

Table 1: How to Detect a Food Allergy

Type of Testing	Description
Skin Prick Test	Measures the presence of immunoglobulin E (IgE) antibodies to specific food allergens. A solution containing the food allergen is applied to the back or forearm and then the skin is exposed through a small scratch or prick. A response is typically recorded within 30 minutes and detects the severity of the reaction. Delayed hypersensitivity usually occurs within two hours, but is often not detected as the test is concluded after 30 minutes. Oral antihistamines need to be discontinued prior to testing.
Blood Test	Previously referred to as RAST (radioallergosorbent tests) testing. Also detects IgE-mediated response by incubating blood in a plate coated with potential food allergens. Results are not immediate, do not determine the severity of the reaction, and are not affected by oral antihistamines. Celiac: Specific antigen testing for tissue transglutaminase antibodies (tTG-IgA), which are positive in 98% of celiac patients on a gluten-containing diet.
Oral Food Challenge	If skin and blood testing are inconclusive, a physician may perform an oral food challenge (OFC) in a medical facility. During the OFC, increasing doses of the potential food allergen are fed to the person and the response is monitored. It is a highly accurate diagnostic test for a specific food allergen but should be completed only under medical supervision. It also may be done to determine whether an individual has outgrown a food allergy. Can be completed as a double-blind/placebo-controlled food challenge (gold standard), single-blind food challenge, or an open food challenge.
Trial Elimination Diet	A physician may ask an individual to temporarily eliminate specific foods from the diet. This method is generally combined with skin and blood testing and used to confirm IgE-mediated food allergens or related disorders (see Table 2). The elimination diet typically lasts for two to four weeks. If the correct food allergen or offending food has been eliminated, then all symptoms should disappear.
Unproven and Nonstandardized Tests	Includes applied kinesiology (muscle testing), cytotoxicity testing, electodermal testing (vega testing), Nambrudipad's Allergy Elimination Technique (natural elimination of allergy treatment), IgG/IgG4 testing (blood), hair analysis, and pulse testing. For more information, go to www.foodallergy.org/document.doc?id=238 .

Table 2: Common Food Threats

Eight Common Food Allergens*	The common eight food allergens are cow's milk, eggs, fish, peanuts, shellfish, soy, tree nuts, and wheat. These account for 90% of all food allergies. By law, labeled foods must identify these allergens.
Oral Allergy Syndrome	Also referred to as pollen-food syndrome. Symptoms are usually isolated to the mouth. This reaction is caused by a crossover reaction from pollen to similar food proteins. Birch: apple, carrot, peach, plum, cherry, pear, almond, hazelnut, and kiwi Grasses: tomato Ragweed: melons, zucchini, cucumber, and banana
Latex-Fruit Syndrome	Approximately 30% to 50% of individuals with an allergy to natural rubber latex are also allergic to several plant-based foods. These foods can include avocado, banana, chestnut, kiwi, peach, tomato, bell pepper, and potato.
Eosinophilic Esophagitis	Results in an inflamed esophagus, contributing to swallowing issues ("getting stuck"). May cause early satiation and reduced food intake. Often triggered by certain food allergens; should include food allergy testing as part of the diagnosis and treatment.
Food Protein-Induced Enterocolitis Syndrome (FRIES)	Typically presents in young children, but outgrown by age 3. A severe, non-IgE-mediated reaction to food ingestion within two to three hours. An oral food challenge is needed for diagnosis; usually triggered by milk and soy proteins.
Celiac Disease	An autoimmune response to gluten (protein found in wheat, rye, and barley) within the gastrointestinal tract. One-third of new diagnoses are in the elderly. If undiagnosed, will cause malnutrition from malabsorption of nutrients (including iron, zinc, and vitamin D) due to disease pathophysiology.
Food Intolerances	Food intolerance is simply maldigestion of carbohydrates, causing undesirable symptoms, but not an immune response. Examples include lactose, although yogurt, hard cheese, and Lactaid milk are well tolerated, and FODMAPs (fermentable oligo-, di-, monosaccharides and polyols) for irritable bowel syndrome.
Food Aversion	An intense dislike for a food; may even provoke pseudosymptoms. Does not involve the immune system or digestion.

*Although there are eight common food allergens, many other foods have been associated with allergic reactions. These include but are not limited to corn, gelatin, meat (beef, chicken, mutton, and pork), seeds (sesame, sunflower, and poppy are the most common), and spices (caraway, coriander, garlic, mustard, etc).