The Hidden and Pervasive Cause of High Blood Pressure

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People who eat a diet high in fructose are at increased risk of developing high blood pressure, or hypertension. The results of a study suggest that cutting back on foods and beverages containing a lot of fructose might decrease your risk of developing hypertension.

Hypertension is a major risk factor for heart and kidney diseases. An increase in the general consumption of fructose, which is used to sweeten a wide variety of processed foods, has occurred at the same time as a rise in the prevalence of hypertension.

According to Newswise:

> *"The study involved 4,528 US adults 18 years of age or older with no prior history of hypertension. Study participants answered questions related to their consumption of foods and beverages such as fruit juices, soft drinks, bakery products, and candy."*

Dr. Mercola's Comments:

Today nearly one in three adults suffer from high blood pressure (hypertension), a serious health concern that can cause heart disease and increase your risk of having a stroke. But this was not always the case -- not even close.

Hypertension was rare prior to the 20th century. In 1900, only 5 percent of the population had blood pressure of 140/90 or higher. By 1939, that had risen to 10 percent, and today 31 percent of adults are hypertensive.

What has happened in the last several decades to explain this staggering rise?

Fructose became a mainstay of our diets.

FRUCTOSE CAUSES BLOOD PRESSURE TO SKYROCKET

Food and beverage manufacturers began switching their sweeteners from sucrose (table sugar) to corn syrup in the 1970s when they discovered that HFCS was far cheaper to use in their products.

This switch drastically altered the average American diet.

HFCS is now found in every type of processed, pre-packaged food you can think of. In fact, the use of HFCS in the U.S. diet increased 10,673 percent between 1970 and 2005 , according to the USDA. It now makes up the number one source of calories in America .

Given the rising rates of both fructose consumption and high blood pressure, researchers jumped in to find out if there's a link, and low and behold they found one.

In the latest study, which was conducted in part by Dr. Richard Johnson, chief of the division of kidney disease and hypertension at the University of Colorado and one of the leading researchers in this field, it was found that those who consumed 74 grams or more per day of fructose (the amount in 2.5 sugary drinks) had a 77 percent greater risk of having blood pressure levels of 160/100 mmHg.

For comparison, a normal blood pressure reading is below 120/80 mmHg. Consuming 74 grams or more of fructose daily also increased the risk of a 135/85 blood pressure reading by 26 percent, and 140/90 by 30 percent.

This is significant because the average American now consumes 70 grams of fructose EVERY day. This is in contrast to 100 years ago when the average intake was about 15 grams and that was mostly in the form of healthy fruits. So we are consuming 500% more than we did a century back.

I've previously interviewed Dr. Johnson about his research into the health dangers of fructose, specifically how fructose causes high blood pressure, obesity, and diabetes, and one of the most important points he brought up was how detrimental fructose is to your uric acid levels.

Fructose Drives up Uric Acid Levels AND Blood Pressure Readings

I would STRONGLY encourage everyone to have their uric acid level checked to find out how sensitive you are to fructose. Let me explain why.

Thanks to Dr. Johnson's research, we now know that fructose generates uric acid within minutes of ingestion. High levels of uric acid are normally associated with gout , but it has been long known that people with high blood pressure and kidney disease, and people who are overweight, often have elevated uric acid levels.

It was thought this increased uric acid resulted from the disease, but it appears now that it may have been CAUSING it!

Glucose and fructose are different types of simple sugars. After they are separated apart and broken down in your body they are metabolized using completely separate pathways. Glucose is utilized by every cell in your body -- in fact, your body was designed to use it for energy.

But fructose breaks down into a variety of waste products that are bad for your body, one of which is uric acid.

Uric acid drives up your blood pressure by inhibiting the nitric oxide in your blood vessels. Nitric oxide helps your vessels maintain their elasticity, so nitric oxide suppression leads to increases in blood pressure.

In fact, 17 out of 17 studies demonstrate that elevated uric acid levels lead to hypertension.

According to the latest research in this area, the safest range of uric acid is between 3 and 5.5 milligrams per deciliter. Dr. Johnson suggests that the ideal uric acid level is probably around 4 mg/dl for men and 3.5 mg/dl for women.

When your uric acid level exceeds about 5.5 mg per dl, you have an increased risk for a host of diseases, including not only hypertension but also:

- Kidney disease
- Insulin resistance, obesity, and diabetes
- Fatty liver
- Elevated triglycerides, elevated LDL, and cardiovascular disease
- For pregnant women, preeclampsia

Dr. Johnson has developed a program to help people optimize their uric acid levels, and the key step in this program is complete elimination of fructose.

MY UPDATED RECOMMENDATIONS FOR FRUCTOSE CONSUMPTION

Fructose is found in virtually every processed food out there, including in "healthy" varieties sweetened with agave . It's also common in sodas and fruit juices, and these should be the first areas you cut back on (processed foods included).

As a standard recommendation, I strongly advise keeping your TOTAL fructose consumption below 25 grams per day.

Fructose is also found naturally in fresh fruits, but these may not be nearly as problematic as fructose from added sugars. One of the reasons for this is because whole fruits contain high amounts of natural antioxidants, as well as other synergistic compounds that may help counter the detrimental effects of fructose.

However, if you are already suffering from high blood pressure or signs of insulin resistance like diabetes, overweight and high cholesterol, you should be particularly careful to limit your fructose, including that from whole fruits, to 15 grams per day or less.

Now, if you have your uric acid level checked and have a level of 4 for men, or 3.5 for women, you probably are at a very low risk for fructose toxicity and can be more liberal with this limit.

The higher your uric acid though, the more you need to limit or even avoid fructose until your uric acid level normalizes.

Fruit	Serving Size	Grams of Fructose
Limes	1 medium	0
Lemons	1 medium	0.6
Cranberries	1 cup	0.7
Passion fruit	1 medium	0.9
Prune	1 medium	1.2
Apricot	1 medium	1.3
Guava	2 medium	2.2
Date (Deglet Noor style)	1 medium	2.6
Cantaloupe	1/8 of med. melon	2.8
Raspberries	1 cup	3.0
Clementine	1 medium	3.4
Kiwifruit	1 medium	3.4
Blackberries	1 cup	3.5
Star fruit	1 medium	3.6
Cherries, sweet	10	3.8
Strawberries	1 cup	3.8
Cherries, sour	1 cup	4.0
Pineapple	1 slice (3.5" x .75")	4.0
Grapefruit, pink or red	1/2 medium	4.3

Fruit	Serving Size	Grams of Fructose
Boysenberries	1 cup	4.6
Tangerine/mandarin orange	1 medium	4.8
Nectarine	1 medium	5.4
Peach	1 medium	5.9
Orange (navel)	1 medium	6.1
Papaya	1/2 medium	6.3
Honeydew	1/8 of med. melon	6.7
Banana	1 medium	7.1
Blueberries	1 cup	7.4
Date (Medjool)	1 medium	7.7
Apple (composite)	1 medium	9.5
Persimmon	1 medium	10.6
Watermelon	1/16 med. melon	11.3
Pear	1 medium	11.8
Raisins	1/4 cup	12.3
Grapes, seedless (green or red)	1 cup	12.4
Mango	1/2 medium	16.2
Apricots, dried	1 cup	16.4
Figs, dried	1 cup	23.0