

When It Comes to Chocolate, Choose Dark

Craving some chocolate? Who can blame you? It tastes delicious, has a pleasing aroma and texture, and adds appeal to some nutritious foods. Chocolate can fit within a healthful eating plan, but only if it is enjoyed as an occasional treat and doesn't replace healthy foods.

The Darker the Better

The darker the chocolate is, the less fat and sugar it contains and the healthier it is for you. The most beneficial is dark chocolate that is at least 70% cocoa.

A Little Goes a Long Way

Dark chocolate can be good for you when eaten in moderation. Although we don't know the exact amount to eat for maximum health effect, $\frac{3}{4}$ ounce of dark chocolate provides the same amount (400 milligrams) of antioxidants as a glass of red wine. By eating as little as $\frac{1}{3}$ ounce, you can satisfy a chocolate craving without blowing your diet. Decrease temptation and control portion sizes by freezing small servings.

Health Benefits of Dark Chocolate

Dark chocolate is rich in flavonols, which are healthy antioxidants that also are found in fruits, vegetables, green tea, red wine, etc. Flavonoids give dark chocolate a slightly bittersweet taste. They also provide cardiovascular benefits, such as helping to reduce the risk for developing heart disease, stroke, cancer and even premature aging.

Dark chocolate provides some specific health benefits that other varieties of chocolate do not. It may help to:

- lower blood pressure among people with hypertension.*
- increase levels of HDL (good cholesterol).

- decrease the oxidation rate of LDL (bad cholesterol), which leads to artery plaque build-up.
- increase the time it takes for blood to clot.
- improve elasticity in blood vessels leading to healthy blood flow.
- improve insulin resistance, which helps regulate blood sugar.*
- improve mood and pleasure by boosting serotonin and endorphin levels in the brain.

*This does not mean that people with high blood pressure or diabetes should replace other important blood pressure-reduction methods (e.g. medication and exercise) with eating dark chocolate.

Antioxidant Values: Cocoa is one of the richest sources of antioxidants found in any food, and research shows that we should eat more antioxidant-rich foods. However, most of the antioxidants in the diet should come from nutrient-dense, low-calorie, brightly-colored fruits and vegetables and calorie-free green or black tea.

In a comparison of different chocolate products, cocoa powder ranks highest in antioxidants. According to food scientists at Cornell University, a cup of hot cocoa has up to three times the antioxidants found in a cup of green tea and almost twice the amount in a glass of red wine.

Next in antioxidant value is dark chocolate, which contains about eight times the antioxidants of strawberries. There are as many antioxidants in 1.5 ounces of dark chocolate as there are in five ounces of red wine. For more information on the sources and roles of antioxidants in the diet, refer to: [HGIC 4064, Antioxidants](#).

In November 2007 the USDA Agricultural Research Service released a new, expanded database of antioxidant values for 277 foods, including many fruits, vegetables, nuts, spices, chocolates, teas, wines, etc. Many of the fruits, nuts, vegetables and spices listed were analyzed for their Oxygen Radical Absorbance Capacity, known as ORAC. ORAC is one of several methods available to evaluate the antioxidant capacities of foods to keep harmful oxygen free radicals from damaging our bodies. The new list expands upon the 171 foods included in the 2004 data released by ARS. To access the new database, go to: <http://www.ars.usda.gov/nutrientdata/ORAC>

See the table at the end of the fact sheet for a nutritive comparison of chocolates arranged by ORAC scores or ratings.

Dark Chocolate Fondue and Fruit

Antioxidant-rich fruit and chocolate make a pleasing combination. Dip a variety of fruits into some warm chocolate fondue, preferably the dark variety, as an occasional treat. Delicious dipping options include grapes, whole fresh strawberries, thick banana slices, and dried apricot halves. Angel food cake cubes are another low-calorie, low-fat dipping choice.

Small, regular treats of chocolate can help us stay on a healthful diet without giving in to cravings or feeling like we are making a sacrifice. People who eat 30 calories of dark chocolate daily can lower blood pressure without weight gain or other adverse effects, according to a recent study published in the *Journal of the American Medical Association*.

Health Concerns of Chocolate

Chocolate contains extra calories and is not always good for the waistline. Even dark chocolate can contain a lot of calories, saturated fat and sugar. An ounce has about 150 calories. Similar antioxidants are available in vegetables, fruits and whole grains, which are low-fat, high-fiber foods.

To get the heart healthy benefits, choose a small piece of dark chocolate, not milk or white chocolate. Milk chocolate, which most Americans eat, contains a low amount of flavonoids and

antioxidant value compared to dark chocolate. It also has a relatively high sugar and saturated fat content and has been shown to increase blood cholesterol levels. A standard-size 40-gram chocolate bar has eight grams of fat, but a one-cup serving of hot cocoa only has 1/3 gram of fat.

White chocolate, which is a blend of cocoa butter and sugar, contains almost none of the antioxidants found in dark chocolate. In addition, more than half the fat in white chocolate is saturated.

All chocolate contains small amounts of caffeine, an addictive stimulant that may cause headaches, insomnia, heart palpitations and digestive disorders. Tyramine, a natural chemical found in dark chocolate, may trigger migraine headaches in some people, although the data is inconclusive. Chocolate also contains oxalates, which may increase the risk for forming kidney stones.

Always read the ingredients list of the food label on chocolate products. Look for palm, coconut, hydrogenated and partially hydrogenated oils. These unhealthy oils should be limited or avoided, because they can raise blood cholesterol levels.

Melting Away Some Chocolate Myths

- Chocolate does not cause acne or make it worse.
- Chocolate does not cause tooth decay, and the tannins in dark chocolate may fight tooth decay.
- Chocolate does not contain a lot of caffeine. An 8-ounce glass of chocolate milk has only two milligrams of caffeine more than a 5-ounce cup of decaffeinated coffee. An ounce of dark chocolate contains only 28 mg of caffeine, while a regular cup of coffee has 95-140 mg.
- Chocolate cannot become addictive. Some people, referred to as “chocoholics,” just have a strong preference for chocolate’s taste, aroma and texture.
- Chocolate bars are not less healthful than carob bars. Both have the same amount of calories and fat.

Nutritive Comparison of Chocolates

Serving Size: 1 oz	ORAC* Rating	Calories	Fat (g)	Saturated Fat (g)	Carbohy- drate (g)	Sugar (g)	Caffeine (mg)
Natural Cocoa Powder	25,606	72	3.5	2	15.5	0.5	NA
Dark Chocolate	6,992	150	9	6	17	13.5	18
Cocoa (dry)	6,360	112	1	0	24	20	6.5
Semi-sweet baking chips	5,425	136	8.5	5	18	1.5	17.5
Milk Chocolate	2,464	150	8.5	5.5	17	15	6.5
Syrup	NA	73	0	0	17.5	14.5	5

*Oxygen Radical Absorbance Capacity – a rating of antioxidant level in foods

(Source: Data from the US Department of Agriculture’s Agricultural Research Service and Brunswick Laboratories, April 2005.)

Sources:

1. *Chocolate’s Health Benefits—Trick or Treat?* Tufts University Health & Nutrition Letter. October 2007.
2. *Hot Cocoa Becomes a Health Drink.* Cornell News. November 17, 2003.
3. *Chocolate and Health.* SUPERMARKET SAVVY®, Linda McDonald Associates, Inc., dba. 2007. www.supermarketsavvy.com
4. Duyff, Roberta Larson. American Dietetic Association *Complete Food and Nutrition Guide, 3rd Edition.* 2006.
5. *Dark Chocolate May Reduce Blood Pressure, Improve Insulin Resistance.* American Heart Association. July 18, 2005.
6. *Dark Chocolate: Heart Healthy Benefits.* WebMD video. www.webmd.com
7. DeNoon, Daniel J. *Dark Chocolate Is Healthy Chocolate.* August 2003. www.webmd.com

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