Why Large Amounts of Fruit May Not Be Healthy

The editorial linked below appeared in the *American Journal of Clinical Nutrition*. It traces the rise in fructose consumption, and the rise in chronic diseases that have come in its wake.

Fructose is a simple sugar found in honey, fruit, table sugar, and high-fructose corn syrup (HFCS). Because of the increase in the consumption of these sweeteners, fructose intake worldwide has quadrupled since the early 1900s.

Over the past three decades, there has been an even greater acceleration in consumption, in part because of the introduction of HFCS. The increase in fructose consumption parallels the rise in obesity, diabetes, hypertension, and kidney disease.

Studies in animals have shown that fructose can induce insulin resistance, elevated triglycerides, abdominal obesity, elevated blood pressure, inflammation, oxidative stress, endothelial dysfunction, microvascular disease, hyperuricemia, glomerular hypertension and renal injury, and fatty liver. The consumption of large amounts of dietary fructose also can rapidly induce insulin resistance.
Sources:

- American Journal of Clinical Nutrition November 2008, 88(5): 1189-1190

Dr. Mercola's Comments:

Fruits contain antioxidants, vitamins and minerals, which is why eating a small amount of them is fine for healthy people. However, I would conservatively estimate that 75 percent of the population needs to restrict fruit intake, and this is directly related to its fructose content.

Fructose, a simple sugar found in fruit, is preferentially metabolized to fat in your liver, and eating large amounts have been linked to negative metabolic and endocrine effects. So if you eat large amounts of fruit, or, worse, drink large amounts of soda or juice, or eat a lot of processed foods (both of which usually contain high-fructose corn syrup), you may be increasing your risk of:

• Insulin resistance
• Impaired glucose tolerance
• High insulin levels
• High triglycerides
• High blood pressure

• Leptin resistance
• Obesity
• Metabolic syndrome
• Oxidative stress

How Fructose Wreaks Havoc in Your Body

Your body absorbs fructose differently than other sugars, and while this doesn't sound like a very big deal, it causes a cascade of problems.

If you eat glucose, for instance, your production of insulin increases so that sugar in your blood can be taken to cells and used for energy. Eating glucose also increases production of leptin, which regulates your appetite and fat storage, and decreases production of ghrelin, which helps regulate

your food intake. The idea is that when you eat glucose, your body knows it should feel less hungry.

With fructose, this is not the case. Eating fructose does not stimulate insulin or leptin production, and it does not suppress ghrelin. This is why fructose may contribute to weight gain, and the host of problems that go along with it.

Fructose also gets converted into triglycerides more efficiently than glucose, which is a big negative since elevated triglycerides are linked to an increased risk of heart disease. Fructose also interferes with the balance of magnesium in your body, which may accelerate bone loss.

The Largest Source of Fructose in the American Diet?

While fruit does contain fructose, eating fruit in moderation is not the problem. The biggest culprit, by far, is the consumption of high-fructose corn syrup, especially in the form of soda, fruit juice and other beverages, as that is now the number one source of calories in the U.S.

Food and beverage manufacturers began switching their sweeteners from sucrose (table sugar) to corn syrup in the 1970s when they discovered that HFCS was not only cheaper to make, it was also much sweeter (processed fructose is nearly 20 times sweeter than table sugar), a switch that has drastically altered the American diet.

As I said, the number one source of calories in the United States is not meat, veggies or even bread -- it's high-fructose corn syrup from soda.

The fact that most fructose is consumed in a liquid form significantly magnifies its negative metabolic effects. Since this is such a pervasive problem in the United States, we could make radically outrageous improvements in our health as a culture if we just simply stopped everyone from drinking soda!

So, in order of importance, if you're trying to reduce the amount of fructose in your diet, which is, by the way, a very wise move, you should focus on eliminating:

1. Soda
2. Fruit juice and other sweetened beverages
3. Processed foods that contain HFCS

Should You Also Eliminate Fruit?

Fruit is definitely a source of fructose, and one that can harm your health if you eat it in vast quantities. However, eating small amounts of whole fruits, in accordance to your nutritional type, is fine if you are healthy.

Those who need to be careful about their fruit intake are people with high insulin levels. You can measure your fasting insulin level to find out for sure, but if you have any of the following problems it is highly likely you have insulin resistance syndrome:

- Overweight
- High Cholesterol
- High Blood Pressure
- Diabetes
- Yeast Infections

Some of the best fruits to eat are small berries. They are even better if you can use a high-speed blender like a Vita Mixer, which pulverizes the seeds and releases the stored antioxidants, polyphenolic bioflavonoids, that are stored there. Most people don't realize that most of the healthy constituents of the fruit are stored in the skin and the seeds.

However, if you're trying to reach optimal health, I highly suggest you eat fruit in accordance with your nutritional type.

For example, if you're a protein type, fruits are generally not beneficial for you with the exception of coconut, which has a higher fat content that is beneficial for protein types.

On the other hand, carbohydrate types tend to fare well with fruit and can safely consume moderate amounts. This is an important distinction, and everyone should try to eat primarily the specific fruits that are best for their unique biochemistry.

Reference website: http://articles.mercola.com/sites/articles/archive/2008/11/29/why-large-amounts-of-fruit-may-not-be-healthy.aspx