

[IMAGE]

# The Power of Pistachios

## One of Nature's Best Cholesterol Fighters

By Dr. Jacob Schor

They're small, green and are ideally eaten by hand, although you can also find them in salads, muffins, chicken and fish dishes, and even ice cream. Yes, we're talking about pistachios, and an increasing body of research asserts that these nuts are powerful allies in the fight against high cholesterol and atherosclerosis. Here's the latest news about pistachios and how they - and nuts in general - are an essential element of a healthy diet.

### Pistachios and Cholesterol: The Penn State Studies

A few years back, a research team from Pennsylvania State University recruited 28 men and women with high cholesterol and fed them nuts; pistachios to be exact. How much? About an ounce serving (32 grams) either once a day or twice a day for a month. Levels of high-density lipoprotein ("good") and low-density lipoprotein ("bad") cholesterol were monitored carefully before and after the pistachio month.

The results were dramatic. Eating two servings of pistachios a day lowered total cholesterol by 8 percent and LDL cholesterol by almost 12 percent ( $p < 0.05$ ). That little "p value" number in the parenthesis tells us how statistically significant the decreases in cholesterol are.  $P < 0.05$  means decent odds that these findings aren't just random chance. The total cholesterol/HDL cholesterol ratio and the LDL cholesterol/HDL cholesterol ratio for this group of nut eaters dropped 8 percent and 11 percent, respectively (also  $p < 0.05$ ). These were also positive findings, since in both cases, it meant a higher percentage of cholesterol was of the HDL variety, which has been shown to protect against the development of atherosclerosis.

Pistachios - Copyright â Stock Photo / Register Mark Two years went by and everyone thought the team had gone on to other things, but then out of the blue, one of the researchers showed up as lead author on another pistachio paper. Published in March 2010, the study revealed that eating pistachios also lowers levels of what is known as oxidized LDL.

What is brilliant is that they skipped over the need to run a new clinical trial; they used their original pistachio trial, but analyzed the blood collected in it for different chemicals. We need to step back a moment to understand the elegance of this maneuver. Cholesterol levels are risk markers for heart disease risk. These days, pretty much everyone knows that high amounts of total cholesterol and LDL cholesterol raise the risk of atherosclerosis, which can lead to blocked arteries. High levels of HDL cholesterol are protective against developing atherosclerosis.

But it's not that simple. There is a step in the game that we hear little about in public yet. For the cholesterol and LDL to really lead to heart disease, it needs to *oxidize*, that is, go rancid. Once these fats are oxidized, then the plaques start to build up in the blood vessels, cutting off blood flow and leading to big problems. While high cholesterol and LDL levels are not good, high levels of oxidized LDL are the *really* bad news. Thus, the real challenge is not just lowering cholesterol anymore, but lowering blood lipid oxidation.

The most recent study showed pistachios can do just that. Eating pistachios lowered the amount of oxidized LDL in the blood. (It also improved the lipid numbers in general, but that wasn't as important as the fact that it reduced the amounts of oxidized blood fats.)

### **Kudos to the Entire Nut Family**

When it comes to nuts, the Penn State folks have some serious competition from the old timers in the nut research world. In the past few months, Dr. Joan Sabaté from California, the state that according to the advertisements, is "where the real nuts live," has had two papers published that pretty much quash all questions about nuts and health.

Sabaté's first study on walnuts, way back in 1993, was one of the original nut papers, so we are definitely not talking about a newcomer to the game. One of her new papers is a meta-analysis, a combination of the numbers derived from 25 different nut studies. The second new paper is a review of the epidemiologic studies on nuts; that is, it combines the information that's been gathered from looking at eating habits and disease patterns of large populations of people. A meta-analysis totally trumps any individual trial or study.

The May 10, 2010 edition of the *Archives of Internal Medicine* published the Sabaté analysis of combined nut trials. Data from 25 nut-eating experiments conducted in seven countries with 583 total participants were combined together to make calculations. On average, each person in the experiments ate just over 2 ounces of nuts (67 grams) a day. Their levels of total cholesterol dropped by 5 percent, on average; their

LDL dropped by 7 percent. What's more, their LDL/HDL ratio decreased by 8 percent and total cholesterol/HDL ratio dropped 6 percent. Triglyceride levels decreased 10.2 percent in people who had started out with high cholesterol. These numbers are impressive, although not as dramatic as the pistachio study, because not all the people in these studies started out with high cholesterol.

However, Sabaté had another paper published the very same month that reviewed five large epidemiologic studies and determined that for every serving of nuts a person eats in a week, they reduce their odds of dying of heart disease by 8 percent. So much for Penn State.

But before we jump to the conclusion that California wins when it comes to nuts, we've got to look to the Turks. Back in April, a team from Turkey reported on its own pistachio trial. Using a local home-turf advantage, they started their 32 study participants on a Mediterranean diet for a month and then added pistachios for another month. (Maybe the Mediterranean diet primed the participants to do better?) Regardless, once on the pistachios, LDL dropped by 23 percent, total cholesterol by 21 percent and triglycerides by 14 percent. If this really were a competition, the team from Turkey would be in the lead.

This isn't a game, though, because the winners are all of us. Too many people have their lives cut short by atherosclerosis. It's great to know that something as simple as eating nuts can reduce the incidence of heart disease. In years past, some medical authorities may have argued that "we should wait until there is more data" before changing our diets, but that time is past. It now seems reasonable and prudent to make the change and eat more nuts starting today. Talk to your doctor about the health benefits of pistachios and other nuts, and include them as part of a well-rounded diet.

The nut family - Copyright © Stock Photo / Register Mark

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