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# Eating Red And Processed Meat Associated With Increased Risk Of Death

*ScienceDaily* (Mar. 24, 2009) — Individuals who eat more red meat and processed meat appear to have a modestly increased risk of death from all causes and also from cancer or heart disease over a 10-year period, according to a new article. In contrast, a higher intake of white meat appeared to be associated with a slightly decreased risk for overall death and cancer death.

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"Meat intake varies substantially around the world, but the impact of consuming higher levels of meat in relation to chronic disease mortality [death] is ambiguous," the authors write as background information in the article.

Rashmi Sinha, Ph.D., and colleagues at the National Cancer Institute, Rockville, Md., assessed the association between meat intake and risk of death among more than 500,000 individuals who were part of the National Institutes of Health-AARP Diet and Health Study. Participants, who were between 50 and 71 years old when the study began in 1995, provided demographic information and

completed a food frequency questionnaire to estimate their intake of white, red and processed meats. They were then followed for 10 years through Social Security Administration Death Master File and National Death Index databases.

During the follow-up period, 47,976 men and 23,276 women died. The one-fifth of men and women who ate the most red meat (a median or midpoint of 62.5 grams per 1,000 calories per day) had a higher risk for overall death, death from heart disease and death from cancer than the one-fifth of men and women who ate the least red meat (a median of 9.8 grams per 1,000 calories per day), as did the one-fifth of men and women



*Individuals who eat more red meat and processed meat appear to have a modestly increased risk of death from all causes and also from cancer or heart disease over a 10-year period, according to a new article. (Credit: iStockphoto/Ron Bailey)*

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who ate the most vs. the least amount of processed meat (a median of 22.6 grams vs. 1.6 grams per 1,000 calories per day).

When comparing the one-fifth of participants who ate the most white meat to the one-fifth who ate the least white meat, those with high white meat intake had a slightly lower risk for total death, death from cancer and death from causes other than heart disease or cancer.

"For overall mortality, 11 percent of deaths in men and 16 percent of deaths in women could be prevented if people decreased their red meat consumption to the level of intake in the first quintile [one-fifth]. The impact on cardiovascular disease mortality was an 11 percent decrease in men and a 21 percent decrease in women if the red meat consumption was decreased to the amount consumed by individuals in the first quintile," the authors write. "For women eating processed meat at the first quintile level, the decrease in cardiovascular disease mortality was approximately 20 percent."

There are several mechanisms by which meat may be associated with death, the authors note. Cancer-causing compounds are formed during high-temperature cooking of meat. Meat also is a major source of saturated fat, which has been associated with breast and colorectal cancer. In addition, lower meat intake has been linked to a reduction in risk factors for heart disease, including lower blood pressure and cholesterol levels.

"These results complement the recommendations by the American Institute for Cancer Research and the World Cancer Research Fund to reduce red and processed meat intake to decrease cancer incidence," the authors conclude. "Future research should investigate the relation between subtypes of meat and specific causes of mortality."

This research was supported in part by the Intramural Research Program of the NIH, National Cancer Institute.

### **Editorial: Reducing Meat Consumption Has Benefits Beyond Better Health**

"The publication by Sinha et al is timely," writes Barry M. Popkin, Ph.D., of the University of North Carolina, Chapel Hill, in an accompanying editorial. "There is a global tsunami brewing, namely, we are seeing the confluence of growing constraints on water, energy and food supplies combined with the rapid shift toward greater consumption of all animal source foods."

"Not only are components of the animal-source foods linked to cancer, as shown by Sinha et al, but many other researchers have linked saturated fat and these same foods to higher rates of cardiovascular disease," Dr. Popkin writes. "What do we do?"

Because there are health benefits to eating some red and white (although not processed) meats, the consensus is not for a complete shift to vegan or vegetarian diets, Dr. Popkin concludes. "Rather, the need is for a major reduction in total

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meat intake, an even larger reduction in processed meat and other highly processed and salted animal source food products and a reduction in total saturated fat."

The author is not a vegetarian and has no financial conflict of interest related to any food product as it affects health.

**Editor's Note:** *This article is not intended to provide medical advice, diagnosis or treatment.*

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### Journal References:

1. Sinha et al. **Meat Intake and Mortality: A Prospective Study of Over Half a Million People**. *Archives of Internal Medicine*, 2009; 169 (6): 562 DOI: [10.1001/archinternmed.2009.6](https://doi.org/10.1001/archinternmed.2009.6)
2. Barry M. Popkin. **Reducing Meat Consumption Has Multiple Benefits for the World's Health**. *Archives of Internal Medicine*, 2009; 169 (6): 543 DOI: [10.1001/archinternmed.2009.2](https://doi.org/10.1001/archinternmed.2009.2)

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