

OPTIMAL HEALTH UNIVERSITY™

Presented by Katie Gravesen, DC

Sweet Health: The Benefits of Dark Chocolate

This holiday season, chocoholics are getting an extra special gift — evidence that chocolate is good for you! Dr. Gravesen wants patients to know about delicious new research showing that moderate amounts of dark chocolate can be part of a healthy diet.

If you have a sweet tooth for the cocoa bean, read on. You may finally have a New Year's resolution you can keep: "Add a little dark chocolate to diet."

What's in Chocolate That's Helpful?

What makes chocolate healthy? Dr. Gravesen teaches patients that chocolate contains substances called flavonoids — natural antioxidants that help prevent disease. Antioxidants inhibit a destructive reaction within the body, called oxidation. Antioxidants are also abundant in fruits, vegetables, green tea and red wine.

Why Is Dark Chocolate the Best?

Dark chocolate reigns supreme in terms of flavonoid content. It contains two to four times the amount of flavonoids found in its lighter cousin, milk chocolate.

On the other hand, white chocolate is devoid of flavonoids because it contains no chocolate "liquor." Technically, white chocolate isn't real chocolate.

Dr. Gravesen explains to patients that premium-grade dark chocolate contains only cocoa butter, a fat that naturally occurs in cocoa beans. Milk chocolate or other lower-grade chocolate contains other types of fat, such as milk fat or artery-clogging hydrogenated oils, which can negatively affect health.

Opt for premium dark chocolate with a high percentage of cocoa (60 percent or higher). Avoid processed chocolate, which contains ingredients like hydro-

genated oils, corn syrup, milk fats and dairy cream. While "healthy" chocolate usually does include some table sugar, avoid chocolates with high levels of sugar.

The Antioxidant Award

A study found that chocolate has more "antioxidant capacity" than three well-known antioxidants: green tea, black tea and red wine. Investigators compared the flavonoid content and total antioxidant capacities in each.

Cocoa contained much higher levels of flavonoids per serving than the black tea, green tea and red wine. Cocoa also exhibited higher "total antioxidant activities" than the wine and tea. "These results suggest that cocoa is more beneficial to health than teas and red wine in terms of its higher antioxidant capacity." (*J Agric Food Chem* 2003;51:7292-5.)

The Moderation Mantra

Dark chocolate does pack a powerful antioxidant punch, but it's much lower in valuable vitamins and fiber than other antioxidant champs, such as fruits and vegetables. Also, chocolate is vastly more calorie dense than fruits and veggies. While a steaming hot cup of cocoa may have up to 1,000 calories, an apple, depending on its size, has only 60 to 80 calories.

Bottom line: Moderation is key, but



dark chocolate has some powerful health benefits. Read on to find out the ways this sweet treat can improve your health.

Sweet Heart

If your heart is full of love for chocolate, you're in luck. Dark chocolate's No. 1 benefit just may be for the heart. Multiple studies show that flavonoids in dark chocolate help protect against cardiovascular disease.

Research reveals that dark chocolate slows the destructive powers of low-density lipoprotein (LDL) cholesterol, which is the "bad" cholesterol. It also increases high-density lipoprotein (HDL), also known as "good" cholesterol.

In one study, scientists measured cholesterol levels after 23 healthy volunteers followed diets with and without dark chocolate. Initially, the 10 men and 13 women in the study consumed a controlled, chocolate-free diet. Shortly after, the same diet was supplemented with 22 grams of cocoa powder and 16 grams of dark chocolate.

**Katie Gravesen, DC, Sol Chiropractic (808) 270-2530
30 E Lipoa #4-102, Kihei, HI 96753 www.solchiro.com**

For eight weeks, investigators measured each diet's effect on total cholesterol, LDL cholesterol and HDL cholesterol.

After the chocolate diet, antioxidant "capacity" and HDL cholesterol both increased by 4 percent. Additionally, the chocolate slowed LDL's destruction, decreasing its harmful effects in the body. During chocolate feasting, the time before LDL cholesterol became harmful was 8 percent longer than with chocolate-free fare.

The authors concluded that "cocoa powder and dark chocolate may favorably affect cardiovascular disease risk status by modestly reducing LDL oxidation susceptibility, increasing serum total antioxidant capacity and HDL-cholesterol concentrations..." (*Am J Clin Nutr* 2001;74:596-602.)

In another study, scientists measured cholesterol levels in 25 healthy individuals after six weeks of a diet without chocolate and after six weeks of a similar diet plus 36.9 grams of dark chocolate and 30.95 grams of a cocoa powder drink.

Researchers noted that the chocolate diet reduced LDL cholesterol's power to cause harm within the body. Compared with the chocolate-free participants, chocolate eaters swiftly decreased their LDL's destructive abilities (*J Nutr* 2002;132:3663-7).

Sweet Baby

You know how chocolate seems to have the power to improve your mood? You're not just imagining that power, and, in fact, it may have started before you were born.

Researchers from the University of Helsinki, Finland, found a connection between chocolate consumption during pregnancy and infant disposition shortly after birth.

Researchers tracked chocolate intake and stress levels in 305 pregnant women. Six months after birth, investigators evaluated the babies' temperaments.

Mothers who ate moderate amounts of chocolate during pregnancy rated their infants' temperament more positively than moms who never or seldom indulged. Moms who had high stress

levels during pregnancy, particularly those who avoided or seldom ate chocolate, had babies with "negatively tuned" temperaments.

The researchers conclude that "in addition to producing subjective feelings of psychological well being, chocolate may have effects at multiple environmental and psychological levels."

(*Early Hum Dev* 2004;76:139-45.)

If you're currently pregnant, ask the doctor first for healthy guidelines before adding chocolate to your diet.

Liver Protector

Consider nibbling on a small piece of premium dark chocolate with your glass of red wine at that holiday cocktail party: Chocolate may help protect the liver from alcohol injury, according to preliminary research.

In another study, rats were fed high-fat diets and 10 to 14 g/kg per day of alcohol, with or without cocoa extract (400 mg/kg per day).

After four weeks, the rats' weight gain in both groups was almost identical (approximately four grams per day). However, the rats that did not receive chocolate experienced severe fat growth, mild inflammation and necrosis in the liver. Rodents whose diets included cocoa extract had significantly less liver damage, inflammation and fat gain.

The researchers found that the cocoa extract directly helped block and counteract the alcohol damage. "These results indicate that dietary flavanols such as those found in cocoa can prevent early alcohol-induced liver injury," they summarized (*Arch Biochem Biophys* 2002;406:40-6).

The Sweet Life

Searching for the fountain of youth? Chocolate may just be the answer. A study at the Harvard School of Public Health, which was presented in the prestigious *British Medical Journal*, finds that chocolate may increase longevity.

The study included 7,841 Harvard alumni who were free of cardiovascular disease and cancer. Researchers recorded each participant's daily serv-

ings of candy, including chocolate, for more than a year.

Consuming candy was linked to greater longevity. Candy eaters lived almost a year longer than did abstainers. In a five-year stretch, 7.5 percent of non-consumers died, while only 5.9 percent of candy eaters passed on.

Just how much candy is best? *Moderation proved key.* Those who consumed candy between one to three times per month lived the longest.

Unfortunately, eating additional candy did not progressively increase longevity. One or two candy treats per week was less helpful than the ideal one to three per month. Indulging in three or more weekly delights was least effective. However, any candy consumption — *within moderation* — produced lower mortality rates than completely abstaining.

Although the researchers could not differentiate between chocolate and candy consumption, they theorize that the longevity benefit came from the antioxidant content in chocolate. They cite chocolate's power to decrease oxidation, slash cholesterol and drop heart disease and cancer risks (*BMJ* 1998;317:1683-84).

Sensible Sweet Tooth = Sweet Health

While enjoying an occasional premium dark chocolate treat is fine, daily consumption can be unhealthy and fattening. Moderation is essential. This holiday season give yourself the gift of health — opt for a diet rich in vitamins, fruits, vegetables, fiber and even the occasional small piece of healthy, dark chocolate!

Remember to first consult the doctor before including small amounts of dark chocolate into your diet if you have diabetes or suffer from obesity.

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