Fructose: Is it really bad for Humans?

Have you ever wondered why obesity has become so prominent in America? Or why diabetes, high blood pressure and high cholesterol are common diseases in modern medicine? Is it possible that a single molecule of which we have been consuming in greater amounts is contributing to this higher prevalence? This potential offender is hidden everywhere in the food industry.

Fructose is what we commonly refer to as "fruit sugar." The main issue has become how much of an increase in fructose consumption we have experienced. In the early 1900's daily consumption was, on average, 15g per day – mostly from fruits and vegetables. As the 20th century progressed, fructose consumption significantly increased – 37g per day in 1977, 55g per day in 1994, and present day estimates are ~75g per day. What caused this dramatic increase?

Convenient, inexpensive, good tasting foods trap our palettes into choosing drinks and foods with high amounts of sweeteners, such as candy bars, regular sodas, barbeque sauce, jelly, even ketchup! This ultimately stems back from the 1980's when "low fat" foods were introduced to the market to lower the incidence of heart disease. As a result, there was a subsequent increase in carbohydrate content in foods to conserve flavor. This increase in carbohydrates was in the form of added sugar – particularly high fructose corn syrup and sucrose. Both of these sugars contain a portion of fructose; high fructose corn syrup ranges from 42% to 55% fructose, whereas sucrose is exactly 50% fructose. With an increased daily quantity of fructose, what are the physiological consequences of these additives?

The liver is solely responsible for the metabolism of fructose. Consequently, large quantities of this sugar are unable to be processed by the liver without causing harm to the body. Imagine driving on an interstate highway. As long as traffic is steadily moving along, everything is fine. Then you come to a construction zone, and the cars are backed up, waiting in line to get through. The road signs direct the traffic to take “detour routes”, so you get off the main road and take other “pathways” to get through. This is what happens to large amounts of fructose in the liver, but these detour routes result in increased blood pressure, increased cholesterol, weight gain and insulin resistance.

So what can you do to minimize your daily fructose consumption? Check out the ingredients list on every food item. Seldomly do you ever see the word "fructose" on an ingredient label. It is almost always hidden in the ingredients list as "sugar" or "sucrose." Both of these terms are molecularly identical – one glucose molecule bound to one fructose molecule. The big problem is that food companies hide fructose in their ingredient lists with sugar synonyms. Here are a few you might come across:

- Sugar (or "____ sugar")
- Sucrose
- High fructose corn syrup
- Evaporated cane juice
- Agave syrup (mostly fructose)
- Corn syrup
- Fruit juice concentrate
- Crystalline fructose

Sometimes eating zero sugar foods is impossible, but the idea is to limit the amount of "added" sugar you consume. Although some foods are delicious and irresistible, the best advice is to limit these treats to a few times per week, as opposed to routine, daily snacks. Look at the ingredients list on a food label, and if any of the above mentioned ingredients are amongst the first couple ingredients, put it down and find an alternative food or beverage. Your body will thank you over time.