

Adolescent "SHORTS"

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Adolescent Update

Food-borne allergies are receiving needed attention in Missouri and nationally. Missouri Governor Jay Nixon has proclaimed May 9-15, 2010 as Food Allergy Awareness Week.

During the previous legislative session, House Bill (HB) 922, the Allergy Prevention in Schools bill was passed, requiring each Missouri school district to adopt a policy on allergy prevention and response by July 1, 2011. The Missouri Department of Elementary and Secondary Education (DESE) will develop the Allergy Prevention and Response Policy and Procedures. Numerous national, state, and community partners are collaborating to provide information to schools, families, and students on the importance of addressing what can be life-threatening food allergies. The Missouri Department of Health and Senior Services (DHSS) School Health Services Program is providing guidance to school nurses to assure that appropriate school teacher and staff training, as well as student and parent education are provided.

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Food Allergies in Teens

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Childhood food allergies are increasing in prevalence in the US (6-8%) with recent data suggesting a doubling in adults (3.7%). These allergies have the potential to cause life-threatening anaphylaxis and are the leading cause of anaphylaxis presenting to the emergency rooms (a third to half of all anaphylaxis and 150 deaths per year). Food allergies can be particularly challenging to manage in teens.

A food allergy is an immune response to a food that the body mistakenly believes is harmful and therefore creates specific allergy IgE antibodies to it. The next time the individual eats that food, the IgE embedded on the surface of the mast cells cross-links the allergen and triggers an allergic response involving releases of massive amounts of chemicals, including histamine. The cascade of allergic symptoms most commonly affects the cutaneous system with hives and rash being a prominent symptom. It can also affect the respiratory system, gastrointestinal tract, or cardiovascular system, and result in anaphylactic shock.

Not all reactions to foods are IgE-mediated food allergy. Other adverse reactions to foods include food intolerance such as lactose intolerance and toxic reactions due to factors inherent in the food. Most people affected in adverse food reactions are not positive on allergy testing to the suspected foods. Celiac disease is an immune reaction to gluten found in grains such as wheat, barley, and rye causing predominantly gastrointestinal symptoms, but is not an allergic reaction and typically does not have the potential to cause anaphylaxis. While any food can potentially cause an allergic reaction, most of the allergens are protein-based. The top eight culprits responsible for the majority of allergic reactions are milk, soy, eggs, peanuts, fish, shellfish, nuts and wheat. Of these, milk, egg, soy, and wheat allergies are generally more likely to be outgrown in childhood/adolescence and peanut, nut, fish, and shellfish allergies more likely to persist into adulthood. While any of these foods can cause anaphylaxis, peanuts and nuts have been reported more commonly.

Diagnosis of allergies begins with the most important element-history. The questions pertain to the identity of the suspected food, quantity, and time interval between ingestion and symptoms (typically within two hours), description of the symptoms (consistent with the IgE-mediated reactions described above), consistency of reactions to the same foods in the past (always react to the food when exposed), factors such as exercise/alcohol (can worsen the reaction), and route of exposure. The typical route of exposure is ingestion. Contact can occasionally cause hives or flaring of eczema, and in rare instances, exquisitely sensitive individuals can react to inhalation of aerosolized peanut dust, or fumes from cooking fish and shellfish. It cannot be stressed enough that clinical correlation is pivotal in the diagnosis. A meticulously maintained food diary for two to four weeks helps eliminate and narrow down the suspects, particularly in children with eczema. Random dietary manipulation is not recommended since it leads to an unbalanced diet.

Allergy testing can be done by either skin testing or blood samples. Skin tests are usually less expensive and the results can be seen within 15 minutes. Since they are usually done by an allergist the results can be interpreted and management options discussed during the visit. Blood tests are more expensive to perform and there is a tendency to order a myriad of tests, which can be overwhelming with over-interpretation of false positive results. Both tests are extremely useful to rule out food allergies. Negative tests rule out food allergies with 95% certainty. Positive tests are far more common, occurring in 50% of cases -- the same as a random toss of a coin! The results need to be interpreted in the context of the history, and not in isolation to determine if the food allergy exists. No test helps predict the severity of the reaction. The higher the number or bigger the skin test, the more likely the patient is to react to the food -- it does not mean the reaction will be more severe.

Unfortunately treatment of allergies involves no cure. Currently the best recommendation is strict avoidance of the allergen and having an emergency action plan consisting of Benadryl for minor reactions and injectable epinephrine for major reactions. Avoidance of all forms of the food is necessary, even trace amounts and cross-contaminated products (i.e., a person allergic to peanuts should not eat foods made in the same machine). This means that learning to read ingredient labels for all foods is crucial and if a product does not have a label, allergic individuals should not eat that food. If a label contains unfamiliar terms, shoppers must call the manufacturer and ask for a definition or avoid eating that food. As of January 2006 all food containing the "Big Eight Allergens" in the US must declare the ingredient on the label in common language. However, this rule does not apply to non-Big Eight allergens (e.g., sesame). Fortunately, most children "outgrow" allergies except peanut, tree nut, and seafood. It is to be noted that there is no correlation between severity and "outgrowing" the allergy.

Special Issues with Teens and Food Allergies

Teens do not like to be different, may use denial and are risk-takers.

“Kiss of death?” In one study, despite tooth brushing, allergen levels were detectable for up to four hours after participants ate peanut butter. While a larger study needs to be conducted to make sweeping recommendations, the authors concluded that in addition to brushing their teeth, individuals who have consumed an allergen should wait several hours before kissing a food-allergic individual.

Teens need to be retrained to know the indications and how to use the epinephrine auto-injector.

Alcoholic beverages and epinephrine do not mix. Epinephrine will still be effective, but changes in judgment and coordination can cause accidents and failure to recognize or treat symptoms promptly.

Others under the influence are more likely to play “pranks” or “jokes”.

Alcohol may increase the rate in which a food allergen is absorbed, therefore resulting in a quicker onset of symptoms.

The Food Allergy & Anaphylaxis Network (FAAN) encourages teens to be a *PAL: Protect A Life*. This program teaches friends of those who have food allergies how to help prevent a reaction and what to do should one occur.

Anyone can be a PAL by following these five easy steps:

- Never take food allergies lightly.
- Don't share food.
- Wash hands after eating.
- Ask your friends what they are allergic to and help them avoid it.
- Get help immediately if a friend has a reaction.

R E S O U R C E S

Food Allergy & Anaphylaxis Network (FAAN)
<http://www.foodallergy.org>
Phone: 800-929-4040

Food Allergy Initiative
www.foodallergyinitiative.org
American Academy of Allergy,
Asthma & Immunology www.aaaai.org

Education and Advocacy Solutions
www.allergysupport.org

Kids with Food Allergies
www.kidswithfoodallergies.org

Information about auto-injectors:
www.twinject.com and the Center for
Anaphylactic Support www.epipen.com

Others : www.allergykids.com and
www.peanutallergy.com

Missouri Revised Statutes, Chapter 167, Section
167.208 Allergy prevention and response policy
required contents-model policy authorized.
<http://www.moga.mo.gov/statutes/C100-199/1670000208.HTM>

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Articles in *Adolescent "SHORTS"* refer to boys and girls. For simplicity, the pronouns "he" and "she" are used interchangeably unless otherwise noted.