

# 76 WAYS SUGAR CAN RUIN YOUR HEALTH

By: Nancy Appleton, Ph.D. (Author of "Lick the Sugar Habit")

In addition to throwing off the body's homeostasis, excess sugar may result in a number of other significant consequences. The following is a listing of some of sugar's metabolic consequences from a variety of medical journals and other scientific publications.

1. Sugar can suppress your immune system and impair your defenses against infectious disease.<sup>1,2</sup>
2. Sugar upsets the mineral relationships in your body: causes chromium and copper deficiencies and interferes with absorption of calcium and magnesium.<sup>3,4,5,6</sup>
3. Sugar can cause a rapid rise of adrenaline, hyperactivity, anxiety, difficulty concentrating, and crankiness in children.<sup>7,8</sup>
4. Sugar can produce a significant rise in total cholesterol, triglycerides and bad cholesterol and a decrease in good cholesterol.<sup>9,10,11,12</sup>
5. Sugar causes a loss of tissue elasticity and function.<sup>13</sup>
6. Sugar feeds cancer cells and has been connected with the development of cancer of the breast, ovaries, prostate, rectum, pancreas, biliary tract, lung, gallbladder and stomach.<sup>14,15,16,17,18,19,20</sup>
7. Sugar can increase fasting levels of glucose and can cause reactive hypoglycemia.<sup>21,22</sup>
8. Sugar can weaken eyesight.<sup>23</sup>
9. Sugar can cause many problems with the gastrointestinal tract including: an acidic digestive tract, indigestion, malabsorption in patients with functional bowel disease, increased risk of Crohn's disease, and ulcerative colitis.<sup>24,25,26,27,28</sup>
10. Sugar can cause premature aging.<sup>29</sup>
11. Sugar can lead to alcoholism.<sup>30</sup>
12. Sugar can cause your saliva to become acidic, tooth decay, and periodontal disease.<sup>31,32,33</sup>
13. Sugar contributes to obesity.<sup>34</sup>
14. Sugar can cause autoimmune diseases such as: arthritis, asthma, multiple sclerosis.<sup>35,36,37</sup>
15. Sugar greatly assists the uncontrolled growth of Candida Albicans (yeast infections)<sup>38</sup>
16. Sugar can cause gallstones.<sup>39</sup>
17. Sugar can cause appendicitis.<sup>40</sup>
18. Sugar can cause hemorrhoids.<sup>41</sup>
19. Sugar can cause varicose veins.<sup>42</sup>
20. Sugar can elevate glucose and insulin responses in oral contraceptive users.<sup>43</sup>
21. Sugar can contribute to osteoporosis.<sup>44</sup>
22. Sugar can cause a decrease in your insulin sensitivity thereby causing an abnormally high insulin levels and eventually diabetes.<sup>45,46,47</sup>

23. Sugar can lower your Vitamin E levels.<sup>48</sup>
24. Sugar can increase your systolic blood pressure.<sup>49</sup>
25. Sugar can cause drowsiness and decreased activity in children.<sup>50</sup>
26. High sugar intake increases advanced glycation end products (AGEs)(Sugar molecules attaching to and thereby damaging proteins in the body).<sup>51</sup>
27. Sugar can interfere with your absorption of protein.<sup>52</sup>
28. Sugar causes food allergies.<sup>53</sup>
29. Sugar can cause toxemia during pregnancy.<sup>54</sup>
30. Sugar can contribute to eczema in children.<sup>55</sup>
31. Sugar can cause atherosclerosis and cardiovascular disease.<sup>56,57</sup>
32. Sugar can impair the structure of your DNA.<sup>58</sup>
33. Sugar can change the structure of protein and cause a permanent alteration of the way the proteins act in your body.<sup>59,60</sup>
34. Sugar can make your skin age by changing the structure of collagen.<sup>61</sup>
35. Sugar can cause cataracts and nearsightedness.<sup>62,63</sup>
36. Sugar can cause emphysema.<sup>64</sup>
37. High sugar intake can impair the physiological homeostasis of many systems in your body.<sup>65</sup>
38. Sugar lowers the ability of enzymes to function.<sup>66</sup>
39. Sugar intake is higher in people with Parkinson's disease.<sup>67</sup>
40. Sugar can increase the size of your liver by making your liver cells divide and it can increase the amount of liver fat.<sup>68,69</sup>
41. Sugar can increase kidney size and produce pathological changes in the kidney such as the formation of kidney stones.<sup>70,71</sup>
42. Sugar can damage your pancreas.<sup>72</sup>
43. Sugar can increase your body's fluid retention.<sup>73</sup>
44. Sugar is enemy #1 of your bowel movement.<sup>74</sup>
45. Sugar can compromise the lining of your capillaries.<sup>75</sup>
46. Sugar can make your tendons more brittle.<sup>76</sup>
47. Sugar can cause headaches, including migraines.<sup>77</sup>
48. Sugar can reduce the learning capacity, adversely affect school children's grades and cause learning disorders.<sup>78,79</sup>
49. Sugar can cause an increase in delta, alpha, and theta brain waves which can alter your mind's ability to think clearly.<sup>80</sup>
50. Sugar can cause depression.<sup>81</sup>
51. Sugar can increase your risk of gout.<sup>82</sup>
52. Sugar can increase your risk of Alzheimer's disease.<sup>83</sup>
53. Sugar can cause hormonal imbalances such as: increasing estrogen in men, exacerbating PMS, and decreasing growth hormone.<sup>84,85,86,87</sup>

54. Sugar can lead to dizziness.<sup>88</sup>
55. Diets high in sugar will increase free radicals and oxidative stress.<sup>89</sup>
56. High sucrose diets of subjects with peripheral vascular disease significantly increases platelet adhesion.<sup>90</sup>
57. High sugar consumption of pregnant adolescents can lead to substantial decrease in gestation duration and is associated with a twofold increased risk for delivering a small-for-gestational-age (SGA) infant.<sup>91,92</sup>
58. Sugar is an addictive substance.<sup>93</sup>
59. Sugar can be intoxicating, similar to alcohol.<sup>94</sup>
60. Sugar given to premature babies can affect the amount of carbon dioxide they produce.<sup>95</sup>
61. Decrease in sugar intake can increase emotional stability.<sup>96</sup>
62. Your body changes sugar into 2 to 5 times more fat in the bloodstream than it does starch.<sup>97</sup>
63. The rapid absorption of sugar promotes excessive food intake in obese subjects.<sup>98</sup>
64. Sugar can worsen the symptoms of children with attention deficit hyperactivity disorder (ADHD).<sup>99</sup>
65. Sugar adversely affects urinary electrolyte composition.<sup>100</sup>
66. Sugar can slow down the ability of your adrenal glands to function.<sup>101</sup>
67. Sugar has the potential of inducing abnormal metabolic processes in a normal healthy individual and to promote chronic degenerative diseases.<sup>102</sup>
68. I.V.s (intravenous feedings) of sugar water can cut off oxygen to your brain.<sup>103</sup>
69. Sugar increases your risk of polio.<sup>104</sup>
70. High sugar intake can cause epileptic seizures.<sup>105</sup>
71. Sugar causes high blood pressure in obese people.<sup>106</sup>
72. In intensive care units: Limiting sugar saves lives.<sup>107</sup>
73. Sugar may induce cell death.<sup>108</sup>
74. In juvenile rehabilitation camps, when children were put on a low sugar diet, there was a 44 percent drop in antisocial behavior.<sup>109</sup>
75. Sugar dehydrates newborns.<sup>110</sup>
76. Sugar can cause gum disease.<sup>111</sup>

Source: [www.mercola.com/article/sugar/dangers\\_of\\_sugar.htm](http://www.mercola.com/article/sugar/dangers_of_sugar.htm)

# HIGH FRUCTOSE CORN SYRUP AND OBESITY

By: Gabe Mirkin, M.D.

Several recent studies show that drinking large amounts of carbonated beverage is associated with increased risk for obesity and that the extra gain in weight is not due just to the calories in the soft drinks (1,2). Evidently something in soft drinks makes people eat more food than they would otherwise. High fructose corn syrup may be that factor. High fructose corn syrup is the leading sweetener in the United States today with 4.5 billion dollars worth sold each year. High-fructose corn syrup first appeared in the American market in 1966, and now the average American takes in 62.6 pounds per year.

Several recent studies have shown that fructose is processed differently in the body than the far more common sugar, glucose (3,4). Glucose causes the pancreas to release insulin, which drives sugar from the bloodstream into cells. Glucose causes fat cells to release leptin that makes you feel full so you eat less. Glucose prevents the stomach from releasing ghrelin that makes you hungry. On the other hand, fructose does not cause fat cells to release leptin and does not suppress ghrelin. This means that fructose increases hunger to make you eat more. Furthermore, the liver converts fructose far more readily to a body fat called triglyceride, than it does with glucose. High triglyceride levels raise blood levels of the bad LDL cholesterol and lower blood levels of the good HDL cholesterol, which increases heart attack risk.

Recent data shows that large amounts of fructose cause insulin resistance, impair glucose tolerance, produce high levels of insulin, raise triglycerides, and cause high blood pressure in animals. Not all this data have been replicated in humans, but there is every reason to believe that large amounts of fructose will have the same adverse effects. High-fructose corn syrup is found in almost all soft drinks and fruit beverages and a wide variety of processed foods; check the list of ingredients in the foods you buy.

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1) Lancet 2001;357:505-08.

2) European Journal of Cancer Prevention, 1999, Vol 8, Iss 4, pp 289-295.

3) American Journal of Clinical Nutrition, Vol. 76, No. 5, 911-922, November 2002

4) Experimental and Clinical Endocrinology & Diabetes 2002 Thema: Poster Diabetes, Metabolism and Gastrointestinal Hormones. p184.

5) American Journal of Clinical Nutrition, November, 2002.

# 9 FOODS NOT TO GIVE YOUR KIDS

By: Joe Wilkes

If you've followed the news on childhood obesity lately, you know that the state of affairs is pretty grim. Childhood obesity rates have tripled over the past two decades and most signs point to the next generation being the first whose life expectancy will be shorter than their parents. Much of the blame for this has deservedly been laid at the feet of the producers and marketers of unhealthy food aimed at our youngest consumers. They've created an uphill battle for parents trying to compete with superheroes and cartoon animals for their children's palates and stomachs.

Since most kids have hummingbird metabolisms that adults can only envy, it's easy to often give them a free pass and let them eat whatever they want. But eventually those metabolisms slow down, and the pounds settle in. Also, as physical activity decreases, and processed-food intake increases, kids aren't burning calories the way their parents might have when they were their age. And even if the kids aren't getting fat, they are establishing eating habits that they will take into adulthood. As parents, you can help foster a love for healthy eating and exercise that will last your kids a lifetime, hopefully a long one!

I can remember family dinners with my brother and parents that could teach Hezbollah a thing or two about stand-offs. Eating is always a classic power struggle where kids try to finally locate their mom and dad's last nerve. There are a number of strategies you can use to mitigate this. Let your kids help with the selection and preparation of the food. If they picked out the veggies at the farmer's market and helped cook them, they might be less inclined to feed them to the family pet.

Also, try to frame eating vegetables and healthy food as being its own reward. By offering dessert as a reward for finishing vegetables, you create a system where unhealthy food is a treat and healthy food sucks.

Someday, your children will realize that caped men in tights and sponges who live under the sea might not have their best interests at heart when it comes to food, but until then, here are some of the worst foods you can try to keep them away from, and some healthy replacement ideas. And for the overgrown children among you, the alternative snacks might even tempt you.

*Note: The following recommendations are for school-aged children. Infants and toddlers have different specific nutritional needs.*

**1. Chicken nuggets/tenders.** These popular kids-menu items are little nuggets of compressed fat, sodium, high-fructose corn syrup (HFCS), and in some form, chicken. Depending on the restaurant, chicken might not even be the first ingredient. Oftentimes, the nuggets or tenders are made of ground pieces of chicken meat and skin, pressed into a shape, flavored with HFCS and salt, and batter-fried in hydrogenated oil (the bad, trans-fatty stuff). Then, if that wasn't unhealthy enough, you dunk it in a HFCS- or mayonnaise-based sauce. With all the fat, salt, and sugar, it's easy to understand why they're tasty, but the nutritive value weighed against the huge amount of calories and fat consumed is incredibly lacking. Even healthier-sounding menu items like McDonald's Premium Breast Strips (5 pieces) pack 630 calories and 33 grams of fat, more than a Big Mac, and that's before you factor in the dipping sauce.

**Instead:** If you're cooking at home, grill a chicken breast and cut it into dipping-size pieces either with a knife or, for extra fun, cookie cutters. Make a healthy dipping sauce, with HFCS-free ketchup, marinara sauce, mustard, or a yogurt-based dip. Let your kids help make the shapes or mix up the sauce. Try and go without breading, but if you must, try dipping the chicken breast in a beaten egg, and then rolling it in cornflake crumbs before you bake it. It'll be crunchy and delicious, but not as fatty.

**2. Sugary cereal.** I can remember as a child, feeling horribly deprived when I would go to friends' houses for overnights and be treated in the morning to cereals with marshmallows that

turned the milk fluorescent pink or blue. But now I can appreciate my mom and her unpopular bran's and granolas. True, they didn't have any toy surprises in the box or any cartoon characters on the box, but they also didn't have the cups of sugar, grams of fat, and hundreds of empty calories that these Saturday morning staples are loaded with.

**Instead:** Read the labels and try to find cereal that is low in sugar and high in fiber and whole grains. Remember, "wheat" is not the same as "whole wheat." Also, avoid cereals (including some granolas) which have hydrogenated oils, artificial colors, or chemical preservatives. Add raisins, sliced bananas, berries, or other seasonal fruit to the cereal for extra flavor and nutrition. Again, letting your child help design a healthy bowl of cereal from choices you provide will get you a little more buy-in at the breakfast table.

**3. Lunchmeat and hot dogs.** Kids love hot dogs, bologna, and other processed meats, but they are full of potentially carcinogenic nitrates and nitrites, sodium, saturated fat, and artificial colors and fillers. A study in Los Angeles found that kids who ate 12 hot dogs a month had nine times the risk of developing leukemia. And more health risks are being discovered all the time. Leaf through any research about kids' nutrition, and you're bound to read about the bane of the cafeteria—Oscar Mayer's Lunchables. These and similar repackaged lunches are loaded with processed meats and crackers made with hydrogenated oils. These innocent-looking meals can boast fat counts of up to 38 grams. That's as much fat as a Burger King Whopper and over half the recommended daily allowance of fat for an adult.

**Instead:** Get unprocessed meats, like lean turkey breast, chicken, tuna, or roast beef. Use whole wheat bread for sandwiches; or if your kid's dying for Lunchables, fill a small plastic container with whole-grain, low-fat crackers, lean, unprocessed meat, and low-fat cheese.

This can be another great time to get out the cookie cutters to make healthy sandwiches more fun. For hot dogs, read labels carefully. Turkey dogs are usually a good bet, but some are pumped up with a fair amount of chemicals and extra fat to disguise their fowl origins. Look for low levels of fat, low sodium, and a list of ingredients that you recognize. There are some tasty veggie dogs on the market, although a good deal of trial and error may be involved for the choosy child.

**4. Juice and juice-flavored drinks.** Juice, what could be wrong with juice? While 100% juice is a good source of vitamin C, it doesn't have the fiber of whole fruit, and provides calories mostly from sugar and carbohydrates. Too much juice can lead to obesity and tooth decay, among other problems. The American Academy of Pediatrics, suggests 4 to 6 ounces of juice per day for kids under six, and 8 to 12 ounces for older kids. Juice drinks that aren't 100% juice are usually laced with artificial colors and that old standby, high-fructose corn syrup, and should be avoided. Your best bet is to make your own juice from fresh, seasonal fruit. You won't have to worry about all the additives, and it's another way you can involve your kids in the cooking process. Let them design their own juice "cocktail." And if you were even considering soda, perhaps a refresher course from Steve Edwards' Nutrition 911 series is in order.

**Instead:** Water is still the best thirst quencher. Explain the importance of good hydration to your kids, and try to set a good example yourself by carrying around a water bottle. Get them used to carrying a small bottle of water in their backpack or attached to their bike. If they're very water averse, try water with a splash of fruit juice in it. But just a splash. The idea is to get kids used to not having things be overly sweet, overly salty, or overly fatty. The other great beverage is milk. Filled with nutrients, calcium, and protein, growing kids need plenty of milk, though not so much fat. Choosing low-fat or skim milk will help ensure they get their milk without becoming a cow.

**5. French fries.** High in calories, high in fat, and high in sodium—and unsurprisingly, the most popular "vegetable" among kids. They offer virtually none of the nutrients found in broccoli, carrots, spinach, or other veggies not found in a deep fryer. And the fat they're fried in is usually trans fat, the unhealthiest kind for the heart. To top it all off, studies are beginning to show cancer-causing properties from acrylamide, a toxic substance that is created when starchy foods like potatoes are heated to extreme temperatures. In some tests, the amount of

acrylamide in French fries was 300 to 600 times higher than the amount the EPA allows in a glass of water.

**Instead:** Vegetables like baby carrots, celery sticks, or other crudité's are great options, but if potatoes must be had, there are some options that don't begin with melting a brick of fat. A scooped-out potato skin with low-fat chili and a little cheese can give lots of fiber and vitamins, with even higher amounts if the chili has beans. You can also try making baked fries, using slices of potato with a light brushing of olive oil. Or, the classic baked potato could be a hit, with yogurt dip or cottage cheese instead of sour cream and butter.

**6. Chips. Potato chips, Cheetos, Doritos, etc.** These are full of fat, often saturated, and way more sodium than any child or adult should eat. Some chips also have the acrylamide problem discussed under French fries. Also, watch out for innocent-seeming baked and low-fat chips that contain olestra or other fake fats and chemicals that could present health issues for kids.

**Instead:** Kids gotta snack, and in fact, since their stomachs are smaller, they aren't usually able to go as long between meals as adults. Cut-up vegetables are the best thing if you want to get your crunch on, but air-popped popcorn and some baked chips are okay, too. You can control how much salt goes on the popcorn, or experiment with your child with other potential popcorn toppings like red pepper, Parmesan cheese, or dried herbs. Try making your own trail mix with your child. They might be more excited to eat their own personal blend, and you can avoid certain store-bought trail mixes, which sometimes contain ingredients like chocolate chips and marshmallows that are moving down the wrong trail for a healthy snack.

**7. Fruit leather.** Many of these gelatinous snacks like roll-ups or fruit bites contain a trace amount of fruit but lots of sugar or HFCS and bright artificial colors. Don't be misled by all the products that include the word "fruit" on their box. Real fruit is in the produce section, not the candy aisle.

**Instead:** If your child doesn't show interest in fruit in its natural state, there are some ways you can adulterate it without losing its nutritional value. Try filling ice-cube or popsicle trays with fruit juice or freezing grapes for a healthy frozen treat. Or buy unflavored gelatin and mix it with fruit juice and/or pieces of fruit to make gelatin treats without the added sugar and color (another good time for the cookie cutters!) Try serving some raisins, dried apricots, apples, peaches, or other fruits that might give you that chewy, leathery texture without the sugar.

**8. Doughnuts.** These little deep-fried gobs of joy are favorites for kids and adults alike, but they are full of fat and trans-fatty acids, and of course, sugar. Toaster pastries, muffins, and cinnamon buns aren't much better. The worst thing about doughnuts, and these other pastries, aside from their nutritional content, is that they're often presented to children as acceptable breakfast choices. These delicious deadlies need to be categorized properly— as desserts, to be eaten very sparingly. And you can't have dessert for breakfast.

**Instead:** Honestly, a slice of whole-wheat toast spread with sugar-free fruit spread or peanut butter isn't going to get as many fans as a chocolate-filled Krispy Kreme, but at some point, you have to stand firm. You be the cop that doesn't like doughnuts. Doughnuts—not for breakfast!

**9. Pizza.** In moderation, pizza can be a fairly decent choice. If you order the right toppings, you can get in most of your food groups. The problem comes with the processed meats like pepperoni and sausage, which add fat and nitrates/nitrites (see Lunch meat and hot dogs above); and the overabundance of cheese, which will also provide more calories and fat than a child needs.

**Instead:** Try making your own pizza with your kids. Use pre-made whole wheat crusts, or whole-wheat tortillas, English muffins, or bread as a base. Then brush on HFCS-free sauce, and set up a workstation with healthy ingredients, like diced chicken breast, sliced turkey dogs, and vegetables that your child can build his or her own pizza with. Then sprinkle on a little cheese, bake, and serve. If your child gets used to eating pizza like this, delivery pizzas may seem unbearably greasy after awhile.

## HOW MUCH SUGAR AM I EATING

To find out how much sugar you are consuming in one serving, look for the amount of sugar listed on the "Nutrition Facts" Panel of the foods you buy. We can use simple math to determine how much sugar is in the foods we eat:

### Measurement Equivalents

4 grams = 1 teaspoon  
3 teaspoons = 1 tablespoon  
16 = 1 cup  
tablespoons

Nutrition Facts	
Serv. Size 1 can	
Servings 6	
<b>Amount Per Serving</b>	
Calories 140	Calories From Fat 0
% Daily Value *	
Total Fat 0g	0%
Sodium 50mg	2%
Total Carbohydrate 39g	13%
<b>Sugars 39g</b>	
Protein 0g	

**# of grams of sugar**      **divide by 4 =**      **# teaspoons of sugar in one serving**

**# of teaspoons of sugar**      **divide by 3 =**      **# tablespoons of sugar in one serving**

**# of tablespoons of sugar**      **divide by 16 =**      **# cups of sugar in one serving**

For example, 1 can (12 ounces) of soda with 39 grams of sugar =  
9 3/4 teaspoons of sugar, or  
3 1/4 tablespoons of sugar, or  
1/5 cup of sugar

When checking the sugar and calorie contents on soft drinks, keep in mind that every 20-ounce bottle contains 2.5 servings. That means a soft drink that contains 100 calories and 40 g of sugar per serving gives you 250 calories and 100 g of sugar if you drink the entire bottle.

***How many teaspoons of sugar is 100 g?***

# SOFT DRINKS AND SUGAR

By: Michael McCoy, M.D.

**Most soft drinks and fruit juices you buy from shops taste sweet because they contain heaps of sugar. Bet you can't guess how many teaspoons of sugar are in just one drink! Keep reading for answers.**

A 1995 survey of Australian children discovered that 33 out of every 100 kids interviewed had consumed soft drink the previous day. Ten years later, another survey found that 78 per cent of 12-17 year olds had consumed soft drink in the previous week. It looks like soft drinks are habit-forming!

## So much sugar!

The table below shows how many teaspoons of sugar are in the types of drinks you might buy at a café, milk bar or canteen. To see how much sugar this is, grab a glass, a teaspoon and some sand or rice, and count the teaspoons into your glass.



## Type and amount of drink Sugar approx teaspoons/pack

Soft drink	375 ml can	9-13
Cola	375 ml can	9-11
Diet cola	375 ml can	0
Carbonated mineral water	375ml can	0
Pure fruit juice	250 ml pack	4-9
Fruit juice and mineral water	300 ml bottle	5-8
Fruit juice drink	250 ml pack	5-9
Normal, full fat milk	300ml carton	4
Chocolate flavored milk	300 ml carton	6-8

It's worth noting that many soft drinks are sold in bigger sizes, such as the 600 ml 'buddy' bottle, which is apparently meant to be shared (but rarely is). When you 'upsized' a meal at a fast food restaurant you're also getting much more sugar!

## Why is sugar unhealthy?

Your body turns the foods that you eat and drink into the energy it needs to grow and function. Different types of drinks contain different levels of energy. The amount of energy in food and drink is measured in either 'calories' or 'kilojoules'.

Soft drinks are often called "empty calories". This means they contain sugar, water and color but very little else. They provide some energy for your body but contain almost none of the vitamins and minerals your body needs to stay healthy. Soft drinks also make you feel full for a half hour or so, but then hungrier than if you'd had nothing at all.

## Smart sipping

To keep your body strong and healthy, it's best to avoid soft drinks – or save them for special occasions only. Tap water is best when you're thirsty.

Eating fresh fruit is better than drinking juice. If you're still thirsty after eating fruit, have a glass of water!

Source: [www.1seven.com.au/Kids/KidsArticle/tabid/10042/Default.aspx?newsId=29218](http://www.1seven.com.au/Kids/KidsArticle/tabid/10042/Default.aspx?newsId=29218)