

Eating red meat raises 'substantially' risk of cancer or heart disease death

Data collected over 28 years reveal striking link – and show that consuming fish or poultry instead contributes to a longer life

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Eating any kind of red meat was found to increase the chances of dying from heart disease by 16% and from cancer by 10%. Photograph: David Sillitoe for the Guardian

Regularly eating red [meat](#) increases significantly risk of death from heart disease and [cancer](#), according to a study of more than 120,000 people carried out over 28 years.

The findings show that each extra daily serving of processed red meat – equivalent to one hot dog or two rashers of bacon – raised mortality rate by a fifth.

Conversely, replacing red meat with fish, poultry, or plant-based protein foods contributed to a longer life. Nuts were said to reduce mortality rate by 20%, making a case for swapping roast beef for nut roast.

Data from 121,342 men and women taking part in two large US health and lifestyle investigations were analysed to produce the findings, [published in the journal Archives of Internal Medicine](#).

The studies monitored the progress of their participants for more than 20 years and gathered information about diet.

Scientists documented 23,926 deaths, including 5,910 from heart disease and 9,364 from cancer, and there was a striking association in the data between consumption of red meat and premature death.

Each additional daily serving of unprocessed red meat, equivalent to a helping of beef, lamb or pork about the size of a deck of cards, raised the mortality rate by 13%, while processed meat increased it by 20%.

When deaths were broken down into specific causes, eating any kind of red meat increased the chances of dying from heart disease by 16% and from cancer by 10%. Processed red meat raised the risk of heart disease death by 21% and cancer death by 16%.

Senior author Professor Frank Hu, of Harvard School of Public Health in Boston, US, said: "This study provides clear evidence that regular consumption of red meat, especially processed meat, contributes substantially to premature death.

"On the other hand, choosing more healthful sources of protein in place of red meat can confer significant health benefits by reducing chronic disease morbidity [illness] and mortality." [Previous research has linked red meat consumption to cancer risk.](#)

The study found that cutting red meat out of the diet entirely led to significant benefits. Halving red meat consumption could have prevented 9.3% of deaths of men and 7.6% of women taking part in the study.

The researchers came to their conclusions after taking account of known chronic disease risk factors such as age, body weight, physical activity and family history.

The World Cancer Research Fund recommends that people avoid processed meat entirely and limit their consumption of red meat to 500g a week. Dr Rachel Thompson, the charity's deputy head of science, said: "This study strengthens the body of evidence which shows a link between red meat and chronic diseases such as cancer and heart disease.

"The study calculates that lives would be saved if people replaced red meat with healthy protein sources such as fish, poultry, nuts and legumes. We would like to see more people replacing red meat with these type of foods."

The findings were challenged by Dr Carrie Ruxton, of the Meat Advisory Panel, an expert body funded by the meat industry.

She said: "This US study looked at associations between high intakes of red meat and risk of mortality, finding a positive association between the two. However, the study was observational, not controlled, and so cannot be used to determine cause and effect."

Dr Ruxton pointed out that meat and meat products were significant sources of essential nutrients such as iron, zinc, selenium, B vitamins and vitamin D.

In the UK, red meat was "critically important" to zinc intake, contributing 32% of the total for men and 27% for women. Red meat also contributed about 17% of total dietary iron intake in the UK.

Victoria Taylor, a dietitian at the British Heart Foundation, said: "This study links red meat to deaths from CVD [cardiovascular disease] and cancer.

"Red meat can still be eaten as part of a balanced diet, but go for the leaner cuts and use healthier cooking methods such as grilling. If you eat processed meats like bacon, ham, sausages or burgers several times a week, add variation to your diet by substituting these for other protein sources such as fish, poultry, beans or lentils."

- This article was amended on Tuesday 13 March. The original stated that an extra serving of red meat raised mortality rate by a fifth without specifying frequency of consumption. This has been corrected.