



## LAKELAND CHIROPRACTIC

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#### Nutrition News and Views

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#### FOOD ALLERGIES AND INTOLERANCES - PART I

by Judith A. DeCaya, C.N.C., L.N.C.

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 lifesaving 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. (i)

#### 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

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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, neurodegenerative 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. (ii)

## 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 radioallergen sorbent 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

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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. Falsepositive 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 cows 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 electroacupuncture 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

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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. (iii)

Part II will explore some causes and therapies.

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The prevalence of food intolerances and allergies is increasing. More and more people discover that they experience reactions to items that never bothered them before; or, if they already have allergies or intolerances, there are changes for the worse. Some people are described as "panallergic" or "universal reactors," meaning they have adverse reactions to almost everything. There are apparently many causes such as genetic tendencies, deficiencies, organ or gland or system dysfunction, exposure to poisons, toxic overload, denatured (altered), adulterated, and depleted foods, artificial non-foods, and more.

#### TOTAL LOAD

Total load refers to an individual's threshold of tolerance - like a rain barrel that becomes full, overflows, and then produces certain symptoms. One's threshold of tolerance to external and internal insults is cumulative, relating to amount of exposure; physiological parameters (digestive health, intestinal permeability, liver or kidney function, etc.) nutritional status; physical/mental/emotional stress; and more. Total-load overflow does not occur overnight; it gradually develops whether by daily choices or unavoidable circumstances.

For instance, perhaps Jane's migraine headaches are due to a combination of stress on her job, a deficiency of vitamin C complex and minerals that contribute to fragility and spasm of blood vessel walls, accumulation of pesticide residues from foods, overuse of her detoxification pathways from inhaling formaldehyde from her new mattress, MSG and chemical additives in her diet, and misalignment of vertebra in her neck. It may take only the removal of two or three things to sufficiently reduce her total load and give her some relief. Getting counseling or changing her job, obtaining proper nutritional supplementation, switching to organically-produced foods, covering her mattress with barrier cloth, and getting chiropractic treatments or massage therapy for her neck could solve the headache problem. The more the total load is reduced, the better the outcome.

Total body load is affected by both foods eaten and foods omitted from the diet. People with food sensitivities feel best when they consume high quality

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organically-raised foods - foods without drug or hormone or pesticide residues, foods without preservatives or other chemical additives, nutrient-dense fresh foods grown or raised on high quality soil. This is an essential factor in overcoming food allergies or intolerances.

Digestive disturbances are often associated with food reactions. Gastrointestinal contamination can result from eating chemically-treated, commercially grown foods. Conversely, fresh organic foods enhance gastrointestinal balance and absorption, delivering a good quantity of nutrients to any damaged organs or tissues and increasing the defenses and function of healthy ones. When less chemically contaminated food is used, there is reduced competition for absorption of toxic chemical contaminants versus healthful nutrients.

Nutrient values of foods are altered in the farming stage by cultivation of limited genetic varieties, monocropping, mechanical disruption of soil, and the use of artificial fertilizers, herbicides, and pesticides. Persistent residues of pesticides and herbicides in the soils adversely effect crop yields, influence the quantity, quality, nutritive value, and flavors of the raw food or food products processed from it. Biodynamically grown and/or organicallygrown foods have been shown to be far superior to those raised commercially - nutritional values are often vastly higher. Pesticides and herbicides can affect the carbohydrate, protein, fat, and free amino acids composition of plants, as well as their uptake of minerals from the soil. Vitamin content is negatively influenced. Pesticides and herbicides "disturb and alter metabolism of the plants to which they are applied." Each consumer has a threshold over which he/she can no longer accommodate this altered food; symptoms appear or worsen.

Commercially-raise animals are often given feeds containing items unnatural for the specific breed (such as dead animals, blood, manure, etc.) or unnatural to any animal (such as sawdust, old newspapers, shredded tires, etc.). Unnatural and cruel environments, heavy use of antibiotics and other drugs to manage unhealthy animals, hormones for quick growth, and the use of nutrientdepleted, chemically-treated, and pesticide-laden feeds all contribute to contaminated and nutritionally altered animals. Consumption of these artificially-raised animals is a perfect set-up for chemical and food sensitivities.

More foods are being genetically engineered. The cascade of chemical reactions they can produce may certainly overwhelm any apparatus for fighting it. There is as yet no way to tell what effects genetically-engineered foods may have on humans consuming them.

The diagnosis and treatment of food sensitivities has become "immensely complicated with the discovery of the adverse effects of food contaminants." Over 10,000 intentional food additives are currently used in foods. Exposure can cause changes in the immune system and just about any other area of the body. Some of these additives are: "antispoilant" chemicals, acids and alkalies, buffers and neutralizing agents, humectants, food colorings or dyes, flavoring agents, flavor enhancers (such as monosodium glutamate [MSG] to which, according to some researchers, as many as 80% of the population may react with symptoms ranging from fatigue to migraine headaches), bleaching agents, physiological-activity-control chemicals serving as ripeners or anti metabolic agents (ethylene gas, for example, speeds the ripening of bananas; maleic hydrazide prevents potatoes from sprouting), maturing agents, processing aids, sanitizing agents, clarifying agents, emulsifiers and emulsion stabilizers, texturizers, thickeners, stabilizers, whipping agents, and more. Not all artificial additives produce immediate or obvious symptoms in everyone. Problems are more evident in the highly sensitive or those with a high total load. Accumulations and combinations of these chemicals can gradually lead to symptoms and disease. Many people are allergic to even tiny amounts of these compounds. It is estimated that the average person ingests one gallon of food additives each year.

Also contributing to toxic overload are artificial sweeteners, waxes, fake fats, and

any altered or refined or overly-processed non-food (supplying noxious substances and little, if any, nutrition). People are hungry - people with allergies or intolerances are very hungry - not for calories, but for nourishment. There is a dire need to consume whole, natural, nutrient-dense foods, foods "custom designed" to feed body and spirit. Whole foods are expertly balanced with the right nutrients in the right combinations to be absorbed and assimilated with components to aid detoxification. But the food industry has robbed consumers of the perfect fuels required for health; it creates fabricated foods not recognized or accepted by the body as real, natural food. This is a primary cause of toxicity as well as allergies and intolerances. The body has a built-in survival and balancing instinct, allowing it to signal that it can no longer tolerate the insults, that it has reached its limit. Food is grown on depleted soils with poisons; it is mutilated, mangled, colored, waxed, and embalmed with chemicals. Disruptive, harmful substances are added - from refined sugars to bad fats, from artificial flavors to manufactured chemical "nutrients." This is not because it is good for people's health. It is because it is good for business.

When food is out of balance - when it is altered, denatured, depleted, and defiled - bodies become out of balance too. When the life is taken out of food, not only does good taste go, but so does nourishment and the consumer's vitality and wellbeing. Technological advances have tricked many into thinking that essential parts of foods can be removed, manufactured chemicals can be added, changes to the remnants can be made, and the end products can still be called "food." The wonders of science convince people that their bodies can use such contrivances to maintain health - and that, should things go wrong, there is something that can be done to "fix" it. The complex body breaks down when degenerated, adulterated, depleted, and deformed non-food is fed into it. For one thing, allergies or intolerances to foods develop, even to foods that should be recognized as natural and good. Still, the body is remarkable, ready and willing to fight back, to repair and heal if possible.

A study on cardiovascular rehabilitation placed volunteers on an elimination and rotation diet, eliminating all refined, processed, fried, and manufactured foods. One or two types of food in their natural state in unlimited quantities were eaten at each meal. No food was repeated in anyone week. Caffeine was not allowed. This resulted in needed weight loss, reduced blood pressure, significant reduction in triglycerides, increased HDL (S-called "good") cholesterol, and normalization of glucose and insulin levels. This type of natural diet "works" with many other disorders and diseases too. Elimination and/or rotation diets have successfully improved problems such as learning disabilities, arthritis, fibromyalgia, digestive disturbances, asthma, anxiety, and others too numerous to list.

When there is severe toxic overload, food recognition is impaired, malabsorption occurs, and a person becomes sensitive to most foods. A severely sensitive individual with a high total pollutant load may not even have had to be exposed" to a food to be extremely sensitive to it. Evidently, recognition and metabolic sites are so dysfunctional at this stage that the individual reacts to substances such as buffalo meat or amaranth to which he/she has never been exposed. A monorotation diet may be needed for a while, gradually adding other foods to meals. If nutrient-rich whole" organically-raised foods are eaten, nutritional status and tolerance improve. Some patients who do not respond to a classical rotary diet do respond to a macrobiotic diet (on a four-day rotation). Some people do best with mostly raw foods, others with mostly cooked foods. A trial-and-error period may ensue, and needs may change as health improves. The common thread is the importance of organically-raised, unrefined, minimally-processed, fresh, additive- and preservative-free foods.

The growing prevalence of complex, multisystem disorders in persons with allergies or intolerances indicates weakened and compromised bodily systems. Elimination and rotation diets alone may not always produce significant improvement because of a failure to reduce or eliminate a sufficient number of factors contributing to total load - from indoor air pollution to fluoridated water,

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from nutritional deficiencies to psychological issues - any stresses that may exist. The clinician and patient must 'NOrk together as a detective team to discover the clues and appropriate actions. Fortunately, most people suffer with only one or a few allergies or intolerances. I

#### FOR EXAMPLE

The alteration of foods and their nutrient supply over the course of the last century or so has had a long-term negative impact on the ability to maintain optimum human health and definitely 'NOrsens or initiates chemical and food sensitivities. For example, wheat and cow's milk are foods to which many people develop an allergy or intolerance.

Grain proteins (including gluten, gliadin, and glutenins) have been blamed for many symptoms and disorders. Gluten sensitivity can manifest, not only in celiac disease, but in dermatitis herpetiformis, neurologic disorders, and many other conditions. However, some people who cannot tolerate wheat can handle spelt and/or kamut other forms of wheat that also contain gluten. These ancient grains have not yet been subjected to the toxic farming and excessive processing as has common wheat. Barley, rye, oats, quinoa, millet, buckwheat, amaranth, and tef also contain gluten, though in lesser amounts than wheat. Some or all of them are well tolerated by many wheat-sensitive individuals. About 90% of the wheat grown is soft wheat, lower in proteins (like gluten) than hard or durum wheat. So more than gluten may be involved.

Over the last 100 or more years, wheat has changed drastically and the amount in the average diet has increased considerably. Adverse reactions to wheat "maybe linked to toxic pesticides and/or herbicides in the grains." Wheat is now exposed to high levels of pesticides, fungicides and other chemicals when grown. The grain undergoes a bewildering array of processes before being used in

products. The germ - rich in protein, minerals, vitamin E complex, B vitamins - is removed as is the bran, the fiber part that also contains nutrients. Until about 50 years ago, wheat was stored for months and allowed to age to improve flavor. Nowadays, chemical oxidizing agents are used like potassium bromate to age wheat within 48 hours. The natural yellow color of flour is bleached away with chemicals such as benzoyl peroxide. To neutralize the bleaching agent, another chemical is added. Irradiation is commonly used to avoid insect contamination. Finally, preservatives and conditioners are added to improve shelf life and texture. The grain is completely transformed! Most nutrients are lost. A paltry few artificial chemicals called vitamins and minerals are added, but the body cannot easily assimilate them and cannot use them as natural food complexes. Wheat in bygone days was allowed to naturally germinate or was naturally leavened, making it easier to digest and more nutritious. The modern, over-processed excuse for wheat can contribute to intolerance to any form of wheat. Virtually all mass-produced wheat is hybrid, created offspring of differing parents, which can alter basic makeup.

Milk allergy is a reaction to milk proteins (as casein or whey). Those with true dairy allergy - or milk protein intolerance (if no immune response is found) - may experience symptoms that vary greatly in intensity and severity. Reactions can lead to anaphylactic shock. Milk Intolerance is often an inability to digest lactose, the main sugar in milk. Whereas 2 to 4% of children have milk allergy, an estimated 10% of Americans suffer from lactose intolerance. They purportedly do not produce enough of the enzyme lactase to digest all the lactose. When excessive undigested lactose reaches the large intestine, it can cause bloating, gas, cramps, nausea, and diarrhea. Some dairy products (like natural cheeses, ice cream, yogurt) contain much less lactose than milk does so may be tolerated.

During the past century or so, cows and their milk have been subjected to much human intervention. Cows are raised in unnatural environments, fed foods not natural for them and foods laced with pesticides, given hormones to boost milk

production, subjected to antibiotics and other drugs to mask their unhealthy state. The milk is pasteurized, homogenized, chemically spiked.

Consider just the effects of pasteurization. It: Can be used to mask low-quality, "dirty" (as from insect and fecal material) milk. Destroys the souring bacteria of milk so milk putrefies instead of souring. Destroys beneficial enzymes and hormones, taking the living principles out of milk. Impairs the flavor (a sign of inferior nutrition), diminishes the nutrient value, and devitalizes the milk. Greatly depletes vitamin content such as vitamins A, C, and B complex. Precipitates calcium and other minerals, making them unavailable for use. Harms and alters the fats to unnatural forms. Significantly reduces the biological value of - damages - the protein by denaturing amino acids. Curtails absorption and utilization of nutrients. Makes natural sugars or carbohydrates less available metabolically. Destroys the active "anti-stiffness factor," a steroid nutrient. The list can go on.

Lactose, the primary sugar in milk, appears as alpha-lactose in raw milk, but is changed to beta-lactose with pasteurization. Beta-lactose is more rapidly absorbed into the bloodstream. Lactose intolerance is the inability of the body to split lactose into glucose and galactose. This occurs either because of the absence of the enzyme lactase in the small intestines OR the deactivation of lactase by pasteurization. Either way, some "whole" lactose is absorbed through the intestinal wall and disposed of by the kidneys; the rest passes into the large intestine where intestinal bacteria work on it. The more work the bacteria perform, the more "gas" is produced, causing flatulence, abdominal pain, bloating, and diarrhea. The unavailability of lactose in its natural, unheated alpha form often leads to diminished lactase secretion by the small intestine and thus to intolerance. Some people with severe milk intolerance not only tolerate raw milk, they thrive on it! Some cannot tolerate ANY form of milk.

Fermented pasteurized milk products, such as yogurt or kefir, are often easier to digest. The bacteria that transform or ferment the milk break down or "digest" some of the beta-lactose. Once in the small intestine, the fermented milk bacteria further cleave much of the remaining lactose. Fermented dairy products should contain live, active cultures. (ii)

#### DIGESTION

Digestion is a problem for most allergic or intolerant people. Some have low (or virtually absent) levels of hydrochloric acid in their stomachs; others have elevated levels. Those with low gastric acid need hydrochloric acid supplementation, but often cannot tolerate it, or it does not alleviate all digestive problems. Many people are deficient in digestive enzymes and need enzyme supplementation with substances such as pancrease, papase, trypsin, lipase, etc. Some have an imbalance of bacterial flora in the gut. Probiotics such as acidophilus may be needed to rebalance the flora. Refined sugars, other refined foods, alcohol, some drugs, and stress overstimulate the pancreas, impairing its ability to produce and secrete digestive enzymes as well as its ability to neutralize the acid coming from the stomach with bicarbonates. Excessive acid, which can destroy digestive enzymes, irritates the gut lining. Innumerable toxic chemicals and toxic foods over-stress the liver, one consequence of which is lowered bile output and lowered ability to digest fat. The most important aspects of improved digestion are the reduction of total body pollutant load and the improvement of nutritional status.

All types and degrees of malabsorption may occur in the allergic or intolerant patient, ranging from mild specific nutrient malabsorption to general calorie malabsorption. There are usually multiple deficiencies of nutrients due to failure to either incorporate or absorb them. Pollutant damage may be involved; supplementation may correct this damage IF the pollutants are withdrawn to reduce total load. In some cases, supplementation may not help immediately. Sometimes the metabolic rate is too high due to the body's attempts to detoxify

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the toxic overload and nutrient requirements are used up. Patients with diarrhea or loose stools have excessively rapid transient time, so nutrients are not properly absorbed. Those with constipation may appear to have some forms of what old medical books referred to as auto-intoxication, a retention or self-production of poisons or toxins. The body interprets certain foods as being poisonous or is unable to properly digest, absorb, and assimilate foods. Urinary leaks of various nutrients may occur. Eventually, nutrients can be properly absorbed and used if underlying causes are approached.

Scientists studying allergies and intolerances contend that food reactions are often due to a damaged, inflamed, and more permeable mucous membrane lining of the esophagus, stomach, and intestines. In other words, an individual's digestive tract can become too permeable (a so-called "leaky gut"), allowing larger than normal food particles (and sometimes toxins and other chemicals) to enter the bloodstream improperly and cause reactions. Though it seems paradoxical, a hyperpermeable gastrointestinal tract frequently causes lowered nutrient absorption. Anything that insults or injures the lining of the intestines can cause inflammation and increased permeability. This includes any number of nutritional deficiencies, pancreatic and other digestive insufficiencies, irritating or toxic chemicals (such as caffeine, alcohol, food additives, pesticide residues, etc.) refined or processed foods (especially sweets), drugs (like NSAIDs - Motrin, Aleve, Advil, aspirin, etc.), preexisting food allergies or intolerances, chemicals to which one is sensitive, intestinal dysbiosis (disruption of normal flora, often due to antibiotics), protozoan parasite toxins, psychological stresses, and more. Refined, processed, chemical-laden foods increase vulnerability to leaky gut and make healing it much harder. These "foods" lack healing nutrients, so doubly lower nutrient status. Once the intestinal lining becomes damaged and/or inflamed, the spaces between the gut-lining cells enlarge, allowing larger-than-normal food particles to slip through or leak into the bloodstream. The immune system does not recognize these larger particles as "normal," so begins to engulf, break down, and get rid of these substances as "foreign" entities. Even harmless, totally natural foods may then be classified as toxic by the body.

Injured or irritated intestinal linings do not secrete digestive enzymes adequately to digest foods properly or absorb nutrients. Carrier proteins are damaged, so malabsorption and nutritional deficiencies occur. These deficiencies inhibit the ability of the intestines to heal and can cause any number of symptoms in the body. When the detoxification pathways that line the intestines are compromised, chemical sensitivities can arise. The leakage of toxins - substances that were never supposed to be absorbed through the intestinal walls - overburdens the liver and kidneys so that the body is less able to handle everyday chemicals in food, water, and air. Many foods will then cause symptoms that never did before because the body's detoxification system is unable to cope with the multiplicity of chemical additives, dyes, preservatives, pesticides, refining, and alterations common to commercial food.

Abnormal or inadequate bacterial flora of the intestines may have an important role in food intolerance. Abnormal flora may arise particularly following use of antibiotics, surgery, radiation, or gastroenteritis, all of which may depress the colonization resistance of the gut and allow new organisms to become established in the colon. Overgrowth of *Candida albicans* in the intestines is one possibility. The huge number of fungal elements introduced into foods by the industry for various reasons (including amylase [bread], hemicellulose [fruit juices], and citric acid acidulant [virtually all processed foods and soft drinks]) can affect intestinal bacterial balance. There is now considerable evidence indicating the colon breaks down food residues by fermentation using its enzyme-producing bacteria. Some scientists believe "a healthy gut flora reduces the risk of food hypersensitivity."

In order to heal the injured digestive tract, causes must be removed. Foods to which one has developed a sensitivity must be avoided. NSAIDs or other irritating drugs may

need to be limited or omitted. Chemicalized processed 'nonfoods,' caffeine, alcohol, and other irritating, compromising items should be avoided. Digestive supplements may be needed to assist digestion and absorption. Probiotics (including acidophilus, bulgaricum, bifidus, and others) may be important to re-inoculate the intestines with beneficial bacterial flora. Traditionally, probiotics came from naturally fermented foods such as yogurt, kefir, miso, sauerkraut, etc. Prebiotics are also helpful - "food" for friendly bacteria found in whole grains, beans, starchy vegetables, and fruits. One prebiotic is FOS, fructo-oligosaccharides, found in Jerusalem artichokes, onions, and garlic. FOS supplements are not very stable and not all friendly bacteria eat FOS, so it is better to obtain FOS and other prebiotics from whole, natural foods. Food supplements to improve nutritional status can be invaluable, though caution should be used to avoid ingredients that are not well tolerated. Many supplements can aid in repairing intestinal walls as well as support detoxification and general healing. But synthetic or fractionated vitamins, minerals, amino acids, or other parts or imitations of foods often become allergenic and do not deal with the cause of the problem - they are not natural to the body and simply add to the total load.

To restore good digestive tract function, only whole natural foods should be consumed. Foods should be chewed thoroughly, only clean water (such as natural spring water) should be used, mealtimes should be peaceful, physical exercise should be regular, emotional stresses should be resolved. Stress - whether physical, mental, emotional, environmental, dietary, thermal, or chemical contributes to allergies and intolerances by changing the body's physical and mental responses. The lining of the digestive tract is essential to detoxification and contains 40 to 60% of the body's immune tissue. A stressed and overstimulated immune system can become hypersensitive to various chemicals and foods. It is therefore not unusual that most all individuals with food allergy or intolerance have some digestive disruptions. "Proper digestion is key factor in recovering from food sensitivities."

#### HOW LONG?

Nothing works better than avoidance for the treatment of food allergies and intolerances. After total avoidance for anywhere from three to 48 months, tolerance may return. Small amounts of the offensive food can be tried - each person must experiment to find out how much he/she can tolerate. After a period of eating small amounts of the food without experiencing a reaction, it may be incorrectly assumed that the sensitivity no longer exists. Then more of the food is eaten, old habits reinstated, and symptoms may reappear. If this occurs, it is necessary to stop eating the food and see if there is improvement.

A study in Norway involved patients with food intolerance to wheat and/or dairy who had been studied four years previously and had since eliminated those foods with positive results. Eating normal amounts of these foods again significantly increased symptoms such as intestinal discomforts, headaches, joint and muscle pain, etc. Even after four years of abstinence, symptoms may return.

For some people, a rotation diet (in which each type of food is eaten only once every four days) helps to reintroduce foods. Once allergies or intolerances have been identified and these foods eliminated from the diet for 60 to 90 days, most can be reintroduced - one food at a time every four days - as long as a rotation diet is maintained. If there are no symptoms within 48 hours, then it is safe to try the food again in four days. If there is still no difficulty, the food may be added to the regular rotation diet. However, if symptoms are experienced every time the food is eaten, the item should be avoided again for six months, then tried with a 10-day interval between exposures. If symptoms occur with each exposure to the food, it is possible that there have been inadvertent exposures when the person thought the food was being avoided, OR there is a fixed food sensitivity and the item must be totally eliminated from the diet. In many cases, a rotation diet can be discontinued once sufficient healing takes place. (iv)

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## OTHER THERAPIES

Desensitization with injectable homeopathic remedies has aided some people, often in addition to other treatments. Homeopathic remedies are used to treat sensitivities with classic or special extracts of allergens prepared by diluting the substances homeopathically.

Nambudripad's Allergy Elimination Technique (NAET) combines kinesiology and acupuncture or acupressure to test and treat allergies and intolerances. Neuro Emotional Technique (NET) involves basic muscle testing to remove emotional blocks that prevent regaining one's health, thus treating biochemical, structural, and emotional aspects. Enzyme potentiated desensitization (EPD) utilizes small doses of allergens and the enzyme beta glucuronidase to desensitize people. The enzyme is supposed to increase and alter the effects of the antigen as a "messenger" in the immune system. Sublingual food extracts can be helpful, though they are not a panacea substituting for dietary and environmental clean-up measures. They are used for symptom control and are usually given before exposure to the offending food.

Although these and other therapies provide relief for some people, it is still important to follow a healthy diet of low-toxic, whole, prepared-from-scratch foods with minimal processing and refining in addition to other methods of reducing total load. Supplementation and digestive aids are usually required. Drugs may relieve symptoms but do not correct the underlying conditions. Allergy injections do not directly help food allergy. They indirectly stimulate the immune system, further stressing the body. Occasionally, people have died when they were injected with foods looking to the healthiest people on the planet, it is not a coincidence that societies that eat simple, organically-raised, unadulterated, unaltered foods are comparatively free of chronic diseases including food allergies and intolerances and live into old age with health, energy, and independence. Specific foods and proportions may differ from culture to culture, but the basic principles remain the same. v

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**\*\* Who do you know that could benefit from Chiropractic Care? \*\***

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