



## Key Concepts

### 1. Epidemiology and Pathophysiology of Food Allergy

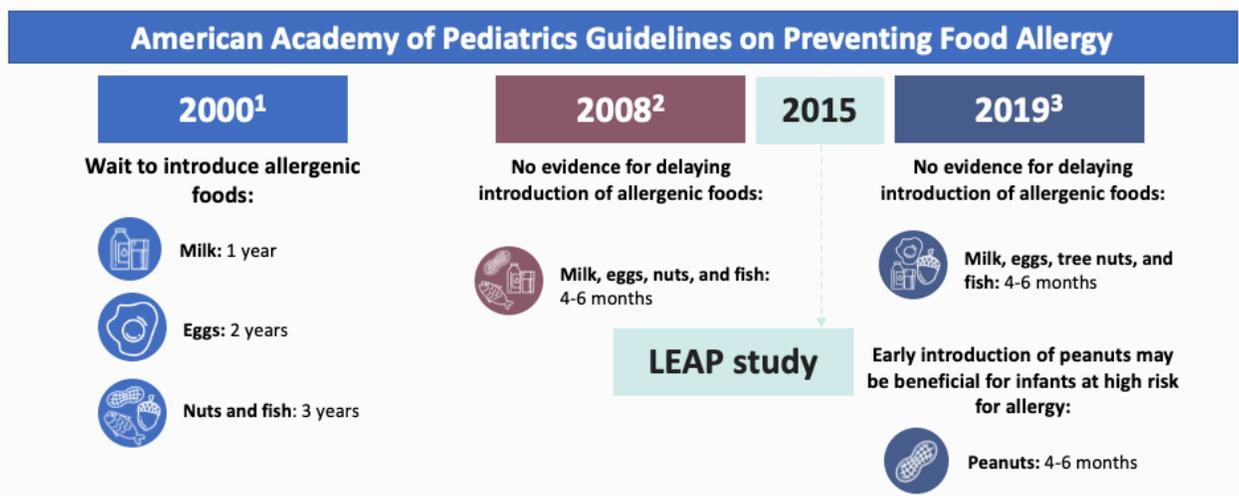
Food allergy affects approximately 26 million adults and 5.6 million children in the United States. People with food allergies are at elevated risk for adverse health and psychosocial outcomes, including increased risk for anaphylaxis, emergency department visit or hospitalization, nutritional deficiencies, and emotional distress. Furthermore, the average annual cost to a US family with a child with food allergy is \$4000 due to a combination of medical, dietary, and indirect costs.

### 2. Clinical Features and Diagnosis of Food Allergy

IgE-mediated food allergy presents with a broad range of symptoms across various organ systems. Mild reactions may include pruritus of the face, hives, and nausea or gastrointestinal discomfort. Severe reactions may present with shortness of breath, skin pallor, dizziness, trouble breathing, and vomiting or diarrhea. To distinguish between IgE-mediated allergy, non-IgE-mediated allergy, and food sensitivities, clinicians must use a variety of assessment tools, including physical examination, careful clinical history taking, IgE testing, and/or oral food challenge. Other tests, such as food panels, IgG testing, and IgG4 testing, are not recommended due to a lack of specificity.

### 3. Food Allergy and Nutrition

Over the last 2 decades, guidance for early introduction of peanuts has drastically changed after high-quality evidence revealed the benefits of early peanut introduction for the prevention of peanut allergy. In their latest guidance, the American Academy of Pediatrics recommends the introduction of peanut-containing foods at 4 to 6 months of age, particularly for infants at high risk for food allergy. Nutrition is also an important consideration for patients who have already been diagnosed with food allergy, to avoid nutritional deficiencies in growing children. As such, unnecessary elimination diets should be avoided to promote diverse dietary patterns.



1. Zeiger RS. *Pediatrics*. 2003;111(6 Pt 3):1662-1671. 2. Greer FR et al. *Pediatrics*. 2008;121(1):183-191. 3. Greer FR et al. 2019;143(4). pii:e20190281.

#### 4. Current Food Allergy Treatment Approaches

Use of a targeted elimination diet for confirmed food allergens is the current standard of care for patients with food allergy. Some patients may be eligible for food allergen immunotherapy, which can induce desensitization to food allergens with ongoing treatment. At this time, the only FDA-approved oral immunotherapy for food allergy is peanut (*Arachis hypogaea*) allergen powder-dnfp (PTAH), which can safely desensitize patients to peanuts. Because food allergen immunotherapy requires lifelong commitment from patients and exposes patients to risks for allergic reactions during treatment, shared decision making is critically important to ensure that patients understand the treatment options, risks, and benefits.

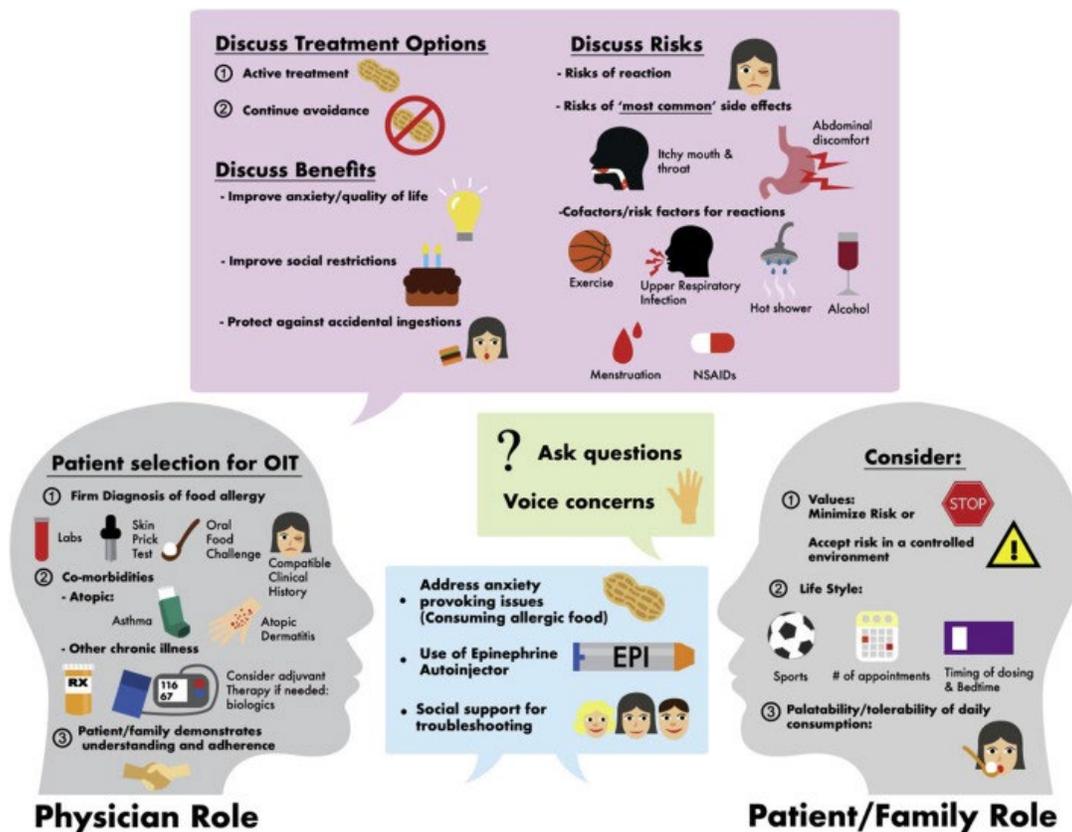


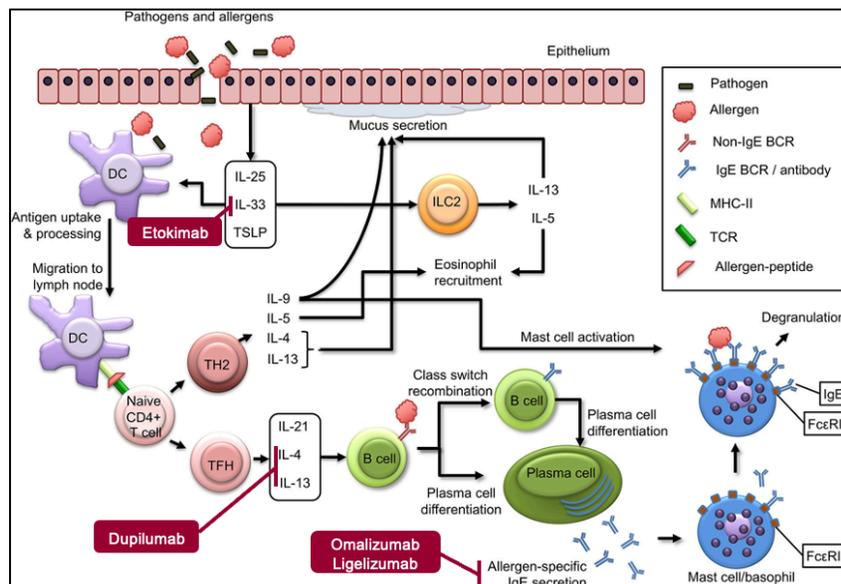
Image courtesy of Chinthrajah RS et al. *World Allergy Organ J.* 2020;13(8):100455. [CC BY-NC-ND 4.0.](https://creativecommons.org/licenses/by-nc-nd/4.0/)

#### 5. Anaphylaxis and Food Allergy Management in School Settings

Between 16% and 18% of patients with food allergy experience allergic reactions at school. Accidental exposures can happen in school settings when students share meals or snacks, share eating utensils, or otherwise accidentally ingest allergens. To reduce the risk of severe anaphylaxis in school settings, allergists should play an active role in facilitating patient safety by developing individualized emergency plans and ensuring patient, family, and school staff have ready access to injectable epinephrine.

## 6. Emerging Food Allergy Treatments

Although oral immunotherapy can reduce the risk of severe food allergic reactions, several limitations in food allergy treatment remain, including the risk for allergic reactions from treatment, the need for lifelong treatment, and the inability to address multiple food allergies in a single patient. Recent evidence suggests that biologics targeting key allergic mediators may be safe and effective options for managing patients with food allergy, either alone or in combination with oral immunotherapy. The anti-IgE monoclonal antibody omalizumab and the anti-IL-4 receptor antibody dupilumab are approved for use in other allergic conditions and are supported for use in food allergy with data from small studies. Ligelizumab is an investigational, novel anti-IgE antibody with a higher affinity for IgE relative to omalizumab. Both omalizumab and ligelizumab are currently being evaluated in randomized clinical trials to determine their efficacy and safety in patients with food allergies.



Image, with modification, courtesy of Schoos AM et al. *Front Immunol.* 2020;11:568598. [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/).