

- Allergen-specific IgE antibody test is done to detect specific IgE antibodies in the blood which is present in patients with true allergies.
- Absence of specific IgE antibodies reflect a negative test, meaning that there is no allergy to the food tested.
- Presence of significant amount of specific IgE antibodies reflect a positive test, indicating a possible food allergy.

### What is the accuracy of allergy tests?

#### Negative test results

- Both SPT and Allergen- specific IgE blood test have a low “false negative” results.
- Negative results may infer that you/your child do not have an immediate type allergic reaction to the food.

#### Positive test results

- Positive results are not always accurate, especially in the absence of signs and symptoms clinically.
- The false positive rates can be quite high, meaning that despite a positive test, you/your child is not truly allergic to the food.

#### Useful telephone number

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# Food Allergies in Atopic Dermatitis

Reg No 198904227G | PDERMfaad0920

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Atopic dermatitis (AD) or eczema is a common chronic recurrent skin condition due to an impaired skin barrier and increased skin inflammation.

Environmental factors such as heat, sweat, dust and stress play a major role in triggering AD flares while food allergy is associated in only a minority of patients with AD.

Investigations should be carried out only if there is a high suspicion and after discussion with the doctor.

### How does food allergy occur and how does it present?

There are two types of food allergies:

1. **Immediate type reactions** are caused by an antibody called immunoglobulin E (IgE) and it can present with symptoms such as hives (urticaria), swelling around the eyes and lips, breathlessness, stomach discomfort, nausea, vomiting or diarrhoea. These symptoms typically occur within minutes and up to two hours after eating the triggering food.
2. **Delayed type reaction** which are not caused by IgE, may take up to two days to appear. The most common symptoms are those related to the gastrointestinal tract such as vomiting, bloating and diarrhoea, and less commonly eczema.

### When do we suspect food allergies in patients with AD?

Food allergy in AD patients should be suspected in the following situations:

- Young infants with moderate to severe AD, especially if associated with other symptoms such as poor growth, bloody stools or chronic diarrhoea or vomiting.

- Older children and adolescents with difficult-to-control severe AD, with features of hives, eye or lip swelling, especially after eating certain foods, and/or with a possible suspicion of food allergy by their caregivers.
- Patients whose eczema appears to worsen repeatedly soon after taking a specific food.

### What allergy tests are available?

- General screening allergy tests, without a suggestive history of food allergy, are not recommended for most patients as food allergies causing eczema in most patients is uncommon.
- The doctor will review your condition and discuss if allergy tests are necessary.
- There are two main types of allergy tests: skin prick test and allergen specific IgE antibody test.

### What is a Skin Prick Test (SPT) and how is it performed?



Fig. 1. Skin prick test on arm

- SPT is a simple, safe and quick test that can be carried out in patients from six months of age.

- The common allergens encountered in children include egg yolk, egg white, milk, soy, peanut, shrimp and house dust mites.
- Patients have to avoid antihistamines (e.g. cetirizine, loratidine, fexofenadine, chlorpheniramine, hydroxyzine, flu and cough mixtures) for at least one week before the SPT.
- **An SPT is performed as follows:**
  - The test site will be cleaned with alcohol.
  - The skin is marked with a skin marker to identify the allergens to be tested.
  - A drop of the allergen solution is placed on the skin.
  - The superficial skin layer is then pricked through the drop using the tip of a plastic device. This procedure may be uncomfortable to some patients but will not result in bleeding or scarring. Each allergen to be tested would require a separate prick.
  - Readings are performed after 15 minutes.
  - If positive, a small skin swelling, and redness will appear at the site of the skin prick test.
- Possible complications of SPT include pain, itch and discomfort at the site of the pricks, allergic reactions (skin or systemic), as well as possible sensitisation to the food that is tested.

### What is an allergen-specific IgE antibody test and how is it performed?

- For patients with a history of severe allergic reactions (e.g. breathlessness, swelling in the throat requiring emergency treatment, drop in blood pressure) or infants below six months of age, a blood test can be performed instead.
- Unlike the skin prick test, there is no requirement to stop antihistamines prior to this test.