

### When It Comes to Chocolate, Order Dark, Not White

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By Alison McCook

NEW YORK (Reuters Health) - Dark chocolate -- but not white chocolate - may help reduce blood pressure and boost the body's ability to metabolize sugar from food, according to the results of a small study.

Investigators from the University of L'Aquila in Italy found that after eating only 100 grams, or 3.5 ounces, of dark chocolate every day for 15 days, 15 healthy people had lower blood pressures and were more sensitive to insulin, an important factor in metabolizing sugar.

In contrast, eating roughly the same amount of white chocolate for the same period of time did not affect either blood pressure or insulin sensitivity.

This is not the first study to demonstrate potential health benefits of dark chocolate, which contains high levels of a kind of antioxidant called flavonoids. Research shows that flavonoids that can help maintain a healthy heart and good circulation and reduce blood clotting, which can lead to heart attacks and stroke.

Dr. Claudio Ferri and co-investigators explained that flavonoids help the body by neutralizing potentially cell-damaging substances known as oxygen-free radicals, which are a normal byproduct of metabolism.

However, despite dark chocolate's apparent benefits, Ferri urges caution when interpreting the results. Dark chocolate contains antioxidants, but also a lot of fat and calories, Ferri said, and people who want to add some chocolate to their diet need to subtract an equivalent amount of calories by cutting back on other foods, to avoid weight gain.

He added that each 100 grams of dark chocolate contains roughly 500 calories.

Other research validates that when it comes to chocolate, type does matter. One study found that eating milk chocolate did little to raise antioxidant levels in the blood, perhaps because milk interferes with the absorption of antioxidants from chocolate.

Another study showed that elderly people with high blood pressure experienced a drop in pressure after eating dark chocolate bars, but not white chocolate, which contains no flavonoids.

Ferri and colleagues asked 7 men and 8 women, all healthy, to eat 100 grams of dark chocolate or 90 grams of white chocolate every day for 15 days. The subjects

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consumed no chocolate for the next 7 days and then switched to the other chocolate type for 15 days.

Ferri's team found that after eating dark chocolate, participants' blood pressure decreased, and they showed improvements in insulin sensitivity, meaning they were better able to metabolize glucose (sugar), according to the report in the American Journal of Clinical Nutrition.

"The identification of healthy foods and the understanding of how food components influence normal physiology will help to improve the health of the population," Dr. Cesar G. Fraga of the University of California, Davis, notes in an accompanying editorial.

SOURCE: American Journal of Clinical Nutrition, March 2005.  
<http://www.ajcn.org/cgi/content/abstract/81/3/611>