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For health professionals

FOOD ALLERGIES AND INTOLERANCES

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It's a growing problem: More people are having bad reactions to foods. The prevalence of peanut allergy among children, for example, tripled between 1997 and 2008. **However**, there is a lack of uniformity in criteria for making a diagnosis. Most diagnostic tests are unreliable. A diagnosis can be wrong. There's no agreed-upon definition of food allergy or how it differs from food sensitivity or intolerance. It's estimated that 2.5% of the US population (about 7.6 million people) have food allergies. Some estimates are a little higher, though always under 10%. Yet up to 35% of adults believe they're allergic to some food. They may have sensitivities or intolerances which are also on the rise, prevalence estimates ranging from 10% to 25% of the population. For clarity here, an adverse food **reaction** is ANY troublesome reaction after eating a food, no matter what its cause. An **allergy** is an abnormal immunologic response (involving specific components). A **sensitivity** triggers a different kind of immune response. An **intolerance** does not involve an immunologic response.

A food **allergy** is medically defined as occurring when the immune system triggers immunoglobulin E (IgE) antibodies to bind with a food protein (the "allergen"). This is believed to activate cells throughout the body to release large amounts of chemicals such as histamine. Actually, the inflammation process is initiated as a result of sensed insult or injury. Allergic reactions can occur throughout the body: respiratory system, digestive tract, skin, eyes, ears, throat, or cardiovascular system. Symptoms may include itchy eyes, tingling in tongue or lips, runny nose, dry throat, tightness in the throat, hoarseness, hives, other rashes, itchy skin, fever, coughing, wheezing, breathing problems (which may include anaphylactic shock, a serious quick-occurring reaction), nausea, vomiting, diarrhea, abdominal cramping, headache, irregular heartbeats. Reactions usually occur within a few minutes to an hour after eating the offending food, rarely after a few hours. Even trace amounts of the food can cause problems, sometimes through skin contact or inhalation (as when a food is being cooked). The majority (**90%**) of food allergies are triggered by **8 foods**: milk products, eggs, peanuts, tree nuts, wheat, fish, shellfish, and soy. True food allergies almost always begin in the first or second year of life, although adults do rarely develop allergies, most commonly to shellfish, peanuts, or tree nuts; these tend to be temporary. According to the CDC, adults are less likely to be affected "because many children eventually grow out of food allergies." Yet, many health professionals contend that childhood allergies may be converted into other disorders. Children with food allergies are more likely to have other 'allergic' conditions like eczema or respiratory illnesses. The "switch phenomenon" is well known in environmental medicine. For example, a person who had a food allergy as a child will later develop sinusitis, then migraines, and finally colitis. There is a general unhealthy condition (involving the immune system) that affects different areas of the body.

Food **sensitivity** is defined as causing symptoms similar to allergies, but reactions are slower and milder. It can take hours or even days before symptoms appear. Immunoglobulins A, G or M (IgA, IgG, IgM) are thought to be involved. Sensitivities may contribute to chronic conditions such as fibromyalgia, chronic fatigue, arthritis, depression, sinusitis, GERD (gastroesophageal reflux disease), migraines, irritable bowel syndrome, attention deficit disorder (ADD), rashes and more. Inadequate digestion or digestive disturbances are often involved such as inadequate digestive enzymes or damaged intestinal walls with increased intestinal permeability.

Food **intolerance** means the immune system is not directly involved; reactions are not life-threatening, though health and quality of life can be affected. It's often signaled by symptoms such as indigestion, bloating, fatigue, migraines, memory problems, toxic headache, constipation, and irritable bowel syndrome. Digestive symptoms usually predominate. There may be digestive tract irritation, deficient digestive substances, disruption of intestinal bacteria, a physical response to mental/emotional distress, or anything else that may disturb the GI tract. A common intolerance is *lactose* intolerance: difficulty digesting milk sugar resulting in symptoms like abdominal cramps and diarrhea. Insufficient *lactase*, an enzyme needed to digest lactose, is involved. Some people don't produce enough lactase. Pasteurization of milk destroys lactase and changes milk sugar into another form. So is the intolerance due to a person's biochemistry or milk pasteurization or both? Some intolerances are due to food additives rather than a food. Common culprits are sulfites (inducing asthma in some people), MSG, aspartame, other artificial sweeteners, preservatives (BHT, BHA), yellow dye No.5, artificial colors, and artificial flavors. Reactions always arise from **individual susceptibilities**. While an allergic

reaction can be triggered by small amounts of a particular food, an intolerance may occur only with a large amount or frequent consumption. Symptoms can be chronic or delayed by hours or a couple of days. Addiction to 'offending' foods is common as they sometimes relieve symptoms for a while. Far more people have food intolerances than true allergies. Only about **5%** of adverse food reactions are allergies. The other **95%** are sensitivities or intolerances. Most allergies involve the 8 foods mentioned above, but intolerances can involve any food. You name it, someone reacts to it. Fortunately, in most cases, food intolerances can be overcome.

TESTS. Medical doctors usually order a RAST (radioallergosorbent test) or skin prick test to identify allergies. The **RAST** is a blood test to detect IgE antibodies to a particular food. Unfortunately, about half of the time, the RAST returns a false-positive test result. This means IgE antibodies are detected indicating the individual is allergic to a specific food but the person is **not** actually allergic to the food. The RAST also returns a high percentage of false-negative results, indicating the person is not allergic to a food when he/she **does** have an allergy to it. Skin tests vary greatly in quality. The **skin prick** test is used to identify IgE mediated allergies. A small amount of a suspected food allergen is placed on the skin or testing device. The device pricks through the top layer of skin and inserts the allergen under the skin. If the person is allergic, a hive will form at the spot. The false-positive rate is more than 50%; you may as well toss a coin. False-negative results are low, so if a person tests negative for a food, there's a good chance he/she is not allergic to that food. Two other skin tests seem somewhat more precise: Provocative neutralization and dilution titration. But, they are time-consuming.

Even when blood or skin prick tests show a person produces antibodies in response to a particular food, "the patient could be sensitive but not necessarily allergic to the foods." Or when reacting people undergo an oral food challenge (swallowing capsules filled with the suspected food), "many have no reaction to all or most of the foods." Also, explains Dr Daniel Do, "Individuals without food allergies and children developing a tolerance to particular foods often have increased IgG antibody titers to that food." IgG antibodies, then, are not concrete indicators. RAST and skin prick tests are merely "helpful," not intended to provide a definitive diagnosis. Neither test picks up on intolerances or most sensitivities. Opinions vary widely among practitioners concerning the usefulness of other blood tests as well, such as IGE immune-linked immunosorbent assay (ELISA), ALCAT, secretory immunoglobulin A (sigA), and the like. LRA ELISA-ACT testing appears to be more reliable and at least has better consistency. It doesn't show that people are allergic to almost everything and seems to correspond better with what people find they're actually sensitive to. This test delivers more true positive reactions and fewer false positives than other delayed allergy tests. There are no blood tests for intolerances.

A study at Bastyr University found that when a single person's blood was sent to a number of laboratories for food allergy testing, the labs gave very different results on the same blood sample. Even when several tubes of blood from one individual—but labeled with different names—were sent to the same lab, they still got very different results. An individual could be found to be allergic to from 22% to 76% of foods tested, depending on which lab did the test. If people are told that they're allergic to 30 to 50 common foods, they may believe it because they know they react to something. But it's not good to think you react to most foods or to eliminate nourishment from foods you don't actually react to and which may be needed to overcome the problem. Muscle testing is used by some clinicians, but accuracy varies significantly. An editorial in *The Lancet* suggests a trial elimination of suspected offending foods followed by reintroduction to see if symptoms are produced. This is the method used successfully for many years—the **elimination diet**: First, gather baseline information by having the individual keep a detailed food diary for 2 weeks or so, including each item consumed, ingredients of packaged foods, how the items were prepared, and any supplements or medications taken. Reactions, symptoms, timing of reactions, and how long they last should be noted. Then any suspected foods should be avoided completely for 3 weeks. Some people go through withdrawal when offending foods are avoided; this usually occurs during the first 7 to 10 days after which the person often feels much better. After the 3 weeks, each food should be reintroduced one at a time. Wait at least 2 or 3 days before reintroducing the next food, unless there is a reaction. In that case, wait until all symptoms of the reaction have gone before trying the next food. If there is uncertainty about whether there is a reaction, wait 5 days before reintroducing the next food (a minority of food reactions can occur up to 5 days after ingestion). ²

CAUSES. There are numerous ideas on what causes reactions to foods. Evidence is accumulating, though speculations still abound. Most researchers agree there are a number of factors involved, such as: The **hygiene hypothesis** proposes that less exposure to 'allergens' and bacteria in childhood causes under-

development of the immune system. Our environment has become 'cleaner' during the past several decades in an effort to live in a 'germ-free' environment. It's possible we need exposure to more dirt, bacteria and other substances common to nature to educate and improve our immune systems. Dr Scot Lewey, American College of Gastroenterology, says, "We don't get exposed to good bacteria found in places like soil anymore." We purify our water; we don't eat fresh-picked produce (produce in stores is washed and often sprayed); meat animals are dosed with antibiotics. We spend most of our time indoors; antibacterial products and artificial environments eliminate exposure to the natural substances of our ancestors. It's interesting that, in countries where there are normally many parasites, the incidence of childhood allergy is low. After children are treated for parasites, tendencies for allergy rise. Perhaps this is an example of aiding proper immune system development by allowing exposure to natural challenges like soil and less-harmful parasites.

Another idea relates to **timing** of when particular foods are introduced. Some feel that, by avoiding foods like peanuts early in life, they're not handled well when experienced later. Others think we're introducing potential allergens to babies too soon, before their digestive and immune systems are mature enough to tolerate them. Introducing solid foods to less-than-4-month-old babies does increase risk for developing reactions. But a further delay (more than 4 or 6 months) also ups risk for reactions. Is there an optimal window for introducing foods? It has not been determined. One thing that helps is introducing one food at a time. If the baby seems uncomfortable, avoid that food for a few weeks or months; then reintroduce it. The baby needs to develop the digestive means to handle each new food. A woman's diet during pregnancy can affect her baby's tendency for reactions. Eating whole, organic real foods can make a huge difference. Some pregnant women avoid foods that children often develop allergies to such as wheat, eggs, cow's milk, peanuts, and fish, and continue to avoid them for 4 to 6 months after the birth of the baby. Whether this works is very debatable. But exclusive breastfeeding for the first 6 months **does** seem to prevent reactions when foods are introduced. If Mom doesn't have sufficient healthy bacteria in her breastmilk, use of probiotics may help prevent or reduce reactions.

How food is **prepared** is a factor. In countries where peanuts are boiled, for example, there are few peanut allergies. In the US where peanuts are roasted at high temperatures and ground into peanut butter, peanut allergies are prevalent and growing. Cooking alters food, depending on temperature and method of cooking. Heating a food may mean tolerance: some people with egg allergy tolerate cooked egg but not raw egg. Or the opposite may be true: a food tolerated when consumed raw or lightly cooked evokes a reaction when extensively heated or cooked at high temperatures. For example, lightly boiled corn may not cause symptoms, but popcorn, corn chips, or corn slightly burned on a grill cause reactions. There's a theory that eating the same foods too **frequently** predisposes a person to hypersensitivity. Most people eat the same 10 to 20 foods over and over in different combinations. Historically, though, people had a more restricted diet than we do today. They ate the same foods almost every day and didn't have the allergies or intolerances so common now. Of course, their food was not refined, chemicalized, polluted, degenerated, or denatured. Another idea is that reactions occur because people are now exposed to a higher **variety** of foods. Yet the most common foods to which people react are those that have been basic to their area and culture for centuries. Biochemical **individuality** implies that certain foods are more preferable for some people and less preferable for others.

Reactions are often a sign of a compromised **digestive** system which is why a person may react to different and/or more foods over time. The problem is usually the inability to digest foods properly. For example, a person who does not digest proteins properly may react to fish due to its protein content but will tolerate fish oils just fine. How the food is processed can affect digestion. People reacting to pasteurized milk products may tolerate and thrive on certified raw milk products. Heartburn medications and antacids likely contribute to reactions by interfering with digestion and allowing food to enter the intestines before it's fully broken down, triggering symptoms. General health is involved—thus, if your body lacks certain nutrients or is suffering from chronic inflammation or other stress, the integrity of your digestive tract can be compromised and less able to tolerate some foods. Your body's ability to produce sufficient hydrochloric acid, enzymes, pepsin, or other digestive substances to break down food components (proteins, fats, starches, fiber) can be a factor. **Leaky gut** (increased intestinal permeability) indicates damaged intestinal walls and disturbed bacteria which allow undigested, inappropriate, and toxic materials to pass into the bloodstream. This can affect any area of the body, causing symptoms not always recognized as stemming from the gut. Insufficient healthy bacteria means the best foods and supplements aren't broken down and properly absorbed. Instead, they cause symptoms. Some medications (antibiotics, steroids, NSAIDs etc.) reduce healthy bacteria and/or harm intestinal walls.

Diet makes a difference. Children and adults in industrialized countries who consume lots of modern 'junk' food are more prone to allergies and intolerances. People who eat a more "primitive" diet (whole grains, beans, nuts, vegetables, fruit, fish, and other real foods) have far fewer problems with foods. Years of consuming refined sugars, refined flours, altered fats, inadequate fiber, synthetic food additives, over-processed nonfoods and toxic residues in foods all contribute to a damaged digestive tract and immune system. Not only does the bulk of the standard American diet set the stage for reactions, but insufficient healthful foods and nutrients are consumed to nourish and **prevent** reactions. Another factor is that people don't eat seasonally any more. Industrial agricultural practices can make whole foods more allergenic or intolerable. Depleted, denatured nonfoods, pollutants, drugs, and myriad toxic chemical assaults constantly challenge our immune system and the rest of our body. Mercury, lead, and arsenic have been linked to food reactions. Dioxins, polychlorinated biphenyls, plasticizers, and other **toxins** permeate our environment and affect our tissues. People accumulate these toxins in their bodies. The variable is the threshold at which point a person's digestive tract, glands, nervous system, and immune system are so affected and weakened that they can no longer complete normal responses to insults, injuries or liabilities. What you eat determines what bacteria are in your gut. Sick bacteria predominate in intestines of people eating nonfoods whereas healthy, balanced bacteria live in the digestive tracts of those eating real, natural foods. Gut bacteria are a vital "organ" that processes food, protects the body from disease and chronic inflammation, maintains immune system function and health. A yeast or fungal overgrowth, often due to use of antibiotics, other drugs or toxins, excessive stress, and a nonfood diet may contribute to the problem. If your acid/buffer balance is askew, you're more prone to reactions. People with various conditions and illnesses are often too acidic. Alkaline-promoting foods and nutrients may be needed.

Researchers think **genetic engineering** may promote allergies and intolerances because imported genes can produce new proteins which can trigger reactions. Most commercial soy and corn, for example, contain GMOs and are found in numerous food products from veggie burgers to high-fructose corn syrup. Plus soy and corn are fed to cattle and other meat source animals. One's **total load** is pivotal, when, as Dr Sherry Rogers puts it, our "barrel reaches a certain level, we start to have symptoms." When total load is reduced sufficiently, symptoms melt away. For instance, headaches may occur from eating cheese or drinking wine. But that's only one part. Also related is a deficiency of nutrients affecting blood vessels, mercury overload from old dental fillings, formaldehyde exposure from a new mattress, MSG in the diet, eating too many refined carbohydrates, and pesticide residues on foods. Removal of 2 or 3 of these things may be enough to reduce total load and remove the headaches. Evidence is accumulating that industrial pollution and other human-made toxins, including those in commercial foods, are causes of food reactions. All unnatural, hazardous, noxious stressors place a load on the body. Though we may not appear to react immediately to a toxin, it doesn't mean it's not damaging us. The body's systems (including the digestive) will work overtime to keep us symptom-free, but they eventually wear out. **Stress** can be an ingredient for adverse reactions. Stress signals the nervous system which constricts blood vessels, affecting digestion and reducing absorption of nutrients for hours. The wall of the digestive tract may constrict or dilate. Pulse rate may increase and/or heartbeats may become irregular.

Real food is not the enemy. The culprits include nonfoods, messed-with foods, toxins, an unhealthy digestive tract and/or immune system. Maybe allergies and intolerances are a normal response to a diseased, toxic diet and environment. If there is intolerance to **real** foods, the problem is in the body and can usually be overcome.

THERAPIES: Some medical doctors are admitting that they don't know what to advise. "Whatever we're doing is not working because things have only gotten worse." Should offending foods simply be avoided? With the complexity of allergies and intolerances, "there's little hope that avoidance will have universal effects. And indeed, the evidence so far is mixed," states an article in *Science*. Merely avoiding reactive foods can result in symptom remission for a while, but it's hardly addressing the underlying causes. New sensitivities and symptoms can emerge if underlying causes are left unattended. Is something **damaged** (at the symptom site or digestive tract)? Is something **missing** (such as sufficient nutrients, digestive enzymes or healthy bacteria)? Has something been **added** (toxins, drug residues, yeast or fungal overgrowth, parasites, stress, compromises to the immune system, adrenal fatigue, etc.)? Here are some steps that usually reap benefits:

(1) A **detoxification** program for 3 to 6 weeks will help lessen total load and often considerably improves the situation. In some cases, foods that caused symptoms will no longer do so, or will do so to a much lesser degree. Nonfoods that add to the load such as deep fried foods, refined grains and sugars, chemical additives,

over-processed items, etc., should be avoided. Real foods that cause reactions should also be avoided since the body is treating them as toxic; this is temporary. Only organically-raised, untreated, unprocessed foods are allowed. Freshly-made vegetable juices (plus apples) help detoxification and digestive tract healing, plus they provide an easily absorbable concentrated source of nutrients. Foods should be free of pesticides, herbicides, additives, preservatives, artificial colors and flavors. Water should be free of chlorine, fluoride and other chemicals. Sweating (as in a sauna) and regular exercise also aid in easing out toxins and improving health. When on a detoxification program **or elimination** diet, some people experience flu-like or 'wet dishrag' feelings during the first few days as the body goes through cleansing and withdrawal. If there's a reaction to a food when reintroduced after an elimination diet, avoid this and other reactive foods for 3 to 6 months. Work on healing the digestive tract and improving health. Then you may then be able to eat those foods again if sufficient healing has taken place. If symptoms persist after eliminating reactive foods, another elimination diet with different foods may be needed plus exploration of other potential triggers such as excess stress, environmental toxins, or medications (such as antibiotics, corticosteroids, acid-reducing drugs).

(2) Raise **nutritional** status. Numerous deficiencies are found in people with food allergies and intolerances. Improve the diet dramatically; add food supplements, fresh juices, and herbs to heal the gut and improve cellular health and function. Numerous studies have shown that organically-raised foods contain more nutrients than commercially-raised items. Make sure **all nutrients** essential to the individual are provided. Studies show that the kinds of foods you eat directly determine the levels of certain bacteria in your intestines and that what you eat has profound effects on immune responses, allergic responses, inflammation, and metabolism. Current research provides compelling reasons to eat a diet rich in unprocessed, natural real foods. Added chemicals in foods have been linked to food sensitivities. Glands such as the adrenal glands may be involved due to stress on immunological function, so nutritionally supporting them may markedly diminish symptoms.

(3) Add prebiotics, probiotics, and other supplements to improve the health of the **digestive tract**, immune system, and other systems. Non-pasteurized fermented foods can be helpful. Use of hydrochloric acid, digestive enzymes, and other digestive aids may be needed for a limited time. Study results suggest that pancreatic enzymes reduce the severity of food reactions. Nutrients (such as vitamin B complex, zinc, and others) needed to produce adequate stomach acid and digestive juices are important. Glutamine and other amino acids assist repair of the intestinal lining; green foods do too. After digestive tract healing, most or all foods that formerly caused reactions usually become tolerable; gradual reintroduction is best.

Persistent avoidance of foods can make things worse, triggering more severe reactions if these foods are eaten in even tiny amounts. Reports confirm that people who could previously tolerate foods to which they developed an intolerance (confirmed by an elimination diet) continued to have reactions (often to more foods) as long as they persisted in excluding those foods. Weeks or months after discovering reactive foods and subsequent avoidance of those foods, patients return to doctors or clinics with symptoms from other foods. Some people end up tolerating only 6 or 7 foods. Initially, the severity of reactions will diminish with avoidance. But after a while the individual may begin to react to various foods and chemicals which previously did not cause reactions. Sometimes it's advisable to ingest small amounts of the offending food at regular intervals to induce tolerance, to desensitize yourself to the food. For example, children with peanut allergy have been successfully treated by gradual exposure to peanuts, starting with tiny but ever-increasing amounts.

A current hot trend is to shun **gluten** in wheat, rye, and barley. People with celiac disease need to avoid gluten. But if you don't have celiac disease, you may not be reacting to gluten or you're only temporarily sensitive due to something else—like another form of intestinal inflammation, accumulated irritation from eating refined grains for a long time (about 90% of grains eaten in the US are refined), deficiencies of nutrients or healthy bacteria, incomplete digestion, or reactions to other foods. All of these can be helped or overcome. Research shows gluten does not cause leaky gut in people who don't have celiac disease. It's not a good idea to avoid gluten or wheat if you don't need to. Whole grains are good sources of complex carbohydrates, fiber, various minerals, and other nutrients. Wheat germ supplies vitamin E complex and B vitamins. Whole grains reduce risk for obesity, diabetes, asthma, stroke, heart disease, high blood pressure, gum disease, tooth loss, and more. Whole grains have been part of the human diet for thousands of years—more years than previously thought. If you seem to react to gluten, cut back on refined, processed grains and eat only sourdough or sprouted forms. Try a gluten elimination diet for 3 weeks; then reintroduce it. If symptoms go away when gluten

is not eaten and return when added it back, avoid gluten for 6 months. There's a good chance you can eat it thereafter. Research indicates certain enzymes digest gluten; your enzymes may need boosting.

Intolerances and sensitivities tend to increase over time unless involved tissues and their function are **healed**. Then the capacity to eat foods that previously caused reactions is possible, albeit in small quantities at first or on a rotation basis such as once every 3 or 4 days. Some doctors use sublingual neutralization. In Provocation Neutralization therapy, symptoms are provoked by a more concentrated dose of a problem food. Symptoms are then 'neutralized' by a less concentrated or more dilute dose of the same food. Double-blind trials have shown that this treatment works. Dr Devi Nambudripad devised a system of treatment referred to as NAET (Nambudripad Allergy Elimination Technique). One food at a time is treated using a blend of energy-balancing testing and treatment procedures from acupuncture/Oriental medicine, Western medicine, chiropractic, nutrition, and kinesiology. Some success has been reported with this technique too.

The goal for someone who reacts to natural foods is primarily to heal the gut and support the immune system. Other areas that require support and balance can then be approached. A true allergy may last a long time. But sensitivities and intolerances should not. After a detox program, the following supplements may be considered. Each individual differs in his/her needs, so additions or subtractions to these supplements might be necessary.

15 Minutes Before Each Meal:

1 Okra Pepsin

Just Before Each Meal:

1 Organically-Bound Minerals – chew

2 Cataplex C or Echinacea C – chew

1 tablespoon SP Complete (Dairy Free if applicable) in freshly-made juice, clean water, or other liquid.

Midway Through Each Meal:

1 Pro-Synbiotic

1 Enzycore or Multizyme

1 or 2 Cholacol II

1 Chlorophyll Complex

1 Zypan (IF belching, burping or heartburn exists)

¹ JV Wright, *Nutrition & Healing*, Aug 2011, 18(6):1-8; *Nutr Today*, Nov/Dec 2010, 45(6):232; *Consumer Mags Digest*, Sept/Oct 2010, 22(7):6; *Environmental Nutrition*, Apr 2006, 29(4):2 & Feb 2010, 33(2):8 & Oct 2010, 33(10):1,4; JJ Schneider Chafen, SJ Newberry, et al, *JAMA*, 12 May 2010, 303(18):1848-56; Weill Cornell Med Coll, *Food & Fitness Advisor*, Oct 2010, 13(10):1,5; H Chang, *JAMA*, 12 May 2010, 303(18):1876; BM Kuehn, *JAMA*, 26 Nov 2008, 300(20):2358; *UC Berkeley Wellness Ltr*, Nov 2009, 26(2):7; H Dowdle, *Natural Hlth*, Jun 2011, 41(5):38-44; J Klotter, *Townsend Ltr*, Jun 2011, 335:19; M Henzgen, S Vieths, et al, *Allergologie*, 2005, 28(5):177-190; A Carroccio, C Scalici, et al, *Scan J Gastroenterol*, 2005, 40:1-10; RA Anderson, *Townsend Ltr*, Jul 2004, 252:138; M Mairesse, *Rev Fr Allergol Immunol Clin*, 2002, 42:299-306; *Nutr Today*, May/Jun 2006, 41(3):96; SL Bahna, *J Allergy Clin Immunol*, Jul 2004, 114:125-6; SA Rogers, *Total Wellness*, Mar 2001:5-6; *Environmental Nutr*, Jul 2011, 34(7):2.

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