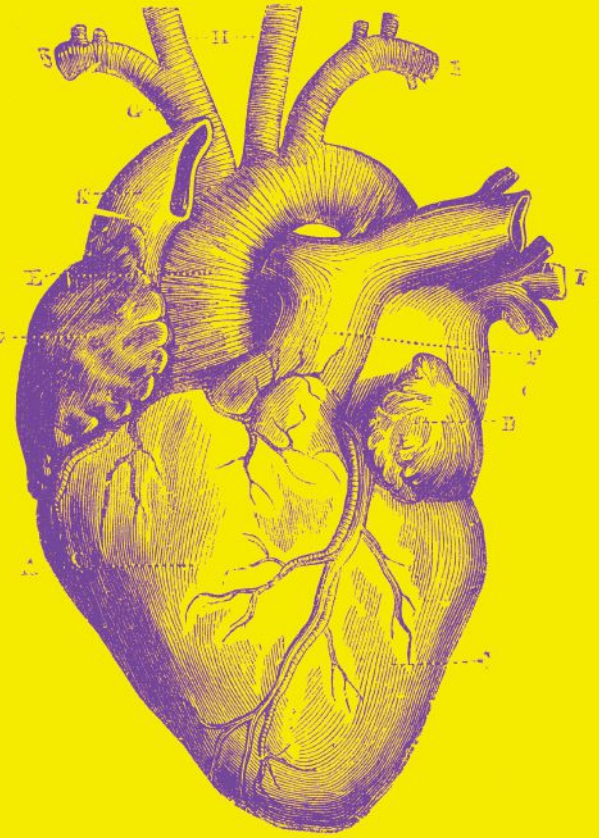
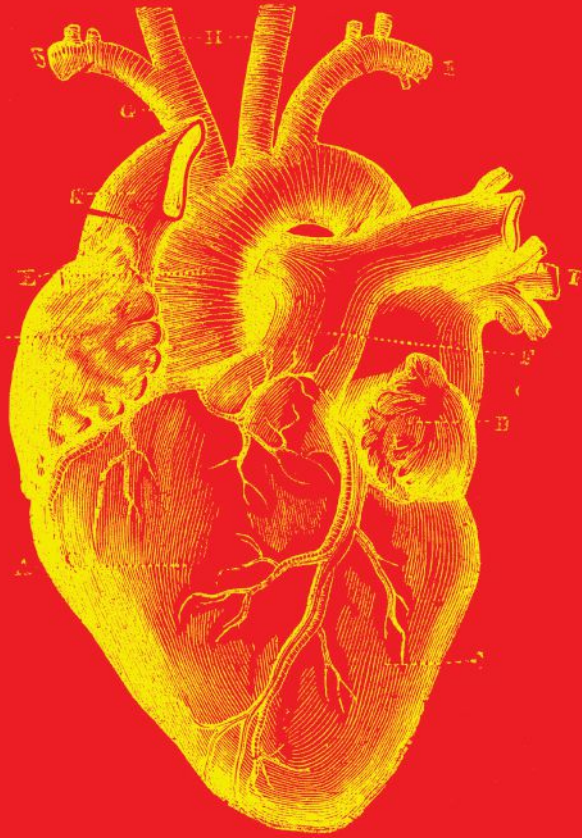


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# Truth and Consequences

The differences between food allergies and sensitivities, plus methods for diagnosing and treating both

By **Sandra Gurvis**

**O**ver the last few decades, food allergies in children have increased dramatically in Western countries. In the United States, this means that an estimated 8 percent or one in 13 children has a food allergy, with the most common and severe being milk, eggs, fish, crustacean (shellfish), wheat, soy, peanuts, and tree nuts, according to the Centers for Disease Control and Prevention (CDC). The consequences can be serious, ranging from sneezing and skin reactions such as rashes, hives, swelling, and itching, to upset stomachs and anaphylaxis, a sudden life-threatening response in which the immune system acts as if the food itself is harmful. Anaphylaxis may result in shock and the inability to breathe; if not treated immediately with an injection of epinephrine (EpiPen), it can be fatal.

As a result, parents and children may live in fear. “Children with true immunoglobulin E-mediated food allergies often encounter challenges in the enjoyment of everyday activities,” says Dr. Elena Perez of Allergy Associates of the Palm Beaches. “Even exposure to seemingly unrelated foods, such as ice cream and doughnuts, could cause a reaction in a child with a food allergy due to cross-contamination with the allergenic food, for example peanuts or tree nuts.”

Perez notes that food reactions are caused by the production of immunoglobulin E (IgE), which is an antibody. While other antibodies such as immunoglobulin G (IgG) are designed to protect the immune system and fight against infections, these food-specific IgE antibodies can make the system go haywire. Skin-prick tests and blood tests that measure the level of food-specific IgEs can help confirm





the diagnosis of a food allergy, and following these tests over time can help determine whether a child has grown out of a food allergy. “It is common to grow out of milk and egg allergies, but less common to grow out of peanut, tree nut, or shellfish allergies,” Perez explains.

Skin-prick testing, also called puncture or scratch testing, can identify allergic sensitivities to specific foods in question. An allergic reaction is reproducible with subsequent exposures to the food, which therefore needs

Food allergies and sensitivities can cause a wide variety of symptoms, and there are numerous options when it comes to testing.

to be avoided to prevent a reaction. There is a fundamental difference between a food allergy that could cause anaphylaxis and a food intolerance. The most well-described examples of food intolerance are lactose intolerance due to a deficiency of the enzyme lactase, which breaks down the sugar in milk (lactose), and celiac disease, which is an immune intolerance to gluten resulting in malabsorption, diarrhea, and other symptoms. Other intolerances are less well defined, and commercially available testing for food intolerances or sensitivities is not reliable. Food-sensitivity tests (other than those for lactose intolerance or celiac disease) “can be hit or miss and impacted by the placebo effect,” Perez notes.

“There are major differences between food sensitivities and actual food allergies,” adds Perez. “Food sensitivities usually result in digestive system symptoms such as abdominal pain or bloating. For example, someone with an intolerance to lactose may be deficient in the enzyme lactase. Because they are unable to break down the sugar in milk products, they can experience abdominal pain and bloating. People with wheat sensitivities may have similar symptoms.”

While uncomfortable, symptoms resulting from these and other sensitivities may also include gas, cramping, constipation, diarrhea, and

nausea, but they are not potentially lethal. Unlike food allergies which usually appear in childhood, food sensitivities can develop with age. “Digestion becomes slower, and the body produces less lactase in the case of lactose intolerance,” says Perez. “Others find that eating healthier in general, and in some cases avoiding wheat, helps them feel better.”

Food sensitivities may be caused by enzyme deficiencies, reactions to additives and preservatives such as artificial colors or MSG, or the ingredients in the food itself. The latter group can include lactose, a natural sugar found in dairy products; sulfites, such as those in sodas, wines, and pickled items; gluten, a protein prominent in wheat and other grains; the natural sugar fructose; and carbohydrates known as FODMAPs that are contained in plant foods such as apples, honey, garlic, and wheat.

To diagnose a food intolerance or sensitivity, the patient will go on an exclusion diet, which simply means the cessation of eating common foods that tend to trigger a negative reaction. As foods are gradually reintroduced, the patient and care provider keep track of symptoms to see which foods or additives resulted in the sensitivity. Once the problem food is identified, “you can adjust portions and how quickly you eat, or stay away from the food altogether,” explains Perez.

There are also distinctions between wheat sensitivities, wheat allergies, and what’s sometimes called a “gluten allergy” but is actually an



autoimmune disorder known as celiac disease. As Perez notes, symptoms of this digestive condition—which can include diarrhea, rash, weight loss, and stomach pain—occur when the person ingests any product containing gluten, including processed foods. These patients need to seek treatment with a gastroenterologist and avoid all gluten-containing foods entirely. Fortunately, celiac disease is relatively rare and only affects 1 percent of the Western population.

In comparison to sensitivities, food allergies represent a different and sometimes controversial ball game, especially with regard to treatment. “Until recently, the only management available was strict avoidance,”





to their environmental triggers, a similar concept has been applied to food allergies using oral immunotherapy. “With OIT, in the case of peanut allergy, we give tiny doses of peanut protein and then gradually escalate the dose,” says Perez. “In the beginning, doses are done in the office, and if they are well tolerated, the patient is sent home with premeasured amounts.”

Along with continuing to practice avoidance, the patient is closely monitored throughout the process, which takes about five to six months, possibly longer if there are food reactions, infections, or interruptions to the dosing schedule. After completing

Perez says. “Children can also outgrow some food allergies; the rate is about an 80 percent chance of outgrowing for milk and eggs and about a 20 percent chance for peanuts and tree nuts.”

More recently, preventative approaches to allergy development have gained traction. “Several years ago, scientists observed that there was a big difference between the rate of peanut allergies in children living in Israel versus in the United Kingdom,” says Perez. “This prompted a study of early introduction of peanuts in kids based on the observation that in Israel infants are frequently given Bamba, a peanut snack, while in the UK it had been customary to avoid early introduction to allergenic foods such as peanuts.”

These observations led to the LEAP (Learning Early About Peanuts) study, which confirmed the observation that early introduction of peanuts could drastically prevent peanut allergy in at-risk infants (who had eczema or an egg allergy). Several other studies including the LEAP-On (Persistence of Oral Tolerance to Peanut) and the Enquiring About Tolerance (EAT) trial, which also added eggs, cow’s milk, sesame, whitefish, and wheat, shored up these findings and added a preventative approach to the management of food allergies. The LEAP study showed that high-risk children who started consuming peanuts at 11 months old had 81 percent fewer peanut allergies by age 5 than the control group. The EAT study revealed similar results with regard to its subject food groups.

Much like allergy shots for environmental allergies that gradually desensitize allergic patients

the program, the patient must maintain an individualized dosing program, along with taking the standard precautions of avoiding excessive amounts of allergens and carrying an epinephrine auto-injector. The goal of this therapy is to increase the amount of allergen it takes to cause an allergic reaction (desensitizing) so that patients could tolerate an accidental exposure of the allergen without having anaphylaxis.

“For years, some allergists have also provided off-the-shelf immunotherapy for milk, eggs, peanuts, and tree nuts in their offices,” Perez explains. “This caused disagreement among providers and researchers, some of whom wanted to wait until OIT was approved by the FDA.” In





“Introducing food to very young children can be a complicated process, especially if allergies are involved.”

2011, a powerhouse group of advocates—allergists and other academic and clinical physicians, researchers, parents of allergic children, representatives from the FDA and the National Institutes of Health (NIH), and pharmaceutical companies—met and organized what eventually became Aimmune Therapeutics. “The goal was to obtain an FDA-approved treatment for food allergies, starting with peanuts,” adds Perez. The FDA approved Palforzia, the first oral immunotherapy product, in January 2020.

Noted scientists such as Dr. Kari Nadeau, director of the Sean N. Parker Center for Allergy & Asthma Research at Stanford University and author of *The End of Food Allergy*, further shored up the efficacy of OIT with several long-term studies of different types of foods. The approval of Aimmune Therapeutics’ Palforzia, a peanut-derived prescription, legitimized OIT once and for all. Also in the Aimmune pipeline is an OIT prescription for tree nuts.

Not surprisingly, over-the-counter products such as Spoonful One have made an appearance as well. A scientifically formulated combination of the food groups responsible for more than 90 percent of allergies, Spoonful One may seem like an easy fix, as it only requires sprinkling a packet of the powder over an infant or toddler’s food once a day. However, Perez advises caution. “Introducing food to very young children

can be a complicated process, especially if allergies are involved,” she notes. “Because Spoonful One contains so many ingredients, you can’t tell what specific things the child may be allergic to if they do react.”

Yet, while patients must also be at least 4 years old to get the Palforzia prescription, Perez also believes in starting OIT at a young age with peanuts and tree nuts. “People tend not to outgrow these allergies and the potential for a severe reaction to consumption is high. There is also evidence that starting OIT early is quite effective as there may be a ‘window of opportunity’ early on to effectively desensitize food allergies.”

Although food allergies and sensitivities can be complicated and fraught with worry, “there are many resources for education, support, and advocacy,” Perez concludes. “The LEAP study, ongoing research at Stanford and other major centers, and other studies show that properly managed OIT can offer a lifetime solution in dealing with and overcoming many food allergies. The benefits and risks of OIT need to be thoroughly discussed with a board-certified allergist prior to embarking upon treatment. Avoidance of the allergen is still a viable management plan as well. With either approach, parents and kids need to be aware of the signs and symptoms of anaphylaxis and educated in the use of injectable epinephrine.” ◀