



Sugar - Your Diet and Health

Our bodies require energy to function, supplied by the food we eat. All foods are broken down into the basic building blocks: fat, carbohydrate, and protein.

Calories are often used to determine the amount of food needed to meet the bodies' needs. One gram of fat provides 9 calories; 1 gram of protein or carbohydrate provides 4 calories. It is possible to estimate the number of calories required to maintain an adequate amount of energy for an individual. One of the oldest methods of weight control or weight reduction involves calculating this number and reducing food intake to some number below that amount need for maintenance. This forces the body to use stored nutrients (fat, then protein) to supply the calories needed for adequate functioning. A calorie is a calorie but the body responds differently to protein, carbohydrate, and fat.

While protein and fat can also be converted to glucose in the body, carbohydrates have the greatest effect on the level of glucose in the blood (blood sugar). For this reason, it is helpful to consider the type of carbohydrate in the diet. Carbohydrates can be classified based on the rate of digestion and absorption. The Glycemic Index (GI) is an actual number assigned to a food, between 0 and 100, which compares these rates for a particular food to that of glucose. Carbohydrates that are rapidly digested have a higher GI and cause a more rapid rise in blood sugar; carbohydrates that require a longer time to digest have a lower GI and release glucose into the bloodstream more slowly. Diets that contain carbohydrates that have low GI may be helpful for reduction of weight, blood pressure, and cholesterol. Most, but not all, foods that contain higher levels of fiber have a lower GI. The presence of protein and fat in the meal can slow down the absorption of carbohydrate, as can the method and amount of cooking. Many lists of GI of foods are available on the Internet and in books on nutrition; variations may be noted among the values of foods included on these lists. A chart of some common food products is included on the back of this page. Generally, food with a GI less than 55 is considered low, 56 to 69 is considered medium, and greater than 70 is considered high. Consideration of GI of foods in the diet can be used as part of an overall, healthful nutritional plan.

One teaspoon of sugar impairs the immune system by 50% for several hours after being consumed. Switching to a diet that contains no sugar is beneficial to the body's ability to fight infection. Because the typical diet contains large amounts of sugar in all its forms, it does require persistence in reading all food labels. Foods that contain sucrose, fructose, glucose, and corn syrup are all forms of sugar. Elimination of sugar can be a difficult habit to break so it is best to reduce intake over a period of time to make the transition to a no-sugar diet easier to maintain over the long term.

Glycemic Index : Low ≤ 55, Medium 56 to 69, High ≥ 70 Glucose = 100

Cereals	GI	Pasta	GI	Milk Products	GI
All Bran	51	Fettucini	32	Chocolate milk	35
Cheerios	74	Linguini	50	Ice cream, vanilla	60
Corn Chex	83	Macaroni	46	Skim milk	32
Cornflakes	83	Spaghetti, boil 5 min	33	Soy milk	32
Cream of Wheat	66	Spaghetti, boil 15 min	44	Whole milk	30
Grapenuts	67	Vermicelli	35	Yogurt, fruit	36
Oatmeal, cooked	48			Yogurt, plain	14
Raisin Bran	73	Vegetables			
Rice Chex	89	Beets, canned	64	Grains	
Shredded Wheat	67	Broccoli	15	Barley	25
Special K	54	Carrots, fresh, boiled	49	Bulgar	48
Total	76	Cauliflower	15	Couscous	65
		Corn, Sweet	49	Cornmeal	68
Fruit		Green beans	30	Millet	71
Apple	38	Lima beans	32	Rice, white	64
Banana	56	Peas	47	Rice, brown, steamed	50
Cantalope	65	Potato, mashed	73		
Cherries	22	Potato, new, boiled	59	Snacks	
Dates	103	Potato, red, baked	93	Chocolate bar	49
Grapefruit	25	Potato, sweet	52	Corn chips	72
Grapes	46	Potato, white, boiled	63	Doughnut	76
Orange	43			Oatmeal cookie	57
Peach	42	Beans		Peanuts	14
Pear	38	Kidney	28	Pizza, cheese/tomato	60
Pineapple	66	Navy	38	Pizza Hut, Supreme	33
Plum	39	Pinto	38	Popcorn, light, micro	55
Prunes	15			Potato chips	56
Raisins	64	Bread		Pretzels	83
Watermelon	72	Bagel, plain	72	Snickers Bar	41
Apple juice	40	Croissant	67	Vanilla wafers	77
Grapefruit juice	48	Dark rye	76		
Orange juice	48	Oat Bran	48	Sugars	
		Pita	57	Fructose	22
Crackers		Pumpernickel	49	Honey	62
Graham	74	Sourdough	54	Maltose	105
Rice cakes	80	Rye	64	Table sugar	64
Rye	68	Whole Wheat	68		
Saltine	74	White	70		

References:

www.diabetesnet.com, www.glycemicindex.com, www.prevention.com, www.joslin.harvard.edu
 Nutrition and Healing Newsletter, Jonathan Wright MD, 2001;4 (8).

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