



**Sylvia R. Karasu M.D.**  
 The Gravity of Weight

# A Sacred Cow? Controversial Recommendations About Red Meat

"Dietary pseudo-confusion" has researchers seeing red.

Posted Nov 02, 2019



Kamdhenu sacred cow, Shesh Narayana, Nepal. A "sacred cow" is an idea unreasonably immune from questioning or criticism." Has the recent intense controversy regarding the newly released recommendations about red meat intake become its own "sacred cow?" A cow is sacred in the Hindu religion practiced in Nepal and India. Source: Credit: Godong/Bridgeman Images, used with permission

A sacred cow, according to the *Oxford English Dictionary*, is “an idea or institution unreasonably held to be immune from questioning or criticism.” The term, also used in journalism to indicate someone not to be criticized or even copy not to be altered, seems to have originated in the late 19th century, probably in the context of the cow as an object of reverence in the Hindu religion.

With the recent intense criticism directed at a series of systematic reviews and meta-analyses in the prestigious *Annals of Internal Medicine* (October 2019) about red meat intake in our diet, we may be indeed dealing with one of our “sacred cows.” Criticism has come from the American Heart Association, the American Cancer Association, Dr. Frank Hu, Dean of the Harvard T.H. Chan School of Public Health, and Dr. David L. Katz, President and Founder, True Health Initiative, among many others, when the series of articles recommended, in a complete

reversal of years of previous research findings, that Americans need not necessarily limit their intake of red and processed meat to prevent cardiovascular disease, type 2 diabetes, many forms of cancer, and even earlier mortality.

While these reviews did not suggest that consumers should increase their meat intake, nor did they unequivocally state there is no harm and rather highlighted "uncertainty" in their findings (Hull, <https://examine.com/nutrition/red-meat-is-good-for-you-now/>; 10/11/19) these authors found the quality of the evidence is not substantial enough to warrant restrictions. *New York Times* medical reporter Gina Kolata describes the *Annals'* articles as perhaps “the most unexpected dietary finding to come out in years” (*NY Times*, 10/1/19).



Studies of animal heads and Figures, 17th century. Anonymous, Italian, Roman-Bolognese. Drawing, Metropolitan Museum of Art, NYC Source: Metropolitan Museum of Art, NYC. Credit: Gift of Cornelius Vanderbilt, 1880. Public Domain

Nutrition researchers savaged these articles, describing them as “irresponsible and unethical” (Hu, as quoted by Kolata), a “travesty of science” (not seen) quite like this before” and an “assault on public health” (David L. Katz, 9/30/19: <https://www.linkedin.com/pulse/meat-eating-your-health-really-news-david>), and the “most egregious abuse of evidence that I have ever seen” (Dr. Walter Willet, professor of epidemiology and nutrition at Harvard’s School of Public Health, as quoted by Katz).

When reached for comment, Dr. Willet clarified, "There is a substantial literature on randomized trials that show adverse effects of red meat on cardiovascular disease risk factors compared with plant-based protein sources."

Katz (9/30/19) calls these new recommendations and the emphasis on the low quality of evidence as a reason to discount previous research as “dietary pseudo-confusion.” Katz also noted the need for the use of the *Precautionary Principle*, namely to err on the side of caution and “consider what appears to be a potential threat to the well-being of people to be treated as such until proven otherwise.”



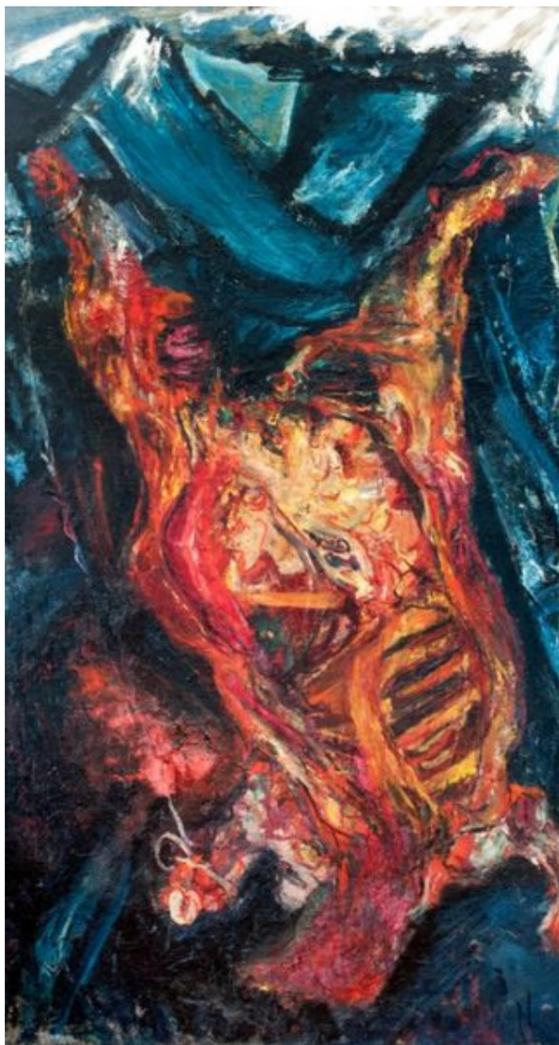
Francis Bacon, "Figure with Meat," 1954. Oil on canvas. The Art Institute of Chicago. Source: Credit: Copyright: The Estate of Francis Bacon. All rights reserved./DACs, London/ARS, NY, 2019. The Art Institute of Chicago/Art Resource/NY. Used with permission of Artists Rights Society and Art Resource.

The problem, well-summarized in *The New York Times* by both Kolata (9/30/19; 10/1/19) and Aaron E. Carroll, MD, (10/2/19), professor of pediatrics at Indiana University School of Medicine, who also co-wrote the accompanying editorial (Carroll and Doherty) in the *Annals*, is that nutritional research is consistently fraught with difficulties.

Most studies are observational and rely on inaccurate self-reports of food intake. And many studies do not indicate specific measures of portions or servings and do not take into account age, body mass index, alcohol use, smoking, or physical activity (Smil, *Population and Development Review*, 2002).

Further, it is nearly impossible and even potentially unethical to conduct rigorous, long-term, randomized controlled studies that would give us a definitive answer. For example, it is not feasible to single out one component of a diet or lifestyle for years of investigation. As a result, we often have associations but cannot (maybe ever) prove causation. Katz, though, clarified, "The randomized controlled trial

(RCT) is the SACRED cow in the mix here, and while RCTs have important and obvious value, they are NOT sacred, not the one true source of truth and understanding. Claims that they are may seem quite pious, but they are in fact pernicious to public health." (personal communication, 11/3/19)



Chaim Soutine, a French painter (died 1943), "The Side of Beef," 1925, in Stedelijk Museum, Amsterdam. Soutine painted many images of beef carcasses. Source: Alamy Stock Photo, used with permission. Credit: Peter Horree

Further, another issue to consider in nutritional research is the source of funding for the studies and potential conflicts of interest. Funding, though, does have to come from somewhere. Most important is the need for full disclosure of all financial sources, as well as other potential conflicts that might bias a study.

Despite all the inherent limitations of nutritional research, investigators are undeterred. In another recently published study from Copenhagen, Händel et al. (*PLOS One*, 2019) examined the relationship between processed meat and chronic disease. These researchers, as well, found the overall quality of evidence low. They also found that there was not even a specific definition of processed meat.

Nevertheless, they found that the better the study design, the lower the probability of an association: in general, though, an intake of processed meat was related to increases in many cancers, including esophageal, gastric, and oral cavity (but not liver, brain, lung, or ovarian), as well as with type 2 diabetes and cardiovascular disease. Their review, however, so far as I could tell, did not define "high intake."

“What type of evidence is needed? How can evidence be generated? And is evidence even needed at all to justify the implementation or rejection of a particular policy?” So ask Dr. David B. Allison, Dean of

the School of Public Health at Indiana University at Bloomington (who was also quoted in the articles by Kolata), and his colleagues (Richardson et al., *International Journal of Obesity*, 2017).

Allison et al. note that any implementation of policy or recommendations can often bring “unintended and undesirable consequences,” including the over-consumption of other foods (as Katz noted his concern about what might be replacing meat), limitation on individual or business freedoms, stigmatization, and even depression. These researchers caution the need to “practice humility” about the potential value of any recommendations because there is a certain “subjectivity” and “no universal rule” for how much evidence is required for making a *policy* decision.

“Taking action and drawing causal conclusions are distinct processes,” emphasize Allison et al. Even after recommendations for public policy, researchers must accept that uncertainty may still exist. In other words, “evidence to reach a policy decision is distinct from the rigorous evidence required to reach a scientific conclusion” (Richardson et al., 2017).



Rembrandt's "The Carcass of a Slaughtered Ox," (though there are several variations on the painting's title), 1655. Louvre, Paris. Even Rembrandt and some of his followers painted carcasses.  
Source: Wikiart/ Public Domain.

Allison, Ioannidis, Brown, and colleagues (Brown et al., *Advances in Nutrition*, 2014) also emphasize that since humans interact with food daily, people have a "superficial familiarity" with nutrition because of such contact, and this often creates beliefs about food that are not necessarily grounded in scientific evidence, but rather based on "conjecture, anecdote, and intuition more than sound science." "With so many values surrounding food, including its hedonic aspects, religious considerations, and cultural traditions, expecting everyone to base all of their food decisions on scientific evidence is naïve at best" (Brown et al., 2014).

**Bottom line:** The systematic reviews and meta-analyses with new guidelines on red and processed meat intake, published recently in the *Annals of Internal Medicine*, have nutrition researchers seeing red. Longstanding data indicate that eating red meat and processed meat can have a considerable impact on health (e.g., cardiovascular disease, type 2 diabetes, many forms of cancer, decreased longevity) for most individuals. Rejecting years of previous research leads to what has been called “dietary pseudo-confusion.”

Though our knowledge is imperfect, most nutrition investigators believe we know enough to recommend limiting red and processed meat. Specific recommendations (e.g., exactly how many servings, portion size, etc.) are still somewhat open to question and may never be ascertained with the precision scientists want and the public expects because of the nature of nutrition research itself.



Cows decorated for the Hindu celebration of Diwali—the five-day festival of lights. Cows are sacred in the Hindu religion.  
Source: Wikimedia Commons/Public Domain: licensed under Creative Commons Attribution 2.0 Generic/Grace.

There are many reasons, though, other than concern for health to limit intake of red and processed meat, including concern for the environment because of the substantial greenhouse gases produced by livestock, as well as concern for the humane treatment of the animals themselves. As in all scientific discourse, the use of red and processed meat should continue to be open for discussion and not a sacred cow.

**Please note:** This recent controversy stimulated my interest in some of the "backstory" about meat intake. This is part one of a two-part blog. My next blog will feature some cultural and anthropological considerations involved in meat intake.

## About the Author

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**In Print:** *The Gravity of Weight: A Clinical Guide to Weight Loss and Maintenance*

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Psychology Today

