# FRUCTOSE AND CANCER

**Fructose blocks the absorption of copper in the intestines. It is found everywhere in the American diet today. It has been added to everything from syrups and ice cream, jams, jellies, and candy, to soda pop and most bakery goods, including bread. It has been increasing as a sugar substitution since the 1970's because it is cheaper than cane or beet sugar. Even refined sugar, which has had all of the minerals and fibers removed, is really made up of two simple sugars: *glucose* and *fructose*. Unrefined cane sugar has 16 – 68% more copper than refined sugar. It is this removal of copper, so needed in the digestion of sugar itself, that leads to a negative body balance. Your body needs to supply the copper from its stores, just to digest the food.**

**In 1994, the average American consumed 83.2 pounds of corn sweetener each year, of which fructose is the major component. By 1997, the estimated daily intake of fructose was 97g/day. On a yearly basis, the average American consumes about 70 pounds of fructose. Just two 12 oz. soft drinks contain 50g of fructose. Fructose contributes to obesity, insulin resistance, and a host of related health effects. Fructose consumption has increased 20 to 30% over the past three decades in America. The rise perfectly parallels the rise in obesity in this country.**

**Fructose binds to metals such as copper and these new complexes have different metabolic activities than just copper alone. Fructose also blocks the absorption of trace minerals in the GI tract, including copper. Fructose has been shown to magnify the effects of copper deficiency in rats. In experiments using rats kept on a low copper diet and fed varying amounts of sugars in the form of starches, sucrose or fructose, it was found that sudden death occurred three to three and a half times more frequently n the sucrose or fructose fed rats. The authors believed that it was the fructose, both alone and as part of sucrose, that magnified the copper depletion symptoms. Besides the development of anemia, high blood cholesterol was a significant finding in the blood of the rats. Death in the fructose and sucrose fed was due to the development of holes in the apex of their heart, probably a result of elastin and collagen breakdown.**

**There is concern about the low levels of copper in the American diet today. The increase in the consumption of sugars would actually necessitate an increase in the copper requirements, as copper is required to maintain blood glucose levels and it has an intimate interaction with insulin. Serum cholesterol and especially low-density lipoproteins or LDL's, with an increased in heart disease in chronic heart disease in people fed fructose as the sweetener of choice.**

**Besides fructose, another copper chelator needs to be mentioned but is perhaps a much smaller factor in copper binding. The popular chelator is penicillin. It is used therapeutically to reduce copper blood levels in the genetic disorder, Wilson's disease. The severe occurrence of fluorosis stains on children's teeth, they found a high correlation between the stains and children's use of amoxicillin. There was a significant increase in the presence of fluorosis, particularly on the maxillary central incisors and the first permanent molars of children who had been exposed to amoxicillin during the first 32 months of life.**