

## **POTATOES IN HUMAN HEALTH AND DISEASE**

**Larsson SC, Wolk A. Potato consumption and risk of cardiovascular disease: 2 prospective cohort studies. *Am J Clin Nutr.* 2016 Sep 28. pii: ajcn142422. [Epub ahead of print]**

Whether consumption of potatoes, which are rich in potassium and have a high glycemic index and glycemic load, is associated with the risk of cardiovascular disease (CVD) is unknown. The aim was to examine the association between potato consumption and risk of total and specific CVD events as well as mortality from CVD in 2 prospective cohorts of Swedish adults, a population with a high consumption of potatoes. Information on potato consumption was available from 69,313 men and women, free of CVD and diabetes, in the Cohort of Swedish Men and the Swedish Mammography Cohort. Nonfatal and fatal cases of CVD diagnosed over 13 y of follow-up were identified by linkage with the Swedish National Patient and Cause of Death Registers. Analyses were conducted by using a Cox proportional hazards regression model, controlled for potential confounders. We ascertained 10,147 major CVD events [myocardial infarction (MI), heart failure (HF), and stroke] and 4003 deaths due to CVD. Total potato consumption was not associated with the risk of major CVD events, specific CVD endpoints, or CVD mortality in either men or women. Multivariable HRs (95% CIs) per an increment of 3 servings/wk of total potato consumption (boiled potatoes, fried potatoes, and French fries) were 1.00 (0.97, 1.02) for major CVD events, 1.01 (0.97, 1.04) for MI, 0.97 (0.93, 1.02) for HF, 1.01 (0.97, 1.05) for stroke, and 0.99 (0.95, 1.03) for CVD mortality. There were no significant trends between the consumption of boiled potatoes, fried potatoes, or French fries and risk of any CVD outcome. Potato consumption was not associated with the risk of CVD in this population. The Swedish Mammography Cohort and the Cohort of Swedish Men are registered at clinicaltrials.gov as [NCT01127698](https://www.clinicaltrials.gov/ct2/show/study/NCT01127698) and [NCT01127711](https://www.clinicaltrials.gov/ct2/show/study/NCT01127711), respectively. Link: <https://www.ncbi.nlm.nih.gov/pubmed/27680993>.

**Borch D, Juul-Hindsgaul N, Veller M, Astrup A, Jaskolowski J, Raben A. Potatoes and risk of obesity, type 2 diabetes, and cardiovascular disease in apparently healthy adults: a systematic review of clinical intervention and observational studies. *Am J Clin Nutr.* 2016 Aug;104(2):489-98.**

Potatoes have been related to increased risks of obesity, type 2 diabetes (T2D), and cardiovascular disease (CVD) mainly because of their high glycemic index. We conducted a systematic review to evaluate the relation between intake of potatoes and risks of obesity, T2D, and CVD in apparently healthy adults. MEDLINE, Embase, the Web of Science, and the Cochrane Central Register of Controlled Trials were searched for intervention and prospective observational studies that investigated adults without any known illnesses at baseline, recorded intake of potatoes, and measured adiposity (body weight, body mass index, or waist circumference), cases of T2D, cases of cardiovascular events, or risk markers thereof. In total, 13 studies were deemed eligible; 5 studies were related to obesity, 7 studies were related to T2D, and one study was related to CVD. Only observational studies were identified; there were 3 studies with moderate, 9 studies with serious, and one study with critical risk of bias. The association between potatoes (not including french fries) and adiposity was neutral in 2 studies and was positive in 2 studies. French fries were positively associated with adiposity in 3 of 3 studies. For T2D, 2 studies showed a positive association, whereas 5 studies showed no or a negative association with intake of potatoes and T2D. French fries were positively associated with T2D in 3 of 3 studies that distinguished this relation. For CVD, no association was observed. The identified studies do not provide convincing evidence to suggest an association between intake of potatoes and risks of obesity, T2D, or CVD. French fries may be associated with increased risks of obesity and T2D although confounding may be present. In this systematic review, only observational studies were identified. These findings underline the need for long-term randomized controlled trials. Link: <http://www.ncbi.nlm.nih.gov/pubmed/27413134>.

**McGill CR, Kurilich AC, Davignon J. The role of potatoes and potato components in cardiometabolic health: a review. *Ann Med.* 2013 Nov;45(7):467-73.**

Potatoes (*Solanum tuberosum*) are an important food crop worldwide and contribute key nutrients to the diet, including vitamin C, potassium, and dietary fiber. Potatoes and potato components have been shown to have favorable impacts on several measures of cardiometabolic health in animals and humans, including lowering blood pressure, improving lipid profiles, and decreasing markers of inflammation. A range of glycemic index (GI) values have been reported for potatoes, and data are sparse regarding the impact of potato consumption on the postprandial glycemic response, especially when potatoes are consumed with other foods. There is a lack of clinical trial data regarding the impact of potatoes on weight management. A small number of human cohort studies have reported beneficial associations between potato consumption as part of a healthy lifestyle and cardiometabolic health. Another small number of human population studies have included potatoes as part of a dietary pattern with other calorie-dense foods and have not reported cardiometabolic benefits. The epidemiological literature should be interpreted with caution due to lack of consistency in both defining dietary patterns that include potatoes and in control for potential confounding variables. Controlled clinical trials are needed to define the impact of potatoes on cardiometabolic health. Link:

<http://www.ncbi.nlm.nih.gov/pubmed/23855880>.

**King JC, Slavin JL. White potatoes, human health, and dietary guidance. *Adv Nutr.* 2013 May 1;4(3):393S-401S.**

The white potato is a concentrated source of carbohydrate, dietary fiber, and resistant starch and continues to be the staple food of choice for many cultures. The white potato is also a concentrated source of vitamin C and potassium. Two of the nutrients in white potatoes, dietary fiber and potassium, have been designated as nutrients of concern in the 2010 Dietary Guidelines for Americans. Potatoes are often maligned in nutrition circles because of their suspected link to obesity, and popular potato foods often contain more fat calories than carbohydrate calories. Some food guides do not include potatoes in the vegetable group because of their association with high-fat diets. However, potatoes should be included in the vegetable group because they contribute critical nutrients. All white vegetables, including white potatoes, provide nutrients needed in the diet and deserve a prominent position in food guides. Link: <https://www.ncbi.nlm.nih.gov/pubmed/23674809>