

SUGARS AND YOUR HEALTH

Sugars and other fiber-free, highly refined simple carbohydrates:

1. Severely cripple the germ-gobbling ability of white blood cells. It is one reason wound healing in diabetics is slow. From the viewpoint of gum disease, virulent, anaerobic germs thrive in the sugar-rich, acidic environment they find in the tissues that surround teeth.
2. AGEs: When sugars flood the bloodstream and there is insufficient insulin to shunt it to other tissues, they begin to crosslink irreversibly to fats and proteins in the bloodstream. AGE complexes are aptly named because they cause aging in several ways. They create high levels of damaging free radicals as long as they remain in the body. Generally we excrete very few of these complexes. Ages also injure blood vessel walls, especially those most fragile and tiny that pass through end organs like the brain, eyes, kidneys, and gums. This necessitates cholesterol to repair the damage, eventually leading to hardening of the arteries, high blood pressure, and heart disease. One example of AGE damage is cataract formation as sugars crosslink with long-lived proteins in eye lenses.
3. Teeth are cleaned professionally to facilitate the healing that can occur with good daily self-care. However, high sugar levels incapacitate the fibroblasts that help heal gums, once there is bone and tissue loss. They lose their chemical directive. Fibroblasts are the grappling hooks that reconnect tissue to tooth. It is the *goal* of gum disease treatment – to exclude virulent germs from the moat so they can no longer drive jawbone loss or chronic whole-body inflammation.
4. Chromium is essential for sugar metabolism, yet is stripped from refined sugars and grains. Deficiencies impair one's ability to tolerate sugars. Sugars increase free radicals in the body.
5. Sugars deplete zinc, a component of the insulin molecule that helps it move sugars out of the bloodstream. It also keeps the immune system strong.
6. Sugar contributes to osteoporosis because it causes magnesium excretion; magnesium is essential for the absorption and utilization of calcium and it activates most of the enzymes used for turning sugar and fat into energy (the Krebs cycle/ATP formation/storage that occurs in each cell's mitochondria). Magnesium deficiencies reduce bone mass and increase skeletal fragility. Magnesium is also important for balancing calcium, proper metabolism of omega-3 fatty acids, keeping blood vessels relaxed, and for insulin's production and action. Insulin is one way sugars are removed from the blood stream before they cause much damage. Magnesium deficiencies are common in those whose diets rely on processed foods.
7. Sugars create an acidic environment. To neutralize this acidity, the body mobilizes calcium from bones. The calcium is often re-deposited in unwanted places like the kidneys as stones, the plaques of blood vessel walls and those left on teeth. Here it is commonly called tarter. Where it stiffens blood vessel walls, it is called atherosclerosis or hardening of the arteries.

8. Another side effect of an acidic system (from overeating sugars) is a chronically inflamed gut. Blood vessels in the gut become porous and leaky when inflamed just as blood vessels in the gums do. Large proteins spill out of the intestines into places they should not go, the body recognizes these as “foreign,” and, voila, food allergies are born.
9. Yeast (candida) infections can also proliferate when one has high sugar intake and/or leaky gut syndrome.
10. Sugars stress the adrenal glands, leaving you exhausted and hormone depleted. The destruction of the adrenal glands may be the most significant challenge a person faces as they try to overcome health problems. Through the adrenal hormones cortisol and DHEA, the precursor to human sex hormones, the adrenal glands influence most body functions.
11. Sugars wipe out good gut bacteria, leaving a niche for harmful bacteria.
12. Sugars compete with vitamin C for absorption. Usually Vitamin C is excreted before it can be absorbed.
13. Fructose in particular confuses appetite suppression. One can ingest a thousand calories of fructose and the brain will not get the message that anything has been consumed.
14. Fructose also converts almost 100% into the fraction of LDLs (often called the “bad cholesterol”) called VLDLs. It is these that are responsible for damage to blood vessel wall damage. Doctors rarely test for these. In this way, fruit juices like orange juice equate to alcohol metabolism. (See Beer Without the Buzz on mouthmattersbook.com web site.)
15. High sugar intake impedes memory by decreasing the brain compound BDNF (brain-derived neurotrophic factor). BDNF is a “memory food.” It is critical for storing long-term memories. BDNF supports existing nerves, stimulates the growth of new ones, enhances neurotransmission, and supports normal brain structure. Stress, inflammation, and poor diet decrease BDNF levels. Conditions associated with low levels of BDNF are depression, schizophrenia, obsessive-compulsive disorder, dementia, and Alzheimer’s. Exercise and a diet rich in omega-3s and low in simple carbohydrates increase levels. Depressed people have low levels of BDNF. If you take an omega-3 supplement like fish oil, be sure your diet is rich in antioxidants because, though they are very important, omega-3s can oxidize if they are not treated carefully and can thus also cause damage.
16. The epigenetics of sugar addiction are transferred down through at least three generations. Both males and females owe it to their family’s futures to overcome this addiction and reverse the genetic tags that turn the addiction genes on before conceiving.
17. Sugars cause cavities.

Consider reading Dr. Amen’s, *Change Your Brain, Change Your Body* to learn the five neurotransmitter pathways that keep you addicted and how to reverse the addiction.