



Red and Processed Meats: Eat in Moderation...Same Advice as Before!

Aurora A. Saulo

Department of Tropical Plant and Soil Sciences

In All the Headlines!

On October 26, 2015, the International Agency for Research on Cancer (IARC) working group of 22 experts from 10 countries released its report on red and processed meats. IARC classified red meat as “probably carcinogenic to humans” (Group 2A, based on “limited evidence”) and processed meats as “carcinogenic to humans” (Group 1, based on “sufficient evidence”). Red meat and processed meat are treated separately in the IARC’s report.

What Is IARC?

IARC is a research organization that operates as part of the World Health Organization (WHO). IARC forms working groups that meet three times a year to evaluate how certain issues such as occupational chemicals, foods, or the sun impact the risk of cancer in people. They do not make health recommendations.

It is important to understand that IARC classifications of carcinogens are based on the strength of the scientific evidence (e.g., limited, sufficient, convincing) rather than the level of risk (e.g., low, high). Along with processed meat, tobacco smoking and asbestos are both classified as IARC Group 1, carcinogenic to humans, based on available evidence. But the classification does not declare processed meat, tobacco smoking, and asbestos as equally dangerous. As for red meat, the available evidence that red meat causes cancer was not found to be strong and, therefore, eating red meat has not been—at this time—established as a definite cause of cancer.

Red Meat vs. Processed Meat as Defined by IARC

The IARC defined red meat as all types of mammalian muscle meat such as beef, veal, pork, lamb, mutton, horse, and goat. Processed meat has a more encompassing definition, referring to meat that has been transformed to improve preservation or enhance flavor through salting, curing, fermentation, cooking, smoking, or other processes. This meat may include not only red meat as defined but IARC but also other meats such as poultry, offal, or meat by-products such as blood or meat products. Examples of processed meat are hot dogs, ham, sausages, corned beef, beef jerky, canned meat, and meat-based preparations and sauces. When exposed to high-temperature cooking methods such as grilling, barbecuing, or pan-frying, red meat generates certain types of carcinogenic compounds (e.g., polycyclic aromatic hydrocarbons, heterocyclic aromatic amines) that may contribute to carcinogenic risk. However, despite the possible risks of some forms of cooking, eating raw meat is not recommended because it may result in foodborne illness. IARC applies an interesting differentiation of definitions because most people eat red meat in both cooked and processed forms.

The Basis of the IARC Findings

The IARC working group reviewed more than 800 studies, including large studies conducted over the past 20 years, that associated the consumption of red or processed meat with more than a dozen types of cancer in

many countries and populations with diverse diets. The review was a response to a high-priority recommendation in 2014 to the IARC Monographs Programme to evaluate these associations because of the results of epidemiological studies suggesting that small increases in the risk of several cancers might be associated with high consumption of red or processed meats. The IARC association between the meats and cancer was mainly for colorectal cancer, but associations were also seen for pancreatic cancer and prostate cancer. It is worth noting that the working group, based on the available scientific information, could not draw conclusions as to whether risks differed in different groups of people (e.g., in terms of gender, age, susceptibility, history of cancer); whether there was a safe amount of meat to consume; whether people should only eat poultry, fish, and vegetables; whether there were safer and less safe types of red meat; whether the type of preservation method contributed to the cancer risk; or whether the way the meat was cooked affected cancer risk.

Using data from 10 studies, the working group concluded that each 50-gram (or 0.1 lb) portion of processed meat eaten daily increases the risk of colorectal cancer by 18%, the risk increasing as the amount of meat consumed increases. Since many consume processed meat, the working group saw a “global impact on cancer incidence [that] is of public health importance.” An independent academic research organization called Global Burden of Disease Project estimates that 34,000 cancer deaths per year worldwide are due to diets high in processed meat. Just for comparison, annual cancer deaths are estimated at about 1 million due to tobacco smoking, 600,000 due to alcohol consumption, and more than 200,000 due to air pollution.

Are These IARC Findings New?

The IARC group based its conclusions on available scientific information. IARC does not make health recommendations. Many governments and health agencies worldwide, however, use their work in making national and international policies, guidelines, and recommendations. But the latest IARC evaluation should not come as a surprise. In 2002, WHO recommended moderate consumption of processed meat to reduce the risk of colorectal cancer. At that time, other dietary guidelines also issued similar recommendations, but the intent of

these was to reduce risks of cardiovascular disease and obesity through the reduction of fat and sodium intake. The recommendations then were not specific to reducing cancer risks. What is new with the 2015 recommendations is that WHO issued a health advisory that processed meats cause cancer in humans.

Due to heavy and sensational media coverage of the 2015 IARC findings, WHO received explosive comments, including one from Australia’s Minister of Agriculture calling the report “a farce” and another from the North American Meat Institute stating that IARC “tortured the data to ensure a specific outcome.” Thus, on October 29, 2015, WHO issued a clarification that the agency was only confirming its 2002 recommendation advising “moderate consumption of preserved meat to reduce the risk of cancer. The latest IARC review does not ask people to stop eating processed meats,” it continues, “but indicates that reducing consumption of these products can reduce the risk of colorectal cancer.” It is interesting to note that WHO issued a clarification for IARC, a unit that does not issue health recommendations. It was WHO that issued the health advice that processed meats cause cancer in humans.

What Now?

With all the food news suggesting that certain foods can cause cancer, people may get confused, even scared, which may result in their adjusting their diets. Before we drastically change our dietary habits, remember that almost everything that we do—including eating food—has risks and benefits.

For example, humans need vitamin D for bone health, but there are not enough foods that can serve as sources of vitamin D. Sunlight synthesizes vitamin D in the skin, and this is good. But we also know that too much sunlight causes skin cancer. Thus, moderate exposure to sunlight will meet our need for vitamin D. In another example, moderate amounts of alcohol may reduce the risk of developing and dying from heart disease, but too much alcohol leads to liver diseases. One should not overindulge in sunlight and alcohol to experience their benefits. One should rather partake of them in moderation.

Likewise, the recent IARC evaluations were mainly for colorectal cancer. Genetics has a lot to do with our predisposition to colorectal cancer. And even if we have

a family history of its occurrence, colorectal cancer is still a highly preventable disease.

Let's start with the diet. We know that diet influences our health condition. Many consume meat as a source of protein, but red meat and processed meats are not the only available proteins that people eat. Many choose to eat other sources of protein. We also eat a variety of foods, adding diversity and interest to our diet. Ideally, we watch our caloric intake to maintain a healthy weight. And especially regarding colorectal cancer, our risks are minimized by consuming the dietary fiber that fruits and vegetables supply.

We also know that lifestyle influences our health. Too little exercise increases the risk of colon cancer. Exercise enhances our strength, and that will minimize injuries. We listen to our body and take symptoms seriously. Blood in our stool, a change in stool size or color, or changes in bowel habits are serious signs that we must consult our physician. For those with a family history of colorectal cancer, regular screening should be routine. These are factors that make colorectal cancer preventable.

On the other hand, drastic changes in our dietary habits may cause nutritional imbalances. We should consult a dietitian, nutritionist, or physician before making such changes or following trends. We should try to understand what the experts are saying, and their recommendations should make sense.

Food is necessary for life, and food carefully selected can enhance the quality of our life by contributing to our health while supporting our values and beliefs. Dietitians and other health care professionals generally agree that red meats and processed meats should be consumed in moderation. The recent IARC evaluations suggest that this is especially good advice for those who may be at risk for colorectal cancer.

References

- Bouvard, V., Loomis, D., Guyton, K.Z., Grosse, Y., Ghisassi, F.E., Benbrahim-Tallaa, L., Guha, N., Mattock, H., Straif, K. for the IARC Monograph Working Group. October 26, 2015. IARC Monograph 114. Carcinogenicity of consumption of red and processed meat. Online news IARC Monograph 114. Lyon, France. <http://www.meatpoultry.com/~media/Files/MP/IARC-summary.ashx>
- International Agency for Research on Cancer. October 26, 2015. IARC Monographs evaluate consumption of red meat and processed meat. Press release No. 240. Lyon, France. http://www.iarc.fr/en/media-centre/pr/2015/pdfs/pr240_E.pdf
- International Agency for Research on Cancer. October 26, 2015. Q&A on the carcinogenicity of the consumption of red meat and processed meat. Lyon, France. http://www.iarc.fr/en/media-centre/iarcnews/pdf/Monographs-Q&A_Vol114.pdf
- International Food Information Council. September 18, 2015. Food safety: A communicator's guide to improving understanding. Washington, DC. <http://www.foodinsight.org/foodsafetyguide#sthash.WNO4QiLT.dpbs>
- International Food Information Council. October 27, 2015. International Agency for Research on Cancer (IARC) publishes report on "Carcinogenicity of consumption of red and processed meat." An online IFIC news brief. <http://www.foodinsight.org/iarc-who-red-meat-processed-cancer-health#sthash.Pux68J5e.dpbs>
- World Health Organization. October 29, 2015. Links between processed meat and colorectal cancer. An online news statement of WHO. Geneva, Switzerland. <http://www.who.int/mediacentre/news/statements/2015/processed-meat-cancer/en/>