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Q/ Does early introduction of peanuts to an infant's diet reduce the risk for peanut allergy?

EVIDENCE-BASED ANSWER

A/ PROBABLY NOT, unless the child has severe eczema or egg allergy. In a general pediatric population, introducing peanuts early (at age 3 to 6 months) doesn't appear to alter rates of subsequent peanut allergy compared with introduction after age 6 months (strength of recommendation [SOR]: **B**, randomized clinical trial [RCT] using multiple potential food allergens).

In children with severe eczema, egg allergy, or both, however, the risk for a peanut allergy is 12% to 24% lower when pea-

nut-containing foods are introduced at age 4 to 11 months than after age 1 year. Early introduction of peanuts is associated with about 1 additional mild virus-associated syndrome (upper respiratory infection [URI], exanthem, conjunctivitis, or gastroenteritis) per patient (SOR: **B**, RCT).

Introducing peanuts before age 1 year is recommended for atopic children without evidence of pre-existing peanut allergy; an earlier start, at age 4 to 6 months, is advised for infants with severe eczema or egg allergy (SOR: **C**, expert opinion).

Evidence summary

A 2016 systematic review identified 2 RCTs that examined whether early introduction of peanuts affects subsequent allergies.¹ The first RCT recruited 1303 3-month-old infants from the general population in the United Kingdom.² All patients had either a negative skin prick test (SPT) to peanuts or a negative oral peanut challenge (if an initial SPT was positive). The control group breastfed exclusively until age 6 months, at which time allergenic foods could be introduced at parental discretion.

Timing doesn't affect peanut allergy in nonallergic patients

The intervention group received 6 common allergenic foods (peanuts, eggs, cow's milk, wheat, sesame, and whitefish) twice weekly between ages 3 and 6 months. Researchers then performed double-blinded, placebo-controlled oral food challenges at ages 12 and 36 months.

More patients in the late-introduction group demonstrated peanut allergies by age 36 months than in the early-introduction group, but the difference wasn't significant (2.5% vs 1.2%; $P = 0.11$). A key weakness of the study was combining peanuts with other common food allergens.²

Children with eczema, egg allergy benefit from earlier peanut introduction

The second RCT divided 640 infants with severe eczema, egg allergy, or both into 2 groups according to their response to an SPT to peanuts: patients with no wheal and patients with a positive wheal measuring 1 to 4 mm.³ Researchers then randomized patients to either early exposure (peanut products given from ages 4 to 11 months) or avoidance (no peanuts until age 60 months). The primary endpoint was a positive clinical response to oral peanut allergen at age 60 months.

In the negative SPT group (atopic children expected to have a lower risk for al-

lergy), patients introduced to peanuts later had a higher rate of subsequent allergy than children exposed earlier (14% vs 2%; absolute risk reduction [ARR] = 12%; 95% confidence interval [CI], 3%-20%; number needed to treat [NNT] = 9).³

In the positive SPT group (atopic children expected to have a higher risk for allergy), later peanut introduction likewise increased risk compared to earlier introduction (35% vs 11%; ARR = 24%; 95% CI, 5%-43%; NNT = 5). Children in the early-exposure group, however, had more URIs, viral exanthems, gastroenteritis, urticaria, and conjunctivitis (4527 events in the early-exposure group vs 4287 in the avoidance group, $P = 0.02$; about 1 more event per patient over the course of the study).³

The authors of the systematic review performed a meta-analysis of the 2 RCTs (1793 patients). They concluded that early introduction of peanuts to an infant's diet (between ages 3 and 11 months) decreased the risk for eventual peanut allergy (relative risk [RR] = 0.29; 95% CI, 0.11-0.74), compared with introduction at or after age 1 year.¹ A key weakness, however, was the researchers' choice to combine trials with very different inclusion criteria (infants with severe eczema and a general population).

Recommendations

A 2017 National Institute of Allergy and Infectious Diseases guideline recommends a 3-tiered approach to peanut introduction:⁴

- For children with severe eczema or egg

allergy who aren't currently allergic to peanuts (per SPT or immunoglobulin E [IgE] test), the guideline advises adding peanuts to the diet between ages 4 and 6 months. (Patients with positive SPT or IgE should be referred to an allergy specialist.)

- Children with mild or moderate eczema can be introduced to peanuts around age 6 months "in accordance with family preferences and cultural practices."
- Children with no evidence of allergy or eczema can be "freely introduced" to peanut-containing foods with no specific guidance on age.

Editor's takeaway

Good-quality evidence supports family physicians encouraging introduction of foods containing peanuts at age 4 to 6 months for children at increased risk because of atopy, allergies, or eczema. **JFP**

References

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In a general pediatric population, introducing peanuts at ages 3 to 6 months doesn't alter subsequent peanut allergy rates compared with introduction after age 6 months.