

Reviews find little to no evidence of adverse health effects from meat consumption

ACP Internist Weekly Staff

Adults can continue to eat their current levels of red meat, as well as processed and unprocessed meats, unless they feel inclined to change their habits for non-nutritional reasons, according to a panel of reviewers who conducted several recent studies and developed a new guideline on the topic.

An editorial accompanying the studies and guideline stated, “This is sure to be controversial, but it is based on the most comprehensive review of the evidence to date. Because that review is inclusive, those who seek to dispute it will be hard pressed to find appropriate evidence with which to build an argument.”

[Unprocessed red meat and processed meat are unlikely to be causal factors for adverse health outcomes](#), although it is possible they have a very small causal effect, the guideline stated. The guideline, editorial, and reviews were published by *Annals of Internal Medicine* on Oct. 1.

The guideline stated, “Our weak recommendation that people continue their current meat consumption highlights both the uncertainty associated with possible harmful effects and the very small magnitude of effect, even if the best estimates represent true causation, which we believe to be implausible.”

The guideline was developed by a panel based on four de novo systematic reviews that considered evidence on consumption of meat, as well as one review that addressed consumers' beliefs and values about consuming it. The reviews included data from millions of patients.

The first review was a meta-analysis of cohort studies that focused on how dietary patterns, including the amount of red or processed meat consumed, affected all-cause mortality, cardiometabolic outcomes, and cancer incidence and mortality. More than 100 studies including more than six million participants were analyzed. The overall conclusions were that [dietary patterns, including differences in meat consumption, may result in only small differences in outcomes over long periods](#).

The next study was a meta-analysis that looked specifically at cohort studies examining how reductions in red and processed meat might affect cancer incidence and mortality. It included 118 studies with more than six million participants, and it, too, found that the [possible impact of reduced meat intake was very small](#).

The third study was a meta-analysis of cohort studies that looked specifically at [meat consumption and its relationship to all-cause mortality and cardiometabolic outcomes](#) and found that any link was very small.

In the fourth analysis, researchers examined randomized controlled trials that compared diets with differing amounts of red meat for at least six months. They found 12 eligible studies, but one of them—the Women's Health Initiative—was so

large (almost 49,000 women) that it dominated the analysis. The authors concluded that [diets restricted in red meat may have little or no effect on major cardiometabolic outcomes and cancer mortality and incidence](#), although the certainty of the evidence was low.

Finally, a review of consumers' beliefs about meat consumption found that [reasons for eating meat included enjoyment](#), the belief that meat was essential to a healthy diet, cultural reasons, and disbelief about potential negative health effects.

The editorial said that nutritional epidemiology research often has methodological problems and that [it may be time to stop producing observational research in this area](#). “These meta-analyses include millions of participants. Further research involving much smaller cohorts has limited value,” the editorial said. “High-quality randomized controlled trials are welcome, but only if they're designed to tell us things we don't already know.”

Instead, the editorial continued, a major overhaul of the methods for communicating nutritional data is needed to reach target populations and change health outcomes. One potential takeaway from these studies is that there are many reasons other than health to reduce meat consumption, the editorialists said.

“Ethical concerns about animal welfare can be important, as can concerns about the effects of meat consumption on the environment,” they wrote. “Both of these issues might be more likely to sway people, and they have the added benefit of empirical evidence behind them. And if they result in reducing meat consumption, and some receive a small health benefit as a side effect, everyone wins.”