Eating red and processed meat associated with increased risk of death

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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 report in the March 23 issue of *Archives of Internal Medicine*, one of the JAMA/Archives journals. In contrast, a higher intake of white meat appeared to be associated with a slightly decreased risk for overall death and cancer death.

"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](link) 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 who ate the most vs. the least amount of [processed meat](link) (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."

<u>More information:</u> *Arch Intern Med.* 2009;169[6]:562-571.

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