

The “Skinny” on Chocolate

One of the most enticing foods on the planet, sometimes regarded as one of life’s “guilty” pleasures, is CHOCOLATE. Many health conscious individuals avoid chocolate (in spite of their cravings) because of its high fat/sugar & caloric content. The time has come to defend this decadent sweet treat and debunk some of the myths surrounding its use. Research from a variety of sources (independent of the chocolate industry) indicates there are health benefits of consuming certain types of chocolate. See below for details.

What is chocolate and where does it come from?

The beans of the *Theobroma cacao* plant are processed and used to produce ‘cacao liquor’, sometimes simply referred to as cocoa. Cocoa can either be added to sugar and other ingredients such as milk solids to create ‘chocolate’ (either ‘dark’ or ‘milk’) or have its fatty portion (cocoa butter) removed to form ‘cocoa powder’—the substance often used as ‘chocolate flavoring’ when added as an ingredient to other foods.

What is Cacao and what does the percentage mean that’s listed on many of the packages?

Cacao (*Theobroma cacao*) is a small evergreen tree native to tropical South America, but now cultivated in several tropical locations within 10 to 20 degrees of the equator. Its seeds are used to make chocolate. The higher the % of cacao, the more chocolate, versus other ingredients, you get in each bite. A higher cacao % also indicates a higher concentration of chocolate components, which means richer/darker chocolate and usually less sugar.

What is the ORAC value and how does it relate to chocolate?

Antioxidant foods are rated by their ORAC, or “oxygen radical absorbance capacity” – a fancy way of saying ‘how well does a certain food protect us from diseases like cancer and heart disease’. The higher the number, the more the food will protect us. Dark chocolate, per 100 grams, has twice the ORAC of milk chocolate, four times the ORAC of raisins and about ten times the ORAC of raspberries.

What does the research say regarding chocolate?

Chocolate contains over 300 chemicals, and has been the subject of numerous studies conducted by universities and other scientific organizations. Here’s a quick rundown of the results:

- 👉 Dark Chocolate (or *Cocoa*) contains *flavanols* which are antioxidants that prevent ‘rusting’ or damage to the DNA. Damage to the DNA can cause cancer. Some studies show that dark chocolate can actually lower LDL (‘bad’ cholesterol) levels¹.
- 👉 One study found that flavanols in cocoa helps the body process nitric oxide (NO) a compound critical for healthy blood flow and blood pressure².
“Nitric oxide plays such an important role in the maintenance of healthy blood pressure, and, in turn, cardiovascular health,” said researcher Dr. Norman K. Hollenberg, physician and professor of medicine at Brigham and Women’s Hospital and Harvard Medical School.
- 👉 Another study showed that flavonols in cocoa prevent fat-like substances in the bloodstream from oxidizing and clogging the arteries, and make blood platelets less likely to stick together and cause clots³.

References:

1. Kondo K., Hirano R., Matsumoto A., Lgararashi O., Itakura H., Inhibition of LDL Oxidation by Cocoa. Lancet, Novemeber, 1996; 348 (2): 1514
2. Fisher, ND., Hughes M., Gerhard, H., Holenberg, NK. Flavanol-Rich Cocoa Induces Nitric-Oxide-Dependent Vasodilation in Healthy Humans. J Hypertens. 2003 Dec;21 (12) 2281-2286
3. Rein, D., Paglieroni, TG., Wun T, Pearson, DA., Schmitz, H.H., Gosselin, R., Keen, CL. Cocoa Inhibits Platelet Activation and Function. Am J Clin Nutr. 2000 Jul; 72 (1); 30-35

What about the fat and calories in chocolate? Should it be a health concern?

The major concern that nutritionists have is that even though eating dark chocolate may favorably affect cardiovascular disease, the amount needed to have this effect would provide a relatively large quantity of calories which, if unused, would promote weight gain. As a consequence, consuming large quantities of dark chocolate in an attempt to protect against cardiovascular disease has been described as 'cutting off one's nose to spite one's face'⁴.

Should I be concerned about the amount of saturated fat that is in most chocolate?

The original concern regarding chocolate and cardiovascular disease was related to its high concentration of fat, a significant percentage of which is 'saturated'. Interestingly, the most abundant 'saturated' fatty acid in cocoa is the 18 carbon stearic acid which, despite being 'saturated' does NOT cause serum cholesterol levels to rise after ingestion. Some evidence from population studies have found an increased risk of heart disease associated with higher intakes of stearic acid, although with the exception of cocoa products, most foods rich in stearic acid are also high in the other saturated fats, which DO elevate cholesterol levels⁵.

How do we take advantage of the health benefits of chocolate without "wearing" the calories on our body?

The AHA (American Heart Association) and the ADA (American diatetic Association) recommend consuming 30% of our daily intake of calories from fat sources. Putting this in perspective, if you were to consume 1400 calories, 420 of these calories should come from fat (1400×30). Since there are 9 calories per gram of fat, you would be allowed 47 grams/day ($420/9=47$). One serving of dark chocolate, for example, might have 10 grams of fat, leaving you with 37 grams left for the day.

Why should consumers trust data on chocolate when it comes from industry-funded research (Mars Incorporated, Hershey's, etc)?

This is a valid question, but if the candy industry hadn't funded the research it would have been very difficult to get off the ground otherwise. Eventually, clinical research conducted by independent labs around the world confirmed those smaller studies conclusions and expanded upon them. It's often necessary for a lot of promising, peer-reviewed, industry-financed studies to be done before government steps in with financial support for larger-scale research. Nowadays, the FDA wants preliminary information BEFORE they fund a major project.

4. Adams, S. A Critical Look at the Effects of Cocoa on Human Health. Pabulum (Nutrition Australia National Newsletter) Autumn 2006 pgs10-13

5. Ibid

Guidelines for choosing chocolate

- ↳ Choose 70% (or higher) Cacao Dark chocolate.
- ↳ No HVO (hydrogenated Vegetable Oils)
- ↳ Low Sugar (<10 grams)
- ↳ Choose organic chocolates. Certified organic chocolate ensures there are no harmful pesticide residues.

Remember...

- ↳ Consume in moderation—just because it's good for you does not give you license to indulge (130-200 calories per serving is a wise choice)

Suggestions:

- ↳ Bija™ Omega Truffles* or any other dark chocolate bar with a cacao % of 70 or higher (available at Whole Foods)

*These are fortified with Omega 3-6-9 oils within the truffle portion.

- ↳ You may need to acquire a taste for dark chocolate, if this is the case, choose a cacao percentage a little lower than 70%.

Dispelling the Myths:

-Eating Chocolate neither causes nor aggravates acne.

-Two studies, one by Penn School of Medicine and another by U.S. Naval Academy—showed that eating chocolate (or not eating it) did NOT produce any significant changes in the acne conditions of the study's participants.

-Eating chocolate does NOT cause tooth decay.

-In fact, there are indications that the cocoa butter in the chocolate coats the teeth and may help them by preventing plaque from forming. The sugar in chocolate, however, does contribute to cavities, but no more than the sugar in any other food. Look for dark chocolate bars that have less than 10 grams of sugar per serving.

-Eating chocolate makes you fat.

-Eating more calories than you burn makes you fat, not necessarily consuming any one type of food.