

1. **Mark your confusion.**
2. **Show evidence of a close reading.**
3. **Write a 1+ page reflection.**

Hot dogs, bacon and other processed meats increase risk of cancer, scientists say

Source: Melissa Healy, *Los Angeles Times*, October 26, 2015

The World Health Organization has confirmed some dietary advice that's unlikely to go down easy with most Americans: Bacon, hot dogs and other processed meats can increase your risk of cancer. Not only that, fresh cuts of red meat probably cause cancer too.

Doctors have long warned that steak and sausages can be hazardous to your health. But the new assessment from the WHO's International Agency for Research on Cancer officially classifies processed meats as "carcinogenic to humans," putting them in the same category as asbestos, tobacco smoke and formaldehyde.

A group of 22 scientists came to that conclusion after evaluating more than 800 studies from countries — and cuisines — around the world. The results of their investigation were published Monday in the journal *Lancet Oncology*.

The experts defined processed meats as those that have been salted, cured, smoked or otherwise transformed to enhance their flavor or keep them from going bad. Although most processed meats are derived from beef and pork, they can also be made from other kinds of red meat, poultry or organ meats like liver or sweetbreads.

The scientific panel also classified red meat as "probably carcinogenic." That puts it in the same category as lead compounds and the insecticide malathion.

In addition to pork and beef, red meats include veal, lamb, mutton, horse and goat, the report says.

Clues that people who consume large amounts of processed and red meats were more likely to develop certain types of cancers began emerging in the 1990s. Evidence supporting the link between meat and cancer has mounted steadily ever since.

By 2013, the WHO's cancer experts had made the study of meat a high priority. They evaluated the risk of 16 types of cancer and found the strongest link for colorectal cancer, the third most common type of cancer among American adults.

Here's what meat-eaters need to know:

Are the experts convinced that processed meats cause cancer?

Yes. The scientists said the strongest evidence supported a causal link between consumption of these meats and the risk of cancer. This link is unlikely to be the result of chance, bias or other confounding factors, they said.

Does that mean eating beef jerky is as dangerous as smoking?

No. In labeling processed meat a "Group 1" carcinogen, the WHO researchers did not say that both vices are equally bad — only that the evidence showing that they increased one's risk of cancer was equally strong.

The American Institute for Cancer Research noted that compared to people who don't eat meat, those who do are roughly twice as likely to get cancer. For the sake of comparison, smokers are about 20 times more likely than nonsmokers to be diagnosed with cancer.

What about red meat?

The causal link between cooked red meat and cancer is slightly less strong, the panel said. That's why they designated it a "probable carcinogen."

Of 15 rigorous studies looking at red meat consumption and colorectal cancer, seven found a positive association between the two. That leaves room for the possibility that future studies could either strengthen or weaken the link.

Why are they so sure?

With both red meat and processed meat, the panel saw a "dose-response" relationship: the more one eats, the greater the risk of cancer increases.

For each 50 grams of processed meat eaten per day, the risk of colorectal cancer grew by 18%. In addition, for each 100 grams of red meat eaten per day, the risk of colorectal cancer rose by 17%, according to the Lancet Oncology report.

Still, there will be ongoing debate over the wisdom of making such sweeping conclusions on the basis of epidemiological studies alone. But these same kinds of studies led experts to conclude that smoking causes lung cancer and that trans fats cause cardiovascular disease, said Dr. Jorge E. Chavarro, a professor of nutrition and epidemiology at Harvard University's Chan School of Public Health.

Are all kinds of red meat equally bad?

It's hard to say. The scientists did not make any distinctions among various types of red meats. Tracking exactly what people eat is a notoriously tricky undertaking, so the WHO team used an expansive definition.

That said, most of the evidence in the scientific review came from the industrialized world — the United States, Europe, Australia and Japan — where beef, pork and lamb represent the largest share of meat consumed.

Will this report actually convince people to give up their bacon-wrapped hot dogs and filet mignon?

Over time, perhaps, but public health authorities certainly have their work cut out for them. Anyone who watches television can see that the bacon cheeseburger has become a powerful symbol of Americans' right to eat what we want, when we want it, regardless of the consequences.

When we're hungry, few of us are capable of exercising the kind of "cognitive control" that would enable us to follow the WHO's advice, said David Just, a behavioral economist at Cornell University who studies how people decide what to eat. There's also the fact that processed and cooked red meats can be far cheaper than more healthful choices, such as fish.

"We end up being a lot less willing to respond to this kind of information if it's a food we're attached to, like red or processed meats," Just said.

Are there ways to offset the effects of being a carnivore?

The main advice from experts is to eat less red meat and to minimize consumption of processed meats as much as possible. The American Institute for Cancer Research, for instance, has long advised people to eat no more than 18 ounces of red meat per week and to stop eating processed meat altogether.

Doing so would reduce one's exposure to the N-nitroso compounds and polycyclic aromatic hydrocarbons, or PAHs, that result from the processing of meats. It would also cut out the heterocyclic aromatic amines and PAHs that form when red meat is cooked at high temperatures. To varying degrees, these chemicals have been shown to prompt cancer-causing genetic mutations in the colon. And three studies have shown that consumption of red or processed meats raises levels of oxidative stress, a contributor to genetic instability.

Can I reduce my cancer risk by eating meat that's raised organically?

No. The panel left no reason to conclude that food raised without added hormones or antibiotics would change its biochemistry to make it safer.

What should I eat instead?

Having less meat on your plate might make extra room for vegetables, fruits, whole grains and legumes — all of which reduce saturated fat, increase fiber and deliver antioxidant vitamins. "Fiber makes any food with toxins transit the digestive system faster, and also gets in some micronutrients," said Dr. Marleen Meyers, an oncologist at New York University's Perlmutter Cancer Center. That may help undo some of the damage wrought by eating too much meat, she said.

Possible Response Questions:

- Will reading this article influence your eating habits? Explain.
- Pick a passage from the article and respond to it.