

Potatoes lower blood pressure in people with obesity and hypertension without increasing weight

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The first study to check the effects of eating potatoes on blood pressure in humans has concluded that two small helpings of purple potatoes (Purple Majesty) a day decreases blood pressure by about 4 percent without causing weight gain. In a report in the ACS' *Journal of Agricultural and Food Chemistry*, the researchers say that decrease, although seemingly small, is sufficient to potentially reduce the risk of several forms of heart disease.

Joe Vinson and colleagues point out that people in the U.S. eat more potatoes than any other vegetable. Purple-skinned potatoes, a boutique variety increasingly available in food stores, are noted for having high levels of healthful antioxidant compounds. And in Korea, purple potatoes are renowned in [folk medicine](#) as a way to lose weight. Vinson's team thus decided to investigate the effects of eating 6-8 small microwaved purple potatoes twice a day on 18 volunteers, most of whom were overweight with high blood pressure. The volunteers ate potatoes or no potatoes for four weeks, and then switched to the opposite regimen for another four weeks while researchers monitored systolic and [diastolic blood pressure](#) (the higher and lower numbers in a blood pressure reading like 120/80), body weight and other health indicators.

Average diastolic blood pressure dropped by 4.3 percent and systolic pressure decreased by 3.5 percent. The majority of subjects took anti-hypertensive drugs and still had a reduction in blood pressure. None of

the study participants gained weight. Vinson said that other studies have identified substances in potatoes with effects in the body similar to those of the well-known ACE-inhibitor medications, a mainstay for treating [high blood pressure](#). But he suspects that the effects may be due to other substances in potatoes. The scientists do not know yet whether ordinary white potatoes have the same [beneficial effects](#).

More information: High antioxidant potatoes: Acute in vivo antioxidant source and hypotensive agent in humans after supplementation to hypertensive subjects, *J. Agric. Food Chem.*, Just Accepted Manuscript. [DOI: 10.1021/jf2045262](https://doi.org/10.1021/jf2045262)

Abstract

Potatoes have the highest daily per capita consumption of all the vegetables in the US diet. Pigmented potatoes contain high concentrations of antioxidants, including phenolic acids, anthocyanins, and carotenoids. In a single dose study we gave 6-8 microwaved potatoes with skins or a comparable amount of refined starch as cooked biscuits to 8 normal fasting subjects and took repeated samples of blood over an 8-hour period. Plasma antioxidant capacity was measured by Ferric Reducing Antioxidant Power (FRAP). A 24-hour urine was taken before and after each regimen. Urine antioxidant capacity due to polyphenol was measured by Folin reagent after correction for non-phenolic interferences with a solid phase (Polyclar) procedure. Potato caused an increase in plasma and urine antioxidant capacity whereas refined potato starch caused a decrease in both, i.e. was a pro-oxidant. In a crossover study 18 hypertensive subjects with an average BMI of 29 were given either 6-8 small microwaved purple potatoes twice daily or no potatoes for 4 weeks and then given the other regimen for another 4 weeks. There was no significant effect of potato on fasting plasma glucose, lipids, HbA1c. There was no significant body weight increase. Diastolic blood pressure significantly decreased 4.3%, a 4 mm reduction. Systolic blood pressure decreased 3.5%, a 5 mm reduction. This blood pressure drop

occurred in spite of the fact that 14/18 subjects were taking antihypertensive drugs. This is the first study to investigate the effect of potatoes on blood pressure. Thus purple potatoes are an effective hypotensive agent and lower the risk of heart disease and stroke in hypertensive subjects without weight gain.

Provided by American Chemical Society

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