

**Public release date: 28-May-2007**

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[JAMA and Archives Journals](#)

## **Soy nuts may improve blood pressure in postmenopausal women**

Substituting soy nuts for other protein sources in a healthy diet appears to lower blood pressure in postmenopausal women, and also may reduce cholesterol levels in women with high blood pressure, according to a report in the May 28 issue of Archives of Internal Medicine, one of the JAMA/Archives journals.

The American Heart Association estimates that high blood pressure (hypertension) affects approximately 50 million Americans and 1 billion individuals worldwide. The most common-and deadly-result is coronary heart disease, according to background information in the article. Women with high blood pressure have four times the risk of heart disease as women with normal blood pressure.

Francine K. Welty, M.D., Ph.D., and colleagues at Beth Israel Deaconess Medical Center, Boston, assigned 60 healthy post-menopausal women to eat two diets for eight weeks each in random order. The first diet, the Therapeutic Lifestyle Changes (TLC) diet, consisted of 30 percent of calories from fat (with 7 percent or less from saturated fat), 15 percent from protein and 55 percent from carbohydrates; 1,200 milligrams of calcium per day; two meals of fatty fish (such as salmon or tuna) per week; and less than 200 milligrams of cholesterol per day. The other diet had the same calorie, fat and protein content, but the women were instructed to replace 25 grams of protein with one-half cup of unsalted soy nuts. Blood pressure and blood samples for cholesterol testing were taken at the beginning and end of each eight-week period.

At the beginning of the study, 12 women had high blood pressure (140/90 milligrams of mercury or higher) and 48 had normal blood pressure. "Soy nut supplementation significantly reduced systolic [top number] and diastolic [bottom number] blood pressure in all 12 hypertensive women and in 40 of the 48 normotensive women," the authors write. "Compared with the TLC diet alone, the TLC diet plus soy nuts lowered systolic and diastolic blood pressure 9.9 percent and 6.8 percent, respectively, in hypertensive women and 5.2 percent and 2.9 percent, respectively, in normotensive women."

In women with high blood pressure, the soy diet also decreased levels of low-density lipoprotein ("bad") cholesterol by an average of 11 percent and levels of apolipoprotein B (a particle that carries bad cholesterol) by an average of 8 percent. Cholesterol levels remained the same in women with normal blood pressure.

"A 12-millimeter of mercury decrease in systolic blood pressure for 10 years has been estimated to prevent one death for every 11 patients with stage one hypertension treated; therefore, the average reduction of 15 milligrams of mercury in systolic blood pressure in hypertensive women in the present study could have significant implications for reducing cardiovascular risk and death on a population basis," the authors write.

"This study was performed in the free-living state; therefore, dietary soy may be a practical, safe and inexpensive modality to reduce blood pressure. If the findings are repeated in a larger group they may have important implications for reducing cardiovascular risk in postmenopausal women on a population basis," they conclude.

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(Arch Intern Med. 2007;167:1060-1067. Available pre-embargo to the media at [www.jamamedia.org](http://www.jamamedia.org).)

Editor's Note: This study was funded by the Harvard Medical School's Center of Excellence in Women's Health (National Institutes of Health); a contract from the Office on Women's Health, Department of Health and Human Services; and in part by a grant to the Beth Israel Deaconess Medical Center General Clinical Research Center from the National Institutes of Health. Please see the article for additional information, including other authors, author contributions and affiliations, financial disclosures, funding and support, etc.

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