The Fine Print on Peanut Allergies: There is More to the Story than the Headlines

What We Know about Allergies

The numbers may seem to be much higher because of the recurring media buzz, but only 0.6% of the people in the United States have a peanut allergy according to The Food Allergy and Anaphylaxis Network (FAAN)\(^1\) and up to 20% of these can be outgrown.\(^2\) Approximately four percent of adults and four percent of children have food allergies in general, with children under the age of five experiencing about six to eight percent.\(^3,4\) When comparing peanut allergy to other foods, about four times as many people are allergic to seafood, for example.

The prevalence of peanut allergy has increased in past years, but the reported increase mirrors an overall increase in childhood allergies.\(^5\) It is possible that there is better reporting and improved detection of allergies today, but the reasons for increasing allergy are not clear. One hypothesis, the “hygiene hypothesis,” suggests that with improved sanitation practices and availability of medicines, such as immunizations, our immune systems are not challenged enough in infancy, such that they become weakened.

Interestingly, allergies, including peanut, are less common in Asia and Africa, where peanuts are staple foods. In fact, Peanut-based Ready-to-Use Therapeutic Food (RUTF) has been successfully used in newborns and infants for health and growth purposes in places like Malawi, without any presence of allergy.\(^6\)

What Causes Peanut Allergy?

There are many theories as to how peanut allergy develops. Some researchers hypothesize that if peanuts are eaten during pregnancy or in infancy, there is a greater chance an allergy will develop. However, the most current data does not support this theory. Maternal peanut consumption during pregnancy or lactation had no effect on developing allergy in one study,\(^7\) nor did duration of breastfeeding.\(^8\)

In those who have peanut allergy, however, specific proteins have been identified in peanuts that are known to elicit the allergic reaction. There is some concern about the aroma of peanuts causing an allergic reaction, but this is not the case. The familiar smell of peanuts comes from a specific compound that is not related to the allergenic protein.\(^9,10\)
New approaches to managing peanut allergies are being developed and promising research is underway to find novel therapies for combating peanut allergy.

The most promising new therapy is called oral immunotherapy, in which increasing levels of peanut allergen are fed to peanut allergic individuals in controlled research settings over a number of weeks.

Although this strategy remains experimental, a study published in 2009 in the journal Allergy, has been shown to be effective in children. It is not clear whether this treatment approach promotes a long-term tolerance to the peanut allergen, or if subjects are desensitized to the allergen only if they continue daily treatment. However, the therapy expanded the children's tolerance so much so, that they could eat up to 10 peanuts -- many more than they would ingest accidentally. This data is especially promising because it was effective for not just a few, but all of the children in the study.

To add to this, researchers from Duke University Medical Center and Arkansas Children’s Hospital also recently showed success at desensitizing peanut allergic children with oral immunotherapy. Children in this study were fed peanut flour (which contains the peanut allergen) daily with gradual dose increases to challenge their immune systems. After eight to ten months, they could eat up to 15 peanuts without a reaction. Even better, after two and a half years of therapy, children who stopped therapy for a month and were then fed peanuts still had no reaction after eating the 15 peanuts. Currently, researchers in both trials are recommending that the subjects eat a defined small amount of peanut protein each day to stay desensitized the allergen, but research is ongoing to determine if therapy would have to be continuous.

Another promising therapy includes anti-IgE therapy, which has been shown to increase the threshold of sensitivity to peanut allergens. Immunoglobulin E (IgE) is a protein in our immune system that identifies foreign material. Research shows that injections of IgE may pacify immune reactions, but testing is still determining proper dosage.

A recent study in the *Journal of Allergy and Clinical Immunology* tested blocking different hormones involved in anaphylaxis. The study showed that blocking these hormones resulted in significant reductions in the severity of peanut-induced anaphylaxis in mice.

An herbal formula called “Food Allergy Herbal Formula-2,” which is currently being tested by a group at the Jaffe Food Allergy Institute, Mount Sinai School of Medicine in New York, NY is also showing promise. This formula was used in mice for seven weeks and prevented anaphylactic reactions for six months following the treatment. The formula is currently being tested by the Food and Drug Administration (FDA).
Peanut allergies fall within a range of mild to severe. Anaphylaxis can occur in severe reactions, a potentially life-threatening reaction that may include hives, a drop in blood pressure, nausea, and airway restriction. If an allergy has been identified, the most important action is to avoid consuming peanuts, peanut products, and other nuts. As with any health condition, it is critical to be aware of how to self-manage the allergy by consulting a physician. The following strategies can help to successfully manage a peanut allergy:

- **Read labels** – Foods may contain added ingredients with peanut allergens. The FDA, Health Canada, and European Union require the major food allergens to be identified on product labels.

- **Plan ahead** – When eating food that you did not prepare, like at parties or restaurants, call ahead to alert the food preparer of your needs. Try using a “chef card” that lists foods to avoid and are available on the FAAN website at: www.foodallergy.org/downloads.html.

- **Practice proper sanitation** – Allergens from peanuts are easily removed with common cleaning agents. (18) Make sure that all utensils and equipment are thoroughly cleaned with hot, soapy water prior to use, to reduce the risk of any allergen contamination.

- **Carry medicine** – According to one study, almost 50 percent of allergic children did NOT carry prescribed medication such as auto-injector epinephrine with them to deal with potential exposure to peanut allergens. (19) In an emergency, epinephrine is used to boost the body’s oxygen and glucose supply to the brain and muscles. Since it is critical to use epinephrine within 10 minutes of an anaphylactic reaction, filling a prescription and building the habit of carrying it can prevent any unwanted circumstances.

- **Control asthma** – Asthma is the main risk factor for death due to anaphylaxis. (20) Working with a physician is key to managing and controlling symptoms.

- **Let people know** – Wear a medical alert bracelet or necklace stating that you have a food allergy, especially if prone to severe reactions.

### Sources for More Information

- **American Peanut Council**  
  www.peanutusa.com
- **American Academy of Allergy, Asthma & Immunology (AAAAI)**  
  www.aaaaai.org
- **Food Allergy and Anaphylaxis Alliance (FAAA)**  
  www.foodallergyalliance.org
- **Food Allergy and Anaphylaxis Network (FAAN)**  
  www.foodallergy.org
- **Food Allergy Research and Resource Program (FARRP)**  
  www.farrp.org
- **International Food Information Council (IFIC)**  
  www.ific.org
- **National Institute of Allergy and Infectious Diseases (NIAID)**  
  www3.niaid.nih.gov
- **National Peanut Board**  
  www.nationalpeanutboard.org
- **The Peanut Institute**  
  www.peanut-institute.org
- **Anaphylaxis Canada**  
  www.anaphylaxis.ca

### Schools: To Ban or to Educate?

Most allergy advocacy groups do not support school food bans. Many experts feel that a ban gives a false sense of security, except in situations that involve very young children such as in daycare centers.

Experts also say it is important for school-aged children to learn to manage their allergy in all environments, including those that are outside of a school setting. A ban on peanuts might ignore other potentially serious food allergies. Additionally, a ban may not keep all peanut products entirely out of schools.

The Food Allergy and Anaphylaxis Network (FAAN), recommends stringent education on handling food allergies in schools.

As FAAN says, “Until there is a cure, education is the key.” By educating parents, physicians, school administrators, teachers, school nurses, kids in the classroom, and others in the child’s environment, a safety net can develop around a child with a peanut allergy. (1)

According to a recent national poll of around 1,500 parents, only about half indicate that their children’s daycare, preschool, or elementary school has staff training for food allergies. (21) In another study, only 21% of the schools educated their staff about reading labels, and they did not have written emergency action plans or easy access to epinephrine. (22) Thus, there is a clear need to implement more

www.peanut-institute.org
What about Peanut Oil?

The majority of peanut oil used by foodservice and consumers has been highly refined and processed, so all of the allergic proteins have been removed. Everyone can enjoy foods cooked in refined peanut oil. Asking if the peanut oil is highly refined will indicate if it is allergen-free.

The FDA Food Allergen Labeling and Consumer Protection Act (FALCPA) of 2004 and the Federal Food, Drug, and Cosmetic Act (FFDCA) indicate that highly refined oils are exempted as major food allergens. (17)

Other peanut oils, sometimes referred to as “gourmet,” “aromatic,” or cold-pressed oils, which do not remove the allergen, are commonly available in smaller volumes in retail settings.

The Food Allergy & Anaphylaxis Network (FAAN) is a nonprofit organization whose mission is to raise public awareness to provide advocacy and education, to advance research on behalf of all those affected by food allergies and anaphylaxis, and to help individual families cope with their child’s food allergies in order to keep children safe.

According to the FAAN, “Studies show that most allergic individuals can safely eat peanut oil (not cold pressed, expelled, or extruded peanut oil - sometimes represented as gourmet oils).” You can also ask your doctor if there is any doubt.

Go to www.peanut-institute.org for:

- Nutrition research on peanuts, peanut butter, and peanut oil
- Recipes
- Meal plans
- Educational

The Peanut Institute is a non-profit organization that supports nutrition research and develops educational programs to encourage healthy lifestyles.

For Further Information:
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www.peanut-institute.org

References

1. The Food Allergy and Anaphylaxis Network (FAAN): www.foodallergy.org
4. Center for Disease Control: http://www.cdc.gov/
17. http://www.fda.gov/Food/LabellingNutrition/FoodAllergensLabeling/GuidanceComplianceRegulatoryInformation/ucm106187.htm