

Substituting healthy plant proteins for red meat lowers risk for heart disease

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Diets that replaced red meat with healthy plant proteins led to decreases in risk factors for cardiovascular disease (CVD), according to a new study from Harvard T.H. Chan School of Public Health and Purdue University.

The study is the first meta-analysis of randomized controlled trials examining the health effects of red [meat](#) by substituting it for other specific types of foods.

The study was published in the journal *Circulation*.

"Previous findings from randomized controlled trials evaluating the effects of red meat on [cardiovascular disease risk factors](#) have been inconsistent. But our new study, which makes specific comparisons between diets high in red meat versus diets high in other types of foods, shows that substituting red meat with high-quality protein sources lead to more favorable changes in cardiovascular risk factors," said Marta Guasch-Ferré, research scientist in the Department of Nutrition and lead author of the study.

The study included data from 36 randomized controlled trials involving 1,803 participants. The researchers compared people who ate diets with red meat with people who ate more of other types of foods (i.e. chicken, fish, carbohydrates, or plant proteins such as legumes, soy, or nuts), looking at blood concentrations of cholesterol, triglycerides, lipoproteins, and blood pressure—all risk factors for CVD.

The study found that when diets with red meat were compared with all other types of diets combined, there were no significant differences in total cholesterol, lipoproteins, or [blood pressure](#), although diets higher in red meat did lead to higher tryglyceride concentrations than the comparison diets. However, researchers found that diets higher in high-quality plant protein sources such as legumes, soy, and nuts resulted in lower levels of both total and LDL ("bad") cholesterol compared to diets with red meat.

The results are consistent with long-term epidemiologic studies showing lower risks of heart attacks when nuts and other plant sources of protein are compared to red meat, the authors said. The findings also suggest that the inconsistencies found in prior studies regarding the effects of red meat on cardiovascular risk factors may be due, in part, to the composition of the comparison [diet](#). They recommended that future studies take specific comparisons into account.

"Asking 'Is red meat good or bad?' is useless," said Meir Stampfer, professor of epidemiology and nutrition and senior author of the study. "It has to be 'Compared to what?' If you replace burgers with cookies or fries, you don't get healthier. But if you replace [red meat](#) with healthy plant [protein](#) sources, like nuts and beans, you get a health benefit."

The authors recommended adherence to healthy vegetarian and Mediterranean-style diets, both for their health benefits and to promote environmental

sustainability.

More information: Marta Guasch-Ferré et al, Meta-Analysis of Randomized Controlled Trials of Red Meat Consumption in Comparison With Various Comparison Diets on Cardiovascular Risk Factors, *Circulation* (2019). DOI: [10.1161/CIRCULATIONAHA.118.035225](https://doi.org/10.1161/CIRCULATIONAHA.118.035225)

Provided by Harvard T.H. Chan School of Public Health

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