



# Advances in Food Allergy Management and Treatment Strategies

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## DESCRIPTION

Food allergies represent a significant public health concern, affecting an estimated 8% of children and approximately 4% of adults in the United States. The most common allergens include peanuts, tree nuts, milk, eggs, fish, shellfish, soy and wheat. The rising prevalence of food allergies has prompted intense research into new therapies aimed at prevention and treatment. Recent clinical trials have provided insights into innovative strategies that may reshape the management of food allergies [1].

### Oral Immunotherapy (OIT)

Oral Immunotherapy (OIT) is an innovative approach that involves the gradual administration of increasing amounts of an allergenic food to desensitize the immune system. Clinical trials have shown promising results for various allergens. The trial included 496 participants and highlighted that 67% of those receiving OIT could tolerate peanuts after a year, compared to just 4% in the placebo group.

Despite its potential, OIT is not without challenges. The risk of anaphylaxis remains a concern, requiring strict monitoring during treatment. Additionally, the therapy's long-term efficacy and the need for ongoing consumption of the allergen to maintain tolerance are areas requiring further investigation [2].

### Epicutaneous Immunotherapy (EPIT)

Epicutaneous Immunotherapy (EPIT) is another emerging treatment modality, utilizing a patch that delivers small doses of allergenic proteins through the skin. This method has the advantage of reducing the risk of systemic reactions compared to OIT. A notable trial involving the use of a peanut patch demonstrated a significant increase in the percentage of children able to tolerate peanuts. EPIT is particularly appealing due to its ease of use and non-invasive nature. However, ongoing research is needed to establish optimal dosing strategies and to understand the long-term effects of this treatment [3].

### Sublingual immunotherapy

Sublingual Immunotherapy (SLIT) involves placing allergenic extracts under the tongue, allowing for absorption through the oral mucosa. This method has been explored for various food allergies, with mixed results. The advantages of SLIT include a lower risk of anaphylaxis and the potential for at-home administration. However, patients often experience localized side effects, such as oral itching or swelling, which can limit adherence. Ongoing trials are focused on refining dosing regimens and identifying the most responsive populations [4-6].

### Monoclonal antibodies

Another innovative approach involves the use of monoclonal antibodies, specifically those targeting IgE, the antibody primarily responsible for allergic reactions. Omalizumab, an anti-IgE monoclonal antibody, has shown efficacy in combination with OIT. In recent trials, patients receiving omalizumab alongside OIT experienced fewer adverse reactions and a greater rate of desensitization. While monoclonal antibodies represent a significant advancement, they come with high costs and require careful consideration regarding long-term use and potential side effects.

### Microbiome modulation

Emerging research suggests that the gut microbiome may play an important role in the development and management of food allergies. Clinical trials investigating probiotics and prebiotics as adjunct therapies are ongoing, with preliminary findings indicating potential benefits. While the manipulation of the microbiome is still in its infancy regarding food allergies, it holds promise as a preventative strategy. Further studies are necessary to identify effective strains, dosing and timing for optimal outcomes [7-10].

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## CONCLUSION

The food allergy management is rapidly evolving, with emerging therapies offering hope for millions affected by this condition. Oral immunotherapy, epi-cutaneous immunotherapy, sublingual immunotherapy, monoclonal antibodies and microbiome modulation represent innovative approaches that have shown potential in recent clinical trials. However, challenges remain, including the need for further research to establish long-term safety and efficacy, optimize treatment protocols and improve patient adherence. A multidisciplinary approach involving allergists, researchers and patients will be essential to develop effective strategies that enhance the quality of life for individuals with food allergies and potentially transform the standard of care in this field.

## REFERENCES

1. Sicherer SH, Sampson HA. Food allergy: Epidemiology, pathogenesis, diagnosis, and treatment. *J Allergy Clin Immunol.* 2014;133(2):291-307.
2. Kim EH, Burks AW. Food allergy immunotherapy: Oral immunotherapy and epicutaneous immunotherapy. *Allergy.* 2020;75(6):1337-1346.
3. Senti G, Moos S, Kündig TM. Epicutaneous immunotherapy for aeroallergen and food allergy. Current treatment options in allergy. 2014;1:68-78.
4. Akdis CA, Barlan IB, Bahceciler N, Akdis M. Immunological mechanisms of sublingual immunotherapy. *Allergy.* 2006;61:11-14.
5. Wilson DR, Torres Lima M, Durham SR. Sublingual immunotherapy for allergic rhinitis: systematic review and meta-analysis. *Allergy.* 2005;60(1):4-12.
6. Moingeon P, Batard T, Fadel R, Frati F, Sieber J, Van Overtvelt L. Immune mechanisms of allergen-specific sublingual immunotherapy. *Allergy.* 2006;61(2):151-165.
7. Berni Canani R, Paparo L, Nocerino R, Di Scala C, Della Gatta G, Maddalena Y, et al. Gut microbiome as target for innovative strategies against food allergy. *Front Immunol.* 2019;10:191.
8. McKenzie C, Tan J, Macia L, Mackay CR. The nutrition-gut microbiome-physiology axis and allergic diseases. *Immunol Rev.* 2017;278(1):277-295.
9. Shu SA, Yuen AW, Woo E, Chu KH, Kwan HS, Yang GX, Yang Y, Leung PS. Microbiota and food allergy. *Clin Rev Allergy Immunol.* 2019;57:83-97.
10. Di Costanzo M, Carucci L, Berni Canani R, Biasucci G. Gut microbiome modulation for preventing and treating pediatric food allergies. *Int J Mol Sci.* 2020;21(15):5275.