

76 Ways Sugar Can Ruin Your Health

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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.^{1,2}
2. Sugar upsets the mineral relationships in your body: causes chromium and copper deficiencies and interferes with absorption of calcium and magnesium.^{3,4,5,6}
3. Sugar can cause a rapid rise of adrenaline, hyperactivity, anxiety, difficulty concentrating, and crankiness in children.^{7,8}
4. Sugar can produce a significant rise in total cholesterol, triglycerides and bad cholesterol and a decrease in good cholesterol.^{9,10,11,12}
5. Sugar causes a loss of tissue elasticity and function.¹³
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.^{14,15,16,17,18,19,20}
7. Sugar can increase fasting levels of glucose and can cause reactive hypoglycemia.^{21,22}
8. Sugar can weaken eyesight.²³
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.^{24,25,26,27,28}
10. Sugar can cause premature aging.²⁹
11. Sugar can lead to alcoholism.³⁰
12. Sugar can cause your saliva to become acidic, tooth decay, and periodontal disease.^{31,32,33}
13. Sugar contributes to obesity.³⁴
14. Sugar can cause autoimmune diseases such as: arthritis, asthma, multiple sclerosis.^{35,36,37}
15. Sugar greatly assists the uncontrolled growth of *Candida Albicans* (yeast infections)³⁸
16. Sugar can cause gallstones.³⁹
17. Sugar can cause appendicitis.⁴⁰
18. Sugar can cause hemorrhoids.⁴¹
19. Sugar can cause varicose veins.⁴²
20. Sugar can elevate glucose and insulin responses in oral contraceptive users.⁴³
21. Sugar can contribute to osteoporosis.⁴⁴
22. Sugar can cause a decrease in your insulin sensitivity thereby causing an abnormally high insulin levels and eventually diabetes.^{45,46,47}
23. Sugar can lower your Vitamin E levels.⁴⁸
24. Sugar can increase your systolic blood pressure.⁴⁹
25. Sugar can cause drowsiness and decreased activity in children.⁵⁰
26. High sugar intake increases advanced glycation end products (AGEs)(Sugar molecules attaching to and thereby damaging proteins in the body).⁵¹
27. Sugar can interfere with your absorption of protein.⁵²
28. Sugar causes food allergies.⁵³
29. Sugar can cause toxemia during pregnancy.⁵⁴
30. Sugar can contribute to eczema in children.⁵⁵
31. Sugar can cause atherosclerosis and cardiovascular disease.^{56,57}
32. Sugar can impair the structure of your DNA.⁵⁸
33. Sugar can change the structure of protein and cause a permanent alteration of the way the proteins act in your body.^{59,60}
34. Sugar can make your skin age by changing the structure of collagen.⁶¹
35. Sugar can cause cataracts and nearsightedness.^{62,63}
36. Sugar can cause emphysema.⁶⁴
37. High sugar intake can impair the physiological homeostasis of many systems in your body.⁶⁵
38. Sugar lowers the ability of enzymes to function.⁶⁶
39. Sugar intake is higher in people with Parkinson's disease.⁶⁷

40. Sugar can increase the size of your liver by making your liver cells divide and it can increase the amount of liver fat.^{68,69}
41. Sugar can increase kidney size and produce pathological changes in the kidney such as the formation of kidney stones.^{70,71}
42. Sugar can damage your pancreas.⁷²
43. Sugar can increase your body's fluid retention.⁷³
44. Sugar is enemy #1 of your bowel movement.⁷⁴
45. Sugar can compromise the lining of your capillaries.⁷⁵
46. Sugar can make your tendons more brittle.⁷⁶
47. Sugar can cause headaches, including migraines.⁷⁷
48. Sugar can reduce the learning capacity, adversely affect school children's grades and cause learning disorders.^{78,79}
49. Sugar can cause an increase in delta, alpha, and theta brain waves which can alter your mind's ability to think clearly.⁸⁰
50. Sugar can cause depression.⁸¹
51. Sugar can increase your risk of gout.⁸²
52. Sugar can increase your risk of Alzheimer's disease.⁸³
53. Sugar can cause hormonal imbalances such as: increasing estrogen in men, exacerbating PMS, and decreasing growth hormone.^{84,85,86,87}
54. Sugar can lead to dizziness.⁸⁸
55. Diets high in sugar will increase free radicals and oxidative stress.⁸⁹
56. High sucrose diets of subjects with peripheral vascular disease significantly increases platelet adhesion.⁹⁰
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.^{91,92}
58. Sugar is an addictive substance.⁹³
59. Sugar can be intoxicating, similar to alcohol.⁹⁴
60. Sugar given to premature babies can affect the amount of carbon dioxide they produce.⁹⁵
61. Decrease in sugar intake can increase emotional stability.⁹⁶
62. Your body changes sugar into 2 to 5 times more fat in the bloodstream than it does starch.⁹⁷
63. The rapid absorption of sugar promotes excessive food intake in obese subjects.⁹⁸
64. Sugar can worsen the symptoms of children with attention deficit hyperactivity disorder (ADHD).⁹⁹
65. Sugar adversely affects urinary electrolyte composition.¹⁰⁰
66. Sugar can slow down the ability of your adrenal glands to function.¹⁰¹
67. Sugar has the potential of inducing abnormal metabolic processes in a normal healthy individual and to promote chronic degenerative diseases.¹⁰²
68. I.V.s (intravenous feedings) of sugar water can cut off oxygen to your brain.¹⁰³
69. Sugar increases your risk of polio.¹⁰⁴
70. High sugar intake can cause epileptic seizures.¹⁰⁵
71. Sugar causes high blood pressure in obese people.¹⁰⁶
72. In intensive care units: Limiting sugar saves lives.¹⁰⁷
73. Sugar may induce cell death.¹⁰⁸
74. In juvenile rehabilitation camps, when children were put on a low sugar diet, there was a 44 percent drop in antisocial behavior.¹⁰⁹
75. Sugar dehydrates newborns.¹¹⁰
76. Sugar can cause gum disease.¹¹¹

References

1. Sanchez, A., et al. Role of Sugars in Human Neutrophilic Phagocytosis, American Journal of Clinical Nutrition. Nov 1973;261:1180_1184. Bernstein, J., al. Depression of Lymphocyte Transformation Following Oral Glucose Ingestion. American Journal of Clinical Nutrition.1997;30:613
2. Ringsdorf, W., Cheraskin, E. and Ramsay R. Sucrose, Neutrophilic Phagocytosis and Resistance to Disease, Dental Survey. 1976;52(12):46_48.
3. Couzy, F., et al. "Nutritional Implications of the Interaction Minerals," Progressive Food and Nutrition Science 17;1933:65-87
4. Kozlovsky, A., et al. Effects of Diets High in Simple Sugars on Urinary Chromium Losses. Metabolism. June 1986;35:515_518.
5. Fields, M., et al. Effect of Copper Deficiency on Metabolism and Mortality in Rats Fed Sucrose or Starch Diets, Journal of Clinical Nutrition. 1983;113:1335_1345.

6. Lemann, J. Evidence that Glucose Ingestion Inhibits Net Renal Tubular Reabsorption of Calcium and Magnesium. *Journal of Clinical Nutrition*. 1976 ;70:236_245.
7. Goldman, J., et al. Behavioral Effects of Sucrose on Preschool Children. *Journal of Abnormal Child Psychology*.1986;14(4):565_577.
8. Jones, T. W., et al. Enhanced Adrenomedullary Response and Increased Susceptibility to Neuroglycopenia: Mechanisms Underlying the Adverse Effect of Sugar Ingestion in Children. *Journal of Pediatrics*. Feb 1995;126:171-7.
9. Scanto, S. and Yudkin, J. The Effect of Dietary Sucrose on Blood Lipids, Serum Insulin, Platelet Adhesiveness and Body Weight in Human Volunteers, *Postgraduate Medicine Journal*. 1969;45:602_607.
10. Albrink, M. and Ullrich I. H. Interaction of Dietary Sucrose and Fiber on Serum Lipids in Healthy Young Men Fed High Carbohydrate Diets. *American Journal of Clinical Nutrition*. 1986;43:419-428. Pamplona, R., et al. Mechanisms of Glycation in Atherogenesis. *Med Hypotheses*. Mar 1993;40(3):174-81.
11. Reiser, S. Effects of Dietary Sugars on Metabolic Risk Factors Associated with Heart Disease. *Nutritional Health*. 1985;203_216.
12. Lewis, G. F. and Steiner, G. Acute Effects of Insulin in the Control of Vldl Production in Humans. Implications for The insulin-resistant State. *Diabetes Care*. 1996 Apr;19(4):390-3 R. Pamplona, M. .J., et al. Mechanisms of Glycation in Atherogenesis. *Medical Hypotheses*. 1990;40:174-181.
13. Cerami, A., Vlassara, H., and Brownlee, M. "Glucose and Aging." *Scientific American*. May 1987:90. Lee, A. T. and Cerami, A. The Role of Glycation in Aging. *Annals of the New York Academy of Science*; 663:63-67.
14. Takahashi, E., Tohoku University School of Medicine, *Wholistic Health Digest*. October 1982:41:00
15. Quillin, Patrick, *Cancer's Sweet Tooth*, *Nutrition Science News*. Ap 2000 Rothkopf, M.. *Nutrition*. July/Aug 1990;6(4).
16. Michaud, D. Dietary Sugar, Glycemic Load, and Pancreatic Cancer Risk in a Prospective Study. *J Natl Cancer Inst*. Sep 4, 2002 ;94(17):1293-300.
17. Moerman, C. J., et al. Dietary Sugar Intake in the Etiology of Biliary Tract Cancer. *International Journal of Epidemiology*. Ap 1993.2(2):207-214.
18. *The Edell Health Letter*. Sept 1991;7:1.
19. De Stefani, E."Dietary Sugar and Lung Cancer: a Case control Study in Uruguay." *Nutrition and Cancer*. 1998;31(2):132_7.
20. Cornee, J., et al. A Case-control Study of Gastric Cancer and Nutritional Factors in Marseille, France. *European Journal of Epidemiology* 11 (1995):55-65.
21. Kelsay, J., et al. Diets High in Glucose or Sucrose and Young Women. *American Journal of Clinical Nutrition*. 1974;27:926_936. Thomas, B. J., et al. Relation of Habitual Diet to Fasting Plasma Insulin Concentration and the Insulin Response to Oral Glucose, *Human Nutrition Clinical Nutrition*. 1983; 36C(1):49_51.
22. Dufty, William. *Sugar Blues*. (New York:Warner Books, 1975).
23. *Acta Ophthalmologica Scandinavica*. Mar 2002;48;25. Taub, H. Ed. *Sugar Weakens Eyesight*, VM NEWSLETTER;May 1986:06:00
24. Dufty.
25. Yudkin, J. *Sweet and Dangerous*.(New York:Bantam Books,1974) 129
26. Cornee, J., et al. A Case-control Study of Gastric Cancer and Nutritional Factors in Marseille, France, *European Journal of Epidemiology*. 1995;11
27. Persson P. G., Ahlbom, A., and Hellers, G. *Epidemiology*. 1992;3:47-52.
28. Jones, T. W., et al. Enhanced Adrenomedullary Response and Increased Susceptibility to Neuroglycopenia: Mechanisms Underlying the Adverse Effect of Sugar Ingestion in Children. *Journal of Pediatrics*. Feb 1995;126:171-7.
29. Lee, A. T.and Cerami A. The Role of Glycation in Aging. *Annals of the New York Academy of Science*.1992;663:63-70.
30. Abrahamson, E. and Peget, A. *Body, Mind and Sugar*. (New York: Avon, 1977.)
31. Glinsmann, W., Irausquin, H., and Youngmee, K. Evaluation of Health Aspects of Sugar Contained in Carbohydrate Sweeteners. F. D. A. Report of Sugars Task Force. 1986:39:00 Makinen K.K.,et al. A Descriptive Report of the Effects of a 16_month Xylitol Chewing_gum Programme Subsequent to a 40_month Sucrose Gum Programme. *Caries Research*. 1998; 32(2)107_12.
32. Glinsmann, W., Irausquin, H., and K. Youngmee. Evaluation of Health Aspects of Sugar Contained in Carbohydrate Sweeteners. F. D. A. Report of Sugars Task Force.1986;39:36_38.
33. Appleton, N. *New York: Healthy Bones*. Avery Penguin Putnam:1989.
34. Keen, H., et al. Nutrient Intake, Adiposity, and Diabetes. *British Medical Journal*. 1989; 1:00 655_658

35. Darlington, L., Ramsey, N. W. and Mansfield, J. R. Placebo Controlled, Blind Study of Dietary Manipulation Therapy in Rheumatoid Arthritis, *Lancet*. Feb 1986;8475(1):236_238.
36. Powers, L. Sensitivity: You React to What You Eat. *Los Angeles Times*. (Feb. 12, 1985). Cheng, J., et al. Preliminary Clinical Study on the Correlation Between Allergic Rhinitis and Food Factors. *Lin Chuang Er Bi Yan Hou Ke Za Zhi* Aug 2002;16(8):393-396.
37. Erlander, S. The Cause and Cure of Multiple Sclerosis, *The Disease to End Disease*." Mar 3, 1979;1(3):59_63.
38. Crook, W. J. *The Yeast Connection*. (TN:Professional Books, 1984).
39. Heaton, K. The Sweet Road to Gallstones. *British Medical Journal*. Apr 14, 1984; 288:00:00 1103_1104. Misciagna, G., et al. *American Journal of Clinical Nutrition*. 1999;69:120-126.
40. Cleave, T. *The Saccharine Disease*. (New Canaan, CT: Keats Publishing, 1974).
41. *Ibid*.
42. Cleave, T. and Campbell, G. (Bristol, England:Diabetes, Coronary Thrombosis and the Saccharine Disease: John Wright and Sons, 1960).
43. Behall, K. Influence of Estrogen Content of Oral Contraceptives and Consumption of Sucrose on Blood Parameters. *Disease Abstracts International*. 1982;431437.
44. Tjäderhane, L. and Larmas, M. A High Sucrose Diet Decreases the Mechanical Strength of Bones in Growing Rats. *Journal of Nutrition*. 1998;128:1807_1810.
45. Beck, Nielsen H., Pedersen O., and Schwartz S. Effects of Diet on the Cellular Insulin Binding and the Insulin Sensitivity in Young Healthy Subjects. *Diabetes*. 1978;15:289_296 .
46. Sucrose Induces Diabetes in Cat. *Federal Protocol*. 1974;6(97). diabetes
47. Reiser, S., et al. Effects of Sugars on Indices on Glucose Tolerance in Humans. *American Journal of Clinical Nutrition*. 1986;43:151-159.
48. *Journal of Clinical Endocrinology and Metabolism*. Aug 2000
49. Hodges, R., and Rebello, T. Carbohydrates and Blood Pressure. *Annals of Internal Medicine*. 1983;98:838_841.
50. Behar, D., et al. Sugar Challenge Testing with Children Considered Behaviorally Sugar Reactive. *Nutritional Behavior*. 1984;1:277_288.
51. Furth, A. and Harding, J. Why Sugar Is Bad For You. *New Scientist*. Sep 23, 1989;44.
52. Simmons, J. Is The Sand of Time Sugar? *LONGEVITY*. June 1990:00:00 49_53.
53. Appleton, N. New York: *LICK THE SUGAR HABIT*. Avery Penguin Putnam:1988. allergies
54. Cleave, T. *The Saccharine Disease*: (New Canaan Ct: Keats Publishing, Inc., 1974).131.
55. *Ibid*. 132
56. Pamplona, R., et al. Mechanisms of Glycation in Atherogenesis. *Medical Hypotheses* . 1990:00:00 174_181.
57. Vaccaro O., Ruth, K. J. and Stamler J. Relationship of Postload Plasma Glucose to Mortality with 19 yr Follow up. *Diabetes Care*. Oct 15,1992;10:328_334. Tominaga, M., et al, Impaired Glucose Tolerance Is a Risk Factor for Cardiovascular Disease, but Not Fasting Glucose. *Diabetes Care*. 1999;2(6):920-924.
58. Lee, A. T. and Cerami, A. Modifications of Proteins and Nucleic Acids by Reducing Sugars: Possible Role in Aging. *Handbook of the Biology of Aging*. (New York: Academic Press, 1990.).
59. Monnier, V. M. Nonenzymatic Glycosylation, the Maillard Reaction and the Aging Process. *Journal of Gerontology* 1990;45(4):105_110.
60. Cerami, A., Vlassara, H., and Brownlee, M. Glucose and Aging. *Scientific American*. May 1987:00:00 90
61. Dyer, D. G., et al. Accumulation of Maillard Reaction Products in Skin Collagen in Diabetes and Aging. *Journal of Clinical Investigation*. 1993;93(6):421_22.
62. Veromann, S.et al."Dietary Sugar and Salt Represent Real Risk Factors for Cataract Development." *Ophthalmologica*. 2003 Jul-Aug;217(4):302-307.
63. Goulart, F. S. Are You Sugar Smart? *American Fitness*. March_April 1991:00:00 34_38. Milwaukee, WI
64. Monnier, V. M. Nonenzymatic Glycosylation, the Maillard Reaction and the Aging Process. *Journal of Gerontology*. 1990;45(4):105_110.
65. Ceriello, A. Oxidative Stress and Glycemic Regulation. *Metabolism*. Feb 2000;49(2 Suppl 1):27-29.
66. Appleton, Nancy. New York; *Lick the Sugar Habit*. Avery Penguin Putnam, 1988 enzymes
67. Hellenbrand, W. Diet and Parkinson's Disease. A Possible Role for the Past Intake of Specific Nutrients. Results from a Self-administered Food-frequency Questionnaire in a Case-control Study. *Neurology*. Sep 1996;47(3):644-650.
68. Goulart, F. S. Are You Sugar Smart? *American Fitness*. March_April 1991:00:00 34_38.
69. *Ibid*.
70. Yudkin, J., Kang, S. and Bruckdorfer, K. Effects of High Dietary Sugar. *British Journal of Medicine*. Nov 22, 1980;1396.

71. Blacklock, N. J., Sucrose and Idiopathic Renal Stone. *Nutrition and Health*. 1987;5(1-2):9- Curhan, G., et al. Beverage Use and Risk for Kidney Stones in Women. *Annals of Internal Medicine*. 1998;28:534-340.
72. Goulart, F. S. Are You Sugar Smart? *American Fitness*. March_April 1991:00:00 34_38. Milwaukee, WI,:
73. Ibid. fluid retention
74. Ibid. bowel movement
75. Ibid. compromise the lining of the capillaries
76. Nash, J. *Health Contenders*. *Essence*. Jan 1992; 23:00 79_81.
77. Grand, E. Food Allergies and Migraine. *Lancet*. 1979;1:955_959.
78. Schauss, A. *Diet, Crime and Delinquency*. (Berkeley Ca; Parker House, 1981.)
79. Molteni, R, et al. A High-fat, Refined Sugar Diet Reduces Hippocampal Brain-derived Neurotrophic Factor, Neuronal Plasticity, and Learning. *NeuroScience*. 2002;112(4):803-814.
80. Christensen, L. The Role of Caffeine and Sugar in Depression. *Nutrition Report*. Mar 1991;9(3):17-24.
81. Ibid,44
82. Yudkin, J. *Sweet and Dangerous*.(New York:Bantam Books,1974) 129
83. Frey, J. Is There Sugar in the Alzheimer's Disease? *Annales De Biologie Clinique*. 2001; 59 (3):253-257.
84. Yudkin, J. Metabolic Changes Induced by Sugar in Relation to Coronary Heart Disease and Diabetes. *Nutrition and Health*. 1987;5(1-2):5-8.
85. Yudkin, J and Eisa, O. Dietary Sucrose and Oestradiol Concentration in Young Men. *Annals of Nutrition and Metabolism*. 1988;32(2):53-55.
86. *The Edell Health Letter*. Sept 1991;7:1.
87. Gardner, L. and Reiser, S. Effects of Dietary Carbohydrate on Fasting Levels of Human Growth Hormone and Cortisol. *Proceedings of the Society for Experimental Biology and Medicine*. 1982;169:36_40.
88. *Journal of Advanced Medicine*. 1994;7(1):51-58.
89. Ceriello, A. Oxidative Stress and Glycemic Regulation. *Metabolism*. Feb 2000;49(2 Suppl 1):27-29.
90. *Postgraduate Medicine*. Sept 1969;45:602-07.
91. Lenders, C. M. Gestational Age and Infant Size at Birth Are Associated with Dietary Intake among Pregnant Adolescents. *Journal of Nutrition*. Jun 1997;1113- 1117
92. Ibid.
93. Sugar, White Flour Withdrawal Produces Chemical Response. *The Addiction Letter*. Jul 1992:04:00 Colantuoni, C., et al. Evidence That Intermittent, Excessive Sugar Intake Causes Endogenous Opioid Dependence. *Obes Res*. Jun 2002 ;10(6):478-488. Annual Meeting of the American Psychological Society, Toronto, June 17, 2001 www.mercola.com/2001/jun/30/sugar.htm
94. Ibid.
95. Sunehag, A. L., et al. Gluconeogenesis in Very Low Birth Weight Infants Receiving Total Parenteral Nutrition Diabetes. 1999 ;48 7991_800.
96. Christensen L., et al. Impact of A Dietary Change on Emotional Distress. *Journal of Abnormal Psychology*.1985;94(4):565_79.
97. *Nutrition Health Review*. Fall 85 changes sugar into fat faster than fat
98. Ludwig, D. S., et al. High Glycemic Index Foods, Overeating and Obesity. *Pediatrics*. March 1999;103(3):26-32.
99. *Pediatrics Research*. 1995;38(4):539-542. Berdonces, J. L. Attention Deficit and Infantile Hyperactivity. *Rev Enferm*. Jan 2001;4(1)11-4
100. Blacklock, N. J. Sucrose and Idiopathic Renal Stone. *Nutrition Health*. 1987;5(1 & 2):9-
101. Lechin, F., et al. Effects of an Oral Glucose Load on Plasma Neurotransmitters in Humans. *Neurophychobiology*. 1992;26(1-2):4-11.
102. Fields, M. *Journal of the American College of Nutrition*. Aug 1998;17(4):317_321.
103. Arieff, A. I. Veterans Administration Medical Center in San Francisco. *San Jose Mercury*; June 12/86. IVs of sugar water can cut off oxygen to the brain.
104. Sandler, Benjamin P. *Diet Prevents Polio*. Milwaukee, WI,:The Lee Foundation for for Nutritional Research, 1951
105. Murphy, Patricia. The Role of Sugar in Epileptic Seizures. *Townsend Letter for Doctors and Patients*. May, 2001 Murphy Is Editor of *Epilepsy Wellness Newsletter*, 1462 West 5th Ave., Eugene, Oregon 97402
106. Stern, N. & Tuck, M. Pathogenesis of Hypertension in Diabetes Mellitus. *Diabetes Mellitus, a Fundamental and Clinical Text*. 2nd Edition, (Philadelphia; A:Lippincott Williams & Wilkins, 2000)943-957.
107. Christansen, D. Critical Care: Sugar Limit Saves Lives. *Science News*. June 30, 2001; 159:404.

108. Donnini, D. et al. Glucose May Induce Cell Death through a Free Radical-mediated Mechanism. *Biochem Biophys Res Commun.* Feb 15, 1996;219(2):412-417.
109. Schoenthaler, S. The Los Angeles Probation Department Diet-Behavior Program: An Empirical Analysis of Six Institutional Settings. *Int J Biosocial Res* 5(2):88-89.
110. Gluconeogenesis in Very Low Birth Weight Infants Receiving Total Parenteral Nutrition. *Diabetes.* 1999 Apr;48(4):791-800.
111. Glinsmann, W., et al. Evaluation of Health Aspects of Sugar Contained in Carbohydrate Sweeteners." FDA Report of Sugars Task Force -1986 39 123 Yudkin, J. and Eisa, O. Dietary Sucrose and Oestradiol Concentration in Young Men. *Annals of Nutrition and Metabolism.* 1988;32(2):53-5.