

FOOD Insight™

IFIC Foundation
<http://ific.org>

July / August 2003

Food Sensitivities, Allergies, and Intolerances: Separating Fact from Fiction

In this age of increased attention to nutrition and health, food sensitivities of all types have come to the forefront of the public consciousness in the last few years. This focus has resulted in a number of ideas about how best to address the problem of food sensitivities and allergens and has raised public awareness. Increased research, expanded consumer educational efforts, and food industry initiatives in the areas of processing and labeling have brought significant benefit to people who have food sensitivities.

Unfortunately, for those who suffer from true food allergies, the increased attention to the topic has come at a price. Misinformation about food sensitivities has become abundant on the Web and in the media, and the hype surrounding the issue has elevated food sensitivity into the “trendy” category of human ailments. Yet, true food allergies are not just a playgroup or cocktail party conversation topic — they can be very dangerous, so it is important that they be taken seriously. Here’s what you need to know about food sensitivities, allergies, and intolerances and where to go for help.

Types of Food Sensitivities

“There are two types of sensitivities to foods: those that involve the immune system (immunological) and those that don’t (non-immunological),” explains Susan Hefle, PhD, co-director of the University of Nebraska Food Allergy Research & Resource Program in Lincoln. “Food intolerances are abnormal reactions to food or food components that do not involve the immune system, while food allergies are abnormal reactions that *do* involve the immune system,” says Hefle.

Food Intolerance:

Food intolerances are the most common types of food sensitivities. They are also generally less severe, more short-lived and more localized than immunological reactions. Within the category of food intolerances there are a few sub-types of intolerances including:

- **Metabolic food disorder:** A metabolic food disorder occurs when a person is genetically unable to properly or fully metabolize a food component.

Examples:

- Lactose intolerance (inability to metabolize the milk sugar, lactose).
- Favism (genetic deficiency enhances the sensitivity to a chemical in fava beans).



- **Food idiosyncrasy:** Food idiosyncrasy is an abnormal response to a food or food component, but the mechanism for the response is unknown. The symptoms can either resemble those of an allergy and can be either severe or very mild. Some food idiosyncrasies have been scientifically proven, but others have been disproved, such as connections between food colors and hyperactivity.

Example: Sulfite-induced asthma (the food ingredient sulfite, which either is added to food or is naturally occurring in foods, causes asthmatic reactions in 1.7 percent of all

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Blow Out The Candles! KIDNETIC.com Celebrates its First Birthday with One Million Visitors

"I think this site is the coolest! The games are fun, and everything about it rocks!!!!!"

— A 12-year-old Kidnetic.com visitor



Kidnetic.com is a fun, interactive, and educational site designed to appeal to kids and their parents by promoting healthy eating and physical activity in an effort to help prevent childhood overweight. As the Web site celebrates its first birthday and welcomes its one millionth visitor, it is clear that Kidnetic.com is right on target and has been a big hit with “tweens” (children ages 9 to 12) nationwide.

"I see how kids' eyes glaze over when we talk to them about nutrition.

Kidnetic.com helps to make nutrition and physical activity fun. I think it's a terrific site!"

— Keith Ayoob, EdD, RD, FADA, American Dietetic Association (ADA) spokesperson, and Kidnetic.com science advisor.

Kidnetic.com aims to get kids eating healthfully by enticing them with yummy, nutritious recipes. What kid wouldn't be intrigued by Brewed Monkey Brain Stew, Edible Apple Lips, or Franken-Fingers with Blood Sauce? The Recipe Roundup on Kidnetic.com is one of the three most popular features on the site. Categories like “Gross-Out Delights,” “Smart Snacks,” and “Brown Bag Specials” feature simple, palate-pleasing recipes for kids to follow and enjoy. Kids can also get a parent involved by choosing a recipe from the “Family Friendly” category, which builds on the family dynamics theme that flows through the site.

In addition to celebrating one year of success, Kidnetic.com is also celebrating that it is the only Web site for kids that encourages users to stand up and get physical while still online — bringing fun to the physical activity side of a healthy lifestyle. For example, Time Challenge — another top feature — includes a beat-the-clock exercise challenge and in-home scavenger hunt. What makes Time Challenge unique is that kids are doing fun, physical activities right in front of the computer screen.

“The idea of challenging kids to be physically active in situations where they'd ordinarily be sedentary is very creative,” said Russell Pate, MS, PhD, University of South Carolina, exercise physiologist, and Kidnetic.com scientific advisor. “It reinforces the idea that you don't have to go to the gym or playground to make physical activity part of your everyday lifestyle.”

Of course, Kidnetic.com also encourages activity away from the screen, with the Wet Head Games

section. Wet Head Games are games submitted by kids for kids to print out and play — indoors, outdoors, solo, or with a group. The idea is for kids to get a “wet head,” by working up a sweat while playing.

“The fact that kids are responding so positively to the food and physical activity components of the site tells us we've been successful.”

— Susan Borra, RD, senior vice president of the International Food Information Council (IFIC) Foundation.

Adding to the success of the site itself, the research that sparked Kidnetic.com's creation was published in the June 2003 *Journal of the American Dietetic Association (JADA)*. The research findings revealed some interesting perceptions that kids and their parents have when it comes to the issue of childhood overweight and obesity.

“This one-of-a-kind research led to the development of this one-of-a-kind Web site,” said Ayoob. “Overall weight management comes from a balance of healthy eating and active living.”

“One of the first things kids told us was that health information has to be presented in a way that is fun, cool, and not boring,” said Borra, who is also the lead author of the *JADA* article. The research found that neither “tweens” nor parents give much thought to healthy weight, recognizing neither its immediate benefits nor its long-term importance. “Tweens” relate their weight to

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Kidnetic.com



athletic performance and overall appearance — not health.

Five health organizations have partnered with the IFIC

Foundation to develop

Kidnetic.com, and each group reviews all content on the site for scientific accuracy and appropriateness. The organizations are the American Academy of Family Physicians, American College of Sports Medicine, American Dietetic Association, International Life Sciences Institute Center for Health Promotion, and the National Recreation and Park Association. Thirteen food and beverage companies and other organizations fund the Web site by providing unrestricted grants to the IFIC Foundation. There is no cost to use Kidnetic.com. It is also non-commercial, which means there is no advertising, nothing is for sale, and there are no links to any company or brand Web sites.

New Kidnetic.com content is being added regularly. Look for brand new features on the site later this year. In addition, a formal evaluation of Kidnetic.com is underway and will be presented in the near future. The IFIC Foundation would like to wish Kidnetic.com a very Happy Birthday and many more years of continued innovation and success!

Kidnetic.com celebrates:

- 1 million visitors
- 54 percent of registered users are aged 9 to 12
- Most Popular Areas:
 - Busy Buddy
 - Wet Head Games
 - Recipe Roundup
 - Time Challenge
 - InnerG

(continued from page 1)

Food Sensitivities

asthmatics, or 150,000 Americans). Sulfite-induced asthma has been documented by the research community.

- **Anaphylactoid response:** An anaphylactoid response is a type of reaction that elicits the same release of histamine that a true food allergy does, but it does not involve the immune system. The specific substance that causes this reaction has not yet been identified. The response is not the same as anaphylaxis or anaphylactic shock, the rare but life-threatening response to a food allergen.

Example: Strawberry sensitivity

Food Allergy:

While more rare than food intolerances, food allergies are much more severe —and are even potentially fatal. Basically, there are two types of food allergies:

- **Celiac disease:** Celiac disease is an inherited condition that affects approximately 1 of every 3,000 Americans, and is due to an unknown genetic defect. People with celiac disease cannot tolerate gluten, a protein found in some grains, such as wheat, rye, spelt, and barley. These grains and products made from them must be avoided to prevent the gastrointestinal symptoms of celiac disease.
- **True food allergy:** True food allergy occurs when a susceptible person is exposed to a specific protein component of a food. The body mistakes the protein (the allergen) as a threat producing an antibody to it. With repeated exposures to the offending food, the body becomes primed to release histamine and other powerful biochemicals in response to the allergenic food. It is these chemicals that cause the allergy symptoms. True food allergies are not all that common: and affect less than 2 percent of adults, 4 to 8 percent of

young children and infants. The most common causes of food allergy are listed in Table 1 shown on page 4.

Food Sensitivity Symptoms

The symptoms of a food intolerance may be similar to those of a true food allergy. This often leads to confusion, causing people to think that they suffer from a food “allergy” when, in fact, the problem may not be that serious. Table 2, shown on page 4, which lists common symptoms of both true food allergies and food intolerances, should help clarify things.

When Allergy Symptoms Progress to Anaphylaxis

Anaphylaxis is a rare, potentially fatal response to a food allergy. The reaction is characterized by a quick progression through a number of different symptoms instead of the one or two typically seen with food allergies. For example, the reaction may progress quickly from the mild symptom stage, in which the individual experiences an itchy tongue and palate, to a stage of throat tightening and wheezing, and finally to the life-threatening stage of shock and cardiac arrest. Death can sometimes occur before the individual can self-administer life-saving medication (epinephrine). These fatal situations usually occur when the person is dining away from home and inadvertently consumes the offending food, fails to recognize the symptoms quickly, and delays administering epinephrine. According to Hefle, “Although very serious, anaphylaxis is also not a typical food allergy response; it’s seen pretty infrequently.”

What to Do If You Think You Have a Food Sensitivity

If you have noticed that you routinely experience adverse symptoms after eating a certain food or foods, the first step you may want to take is

(continued on page 4)

Food Sensitivities

to keep a log of the experiences. Jot down the date, what food or foods you ate, how they were prepared (if you know), when the symptoms appeared (how long after you ate the food), and exactly what the symptoms were.

Second, make an appointment with your physician and bring the log along. While the log is helpful, it is by no means the only tool that your physician or allergist will use to make a diagnosis. Blood tests, skin tests, and even food challenges may be used to arrive at a diagnosis. Nevertheless, take your log with you when you visit your physician, and if you don't believe the problem has been sufficiently resolved, seek the opinion of a board-certified food allergist.

Finally, do not attempt self-experimentation as a means of diagnosis. Not only can it be dangerous (allergy symptoms can worsen after each exposure), but you'll likely misdiagnose the condition. This can lead to unnecessary worry and hardship, not to mention the nutritional problems that may occur with unwarranted dietary restrictions. So what is the best plan? "Be an informed, helpful patient, but leave the diagnosing to the professionals," advises Hefle. "Your health is just too important."

Table 1. Most Common Causes of True Food Allergy

Infants:.....	cow's milk, eggs, peanuts, tree nuts (chestnuts, walnuts, hazelnuts, Brazil nut, pecans, pine nuts, and cashews), soybeans, wheat
Adults:	peanuts, crustacea (shrimp, crab, lobster, crawfish), tree nuts, and fish

Table 2. Food Sensitivity Symptoms

True Food Allergy Symptoms

Someone with a food allergy usually suffers from just a few of the symptoms listed below, not all of them. The onset may occur immediately or within an hour of ingesting the allergenic food. The symptoms fall into five categories:

- Cutaneous.....angioedema (swelling), urticaria (hives), eczema/atopic dermatitis (skin rash)
- Gastrointestinal.....abdominal cramps, diarrhea, nausea, vomiting
- Respiratory.....rhinitis (runny nose), asthma (difficulty breathing), laryngeal edema (constriction of throat)
- Oral allergy syndromemouth, palate, and tongue itching, edema, urticaria (urticaria is associated with fresh fruits and vegetables but rarely occurs during systemic reactions)
- Systemic.....anaphylactic shock (severe generalized shock)

Food Intolerance Symptoms

Someone with a food intolerance will experience mild, transient symptoms that do not involve the immune system. The onset is between 30 minutes and several hours after consumption of the offending food or beverages.

- Gastrointestinal.....abdominal cramps, diarrhea, nausea
- Metabolic.....hemolytic anemia (in severe cases jaundice and renal failure)

For More Information On Food Allergies and Intolerances

American Academy of Allergy, Asthma and Immunology
www.aaaai.org

American Dietetic Association
www.eatright.org

Food Allergy and Anaphylaxis Network
www.foodallergy.org

International Food Information Council Foundation
<http://ific.org>

What's New at IFIC.ORG?

It's live and online! We are delighted to introduce the new IFIC Foundation Web site. Come visit us at <http://ific.org>. Give us your feedback. We'd love to hear from you.



Crop Composition Database Available Online

Crop, food, and feed composition studies are considered an essential part of the safety assessment of new crop varieties, including those developed through food biotechnology. Information obtained from such studies is used to assess similarities and differences in important nutrients and anti-nutrients. The International Life Sciences Institute (ILSI) has generated an online comprehensive crop composition database that provides up-to-date information on the natural variability in composition of conventional crops and provides a reference for comparing the composition of new crop varieties, including those developed by conventional methods and through biotechnology. This database was generated with crop composition data obtained from studies conducted by members of the agricultural biotechnology industry over a number of years at multiple locations worldwide. The information collected in the database includes data on numerous biochemical parameters, such as the amounts of proximates, amino acids, lipids, carbohydrates, key vitamins, and anti-nutrients in each crop.

During the development of the crop composition database, ILSI obtained valuable feedback from government agencies, academia, and international organizations that contributed to the quality and usefulness of the database.

At this time the ILSI crop composition database includes information on the compositions of conventional crops. It is expected that data on biotechnology-derived crops will be included in the near future. The database is available for public use at no charge and can be accessed via the Internet at www.cropcomposition.org.

Trans Fat to Be Added to Nutrition Facts Label

Secretary of Health and Human Services, Tommy Thompson, announced that the food label would change for the first time since its debut a decade ago. The revised label will contain a new line item identifying the amount of trans fat in a serving. "By putting this data on food labels, we are arming American consumers with even more information to make healthy choices about the foods they eat," said Thompson. Trans fat is formed when vegetable oils are made more solid or made into a more stable liquid. Trans fat naturally occurs in small amounts in some meat and dairy products, but it is found mainly in foods with partially hydrogenated oils such as baked and fried foods. Currently, trans fats make up only 2.6 percent of the calories in the diet. The message from health professionals is not just to be aware of

trans fat, but to continue to improve health by reducing dietary saturated fat, cholesterol, and trans fat. The requirement for the new information on the Nutrition Facts label will go into effect on January 1, 2006.

FDA Issues Guidance on Review Process for Qualified Health Claims on Foods

As part of its continuing Consumer Health Information for Better Nutrition initiative, the Food and Drug Administration (FDA) announced the release of the initiative's task force report on July 10, unveiling a review process for qualified health claims on foods.

FDA issued guidance on a process for evaluating and ranking the scientific evidence for a qualified health claim. The ranking system categorizes the quality and strength of the scientific evidence, through an A, B, C, or D grading system for proposed qualified health claims. An unqualified health claim, (a grade of "A") meets the standards of significant scientific agreement achieved by previously approved health claims such as calcium to reduce risk of osteoporosis. FDA will also conduct consumer research to make sure that the language used is easily and accurately interpreted by consumers.

In a second piece of guidance, FDA explains how applicants can seek a qualified health claim for foods or dietary supplements and describes how FDA will prioritize the review of such petitions.

The report highlights the key areas in which FDA intends to focus its efforts in the coming months:

- Consumption of omega-3 fatty acids for reducing the risk of heart disease.
- Consumption of fruits and vegetables for reducing the risk of some cancers and other chronic illnesses.
- Replacing solid fats that are high in saturated and trans fats with vegetable oils containing unsaturated fats for reducing the risk of heart disease.
- Substituting nuts for other sources of saturated-fat-containing protein for reducing the risk of heart disease on July 15, 2003, the FDA issued a decision to allow a qualified health claim for some nuts.)

In addition to the task force findings, FDA issued a report detailing enforcement actions that will be taken against misleading claims by some manufacturers of dietary supplements.

Additional information about the FDA's "Consumer Health Information for Better Nutrition" initiative is available at: <http://www.fda.gov/oc/mcclellan/chbn.html>.

“Tooning” in to Food Safety Icons

With the leadership of Frank Yiannas, Walt Disney World’s manager of food safety and health, and a little help from the “imagineering” animation team at Disney, eleven *International Food Safety Icons* are now available from the International Association for Food Protection (IAFP) for global education about safe food handling. The *Icons* are simple graphic representations of important food safety steps that can be universally recognized and understood by food handlers of all nationalities.

The *Icons* can be used on food safety training materials, signs or reminders at food and beverage workstations, food preparation and storage equipment, and on food packaging. The *Icons* describe the do’s and don’ts of the critical concepts in food handling and preparation and the factors that contribute to foodborne diseases: (1) refrigeration/cold holding; (2) handwashing; (3) cooking; (4) hot holding; (5) cooling; (6) wash, rinse, and sanitize; (7) cross contamination; (8) no bare hand contact; (9) temperature danger zone; (10) do not work if ill; and (11) potentially hazardous food.

Yiannas chaired the two-year effort to identify the most effective images that would illustrate the most important

steps in ensuring food safety. He introduced the *Icons* to the annual meeting of the Association of Food and Drug Officials in June 2003. Yiannas described the careful work in testing potential images with consumer focus groups before making final decisions. “In many cases, the *Icons* we (the expert committee) thought would be most effective, were not as persuasive as others chosen by the focus groups,” according to Yiannas.

Individuals from Federal food safety agencies, including the U.S. Department of Agriculture, the Food and Drug Administration, and the Centers for Disease Control and Prevention, universities, and food service companies participated in this groundbreaking project.

Copyright: The International Association for Food Protection holds copyright to the *International Food Safety Icons*. Any use beyond those outlined by IAFP must be approved in writing prior to such use. Proper credit must be given to IAFP whenever the *Icons* are used. Guidelines for use, descriptions of each *Icon*, and the *Icons* themselves are available from the IAFP Web site at www.foodprotection.org. High quality images are available on a CD for \$25 and can be ordered from the IAFP Web site.

International Food Safety Icons



MISSION STATEMENT

“To provide food safety professionals worldwide with a forum to exchange information on protecting the food supply.”

Potentially Hazardous Foods

A food that requires time /temperature control for safety.



Handwashing

Wash hands with soap and warm running water.



Cooking

Thoroughly cook foods to appropriate temperatures.

Do Not Work If Ill

Do not work with food and beverage if you are ill or experiencing gastrointestinal symptoms.



Cross Contamination

Do not cross-contaminate between raw and ready-to-eat or cooked foods.



Wash, Rinse, and Sanitize

Food contact surfaces and utensils must be properly washed, rinsed, and sanitized.



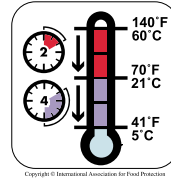
No Bare Hand Contact

Do not touch ready-to-eat foods with bare hands.



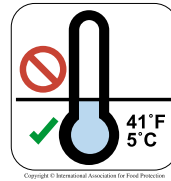
Cooling

Hot foods must be cooled from 140°F to 70°F (60°C to 21°C) within 2 hours and from 70°F to 41°F (21°C to 5°C) within an additional 4 hours.



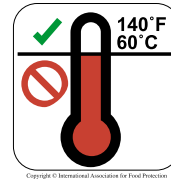
Refrigeration/Cold Holding

Cold foods must be held at 41°F (5°C) or below.



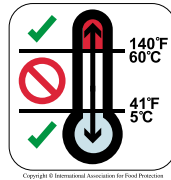
Hot Holding

Hot foods must be held at 140°F (60°C) or above.



Temperature Danger Zone

Do not allow foods to stay in the temperature danger zone. Keep cold foods cold and hot foods hot.



The International Association for Food Protection, founded in 1911, is a nonprofit association of food safety professionals. Comprised of a diverse membership of more than 3,000 members from 50 nations, the Association is dedicated to the education and service of its members as well as industry personnel.

New IFIC Foundation Publications

Below are the newest releases from the IFIC Foundation. Single copies of most publications are available free-of-charge. For a comprehensive listing of publications or for bulk prices, please request the IFIC Foundation Publications List below.

Publications List (MI-4010)

A complete list of publications available from the IFIC Foundation.

Fish & Your Health (EB-2095)

This brochure takes a look at the benefits of fish and seafood in a healthful diet. Provides information on the impact of omega-3's and seafood consumption for the general consumer, children and issues on guidance for pregnant women. Favorably reviewed by the American Academy of Family Physicians Foundation.

Weight Loss; Finding A Weight Loss Program that Works for You (EB-2090)

This helpful, easy-to-use brochure provides information and check lists for evaluating weight loss programs and services and helps consumers ask the right questions to choose a safe and effective weight loss method.

Prevent Childhood Choking: It's Up to You! (MI-4260)

This colorful 2-sided poster in both English and Spanish is suitable for home or daycare use to help parents and caregivers take the necessary steps to prevent childhood choking on food or other objects. Developed in partnership with the National SAFE KIDS Campaign. Single copies free, multiple copies \$1.50 each.

Caffeine and Women's Health (EB-2040)

Revised and updated brochure providing current scientific facts about caffeine and women's health, including such topics as pregnancy and osteoporosis. This referenced document was developed in partnership with the Association of Women's Health, Obstetric and Neonatal Nurses.

IFIC Review: Understanding Food Allergy (IR-3070)

This referenced white paper offers the latest scientific information on food allergy. It provides an overview on how to distinguish a food allergy from other sensitivities to food.

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Current Topics in Food Safety & Nutrition



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