Additives And Food Essay, Research Paper

Additives and Food

We consume more of them everyday, but many people do not know what additives do to food and the people that eat it. The average person is amazed by the number of additives injected into our food. Through years of scientific research, it is now possible to comprehend the most commonly used and controversial additives.

What exactly is a food additive? The technical definition is “any substance the intended use of which results or may reasonably be expected to result—directly or indirectly—in its becoming a component or otherwise affecting the characteristics of any food.” This answer branches in many directions. There are flavorings, colorings, flavor enhancers, vitamins, antioxidants, preservatives, emulsifiers, texturizers, thickeners, and many more. They all serve one purpose: to make the food we eat better.

One of the most common additives is salt. The chemical additive sodium chloride was one of the first preservatives used in foods. It is used in almost everything we eat and essential to the life processes of humans. It acts with potassium to regulate fluid balance in our bodies by controlling the flow of liquids in and out of individual cells. Recently, the American Heart Association has recommended that healthy American adults reduce their sodium intake to no more than 2,400 milligrams per day. This is equivalent to 1? teaspoons of salt. People who are sensitive to sodium are at a higher risk to have high blood pressure, which can lead to cardiovascular disease. Although in large doses, over a long period of time, salt is harmful, it is still one of the most common food additives.

Another common additive is sugar. Used by our ancestors to preserve fruits, it is now one of the leading factors causing obesity and tooth decay. At the turn of the century, most sugar was sprinkled on at home. Today, much of the sugar we consume is added in the production of food. Compounds such as high-fructose corn syrup and dextrose, found often in soft drinks, account for more than thirty teaspoons of sugar in the average teenage boy’s diet. The problem lies with the emptiness of the calories and the missed opportunities for nutrition. If you’re filling up on sugar then you’re missing the opportunity to eat more nutritious foods that reduce the risk for developing serious illness. A general guideline to a low-sugar diet: if sugar or one of the ingredients glucose, high fructose corn syrup, dextrose, fructose, turbinado, honey or brown sugar is listed as one of the first three ingredients on the label, it has too much sugar.

Caffeine is the drug of choice for millions of people around the world. “Caffeine is the only drug that is widely added to the food supply,” says Michael Jacobson, executive director of the Center for Science in the Public Interest (CSPI). “Drinking the caffeine equivalent of several cups of coffee a day can lead to insomnia, anxiety, and difficulty concentrating. Ceasing the consumption of caffeine often leads to withdrawal symptoms, such as headache and fatigue,” said Roland Griffiths, a professor in the department of psychiatry and behavioral sciences at the Johns Hopkins University School of Medicine. Caffeine is a mildly addictive drug and the dangers far out-weigh the advantages.

Caffeine has changed the way Americans live their lives. Once, Americans would wake-up to a tall glass of milk. Now, the drink of choice is a carbonated soft drink or coffee, which contain enormous0 amounts of caffeine. The addiction continues throughout the day, with the occasional sip of Coke, which contains 45mg of caffeine. By night, Americans are so high on caffeine that they deprive themselves of essential rest.

In 1981, the Federal Food and Drug Administration (FDA) warned pregnant women to “avoid caffeine-containing foods and drugs, if possible.” Recently, the American Medical Association has called on the FDA to require caffeine-content labeling of foods that contain added caffeine. These labels would warn consumers of the risk associated with caffeine.

Sulfites are a group of chemicals that keep cut fruits and vegetables looking fresh. They also prevent discoloration in apricots, raisins, and other dried fruits. They control “black spot” in freshly caught shrimp, and prevent discoloration, bacterial growth, and fermentation in wine. Until the early 80’s they were considered safe, but CSPI found six scientific studies proving that sulfites could provoke severe allergic reactions. CSPI and the FDA identified at least a dozen fatalities linked to sulfites. All of the deaths occurred among asthmatics. In 1985, Congress finally forced the FDA to ban sulfites from most fruits and vegetables. This ban does not cover fresh-cut potatoes, dried fruits, and wine. One out of a hundred people is sulfite-sensitive, and 5 percent of those who have asthma are at risk of suffering an adverse reaction to the substance. “You may not even know you have a problem with sulfites until a reaction occurs,” cautions FDA consumer safety officer JoAnn Ziyad, Ph.D.

Nitrates and nitrites, commonly found in sodium nitrate and sodium nitrite form, have been used for centuries to preserve meat. Nitrates are easily converted into nitrites. Nitrites, when combined with secondary amines, form the carcinogenic, or cancer-causing, compounds nitrosamines. This reaction occurs most often at high temperatures. An example of the reaction is frying bacon. The FDA has set limits on the levels of nitrite used in processed foods, in order to limit the formation of nitrosamines. Ascorbic acid is also added to bacon, along with nitrites, to serve as an antioxidant, keeping the nitrates from oxidizing to nitrites. While there is a risk, the amount of nitrites required to form nitrosamines is large. The most serious risk of eating a normal portion of bacon comes from the cholesterol and fat, not nitrates/nitrites.

Monosodium Glutamate (MSG) has been used as a flavor enhancer by Asian cultures for more than 2,000 years. MSG adds to the flavor of protein-containing foods. In 1959, the FDA classified MSG as “Generally Recognized as Safe” due to its history of safe use. Recent studies, however, have raised a question over whether MSG and other glutamates harm the nervous system. The Federation of American Societies identifies two groups of people who may develop a condition known as MSG symptom complex. The first group is those who are allergic to MSG in large amounts. These individuals may experience any number of symptoms associated with MSG symptom complex. The second group is those who suffer from severe asthma. They may find that foods containing MSG make their asthma symptoms worse. MSG symptom complex is characterized by a burning sensation or numbness in the back of the neck, forearms and chest, headache, nausea, rapid heartbeat, difficulty breathing, drowsiness, and weakness. These symptoms usually occur within one hour of consuming three grams or more of MSG on an empty stomach. The FDA has found, through numerous studies, that MSG does not contribute to Alzheimer’s disease, Huntington’s chorea, AIDS, or any other long term or chronic disease, as many critics claim.

In 1996, a revolutionary fat-replacement additive became very popular. Olestra was hailed as the easy way to stay slim and cut the risk of heart disease. Although there is no evidence to support these claims, it is known that Olestra prevents the absorption of essential vitamins and disease-fighting carotenoids.

Olestra is a non-absorbable lipid-like substance. A lipid is similar to a fat, wax, or other oily compound. Because they are insoluble in water, Olestra molecules pass through the body without being digested. This can lead to diarrhea, abdominal cramps, and loose stools. The major problem lies in the fact that Olestra molecules also carry vitamins A, D, E, and K, as well as carotenoids out of the body. For this reason the makers of Olestra containing foods must add these vitamins. The question that most are asking is why don’t they also add carotenoids?

A growing amount of evidence shows that carotenoids may offer special health benefits. In The Surgeon General’s Report on Nutrition and Health of 1988, it states: “[S]tudies have… shown lower rates of cancer among individuals consuming the highest overall levels of vitamin A, carotenoids, or fruits and vegetables.” In 1996, three weeks before the FDA approved Olestra, the USDA released its Dietary Guidelines for Americans. These guidelines encouraged Americans to eat more fruits and vegetables containing carotenoids. Why did the FDA approve Olestra if it knew that it would rob Americans of carotenoids? The approval committee was largely composed of food industry consultants.

Olestra is fairly new to the market, and has not been thoroughly tested. Long-term health effects are not yet known. In the short eight-week trials, there was substantial evidence to suggest serious long-term gastrointestinal problems, especially among children. There may also be dangers such as macular degeneration, the number one cause of blindness in the elderly, and lung cancer from low carotenoid levels. Yet again, the risks outweigh the benefits of this food additive.

In conclusion, most food additives including citric acid, salt, sugar, and corn syrup are perfectly safe in normal dosages. The FDA is mandated by law to regulate the food industry and ensure the safety of our food supply. Although they do make mistakes, the FDA is protecting the public and making it easier for average people to understand food additives. With more than one hundred additives petitioned each year, think of the great ways food will be improved in the future.

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