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Diagnosing and Treating Food Allergies

The State of the Research

A food allergy is an overreaction of the body's immune system that can be provoked by ingesting (or sometimes merely smelling) a particular food, most often milk, eggs, soy, wheat, nuts, or shellfish. The reactions involved can range from minor swelling of the lips and an itchy throat to potentially fatal anaphylactic shock.

At present, the only way to avert a reaction is to avoid the suspect food, which can require total dietary modification (potentially interfering with growth in children or necessitating costly milk substitutes), extreme vigilance, and major alterations in lifestyle. Given the serious implications of a suspected food allergy, then, it is vital that the tests used to diagnose these conditions be highly accurate, but a new review of the scientific literature on food allergies suggests that this is far from the case.

To assist the National Institute of Allergy and Infectious Diseases in its effort to promote the development of guidelines for the diagnosis and treatment of food allergies, researchers at the Southern California Evidence-Based Practice Center, a RAND Health center, conducted a systematic review of the entire body of research on the diagnosis, prevalence, natural course, prevention, and treatment of food allergy. Among their findings:

- The prevalence of food allergy in the United States appears to be between 1 and 10 percent; whether it is increasing is unclear.
- But such estimates remain questionable because of the poor reliability of the tests commonly used to diagnose food allergies, including skin testing, measurement of food-specific antibodies, and the “gold standard,” food challenge (feeding minuscule amounts of the suspected allergen, preferably in disguised form and alternating with a placebo).
- Avoiding suspected food allergens remains the most effective means of managing food allergy; however, few studies of food avoidance have actually been conducted.
- Desensitization of individuals with severe peanut allergy—that is, exposing them to increasing amounts of peanut to build up a tolerance—may be effective in preventing fatal responses to accidental ingestion, but it is too soon to tell.

Progress in understanding the cause of food allergies, their prevalence, and how best to manage and even prevent them is clearly hampered by the need for better methods of diagnosis and higher-quality research studies.

This fact sheet is based on Schneider Chafen JJ, Newberry SJ, Riedl MA, Bravata DM, Maglione M, Suttrop MJ, Sundaram V, Paige NM, Towfigh A, Hulley BJ, and Shekelle PG, “Diagnosing and Managing Common Food Allergies: A Systematic Review,” *Journal of the American Medical Association*, Vol. 303, No. 18, May 12, 2010, pp. 1848–1856, and Schneider Chafen JJ, Newberry S, Riedl M, Bravata DM, Maglione M, Suttrop M, Sundaram V, Paige NM, Towfigh A, Hulley BJ, and Shekelle PG, *Prevalence, Natural History, Diagnosis, and Treatment of Food Allergy: A Systematic Review of the Evidence*, Santa Monica, Calif.: RAND Corporation, WR-757, 2010. Available online: http://www.rand.org/pubs/working_papers/WR757/

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