

# Replacing red meat with plant foods may reduce the risk of heart disease

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Replacing red meat with high quality plant foods such as beans, nuts, or soy may be associated with a modestly reduced risk of coronary heart disease (CHD), suggests a study published by *The BMJ* today.

Substituting whole grains and dairy products for total red [meat](#), and eggs for processed red meat, might also reduce this risk.

Substantial evidence suggests that high consumption of red meat, especially processed red meat, such as bacon, hot dogs, sausages and salami, is associated with an increased risk of death and major chronic diseases, including coronary heart disease.

Studies that show inconsistent results often fail to compare red meat with similar protein and [energy sources](#).

To address these problems in [study design](#) and analysis, a team of US researchers examined the relation between total, processed, and unprocessed red meat and risk of CHD and estimate the effects of substituting other protein sources for red meat with CHD risk.

Their findings are based on data from 43,272 US men (average age 53) from the Health Professionals Follow-Up Study who were free from cardiovascular disease and cancer when they enrolled.

Participants filled in a detailed diet questionnaire in 1986 and every four years thereafter, up to 2016, and provided information on their medical history and lifestyle.

Medical records were used to track CHD events (fatal and non-fatal) over this 30-year period. During this time, 4,456 CHD events were documented of which 1,860 were fatal.

After taking account of other cardiovascular disease risk factors, the researchers found that for every one serving per day, total red meat was associated with a modest (12%) higher risk of CHD. Similar associations were seen for unprocessed (11% higher risk) and processed red meat (15% higher risk).

However, compared with red meat, intake of one serving per day of combined plant protein sources, including nuts, legumes (such as peas, beans and lentils), and soy was associated with a 14% lower risk of CHD.

This risk was lower still (18%) among men over the age of 65, and when compared with processed red meat (17%).

Substituting whole grains and dairy products (such as milk, cheese and yoghurt) for total red meat and eggs for processed red meat were also associated with lower CHD risk. This association was particularly strong among younger men, in whom the replacement of red meat with egg was associated with a 20% lower risk of CHD.

Replacing red meat with total fish was not associated with CHD risk. But the researchers say this could be due to cooking method (ie. deep frying) and the fact that this food group also included processed fish products.

This is an observational study, so can't establish cause, and despite adjusting for important personal and lifestyle factors, the researchers can't rule out the possibility that other unmeasured factors might have influenced their results.

What's more, study participants were mainly white health professionals so the findings may not be more widely applicable.

Nevertheless, this was a large study with repeated measures of diet during 30 years of follow-up, suggesting that the findings withstand scrutiny.

As such, they say their study shows that greater intakes of total, unprocessed, and processed red meat were associated with a higher risk of CHD, independent of other dietary and non-dietary [cardiovascular](#)

[disease](#) risk factors.

Substituting whole grains or [dairy products](#) for total red meat and substituting eggs for processed red meat were also associated with a lower CHD risk, they add.

"These findings are consistent with the effects of these foods on low density lipoprotein cholesterol levels and support a health benefit of limiting [red meat](#) consumption and replacement with plant protein sources," they explain.

This would also have important environmental benefits, they conclude.

**More information:** Red meat intake and risk of coronary heart disease among US men: prospective cohort study, *BMJ* (2020). [DOI: 10.1136/bmj.m4141](#)

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