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## **FOOD ADDITIVES**

Thousands of man-made and natural substances are added to the food and drink we consume. They include vitamins and minerals for nutrition, preservatives to slow down deterioration and contamination, flavor enhancers, coloring agents, and substances that produce desired texture and modify acid levels in our foods.

**The majority of medically confirmed adverse reactions to food additives are not allergic.** Instead, they are non-allergic chemical reactions. There is no reason to believe that if you are sensitive to one chemical you will be sensitive to any other.

A true picture of the frequency of adverse reactions to food and drink additives is hazy at best. There are no scientific studies in this area. Much of what has appeared in the professional literature is flawed in one way or another, creating doubts about their accuracy and reproducibility.

The report that probably first sparked modern day interest in adverse reactions to additives appeared in 1959. It concerned three patients with histories of urticaria (hives) after swallowing tablets that contained tartrazine, a common coloring agent—or dye—also known as FD&C yellow No. 5. By today's standards, the method used then for challenging the patients to confirm a reaction was poor. Nevertheless, it helped to fuel greater interest in additives as the possible cause of a number of conditions, especially urticaria (hives), angioedema (swelling), asthma in some, and hyperactivity.

This last problem, hyperactivity, is an interesting case in point. Great interest was created, especially among parents, in the theory that a significant percentage of children who display a variety of neurological and behavioral problems do so as a result of diets full of additives. The Feingold diet was developed and promoted as a corrective diet, free of salicylates, sugar and additives. A variety of publicized, unscientific studies, reported improvement in the behavior of hyperactive children from this diet. More recently though, well-controlled and carefully planned studies have failed to support these earlier optimistic findings.

What's more, many of the publicized reports about hypersensitivity reactions allegedly from food additives were by investigators who were not experienced in studying such reactions, or were based on uncontrolled or anecdotal observations. The procedures used in many of these reported studies were not blinded. That is, the patient and the investigator were aware of the substance being tested, thereby allowing bias to enter into the test. Always beware of reports of benefits from or adverse reaction to substances in our diets that are based on hearsay evidence, (what doctors call "anecdotal"). Unless the study was carefully "blinded", the information obtained is very likely to be false. Our minds are powerful and can make us temporarily feel well even when we are not.

Then following page lists common food additives and what we really know about them.

## Common Additives Implicated in Adverse Reactions

**Tartazine (FD&C yellow No. 5):** In 1938, the Food, Drug and Cosmetic Act (FD&C) gave the Food and Drug Administration authority over food and food ingredients. This act is the basis of our modern food law. The food Additives Amendment to the original legislation, passed in 1958, required government approval of an additive before it was included in any food. Tartrazine is used as a coloring agent in beverages, candy, ice cream, desserts, and some other foods. By law, its inclusion must be listed on the label. This dye is the most commonly “implicated” additive for patients who report a connection with hives and swelling. However, the data to support these claims is unclear. For example, in the only double-blind, placebo-controlled trial available in the scientific literature, 3 out of 38 patients showed reactions as a result of tartrazine. However, all were probably sensitive to aspirin, believed to cross-react with tartrazine. Moreover, the dose of tartrazine used to challenge the patients was no greater than the level found in pharmaceutical tablets, not the level found in foods. In other tests, it appears that sensitivity to tartrazine in a group of asthma patients is quite unusual. If it exists at all, this sensitivity may be limited to a group of asthma patients who are sensitive to aspirin.

**Sulfites:** Sulfiting agents, used primarily as food fresheners and as a control for bacterial growth in wine, have been shown to cause mild to life-threatening symptoms in at least 5% of people with asthma. Other reactions have also been reported. We believe that most of these reactions involve immune system hyper-reactivity to inhaling sulfur dioxide. As a result of the publicity over a number of reports of severe reactions by some asthmatic people to sulfite that began appearing in the 1970's, the government banned their use by restaurants on fresh fruits and vegetables commonly consumed while eating out. The government has also banned the use of sulfites on potatoes served or sold to consumer unpacked or unlabeled.

All wines contain sulfites. They are a natural ingredient in wine and are sometimes added as well. In the past few years, sulfite labeling on wine has been required under federal law. These restrictive actions by the government have greatly reduced the chances that people with sulfite sensitivity will unknowingly consume food and drink with the additive. Shrimp is a remaining potential source of sulfite, but reactions rarely occur. Dried apricots and dried raisins give off significant amounts of sulfur dioxide and may pose a risk for a small percentage of asthmatic people.

**MSG (monosodium glutamate):** MSG, or glutamic acid, forms 20% of dietary protein. It naturally occurs in some foods, and is added in large amounts to Oriental cooking to enhance flavor. MSG is also found in most manufactured meat and poultry products. It is believed to be responsible for the so-called “Chinese Restaurant Syndrome”, marked by headaches, a burning sensation on the back of the neck, chest tightness, nausea and sweating. MSG has been reported to be a cause of delayed asthma symptoms.

**Aspartame:** This non-caloric artificial sweetener has been the subject of considerable controversy as to its ability to provoke headaches. Well-controlled challenge testing reproduced hives in two patients whose symptoms first appeared after drinking aspartame-sweetened beverages. We are not sure about the negative effects of aspartame, but there is solid evidence to suggest that it poses a significant problem, especially its alleged connection to headaches and hives.

**Parabens:** Parabens are additives, closely related to sodium benzoate, used to preserve some foods and medicines. They have been clearly shown to cause severe contact dermatitis (skin reactions) as an ingredient in some sunscreens and shampoos. Although parabens are able to produce positive skin reactions typical of allergic (IgE-mediated) responses, they have only occasionally been associated with clinically adverse reactions in asthmatic and nonasthmatic people. Still, they should be considered as possible sources of hives in a few people.

**BTH and BHA:** These antioxidants are often added to breakfast cereals and other grain products. They are not without potential for causing adverse reactions in some people. A double-blind, placebo-controlled study linked these additives in small quantities with chronic idiopathic urticaria (hives). In laboratory tests with rabbits, ingestion of 1 gram of this additive has had lethal effects.

**Nitrates and Nitrites:** These additives are used to preserve, color, and flavor many processed meats. They have been shown to provoke migraine headaches in some people. The products of their metabolism in the body are known cancer-causing agents. It is unclear if ingestion of these chemicals can cause skin rash or hives.