

# Red and processed meat linked to increased risk of heart disease, study shows

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Globally, coronary heart diseases (caused by narrowed arteries that supply the heart with blood) claim nearly nine million lives each year<sup>1</sup>, the largest of any disease, and present a huge burden to health systems.

Until now, it has been unclear whether eating meat increases the risk of heart disease, and if this varies for different kinds of meat.

Researchers at the University of Oxford's Nuffield Department of Population Health have conducted the largest systematic review of the prospective evidence to date, including thirteen [cohort studies](#) involving over 1.4 million people. The study participants completed detailed dietary assessments, and their [health](#) was tracked for up to 30 years. The results are published today in *Critical Reviews in Food Science and Nutrition*.

Overall, the evidence from the analysis indicated that:

- Each 50 g/day higher intake of processed [meat](#) (e.g. bacon, ham, and sausages) increased the risk of coronary heart disease by 18%.
- Each 50 g/day higher intake of unprocessed red meat (such as beef, lamb and pork) increased the risk of coronary heart disease by 9%.
- There was no clear link between eating poultry (such as chicken and turkey) and an increased risk of coronary heart disease.

The findings may be because of the high content of saturated fat in red meat, and of sodium (salt) in processed meat. High intakes of saturated fat increase levels of harmful low-density lipoprotein (LDL) cholesterol, whilst excess salt consumption raises blood pressure. Both LDL cholesterol and high blood pressure are well-established risk factors for coronary heart disease.

Previous work from the same research team has also indicated that even moderate intakes of red and processed meat are associated with increased risk of bowel cancer<sup>2</sup>.

Dr. Keren Papier (Nuffield Department of Population Health), co-lead author of the study, said: "Red and processed meat have been consistently linked with bowel cancer and our findings suggest an additional role in heart disease. Therefore, current recommendations to limit red and processed meat consumption may also assist with the prevention of coronary heart disease."

Dr. Anika Knüppel, from the Nuffield Department of Population Health and the other co-lead author of the study, added: "We know that meat production is a major contributor to greenhouse gas emissions and we need to reduce meat production and thereby consumption to benefit the environment. Our study shows that a reduction in red and processed meat intake would bring personal health benefits too."

Currently in the UK, about 10 in 100 people would be expected to eventually die from coronary heart disease. Based on the findings from the present study and current red and processed meat intakes in the UK,<sup>4</sup> if all these 100 people reduced their unprocessed red meat intake by three-quarters (for example from four times a week to one time a week), or if they stopped consuming processed meat altogether, deaths from coronary [heart disease](#) would decrease from 10 in 100 down to 9 in 100.

The studies involved in this analysis were mostly based on white adults living in Europe or the U.S.. The research team say more data are needed to examine these associations in other populations, including East Asia and Africa.

**More information:** Keren Papier et al, Meat consumption and risk of ischemic heart disease: A systematic review and meta-analysis, *Critical Reviews in Food Science and Nutrition* (2021). [DOI: 10.1080/10408398.2021.1949575](https://doi.org/10.1080/10408398.2021.1949575)

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