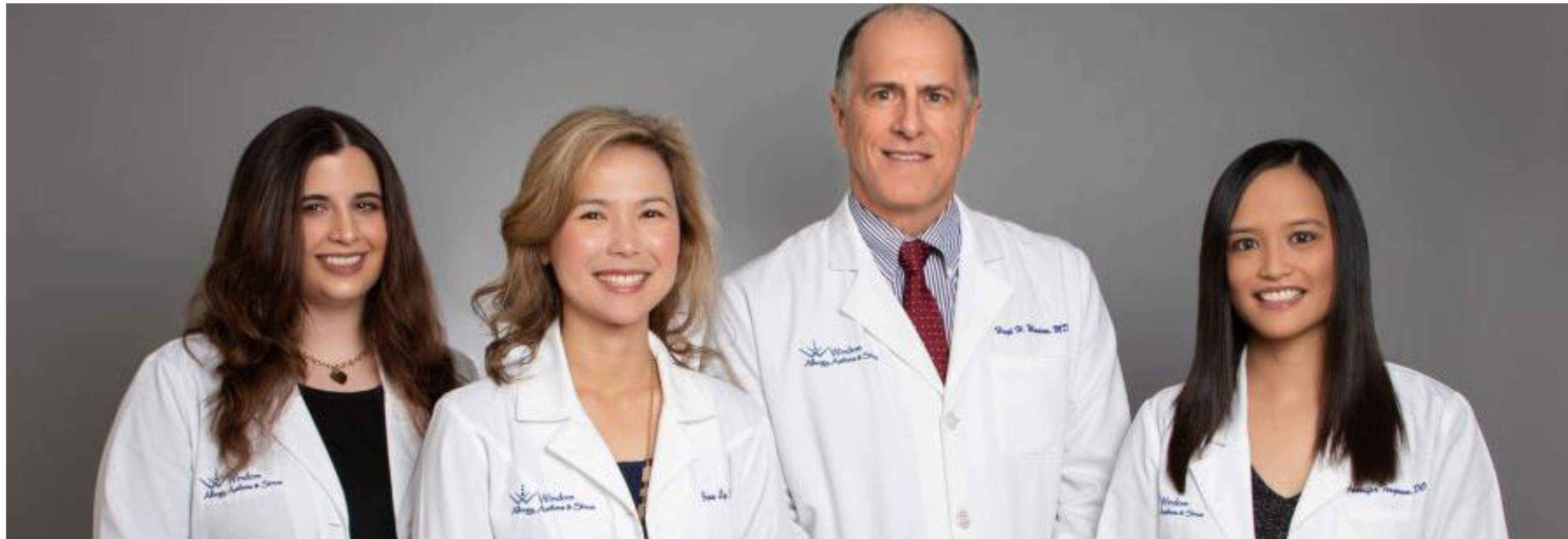


**Jean Ly**  
**Windom Allergy Asthma & Sinus**  
**Food Allergy Center of Florida**  
est. 2012  
**Preschool OIT**



# Topics Covered

- 6 Articles Published on Preschool OIT- Key points
- Schedule
- Preschool Multi-Food OIT- Windom Data
- Selection

# Natural History of Peanut Allergy

- A life long allergy for 80% of patients
- Peanut specific IgE increases over 1<sup>st</sup> 5 years of life
- If lower baseline sIgE is associated with greater likelihood of developing tolerance with OIT...

should we be starting OIT earlier in life?

# 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

# 5 Year Follow Up

- 29 responders to phone survey
  - 93% continued to eat peanut
  - 62% regularly carried epinephrine devices
  - 59% no longer saw an allergist
  - 31% chronic GI complaints ( 2 EoE: 1 egg, 1 peanut: 3%)
    - Risk of EoE in **food allergic** patients: 5%
    - Risk of EoE in **OIT?**: 3%

# 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

# The Cost-Effectiveness of Preschool Peanut OIT

- Peanut avoidance vs peanut OIT
- Computer simulation model: 2% of US/Canadian population with peanut allergy over 80 year life time
- Peanut OIT had less: cost, systemic reactions, epi use, death
  - \$82,514 vs \$84,367 USA
- Cost savings of \$1,853 per patient USA
- Current USA population 330,616,991: **\$12.3 billion savings**

# Peanut Preschool Schedule Comparison

	<b>N</b>	<b>Age (months)</b>	<b># Visits</b>	<b>Build Up Time (median)</b>	<b>Target Dose (mg protein)</b>	<b>Epi reactions</b>	<b>Reached Target</b>
<b>Vickery</b>	37	9-36	11 or 21	20 vs 40 weeks	300 or 3000	3%	89%
<b>Canadian</b>	270	9-71	8 or 11	22 weeks	300	4%	90%
<b>Windom Preschool</b>	23	7-36	11	29 weeks	750 - 1750	9%	91%

**All Ages: Reported Systemic Reaction 8-23%**



# Preschool Peanut vs Multi-Food OIT

<b>&lt;=60 months old</b>	<b>N</b>	<b>Age (median)</b>	<b>Day 1 reaction</b>	<b>Day 1 Epi</b>	<b>Maintenance &lt; 1 year</b>	<b>Maintenance</b>	<b>Epi reactions</b>	<b>Escalating</b>
<b>Peanut</b>	58	40 months	9 (16%)	1	40 (69%)	51 (88%)	5 (9%)	0
<b>Multi-food</b>	35	43 months	5 (14%)	0	21 (60%)	24 (69%)	3 (9%)	6

Maintenance Multi-food Total 30/35 (86%)

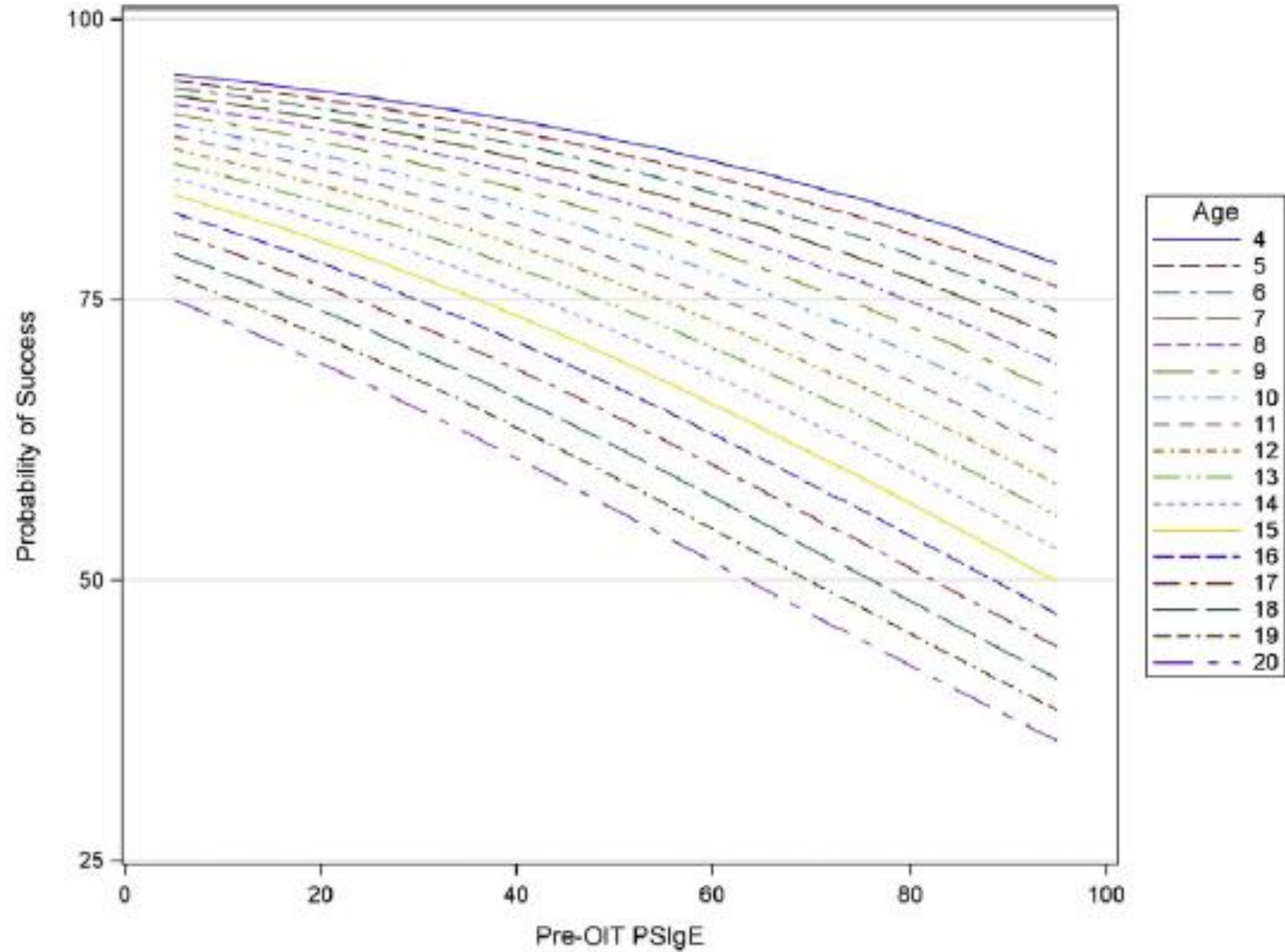
Data: Windom Allergy

# How I Select Preschool OIT Candidates

- Are they likely to outgrow peanut allergy?
  - Severity of reaction
  - Severity of eczema
  - Testing 95% PPV persistent allergy:
    - 1 yo 13 mm wheal, sIgE 5
    - 2 yo 6 mm wheal, sIgE 3
    - Resolution: Decrease in testing
  - Window Allergy: sIgE/total IgE, repeat testing in 6 mon
  - Proactive Parents/Anxiety/Shared Decision

# Wasserman JACI Pract 2019

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



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

# CALL TO ACTION: CONSIDER PRESCHOOL OIT

- Start 'em young
- Go Low- the immune system doesn't care
- Go Sloooooooow- years till kindergarten



# Preschool OIT Articles

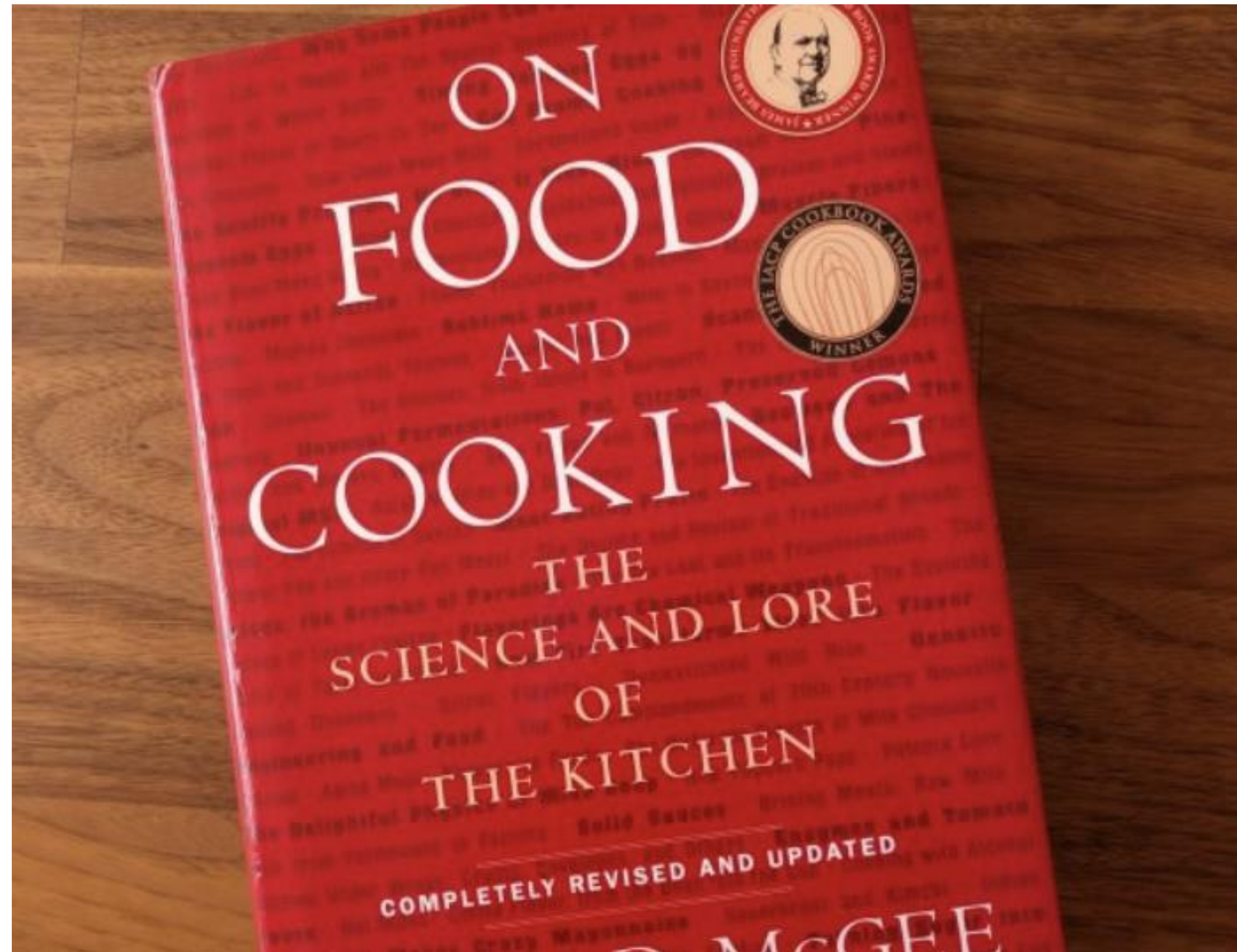
- Vickery, JACI 2017 Early oral immunotherapy in peanut-allergic preschool children is safe and highly effective
- Vickery, Clin Exp Allergy 2019, High and low dose oral immunotherapy similarly suppress pro-allergic cytokines and basophil activation in young children
- Vickery, JACI Pract 2021, Five-year follow-up of early intervention peanut oral immunotherapy
- Soller, JACI Pract 2019, First Real-World Safety Analysis of Preschool Peanut Oral Immunotherapy
- Soller, JACI Pract 2020, First Real-World Effectiveness Analysis of Preschool Peanut Oral Immunotherapy
- Shaker, JACI Pract 2021, The Cost-Effectiveness of Preschool Peanut Oral Immunotherapy in the Real-World Setting
- Real-World Experience with Peanut Oral Immunotherapy: Lessons Learned From 270 Patients. JACI Pract Feb 2019

# OIT Roadmap of Articles

- An Approach to the Office-Based Practice of Food OIT. JACI Pract May 2021
- Integrating OIT into Clinical Practice. JACI Jan 2021
- Mechanisms of OIT. Clin Exp Allergy Jan 2021
- Real-World Experience with Peanut Oral Immunotherapy: Lessons Learned From 270 Patients. JACI Pract Feb 2019

## Bonus

- Practical Challenges and Considerations for Early Introduction of Potential Food Allergens for Prevention of Food Allergy. JACI in P Jan 2021
- Clinical Relevance of Cross-Reactivity in Food Allergy JACI in Pract Jan 2021



By Harold McGee  
Amazon \$23.48