

# ORAL FOOD CHALLENGES IN INFANTS FREQUENTLY DE-LABEL PEANUT ALLERGY

Bridget Simpson<sup>1,2</sup>, Sam Mehr<sup>1,2</sup>, Joanne Smart<sup>\*1,2</sup>



## AFFILIATIONS

<sup>1</sup> Epworth Allergy Specialists, Melbourne, Victoria, Australia

<sup>2</sup> Royal Children's Hospital, Melbourne, Victoria, Australia

\* Epworth Allergy Specialist group (John Ainsworth, Paulina Alhucema, Ania Hargrove, Sabeena Selvarajah, Joanna Simmons, and Jayne Smart)

## Introduction

The food allergy epidemic has seen a rise both in public awareness as well as parental fear and hesitancy about early allergen introduction. Parents often seek advice and testing for multiple allergens prior to introduction, or when isolated facial skin reactions have occurred. Allergy testing in this setting has the potential to over diagnose peanut allergy.

Since 2008 the Australasian Society of Clinical Immunology and Allergy has recommended early and sustained introduction of peanut from 4-12 months of age with insufficient evidence to support a population-based screening approach (using skin prick or serum specific IgE testing).

The LEAP study performed screening skin prick testing (SPT) to peanut in at-risk infants, defined as those with egg allergy, severe eczema or both, and employed a cutoff SPT of >4mm as likely predictive of peanut allergy. Such infants (almost 10% of the recruited cohort) were excluded from the intervention arm of the trial. We examined data from 12 years of peanut oral food challenge (OFC) in children 12 months and under at Epworth Allergy Specialists with the aim of assessing the relationship between initial clinical presentation, SPT size and peanut tolerance in our cohort.

## Methodology

A retrospective chart review was conducted for all infants admitted to Epworth Allergy Specialists for peanut OFC from November 2011 to June 2023. Data was analysed for patient demographics, clinical manifestations of allergy at presentation, SPT result and challenge outcomes.

## References

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## Results

A total of 66 infants underwent OFC to peanut and 67% passed. Table 1 summarises reasons for challenge and outcomes based on SPT size. One infant did not undergo SPT due to eczema severity but proceeded to OFC based on clinical symptoms and subsequently passed. Eleven out of 20 (55%) infants with a SPT to peanut >4mm passed their challenge. Almost two thirds of infants (n=14/22, 64%) who presented with isolated facial rash to peanut passed their OFC (all but one had a positive peanut SPT). No infant had anaphylaxis at OFC.

	SPT 0-2mm	SPT 3-4 mm	SPT > 4 mm
Number	10	35	20
Reason for challenge (%passed)			
- Sensitisation only	N/A	14 (57%)	10 (50%)
- Facial hives/rash	1 (100%)	13 (62%)	8 (63%)
- Other IgE reaction	5 (80%)	8 (88%)	2 (50%)
- Other reason (parental anxiety/request)	4 (100%)	N/A	N/A
Passed OFC (n,%)	9 (90%)	23 (64%)	11 (55%)
Anaphylaxis (n)	0	0	0

Table 1: Reason for challenge and outcomes based on peanut SPT size.

## Conclusions

Almost two thirds of infants with a history of facial rash alone as their index reaction and more than half of infants (55%) with SPT > 4 mm (the LEAP study exclusion cutoff) were peanut tolerant at OFC. Given the growing body of evidence in support of early, sustained introduction of peanut for allergy prevention, the diminished protection with advancing age and the demonstrated safety of peanut ingestion in our cohort (including in those with SPT >4mm), we recommend avoidance of peanut SPT in infants without reproducible signs of clinical reaction, as well as in those with isolated contact facial rash. We advocate prioritizing early OFC to clarify peanut allergy status in infants with the goal of liberalizing the diet and preventing lifelong peanut allergy.



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