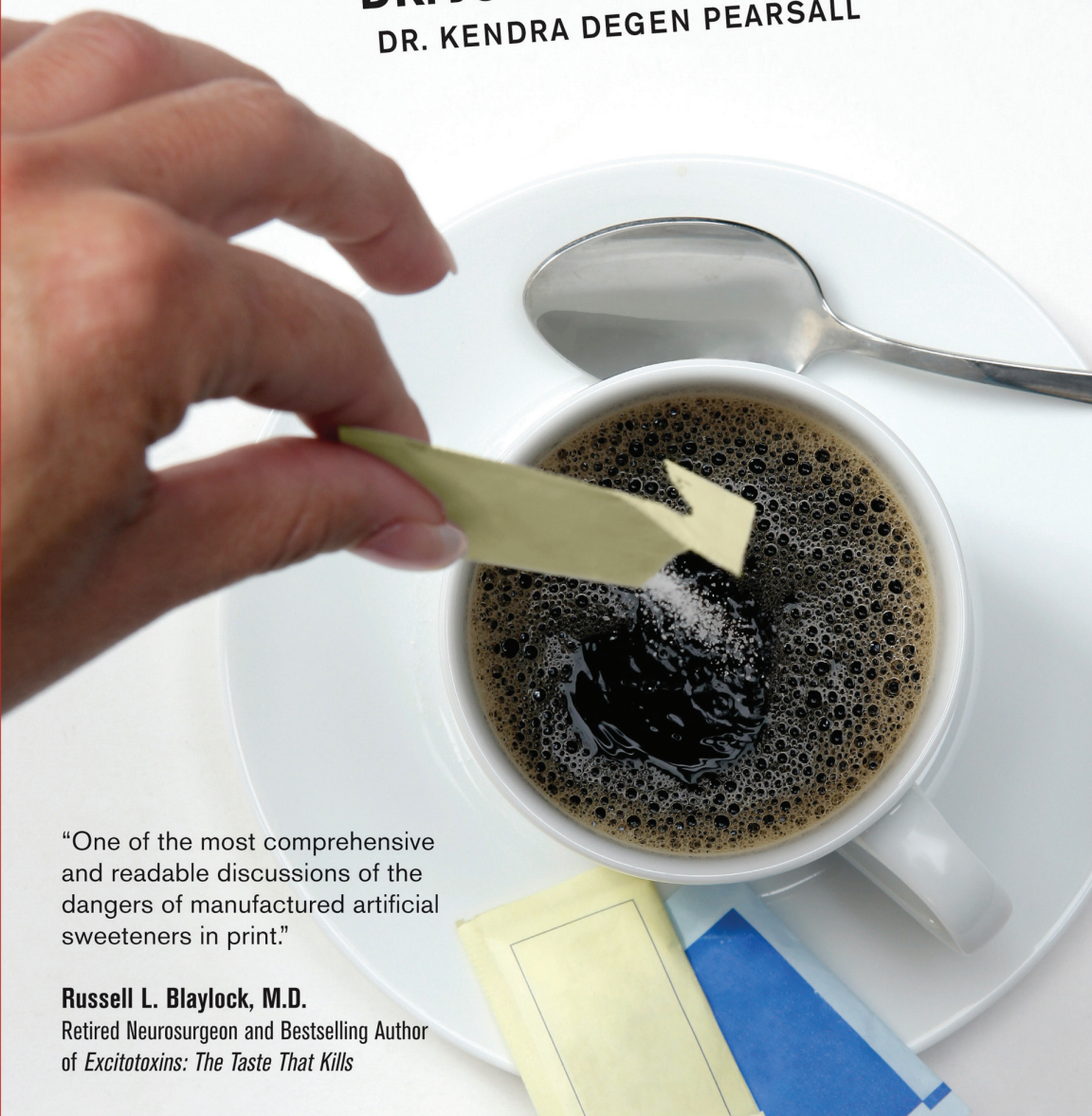


SWEET DECEPTION

Why Splenda®, NutraSweet®, and the FDA May Be Hazardous to Your Health

DR. JOSEPH MERCOLA
DR. KENDRA DEGEN PEARSALL



"One of the most comprehensive and readable discussions of the dangers of manufactured artificial sweeteners in print."

Russell L. Blaylock, M.D.

Retired Neurosurgeon and Bestselling Author
of *Excitotoxins: The Taste That Kills*

A PDF COMPANION TO THE AUDIOBOOK

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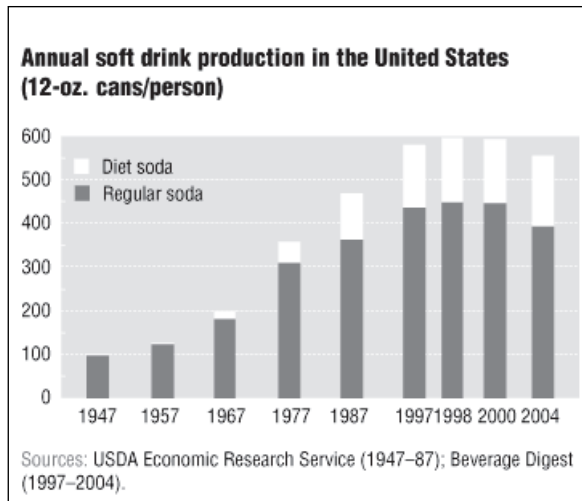
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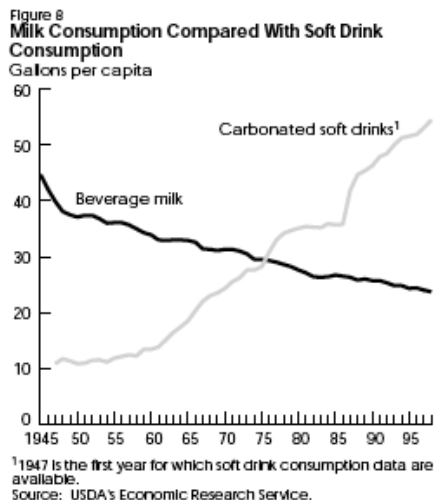
CHAPTER ONE: SWEET TOOTH



Reprinted, with permission, from "Liquid Candy," Center for Science in the Public Interest.¹²

Amount of Caloric Sweeteners Consumed per Person in the United States

- 1880: 38 lb.
- 1970: 119 lb.
- 1990: 132 lb.
- 2005: 149 lb. = 1 cup/day



CHAPTER THREE: SWEET AGONY

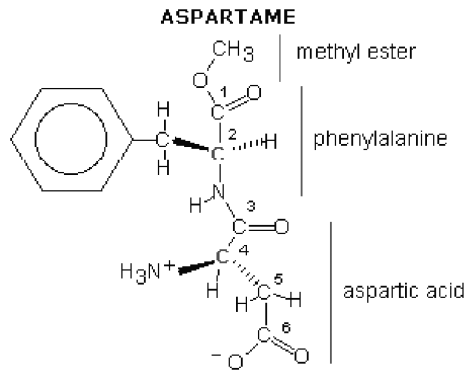


Diagram of Aspartame Molecule

Amino Acid Structure

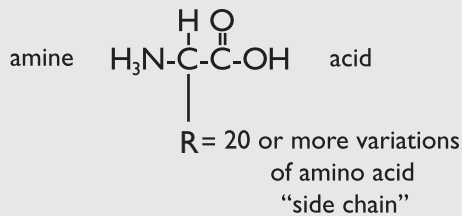


Diagram of Amino Acid

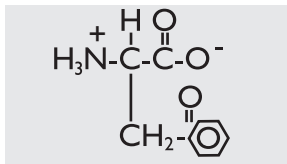


Diagram of Phenylalanine Molecule

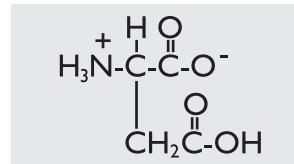
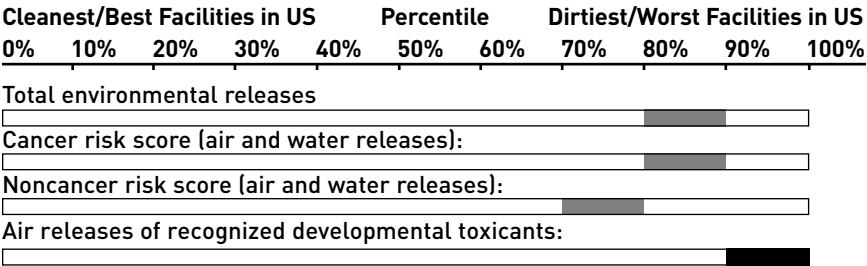


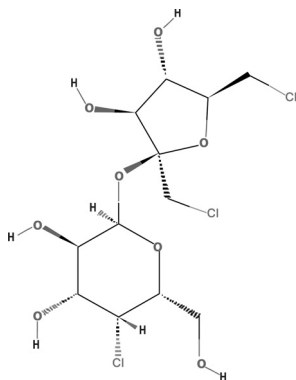
Diagram of Aspartic Acid

2002 RANKINGS: MAJOR CHEMICAL RELEASES OR WASTE
GENERATION AT THIS FACILITY



Source: Scorecard.org

CHAPTER FOUR: SWEET IGNORANCE



Molecule of Sucralose

ESTIMATION OF ORAL SUCRALOSE ABSORPTION

	McNEIL ESTIMATES ⁶⁰	FDA ESTIMATES ⁶¹
Rat	10%	5%
Man	15%	11–27%
Rabbit	20%	20–33%
Mouse	30%	20–33%
Dog	35%	33–36%

In 2002, the following Pollutants were released from the McNeil sucralose plant in McIntosh, AL:

	AIR RELEASES	WATER RELEASES
	(IN POUNDS)	
Suspected Cardiovascular/ BloodToxicants	1,702	167,530
Suspected Developmental Toxicants	11,533	5,892
Suspected Immunotoxicants	1,702	
Suspected Kidney Toxicants	11,533	5,982
Suspected Gastrointestinal/ Liver Toxicants	13,235	5,892
Suspected Neurotoxicants	16,713	5,892
Suspected Reproductive Toxicants	11,533	5,892
Suspected Respiratory Toxicants	13,235	5,892
Suspected Skin or Sense Organ Toxicants	13,235	5,892

All data was obtained from the EPA's Toxic Release Inventory.

NOTE: Some chemicals are associated with more than one health effect, so their releases may be counted more than one time in this table.

APPENDIX A

76 WAYS THAT SUGAR CAN DESTROY YOUR HEALTH*

From *Lick the Sugar Habit* (Avery Publishing Group, 1996), by Nancy Appleton, PhD, www.nancyappleton.com

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.
2. Sugar upsets the mineral relationships in your body, causes chromium and copper deficiencies, and interferes with absorption of calcium and magnesium.
3. Sugar can cause a rapid rise of adrenaline, hyperactivity, anxiety, difficulty concentrating, and crankiness in children.
4. Sugar can produce a significant rise in total cholesterol, triglycerides, and bad cholesterol, and a decrease in good cholesterol.
5. Sugar causes a loss of tissue elasticity and function.
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.

7. Sugar can increase fasting levels of glucose and can cause reactive hypoglycemia.
8. Sugar can weaken eyesight.
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.
10. Sugar can cause premature aging.
11. Sugar can lead to alcoholism.
12. Sugar can cause your saliva to become acidic, and can cause tooth decay and periodontal disease.
13. Sugar contributes to obesity.
14. Sugar can cause autoimmune diseases such as arthritis, asthma, and multiple sclerosis.
15. Sugar greatly assists the uncontrolled growth of Candida Albicans (yeast infections).
16. Sugar can cause gallstones.
17. Sugar can cause appendicitis.
18. Sugar can cause hemorrhoids.
19. Sugar can cause varicose veins.
20. Sugar can elevate glucose and insulin responses in oral contraceptive users.
21. Sugar can contribute to osteoporosis.
22. Sugar can cause a decrease in your insulin sensitivity, thereby causing abnormally high insulin levels and eventually diabetes.
23. Sugar can lower your vitamin E levels.
24. Sugar can increase your systolic blood pressure.
25. Sugar can cause drowsiness and decreased activity in children.

26. High sugar intake increases advanced glycation end products (AGEs—sugar molecules attaching to and thereby damaging proteins in the body).
27. Sugar can interfere with your absorption of protein.
28. Sugar causes food allergies.
29. Sugar can cause toxemia during pregnancy.
30. Sugar can contribute to eczema in children.
31. Sugar can cause atherosclerosis and cardiovascular disease.
32. Sugar can impair the structure of your DNA.
33. Sugar can change the structure of protein and cause a permanent alteration of the way the proteins act in your body.
34. Sugar can make your skin age by changing the structure of collagen.
35. Sugar can cause cataracts and nearsightedness.
36. Sugar can cause emphysema.
37. High sugar intake can impair the physiological homeostasis of many systems in your body.
38. Sugar lowers the ability of enzymes to function.
39. Sugar intake is higher in people with Parkinson's disease.
40. Sugar can increase the size of your liver by making your liver cells divide, and it can increase the amount of liver fat.
41. Sugar can increase kidney size and produce pathological changes in the kidney, such as the formation of kidney stones.
42. Sugar can damage your pancreas.
43. Sugar can increase your body's fluid retention.
44. Sugar is enemy number one of your bowel movement.
45. Sugar can compromise the lining of your capillaries.

46. Sugar can make your tendons more brittle.
47. Sugar can cause headaches, including migraines.
48. Sugar can reduce the learning capacity, adversely affect school children's grades, and cause learning disorders.
49. Sugar can cause an increase in delta, alpha, and theta brain waves, which can alter your mind's ability to think clearly.
50. Sugar can cause depression.
51. Sugar can increase your risk of gout.
52. Sugar can increase your risk of Alzheimer's disease.
53. Sugar can cause hormonal imbalances such as increasing estrogen in men, exacerbating PMS, and decreasing growth hormone.
54. Sugar can lead to dizziness.
55. Diets high in sugar will increase free radicals and oxidative stress.
56. High-sucrose diets for subjects with peripheral vascular disease significantly increases platelet adhesion.
57. High sugar consumption by 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.
58. Sugar is an addictive substance.
59. Sugar can be intoxicating, similar to alcohol.
60. Sugar given to premature babies can affect the amount of carbon dioxide they produce.
61. Decrease in sugar intake can increase emotional stability.
62. Your body changes sugar into two to five times more fat in the bloodstream than it does starch.
63. The rapid absorption of sugar promotes excessive food intake in obese subjects.

64. Sugar can worsen the symptoms of children with attention deficit hyperactivity disorder (ADHD).
65. Sugar adversely affects urinary electrolyte composition.
66. Sugar can slow down the ability of your adrenal glands to function.
67. Sugar has the potential of inducing abnormal metabolic processes in a normal healthy individual, and promoting chronic degenerative diseases.
68. IVs (intravenous feedings) of sugar water can cut off oxygen to your brain.
69. Sugar increases your risk of polio.
70. High sugar intake can cause epileptic seizures.
71. Sugar causes high blood pressure in obese people.
72. In intensive care units, limiting sugar saves lives.
73. Sugar may induce cell death.
74. In juvenile rehabilitation camps, when children were put on a low-sugar diet, there was a 44 percent drop in antisocial behavior.
75. Sugar dehydrates newborns.
76. Sugar can cause gum disease.

**Used with permission.*

APPENDIX B

LIST OF COMPLAINTS FILED AGAINST ASPARTAME WITH THE FDA (AS OF APRIL 1995)

The following list was compiled by the FDA based on roughly ten thousand consumer complaints regarding aspartame. Reported adverse reactions included (in order of frequency of report):

Headaches and migraines	Grand mal seizures
Dizziness or problems with balance	Local swelling
Change in mood quality or level	Change in activity level
Vomiting and nausea	Difficulty breathing
Abdominal pain and cramps	Oral sensory changes
Change in vision	Change in menstrual pattern
Diarrhea	Other skin problems
Seizures and convulsions	Localized pain and tenderness
Memory loss	Other urogenital problems
Fatigue, weakness	Change in body temperature
Other neurological problems	Difficulty swallowing
Rash	Other metabolic problems
Sleep problems	Joint and bone pain
Hives	Speech impairment
Change in heart rate	Other gastrointestinal problems
Itching	Chest pain
Change in sensation (numbness, tingling)	Other musculoskeletal problems
	Fainting

Sore throat
Other cardiovascular problems
Change in taste
Difficulty with urination
Other respiratory problems
Edema
Change in hearing
Abdominal swelling
Change in saliva output
Change in urine volume
Change in perspiration pattern
Eye irritation
Muscle tremors
Petit mal seizures
Change in appetite
Change in body weight
Change in thirst or water intake
Unconsciousness and coma
Wheezing
Constipation
Other extremity pain
Problems with bleeding
Unsteady gait
Coughing
Blood glucose disorders
Blood pressure changes
Changes in skin and nail coloration
Change in hair or nails
Excessive phlegm production
Sinus problems
Simple partial seizures
Hallucinations
Shortness of breath from exertion
Blood in stool or vomit

Dysmenorrhea (painful menstrual cramps)
Dental problems
Change in smell
Death
Other blood or lymphatic problems
Eczema
Swollen lymph nodes
Hematuria (blood in urine)
Shortness of breath from position
Difficulties with pregnancy
Developmental retardation in children
Change in breast size or tenderness
Anemia
Change in sexual function
Shock
Conjunctivitis
Dilated eyes
Fever
Other or unspecified symptoms

APPENDIX C

RECOMMENDED FURTHER READING

Aspartame

Aspartame Disease: An Ignored Epidemic, by H. J. Roberts

This is a definitive book on reactions to aspartame. Dr. Roberts is widely regarded as the expert on aspartame disease because of his clinical experience and extensive research spanning two decades.

Sweet Misery: A Poisoned World (DVD)

(available on Mercola.com, mercola.com/2004/jul/24/sweet_misery.htm, or type in “Sweet Misery” on Google)

Sweet Misery is a compelling documentary of Cori Brackett’s interviews across the country with medical and legal experts and victims of aspartame. Her drive to make the film was due to her own development of multiple sclerosis, which she attributes to drinking high amounts of Diet Coke sweetened with aspartame. The film also goes into depth about the seedy politics involved in the FDA approval process for aspartame. This film is a must-see for anyone who uses aspartame.

The FDA

Hazardous to Our Health? FDA Regulation of Health-Care Products, by Robert Higgs

In this book, four outstanding scholars examine how the FDA accumulated its enormous power, and what effects it has had on the

public. It also explores who actually benefits and loses from FDA actions, and whether alternatives exist to safeguard the health of Americans.

The History of a Crime Against the Food Law, by Harvey Wiley (available of SweetDeception.com)

Harvey Wiley was the very first commissioner of the FDA, then known as the Bureau of Chemistry, and he was the driving force behind the passage of two landmark pieces of consumer protection legislation, the Pure Food and Drug Act and the Meat Inspection Act. This 1929 book is a description, by the person who would know best, of the government's frequent failure to enforce the Pure Food and Drug Act, and corruption in the early FDA.

The Food Industry

Food Fight: The Inside Story of the Food Industry, America's Obesity Crisis, and What We Can Do About It, by Kelly Brownell, PhD, and Katherine Horgen, PhD

Dr. Brownell, a professor at Yale and an expert on obesity, nutrition, and eating disorders, and coauthor Dr. Horgen trace the subtle convergence of public indifference, corporate opportunism, and tradition that in a few short decades has transformed the American waistline and created a tidal wave of disease. Drs. Brownell and Horgen outline bold public policy initiatives for reversing the trend, and describe steps individuals can take to help safeguard their own and their families' health.

Food Politics: How the Food Industry Influences Nutrition and Health, by Marion Nestle

As the former nutrition policy advisor to the FDA and Department of Agriculture, Marion Nestle was an insider to how the food industry influences nutrition and health in the United States. She gives numerous examples of this such as how the meat, dairy, and grain industries were able to influence the Food Pyramid and how

food corporations exploit kids and corrupt the schools to sell their junk food.

Trust Us, We're Experts! How Industry Manipulates Science and Gambles with Your Future, by Sheldon Rampton and John Stauber

This book unmasks the sneaky and widespread methods industry uses to influence opinion through bogus experts, doctored data, and manufactured facts.

Natural Health Advice

Dr. Mercola's Total Health Program, by Dr. Joseph Mercola with Dr. Kendra Degen Pearsall, et al.

(available on Mercola.com at mercola.com/forms/total_health_book.htm)

If you could improve any aspect of your health today, what would you choose? Would you want to be at your ideal weight? Truly look and feel younger and avoid premature aging? Eliminate or vastly reduce some disease or illness? Increase your daily energy and not feel down or tired all the time? Something else, or all of the above? Imagine feeling healthier, full of energy, free of illness, and more upbeat throughout the day, no matter what your current condition. *Dr. Mercola's Total Health Program* is THE tool that will really help you make it happen, once and for all. The *Total Health Program* provides you with my entire clinically proven dietary and health program, including many health secrets that you haven't seen before. This is the same program that has so dramatically helped many thousands of patients at my clinic, The Optimal Wellness Center.

The Pharmaceutical Industry

The Truth About the Drug Companies: How They Deceive Us and What to Do About It, by Marcia Angell

During her two decades at the *New England Journal of Medicine*, Dr. Marcia Angell had a front-row seat for the appalling behavior of the pharmaceutical industry. Now, in this hard-hitting book, Dr. Angell

exposes the shocking truth of what the \$200 billion pharmaceutical industry has become—and argues for essential, long-overdue change.

The Big Fix: How the Pharmaceutical Industry Rips Off American Consumers, by Katherine Greider

This meticulously reported expose uncovers exactly how the drug industry boosts sales and bilks consumers in the most lucrative prescription drug market in the world.

Stevia

The Stevia Cookbook: Cooking with Nature's Calorie-Free Sweetener, by Donna Gates and Dr. Ray Sahelian

This book includes documented studies and testimonials about stevia's safety, as well as more than one hundred recipes for entrées, side dishes, and desserts.

APPENDIX D

WHAT'S A DIABETIC (OR AN OVERWEIGHT PERSON) TO DO?*

Diabetics reading this book may be particularly upset over our recommendations to avoid artificial sweeteners. Artificial sweeteners seem like a perfect solution to help diabetics indulge their sweet tooth and still control their blood sugar. Even the American Diabetes Association recommends artificial sweeteners to diabetics. Unfortunately, after reading this book, you know they are not a wise choice at all. The following steps are helpful for diabetics to keep their blood sugars normal (80–95 mg/dl).

Step One: Earlier, in our description of the major ideas behind the *Total Health Program*, we discussed the necessity of *reducing or eliminating the use of sugar and grains in your diet*. This is the single most important change most diabetics can make. In addition, fine-tuning your diet with Metabolic Typing will provide you with some insights into the foods you can use to replace the grains and sugars.

Step Two: Use exercise as a tool to keep blood sugars in check. Exercise works by increasing the sensitivity of insulin and leptin receptors, so the insulin and leptin that you are already making works much more effectively to lower blood sugars. This eventually allows your body to reduce additional insulin and leptin production.

*This advice is not intended to replace that of your physician. We recommend that you consult with a physician before implementing any of the advice in this section. Although this section only addresses diabetes, most people who are overweight will have some degree of insulin and leptin resistance and have a high risk of developing diabetes. Those who are overweight would do well to follow the following advice given for diabetics, as the same treatment advice applies.

The more body fat you have, the higher the insulin and leptin resistance. The most effective way to decrease body fat is by increasing muscle mass with weight training. Aerobic exercise is also important. Please note that diabetics with blood sugars over 170 mg/dl need to use extra caution and medical supervision for their exercise program, because elevated blood sugars may rise further with exercise.

Most people don't recognize the importance of exercise intensity. They don't understand that gentle walking, even for ninety minutes, isn't a sufficiently intense exercise. You need to go hard enough so that you would have a difficult time talking to someone, and then drop back half a notch. If you can easily carry on a conversation with someone next to you, then you are going too slowly to generate the aerobic benefits that exercise is capable of providing.

One of the key principles is to listen to your body. If your body will not allow you to exercise, either due to pain or worsening of your underlying condition, then you have no practical option but to honor your body's signals and not exercise. Even though your body desperately needs the exercise to improve, you will only get worse if you violate your current limitations. So you may have to start with as little as one or two minutes a day. Apply the *Total Health Program*, and as your body gradually improves, so will your exercise tolerance.

Step Three: Be sure to *get enough (but not too much) sleep*, as studies have shown that sleeping five hours or less or nine hours or more each night may increase your risk of developing diabetes. In this country we have an epidemic of people who are sleep deprived. The average American is only getting seven hours of sleep, when s/he should be getting eight to nine. Additionally, many people also struggle with insomnia. If you are one of the 58 percent of Americans who struggle with getting a full night of sleep, we suggest reading *The Guide to a Good Night's Sleep*, available free at Mercola.com.

Read *Dr. Bernstein's Diabetes Solution*, by Richard Bernstein, MD

This book covers what a diabetic needs to know to manage their diabetes using a low-carbohydrate diet. It includes dietary recommendations similar

to those given in the *Total Health Program*, but with a very strict regulation of carbohydrate intake.

The book also gives information on blood sugar testing, lab tests, supplies, how to prevent hypoglycemia, exercise routines, avoidance of complications, and even how to properly use insulin when necessary. The only caveat is that he advocates artificial sweeteners.

APPENDIX E

THE ORIGINS OF SWEETENERS

The only concentrated sugar that early man would have had access to was honey. But research of modern-day hunter-gatherers shows that the average honey consumption was minor—maybe four pounds, or 3 percent of total calories, over the course of an entire year.

Cave paintings in Spain from 7000 B.C. show that beekeeping began quite early. Honey was prized and revered in ancient Egypt, Greece, and Rome—beekeeping was a major industry throughout the Roman Empire. But the ability to produce concentrated sugar on a truly massive scale didn't exist until the invention of sugarcane processing.

Sugarcane is one of the oldest agricultural crops in the world, first cultivated in Papua New Guinea (an island north of Australia) perhaps nine thousand years ago. From there it spread to India around 500 B.C. and China around 250 B.C. But at that time, it was just a mildly sweet, woody plant—sugar was extracted in small quantities by chewing and sucking on the cane.

It was not until A.D. 500 that the Indians introduced commercial sugar extraction by pressing out the juice and boiling it into crystals. By A.D. 600, this practice had become widespread. During the Muslim expansion in the seventh century, Arabs invaded Persia and learned the coveted secret of sugar production. In the eleventh century, when the crusaders came pillaging through the Muslim's territory, they discovered sugar and carried it back to Europe, where it caused a sensation. The demand for sugar caused a dramatic increase in trade between western Europe and Eastern Europe.

But sugar production was labor intensive, and therefore expensive to

produce. The extensive costs to produce sugar made it a luxury item, frequently referred to as “white gold” (the price of a kilo in London in 1319 was the equivalent of *one hundred dollars* at today’s prices!). This effectively restricted the use of sugar to all but the very wealthy.

Sugar and Slavery

The sugar industry experienced a revolutionary shift after Christopher Columbus arrived in the New World. When Columbus sailed to the Caribbean islands in 1492, he planted sugarcane, which thrived in the favorable climate. So he took the natives’ land and forced them into slavery to cultivate the sugarcane. But most of the natives died from the European diseases, overwork, or execution, so they were replaced by African slaves and European indentured servants.

Queen Elizabeth I of England (1533–1603) was so fond of eating sugar that she had extensive dental decay, which caused all her teeth to rot and turn black. In all of her portraits, her mouth is closed.

In modern America, we tend to think of cotton plantations as the driving economic force behind slavery. But in fact, historical documents make it quite clear that without sugar, the slave trade would have been relatively minor. Sugar and the slave trade were a foundation of the European marketplace. African slavery was the main factor that radically changed the economics of the sugar industry and was able to reduce the cost of sugar from the one-hundred-dollars-per-kilo price in 1319 to the equivalent of six dollars per kilo by 1500. Finally, sugar was inexpensive enough for the average person to use. Between 1663 and 1775, English use of sugar increased *twentyfold*, and nearly all of it was produced in the Americas.

This radical reduction in the cost of sugar came at the expense of the slaves who were kidnapped from Africa. The typical slave had an average life span of ten years after arriving in the West Indies. The work was brutal, and slaves were forced to labor eighteen hours a day during the harvest season. A typical daily food ration was only one fish and nine plantains.

The late seventeen hundreds saw the rise of the emancipation movement. Along with the idealists who wished to spread liberty, the movement

was in part funded by sugar companies who used hired help in India and wanted to turn the public against the slave-based competition. Slavery in the West Indies was abolished by Britain in 1833, although they did not enforce it until 1837. But the sugar plantation owners did everything in their power to force the emancipated slaves back into slavery: They charged high rents so the former slaves could not afford to live. They created laws that, if violated, would force the convicts into slavery. They burned down the villages of former slaves that were located too far from the plantations, in order to bring them back under their control.

In the early eighteenth century, during the Napoleonic wars, there was a

Records from the 1700s describe the unappetizing art of sugar production. To begin, the sugar was treated with lime water and then a clearing medium was added—the most popular being two gallons of bull's blood or eighty egg whites (wood ash, milk, charcoal, lime, sulfurous acid, carbon dioxide, alum, and lead acetate have also been used at various times).

blockade that cut off continental Europe from cane sugar importation. Napoleon had heard about technology used to extract sugar from the sugar beet and declared that sugar would be produced from beets from that point forward. Sugarcane growers began to face stiff competition as sugar prices plunged worldwide. Since that time, the sugar cane and sugar beet companies have been fierce competitors.

The cane growers who survived were those who managed to find cheap labor

and bring in machinery to increase efficiency. Peasants from India, China, and Japan were brought in to meet the labor demands. Due to the high incidence of diseases such as yellow fever and malaria, the death rates were just as high for these peasant laborers as they were for the African slaves.

The plunging prices of sugar caused consumption to dramatically increase. Over the course of the nineteenth century, the English would up their sugar consumption once again, this time fivefold.

But this fivefold increase is nothing compared to what we eat today—an increase of 469 times since the 1800s. The world as a whole is addicted to sugar.

The Increase in Worldwide Sugar Production Over Time

(One ton = 2,204 pounds. An eighteen-wheeler truck weighs two tons.)

<i>Year</i>	<i>Tons per Year</i>
• 1800:	245,000
• 1830:	800,000
• 1900:	8 million
• 1975:	80 million
• 2004:	115 million

Very few foods in the history of the world have seen such explosive growth in production and consumption.

APPENDIX F

CODE OF FEDERAL REGULATIONS TITLE 21, VOLUME 2

[Code of Federal Regulations]

[Title 21, Volume 2]

[Revised as of April 1, 2001]

From the U.S. Government Printing Office via GPO Access

[CITE: 21CFR102.5]

[Page 171-172]

TITLE 21—FOOD AND DRUGS

CHAPTER I—FOOD AND DRUG ADMINISTRATION, DEPARTMENT OF HEALTH AND HUMAN

SERVICES—CONTINUED

PART 102—COMMON OR USUAL NAME FOR NONSTANDARDIZED FOODS—Table of Contents

Subpart A—General Provisions

Sec. 102.5 General principles. <http://www.cfsan.fda.gov/~lrd/CFR102-5.HTML>

(a) The common or usual name of a food, which may be a coined term, shall accurately identify or describe, in as simple and direct terms as pos-

sible, the basic nature of the food or its characterizing properties or ingredients. The name shall be uniform among all identical or similar products and may not be confusingly similar to the name of any other food that is not reasonably encompassed within the same name. Each class or subclass of food shall be given its own common or usual name that states, in clear terms, what it is in a way that distinguishes it from different foods. (b) The common or usual name of a food shall include the percentage(s) of any characterizing ingredient(s) or component(s) when the proportion of such ingredient(s) or component(s) in the food has a material bearing on price or consumer acceptance or when the labeling or the appearance of the food may otherwise create an erroneous impression that such ingredient(s) or component(s) is present in an amount greater than is actually the case. The following requirements shall apply unless modified by a specific regulation in subpart B of this part.

(1) The percentage of a characterizing ingredient or component shall be declared on the basis of its quantity in the finished product (i.e., weight/weight in the case of solids, or volume/volume in the case of liquids).

(2) The percentage of a characterizing ingredient or component shall be declared by the words “containing (or contains) __ percent (or %) _____” or “__ percent (or %) _____” with the first blank filled in with the percentage expressed as a whole number not greater than the actual percentage of the ingredient or component named and the second blank filled in with the common or usual name of the ingredient or component. The word “containing” (or “contains”), when used, shall appear on a line immediately below the part of the common or usual name of the food required by paragraph (a) of this section. For each characterizing ingredient or component, the words “__ percent (or %) _____” shall appear following or directly below the word “containing” (or contains), or directly below the part of the common or usual name of the food required by paragraph (a) of this section when the word “containing” (or contains) is not used, in easily legible boldface print or type in distinct contrast to other

printed or graphic matter, and in a height not less than the larger of the following alternatives:

- (i) Not less than one-sixteenth inch in height on packages having a principal display panel with an area of 5 square inches or less and not less than one-eighth inch in height if the area of the principal display panel is greater than 5 square inches; or (ii) Not less than one-half the height of the largest type appearing in the part of the common or usual name of the food required by paragraph (a) of this section. (c) The common or usual name of a food shall include a statement of the presence or absence of any characterizing ingredient(s) or component(s) and/or the need for the user to add any characterizing ingredient(s) or component(s) when the presence or absence of such ingredient(s) or component(s) in the food has a material bearing on price or consumer acceptance or when the labeling or the appearance of the food may otherwise create an erroneous impression that such ingredient(s) or component(s) is present when it is not, and consumers may otherwise be misled about the presence or absence of the ingredient(s) or component(s) in the food. The following requirements shall apply unless modified by a specific regulation in subpart B of this part. (1) The presence or absence of a characterizing ingredient or component shall be declared by the words “containing (or contains) _____” or “containing (or contains) no _____” or “no _____” or “does not contain _____,” with the blank being filled in with the common or usual name of the ingredient or component.

(2) The need for the user of a food to add any characterizing ingredient(s) or component(s) shall be declared by an appropriate informative statement.

(3) The statement(s) required under paragraph (c)(1) and/or (2) of this section shall appear following or directly below the part of the common or usual name of the food required by paragraphs (a) and (b) of this section,

in easily legible boldface print or type in distinct contrast to other printed or graphic matter, and in a height not less than the larger of the alternatives established under paragraphs (b)(2) (i) and (ii) of this section.

(d) A common or usual name of a food may be established by common usage or by establishment of a regulation in subpart B of this part, in part 104 of this chapter, in a standard of identity, or in other regulations in this chapter.