

## FOOD ALLERGIES AND INTOLERANCES – PART I

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Food **allergies** are becoming an increasingly common chronic disease in many Western and westernized countries. True food allergies affect 5% to 8% of children and 1% to 3% of adults. **Food allergy** and **hypersensitivity** are synonymous when referring to an abnormal or exaggerated immunologic response to specific food constituents resulting in symptoms or disease. An estimated seven million Americans suffer from food allergies.

In contrast, **food intolerance** is considered an abnormal physiological – not immunologic -- response to a food or food additive and may include idiosyncratic, metabolic (e.g. digestive), pharmacological (e.g., chemicals in food), or toxic mechanisms. Up to a third of the population claims to react in some way to foods.

### FOOD ALLERGIES

Food allergies occur when the immune system abnormally overreacts to specific food components, usually proteins. Although more than 200 food ingredients are known to trigger allergic reactions, the vast majority (an estimated 90%) are caused by the “**big eight**”: peanuts (a legume), nuts (like walnuts, almonds, etc.), milk, eggs, fish, shellfish, soybeans, and wheat. Avoiding contact with the offending food is the only way to escape the uncomfortable – or, in some cases, life-threatening – reactions.

Children are often thought to “outgrow” their allergies by adolescence, but allergies may take different form, become delayed reactions, or create more vague or disguised symptoms. Some obvious allergies – especially to peanuts, nuts, and seafood – do not go away. And anyone can develop new allergies at any time. Reactions include hives; dermatitis; eczema; itching, edema; abdominal pain; diarrhea; nausea; vomiting; flushing; swelling of the throat; watery eyes; swelling or itching of lips, mouth, throat or face; throat clearing; nasal congestion; postnasal discharge; sneezing; asthma; pneumonia; middle-ear inflammation; heart rhythm irregularities; low blood pressure. Drugs may be used to treat symptoms. Antihistamines, decongestants, or steroids, for example, ease some symptoms, not others; work for some

people, not others; often cause unwelcome side effects. Drugs do not cure the underlying problem. Allergy shots are not dependable, effective only about half the time.

For most sufferers, allergic reactions are temporary discomforts. But some people (an estimated 30,000 each year in the US) go into anaphylactic shock, a terrifying reaction involving the respiratory tract, gastrointestinal tract, skin, and cardiovascular system. Throats can swell enough to cut off breathing or blood pressure can become dangerously low; abdominal symptoms, collapse and cyanosis may occur. Epinephrine is considered the life-saving drug. Yet, about 150 people a year die despite efforts of rescue squads and emergency rooms. Early administration of epinephrine “may not always be life-saving.”

There are several categories for foods allergies such as **immediate** reactions and **delayed** reactions. In immediate reactions, symptoms begin to develop within minutes to an hour or so after ingestion of the offending food. In delayed reactions, symptoms do not begin to appear until 24 hours or longer after ingestion. With the exception of celiac disease (an abnormal intestinal immune response to gluten-containing grains -- wheat, rye, barley, triticale, spelt, kamut), the role of delayed hypersensitivity reactions to foods “remains poorly defined.” Other categories include **occult** (hidden) allergies – pathology (damage) is evident, but without obvious symptoms – and **thermal** allergies – symptoms occur after ingestion of a specific food followed by exposure to cold, heat, or light. The terms **cyclic** and **fixed** are used in relation to food allergy. A cyclic allergy is one that worsens with repeated exposure; total avoidance for a time – a few months to a few years -- reinstates tolerance. Resensitization can be prevented by avoiding overexposure to the food as it is added back into the diet. A fixed (permanent) allergy means reexposure to a food still provokes symptoms after it has been totally avoided for two years. Consuming the food will always cause a reaction.

Other factors that may affect both the incidence and severity of food reactions include altitude,

emotional stress, hormonal imbalances, infections or inflammations, metabolic diseases, seasons, and nutritional imbalances. Heredity and race can also play a role.

Immediate reactions are believed to be mediated by a specific class of “antibodies” – immunoglobulin E or IgE. All humans have some IgE antibodies, but people predisposed to allergies produce IgE antibodies that are thought to be specific for certain “antigens,” typically proteins from foods. Foods contain millions of individual proteins, but only a comparative few are documented as “allergens.” Some foods contain multiple “allergenic” proteins, including peanuts, cows’ milk, and eggs. However, not all the proteins from “allergenic” foods are capable of inducing IgE production. And common protein-rich foods such as beef, pork, chicken, and turkey are “rarely allergenic.”

The process thought to occur begins when the immune system releases IgE in response to an “allergen.” The IgE binds to mast cells in the respiratory tract, mucosal surfaces, and skin. The mast cells release histamine and other inflammatory substances and cells. These processes – part of the natural and normal biochemistry of inflammation – are believed to be the underlying cause. But they could very well be among the effects. Also, there may be a “mixed immunological response” from IgM, IgG, IgA, IgE, and T-cells or there may be an accumulation of eosinophils. Often the mechanisms are not well understood and are difficult to test. More than one mechanism is frequently involved. “Although the pathogenesis of food allergy is still not completely known, it likely involves the altered interactions of several components of the mucosal, cell-mediated and humoral immune systems.” Symptoms are usually not limited to one body system, and the target organ or severity may change from one reaction to the next. Adverse reactions to food can be caused by small molecules other than proteins or peptides. The more common food allergies become, the more complex and elusive the causes and effects seem to be. <sup>1</sup>

## FOOD INTOLERANCES

Most reactions to foods are caused, not by allergies, but by intolerances. The difference arose because during the last 30 years or so, doctors worldwide have been reporting countless cases of reactions to foods, the response to which cannot be measured by antibodies. The medical definition of “allergy” is restricted to reactions that can be measured in the laboratory by antibody responses to a particular substance. Since most reactions to

foods do not produce specific measurable antibodies, they are considered intolerances, unexplainable by scientific method. However, it is quite likely that the immune system is involved. It’s just that there is nothing definitely measurable at this time.

Intolerances may be triggered by virtually any food, which makes them harder to identify. Some clinicians assert that food reactions can do anything to any part of the body. Food intolerance is “one of the least diagnosed and most prevalent causes of symptoms” says Sherry A. Rogers, MD. This does not imply that food intolerance is the cause of all symptoms or illness, but that it may be considered as a possible contributor of almost any symptom.

Food **allergy** or food **intolerance** can play a role in “nearly any symptom or disease you can think of” including: bursitis, rheumatoid arthritis, other rheumatological conditions, severe pain mimicking ruptured discs, sciatica, tendonitis, osteoarthritis, joint pain, muscle weakness, SLE (systemic lupus erythematosus), Meniere’s disease, recurrent cystitis or bladder symptoms, prostatitis, urethritis, nephrosis, other kidney disorders, diarrhea, constipation, vomiting, gastric and peptic and duodenal ulcers, irritable bowel, recurrent abdominal pain, gallbladder attacks, GERD (gastroesophageal reflux disease), ulcerative colitis, Crohn’s disease, ADHD (attention deficit and hyperactivity disorder), learning disabilities; cognitive and emotional symptoms such as changes in the ability to concentrate, memory or mood changes, depression, anxiety, etc.; flushing, headache including migraine-type, seizures, convulsions, muscle tightness, numbness, tingling, general weakness, fatigue, insomnia, diabetes, recurrent inflammations or infections, chronic fatigue syndrome, some symptoms of multiple sclerosis, itching, eczema, atopic dermatitis, rashes, hives, dandruff, unsteadiness or sensation loss in hands and feet, neuro-degenerative conditions, high blood pressure, conjunctivitis, nasal or sinus congestion, wheezing, repetitive coughing, bronchitis, asthma, throat constriction, metabolic acidosis, otitis media (inflammation of middle ear), canker sores, changes in heart rate, angina, hormonal dysregulation, and more.

In a large number of studies, an elimination-challenge diet is used to identify food sensitivities or intolerances. However, some researchers believe that, in cases of clear-cut allergy, extreme elimination diets are “overkill” because 85% to 90% of victims respond to challenges with one or more of the “big eight” offenders. Yet, since intolerance may involve

any and many food(s), elimination diets are often considered the most powerful tool for diagnosis and treatment.

A few factors need special note. First, breastfed infants and babies with symptoms such as eczema, gastrointestinal symptoms, poor growth, etc., can be intolerant to foods consumed by their mothers. Second, children with behavior or learning problems often react to preservatives, food dyes, MSG (monosodium glutamate), manufactured antioxidants and other food additives, as well as salicylates and some amines. Common “allergens” like the “big eight” do not cause the behavior problems produced by processed foods, food additives, and other foods. These findings support the Feingold hypothesis, although the Feingold diet did not eliminate all salicylates and amines.

Third, food affects the mind. Psychological symptoms such as depression, anxiety, “brain fog,” irritability, mood swings, feeling stressed, mania, or any other psychological state or change in behavior may be caused and/or worsened by food intolerance in susceptible individuals. A patient could have psychological issues and neurosis but independently also have a genuine sensitivity to specific foods. Physical symptoms may exist concurrently. But patients may tend to rely too much on food causing symptoms and, in turn, may not look introspectively or work with inner defenses or unconscious tendencies. It is much easier to blame foods than to delve into psychological issues. Reactions to foods may themselves be, in whole or part, a result of thinking or emotions. Psychiatrist David S. King observes that there can be “a link between psychopathology and sensitivity to common environmental [food and chemical] substances” which “cannot be overlooked in searching for the etiology of psychiatric symptoms.”

Another factor is that an individual may react to a whole food **family**. For example, some folks react to the nightshade family: potato, tomato, tomatillo, chili, peppers, eggplant. Or, human-manipulated products can create sensitivities to foods containing similar or related chemical compounds. For example, people sensitive to latex (plant or synthetic fluids manufactured into products like rubber goods, disposable gloves, plastics, etc.) may also react to banana, melon, peach, kiwi, and avocado (sometimes tomato, celery, cherries) since they contain a protein similar to that in latex.

It is not unusual for a person intolerant to a food to experience partial relief by eating that same food. The food in question may be one the

individual uses to ease their worst symptoms. Many people report cravings for problem foods and say they always feel better when they eat them. Withdrawal symptoms occur if they stop eating the food regularly. This is **masked intolerance**, essentially an addiction. Chronic, low-grade symptoms occur with regular consumption, but obvious or severe reactions do not. Avoiding the food or chemical for a week to 10 days with subsequent reexposure will unmask the sensitivity by triggering acute symptoms. In other instances, the body may instinctively avoid foods that cause problems, a kind of natural self-defense. Or, the body neither craves or avoids the foods – the person has no clue as to hidden intolerances.

Reactions to foods can be unpredictable. For example, a person may sometimes tolerate a food that at other times provokes symptoms. **Total load** is a determining factor. When stress; illness; exposure to and accumulation of toxic chemicals; altered foods; foods containing chemical additives, pesticide or hormone or drug residues; deficiencies, genetic tendencies; etc., have created an overload, the person is unable to tolerate the problem foods. Cooking, method of cooking (e.g., frying), purity (contamination by pesticides, hormones, antibiotics, additives), freshness (spoiled or rancid), and other factors can trigger overload. Prescription or over-the-counter drugs can cause reactions to normally “safe” foods.

“Food intolerance,” says Dr. William Campbell Douglass, “is one of the most perplexing issues in medical practice. Neither its causes nor its consequences are fully understood.” Jonathan Brostoff, professor of allergy and environmental health, University College London Medical School, says: “There is no such thing as a typical case of food intolerance. Every patient is different, both in the cluster of symptoms they show and in the foods that affect them. Nor is there a single, clear-cut mechanism underlying the symptoms, as there is with food allergy.” Many things may contribute to the problem. <sup>ii</sup>

## TESTS

A number of tests used for food allergies and intolerances including the following:

In a **cytotoxic** test, white cells from a person’s blood are placed in petri dishes. Unmetabolized (uneaten) foods are added to each dish. If the cells break, the person is said to be allergic. But for a reaction to occur in most patients, foods must be broken down (metabolized) to some degree. Also, many things can kill or break white cells in petri dishes, even leaving them

alone. And, there is a lack of consistency – one day a natural undigested food will kill cells; the next day it may not. The effects of food combinations are not taken into account. The **histamine** release test measures histamine released from white blood cells in petri dishes. But it is not known if histamine release means the person reacts adversely to the food when it is eaten. Actually, it is not clear what it means.

Allergists typically use the **skin prick test** and/or the radioallergosorbent test (**RAST**). In the skin prick test, a drop of an extract of the suspected food is placed on the skin and the skin is then either pricked or scratched at that site. If a weal-and-flare reaction (basically a hive) develops, the test is considered positive. Unfortunately, false positive reactions often occur -- the person does not react when he/she eats the food. False negative reactions are thought to be less common, but occur frequently too -- the individual does react when he/she eats the food even though the test indicated there would be no reaction.

In the RAST and several similar more recent testing procedures (including FAST, MAST, and ELISA), a sample of blood serum from the individual is obtained. The presence of specific IgE antibodies in the blood is determined by allowing the antibodies to react with food proteins bound to some solid material such as a specially coated paper disk. The binding is discovered by the reaction with radioactively labeled antihuman IgE antibodies (in the case of the RAST) or with antihuman IgE antibodies labeled in some other manner (in the case of some other tests). “The procedure is no more reliable than skinprick testing and is more costly...” IgE-mediated allergy, according to some studies, is actually rare in adults. False-positive and false-negative results occur frequently. Allergist Stephen Astor, MD, says that skin and blood tests are only 20% accurate.

Some researchers believe IgG antibodies are better markers of an immune response to food allergies. Yet, explains Vincent Marinkovich, M.D., IgG antibodies to foods “are not diagnostic of clinically significant hypersensitivity to foods,” but only indicate the “most likely antigenic component of the complexes.” Other scientists point out that IgG and IgM antibodies reflect dietary intake and are **not** specific for foods that the patient cannot tolerate.

Antigen leukocyte cellular antibody testing (**ALCAT**) determines the number and size of white blood cells and platelets in blood samples before and after the serum and cells are incubated with a food or mold-impregnated disc.

A certain percentage of change is thought to signal a problem reaction.

Alan R. Gaby, M.D., conceding that IgE and/or other antibody levels have diagnostic value for allergies due to genetic predisposition (atopic) or anaphylactic reactions, “there is little or no evidence that masked or hidden food reactions can be reliably identified by measuring circulating antibodies.” Other scientists, like Sheryl B. Miller, MT (ASCP), PhD, claim that food allergy blood tests are “fraught with problems” including a lack of reliability in testing, “an arguable theory” behind the testing, and the prevalence of treatments (various diets or supplements) prescribed by the testing laboratories based solely on laboratory test results. Another problem is that commercial food extracts “have not been well-characterized or standardized.” For example, all food is covered with microorganisms (bacteria, fungi, parasites, etc.), there may be pesticide residues, food additives or preservatives, and organic solvents that are not rinsed away during preparation. Persons with high exposure rates to pesticides and organic solvents show higher levels of IgG. Processed foods are altered or denatured. So what is being measured in these tests? An immune reaction to certain foods or a person’s exposure to common microorganisms or pesticides or other chemicals or to mangled, refined, altered foods or isolated parts thereof? And how can reactions in a test tube be considered equivalent to what occurs in the living human with innumerable internal and external variables affecting his/her response?

Further, food intolerances may not be mediated by the immune system. Even if a food reaction were a true allergy, the “antigens” that provoke symptoms may not be among the ones measured by a blood test. For example, some adverse reactions to cow’s milk are not due to the major milk proteins, but rather to polypeptides produced during digestion. Some reactions are caused by alteration of proteins in foods when they are cooked or processed, not to the natural or native food proteins. Research indicates that some IgG fractions include, not only symptom-provoking antibodies, but also protective or “blocking” antibodies. Thus it is not clear whether high levels of antibodies show that a food is causing problems or if the food reaction has effectively been “neutralized” or handled by the immune system.

The **double-blind, placebo-controlled food challenge** is considered “the gold standard” of allergy testing. Increasing amounts of a suspected food are given to the individual under the supervision of a physician who looks for

allergy signs and symptoms. Emergency equipment must be handy for those prone to anaphylactic reactions.

**Provocation-neutralization** tests for chemical and food sensitivities use a progression of dilutions (under the tongue or skin) from strong to weak that may reproduce allergic reactions. It is also used to desensitize the individual. But results from studies indicate that provocation of symptoms is not a useful tool for discriminating between reactions to a placebo (saline solution) and reactions to specific chemicals or foods. The use of symptoms alone to indicate neutralization "should not be used as a basis for clinical intervention."

**Kinesiology** is a form of various muscle testing techniques using muscle resistance to test foods. Accuracy often depends on the skill of the tester, and some patients do not test well. Muscle testing is the initial part of the Nambudripad Allergy Elimination Technique (**NAET**), an amalgam of therapies (including acupressure and massage). After muscle testing foods or chemicals for "allergic" response, an acupressure treatment is performed while the patient holds the allergen or a vial containing a solution of it. The patient then must avoid the offending substance for 25 hours "to permanently eliminate" the adverse reaction. Most practitioners say 10 to 12 treatments are needed for permanent change. **Neuro Emotional Technique (NET)** is a technique involving muscle testing to remove emotional blocks that prevent successful treatment. However, some kinesiologists contend that food reactions cause meridian imbalance, not the other way around. And they point out that any energy state that is easily reset may be easily turned off again. **Radionics, electrodermal, and electro-acupuncture** biofeedback tests have also been used to detect food intolerances.

The **pulse test** is based on a change that may occur in pulse rate if there is a reaction to a particular food. After the resting pulse is determined, a pulse is taken before a food is eaten and then 10, 20, and 60 minutes afterwards. Irregular beats, a pattern of 10 beats more or less per minute, or an increased pulse pressure may be a sign of reaction. But some people are not "pulse changers." **Electroacupuncture** biofeedback, radionics, and electrodermal tests have also been used to detect food intolerances.

The **rotation diet** alternates food groups every four days. Several food families are allowed each day and these same families are avoided

for the next three days before they can be repeated. The diet is used for diagnosis as well as treatment. Reactions may occur on the days when offending foods are consumed, but it may take longer than four days for the effects to leave, and delayed reactions may confuse the issue. The diet may be an excellent method of circumventing reactions by preventing the accumulation of foods in the system to the point where they provoke symptoms. But the individual must experiment to find out how often to rotate or whether rotation even works for him/her. The rotation diet will not necessarily prevent allergies or intolerances from developing. The person's predisposition, health, and total load all enter into the picture.

The **elimination diet** is sometimes the most reliable diagnostic tool, particularly useful when identification of problem foods is difficult. All suspected foods are eliminated from the diet and slowly reintroduced, one by one, on a specific schedule. Food intake and reactions are carefully recorded. Of course, prolonged or improper use of such a diet can have adverse nutritional consequences. But this type of diet is extremely helpful if the individual is uncertain about which foods are causing the adverse reactions or if there is confusion about the relationship of the symptoms to foods.

Not all diagnostic techniques work for every person – testing and evaluation need to be just as individual as the food reactions themselves. Treatment must also be individualized and can include more than one technique. No one really knows -- and cannot test for -- all the ways in which an individual may react to various substances. One could have thousands of dollars worth of testing and still not know all the triggering or offending substances. There may be a food that appears to be non-reactive on a test but which creates an adverse reaction when consumed -- the reaction occurs in a manner the test is not able to measure or determine. There is also a cumulative factor involved; the degree of susceptibility or hypersensitivity in each individual is different. Some people are so sensitive to a food that one bite will trigger a reaction. Others must eat 10 bites before they experience a problem. Some may have to ingest two pounds before exceeding their threshold. The more susceptible the person, the less food he/she must ingest to provoke symptoms. The less susceptible, the more that must be ingested. Even IF there were very accurate tests, they would still not be able to take into account exposure, quantity, and relevance to the person's problems as well as changes in circumstances such as total load. It is as if the person were a rain barrel. The water

in the barrel is the total load of pollutants; physical and psychological stresses; and other factors with which the body must cope. If the load goes too high, there is overflow -- the person gets sick. Lessening the load is the goal.

Some people will definitely feel better when they adhere to the results of blood tests, skin tests, or other tests even if they are not accurate. Whenever sensitive people avoid foods that commonly cause reactions – such as wheat, dairy, corn, soy – some of them will improve. “That does not prove the test is reliable.” How often do the tests actually cause people to eliminate foods from their diet to which they are not really sensitive? How often do the tests miss important symptom-provoking foods? Positive results do not mean certain foods cause a problem; negative results do not mean particular foods can be tolerated. For example, there is no way to know what proportion of food challenges are falsely negative because of missing co-factors. Cooking can decrease or increase reactive properties. Food reactions can be delayed, for days and possibly longer, after which they become impossible to identify by test. Some reactions are due to a combination of foods or the simultaneous presence of other stress factors such as physical exertion, drugs, emotional distress, menstruation, inflammation, pregnancy, and more. “Allergists do not possess diagnostic techniques accurate enough in most cases to disprove allergy” or intolerance.

The test that gives very accurate results with almost everyone is the general elimination diet which simultaneously eliminates several groups of food for three weeks at a time (allowing for delayed reactions and healing). A specific elimination diet should not be used initially unless the person is very sure of the foods causing problems. Food reactions can be multiple and cumulative, so a general elimination is best in the beginning.

An elimination diet is a huge undertaking for patients and requires a lot of time from clinicians. Yet it produces reliable results, teaches the patient about his/her own body and how it works, and enlightens the clinician to the individuality of the patient. Any and all foods that may cause troubles are excluded from the diet. When the patient feels better, foods are reintroduced one at a time to ascertain which provoke symptoms. This type of diet may take two or more months altogether, and must be adhered to rigidly. Since most people react to more than one food, eliminating one food like wheat for a week and milk the next week can yield little in clear-cut evidence. Eliminating all

the most likely problem foods and reintroducing them provides valuable information. The patient may feel deprived and withdrawal symptoms can be severe. So both patient and clinician must be prepared. Yet it is worth the effort. About 70% of patients are sensitive to 10 or fewer foods, 50% are intolerant to six. <sup>iii</sup>

Part II will explore some causes and therapies.

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<sup>i</sup> L Hanson & E Telemo, *Acta Paediatrica*, Sept 1997, 86(9): 916-18; H Sampson, *JAMA*, 10 Dec 1997, 278(22): 1888-94; *Allergy and Asthma*, Spring 1996, 2-3; D Schardt, *Nutrition Action Hlthltr*, Apr 2001, 28(3): 1-13; S Taylor et al, *Nutrition Today*, Jan/Feb 1999, 34(1): 15-22; BT Hunter, *Consumers Research*, Feb 1999, 82(2): 21-26; VA Marinkovich, *Personal Monograph* 1999:1-7; *Sully's Living Without*, Spring 1998:48, 58; H Sampson et al, *JAMA*, 25 Nov 1992, 268(20):2840-42; *JAMA*, 18 Apr 2001, 285(15):1952; K Love et al, Symposium, American College of Nutrition, 37<sup>th</sup> Annual Meeting, Oct 11-13, 1996, Abstr 13; JOB Hourihane et al, *Clin & Exper Allergy*, Jun 1997, 27(6):634-39; J Krohn et al, *Allergy Relief & Prevention*, Rev., Vancouver: Hartley & Marks, 1996, 61-63.

<sup>ii</sup> J Wright, *Healing Your Incurable Hurts*, Baltimore:Agora, 2000, 3-4; S Bombardieri et al, *J Med Sci* 1992, 28:117-120; JA Anderson, et al, *J Pediatr* 1974, 84:59-67; G Borok, *S African Allergy Soc Congress*, 1999, 1010; *Skin & Allergy News*, Mar 2000:36; WG Crook, *J Learn Disabil*, May 1987, 20(5): 260-61; JY Kang, et al, *Gut*, 1992, 33:743-48; M Worm et al, *Clin Exp Allergy* 2000, 30:407-14; *Hlth News*, Apr 2001, 7(4):9; G Kanny et al, *Allergy* 2001, 56:356-57; ECG Grant, *Lancet*, 5 May 1979:966-69; J Krohn et al, *Allergy Relief & Prevention*, Vancouver:Hartley & Marks, 1996, 62-64; S Husby & A Host, *Acta Paediatrica* 2001, 90:3-4; *Sully's Living Without*, Spring 1998:42-45; *Food Safety Notebook*, Nov/Dec 1997, 8(11/12):107-15 & Mar 1998, 9(3):7-9; *Pediatrics*, Jul 1998, 102(1):e6; D de Boissieu & C Dupont, *Lancet*, 24 Aug 1996, 348(9026):545-6; G Borok & W Guldenpfennig, *Neurology Congress*, Mar 1994; G Borok, *S African Fam Practice*, Oct 1989, 523-24; *Health*, Jan/Feb 1995, 9(1):11-12; E Isolauri et al, *J Pediatr*, Jan 1999, 134(1):27-32; A Swain, et al, *Lancet*, 6 Jul 1985: 41-42; A Gettis, *Nutr Health*, 1989, 6:135-46; *Food Allergy Update*, Aug/Sept 1986, 3(2):1-4; JC Garcia Ortiz et al, *Allergy* 1998, 53:532-36; N Snyderman, *Health*, Sept 2000:182; S Rogers, *Total Wellness*, Mar 2002:1-2; D Schardt, *Nutri Action Hlthltr*, Apr 2001, 28(3):10-13; BT Hunter, *Consumer's Research*, Apr 1996, 79(4):9; WC Douglass, *Second Opinion*, May 2000, X(5), 1-5; *Allergy Handbook*, ed: Lynne McTaggart, London: Hubbard, 1998: 11-12; S Rogers, *Depression Cured at Last!*, Sarasota:SK Publ, 1996, 46-47.

<sup>iii</sup> E Ford, *Healthline*, Jun 1999, 18(6):10-11; S Taylor et al, *Nutrition Today*, Jan/Feb 1999, 34(1):15-22; RA Fox et al, *J Allergy Clin Immunol*, May 1999, 103(5/Pt 1):907-911; U Bengtsson et al, *Gut*, 1996, 39:130-35; H Sampson et al, *JAMA*, 25 Nov 1992, 268(20):2840-41; V Marinkovich, *Clin Pearls News*, May 2000, 10(5): 84-85; J Bernhisel-Broadbent, *Ann Allergy Asthma Immunol*, 1995, 75:295-303; S Miller, *Townsend Ltr D&P*, Jan 1998: 62-65; L Weber, *Nat Health*, Jul/Aug 1998: 106-111; S Rogers, *Total Wellness*, Jun 2001:7; A Gaby, *Townsend Ltr D&P*, Jan 1998:106; D Freed, *Lancet*, 16 Mar 2002, 359(9310):980; S Rochlitz, *Townsend Ltr D&P*, May 2001, 214:94-97; D Getoff, *Hlth & Healing Wisdom*, Winter 2001, 25(4):19-21; WC Douglass, *Second Opinion*, May 2000, X(5):1-6; T O'Brien, *Nat Health*, May/June 2002, 32(4): 70-121; S Astor, *Hidden Food Allergies*, Garden City: Avery, 1997, 3, 25-53; P Radetsky, *Allergic to the Twentieth Century*, Boston:Little, Brown, 1997, 12-112; J Krohn, *Allergy Relief & Prevention*, Vancouver:Hartley & Marks, 1996, 53-58.

