

High Fructose Corn Syrup, What's the Big Deal?

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We've been told to avoid high fructose corn syrup (HFCS) in our daily diets, but what is it? It is a particular type of sweetener that is derived from cornstarch. In order to create high fructose corn syrup, enzymes are added to glucose and converted into another simple sugar known as fructose.⁽⁹⁾ Most high fructose corn syrup is comprised of 42- 55% fructose; the rest is water or glucose.⁽⁹⁾

High fructose corn syrup is typically cheaper than table sugar making it attractive in the food industry as a sweetener. It was originally developed in the late 1950's, but it wasn't until the 1970's that HFCS was introduced as sweetener in soft drinks. Coca-Cola was one of the first soft drink companies to use it in their products.⁽⁴⁾ Since then the use of HFCS has sky rocketed in our food and beverage industry.

Americans are consuming more HFCS and sugar in pharmacologic quantities, never before experienced in human history: 140 pounds a year per person compared to our caveman ancestors who only had about 20 teaspoons.⁽⁵⁾

What are the health dangers of consuming High Fructose Corn Syrup?

1. **Mercury** – Recent research has discovered that HFCS is contaminated with mercury. Mercury can affect the central nervous system, kidneys, and liver and can disrupt the immune system. It is known to cause tremors, impaired vision and hearing, paralysis, insomnia and emotional instability.⁽⁶⁾
2. **Zinc** – HFCS depletes the body of Zinc, which is responsible for cleansing the body of heavy metals like mercury, arsenic, and cadmium, as well as aluminum and other toxins that are known to disrupt proper brain development.⁽⁶⁾
3. **Glutaraldehyde** is a toxic chemical that is used to turn corn into corn starch and then to high fructose corn syrup. This toxic chemical kills living cells and is used in industrial water treatment systems and to sterilize medical equipment.⁽⁸⁾ It's also a well-known embalming chemical that is toxic to the human body and causes eye, nose, throat and lung irritation including asthma, sneezing, wheezing, and burning eyes. It can also cause drowsiness, dizziness and headaches.⁽⁸⁾
4. **Increases your risk of obesity.** If high fructose corn syrup is consumed in excess it has the capability of being stored as fat. The liver is responsible for metabolizing fructose into glycogen, but can only do so in a limited capacity. This has the possibility leading to fatty liver disease, diabetes and a higher risk for obesity.⁽⁹⁾
5. **Increases your risk of cancer.** In 2010, a case study was written by the American Association of Cancer Research that found an increased risk of pancreatic cancer when consuming high fructose corn syrup. The study also found that cancer cells were able to metabolize fructose and increase production of pancreatic cancer cells.⁽¹⁰⁾

6. Increase risk of hypertension (high blood pressure) – Excessive amounts of fructose can lead to hypertension due to a key enzyme known as endothelial nitric oxide synthase. ⁽¹¹⁾ This enzyme is located within the blood vessel walls and is needed to produce nitric oxide to be a vasodilator for the human body. Without the body being able to properly relax its blood vessels, there is a higher risk for high blood pressure and coronary artery disease. ⁽¹¹⁾

What are some foods that contain High Fructose Corn Syrup (HFCS)? ⁽¹⁾

- Soda – One 12 ounces of soda can have up to 50 grams of sugar. The sugar content is alarming, but drinking soda is linked to increased risk of diabetes, cancer, cardiovascular issues and it dehydrates the body. ⁽³⁾ If you are looking for a way to replace soda, try sparkling water.
- Salad Dressing – Salad dressings that are often times labeled as “Fat Free”, use high fructose corn syrup to help step up the flavor. One example of this can be found in fat free French dressing. Just one tablespoon of the dressing contains 3 grams of sugar. On average Americans use 1 cup of salad dressing on their salads, that’s nearly 16 tablespoons. There are better options out there if you are in need of dressing, try balsamic vinegar or lemon juice. ⁽²⁾
- Cereals
- Frozen Dinners
- Sauces and Condiments
- Juice- One popular brand cranberry- grape drink, there was over 37 grams of sugar per 8 oz. It also was sweetened by a juice concentration and labeled as 100% juice. Fruit juice concentrates are considered as empty calories and contain large amounts of fructose. It also lacks vitamins and minerals. ⁽¹²⁾
- Coffee Creamer –trying to avoid coffee creamer, try drinking the coffee black or with unsweetened almond milk. ⁽²⁾
- Energy Drinks

How Can you Avoid High Fructose Corn Syrup?

If high fructose corn syrup is found on a label, then you can infer that the item is very poor quality. To avoid eating high fructose corn syrup, try eating vegetables and fruits that are fresh or frozen. Stay away from processed foods that are most likely found within the aisles of the grocery. If you limit your shopping to the perimeter of the store you are most likely shopping where the fresh ingredients are located.

Nutritionally void foods can lead to many deficiencies and toxicities which may cause disease and inflammation. It is easy to detect vitamin and mineral status with comprehensive testing. By testing a blood panel to determine where your diet is void of vitamins and minerals, you can quickly make changes to your lifestyle and dietary habits to optimize your level of health.

By discovering what vitamins and minerals you need to supplement with, you can live a life towards optimal health. An experienced nutritionist can help get you on the right track with individualized dietary and supplement guidelines based on your test results.

Works Cited:

1. Runyon, Joel, and Joel Runyon. "The Dangers of High Fructose Corn Syrup / Ultimate Paleo Guide." Ultimate Paleo Guide, 19 June 2017, ultimatepaleoguide.com/the-dangers-of-high-fructose-corn-syrup/.
2. "Salad Dressing, French Dressing, Fat-Free Nutrition Facts & Calories." Nutrition Data Know What You Eat., nutritiondata.self.com/facts/fats-and-oils/7181/2.
3. "Soda Health Risks: 21 Ways Drinking Soda Is Bad for Your Health." Food Revolution Network, Food Revolution Network, 15 May 2018, foodrevolution.org/blog/food-and-health/soda-health-risks/.
4. "A Brief History of High-Fructose Corn Syrup." EarthSky, earthsky.org/human-world/a-brief-history-of-high-fructose-corn-syrup.
5. Dr. Hyman, Mark MD. 5 Reasons High Fructose Corn Syrup Will Kill You. May 4, 2013. <http://drhyman.com>
6. High Fructose Corn Syrup Contaminated with Toxic Mercury, Says Research. January 27, 2009. <http://www.naturalnews.com>
7. Adams, Mike. High fructose corn syrup contaminated with mercury and made using a toxic chemical catalyst that can burn a hole in your stomach. July, 2011. <http://www.naturalnews.com>
8. Clinical Epigenetics. A macroepigenetic approach to identify factors responsible for the autism epidemic in the United States. April 2012.
9. Price, Annie. "How High Fructose Corn Syrup Destroys Your Body (It's NOT a Pretty Picture)." Dr. Axe, Dr. Axe, 2 Aug. 2018, draxe.com/high-fructose-corn-syrup-dangers/
10. Warburg O, Posener K, Negelein E On the metabolism of cancer cells. *Biochem Z* 1924;152:319–44.
11. Hsieh PS, Tai YH, Loh CH, Shih KC, Cheng WT, Chu CH. Functional interaction of AT1 and AT2 receptors in fructose-induced insulin resistance and hypertension in rats. *Metabolism*. 2005 Feb;54(2):157-64.
12. Harvard Health Publishing. "Added Sweeteners." Harvard Health Blog, Harvard Health Publishing, www.health.harvard.edu/newsletter_article/added-sweeteners.