The IMS is a non-profit organization catering exclusively to the requirements of the worldwide meat and livestock sector

Putting into Perspective the IARC Evaluation of Red and Processed Meat

What did the IARC evaluation conclude?

The International Agency for Research on Cancer (IARC) published their evaluation of the carcinogenicity of red and processed meat on October 26, 2015 in the British Medical journal *The Lancet Oncology*. A Working Group of 22 scientists from 10 countries evaluated the available evidence to determine whether red meat and processed meat should be classified as carcinogens.

The IARC classified consumption of red meat as "probably carcinogenic to humans" (Group 2A) because the evidence in humans was considered limited by the Working Group. They could not exclude impacts from other diet and lifestyle factors. These include overweight/obesity, smoking, alcohol and low intake of vegetables, whole grains and legumes.

The IARC classified consumption of processed meat as "carcinogenic to humans (Group 1) because the majority of the Working Group considered the evidence sufficiently consistent to conclude that any other explanation for increased risk associated with processed meat was unlikely. Importantly, IARC notes that the risk is small and related to portion size and does not carry the same risk as other substances in Group 1 such as tobacco or sunshine.

What is the IARC, and why did it evaluate red and processed meat?

The IARC is the specialized agency on cancer of the World Health Organisation (WHO). The objective of the IARC is to promote international collaboration in cancer research. An international advisory committee that met in 2014 recommended red meat and processed meat as high priorities for evaluation by the IARC Monographs Programme. This recommendation was based on epidemiological studies suggesting that small increases in the risk of several cancers may be associated with high consumption of red meat or processed meat.

What does the IARC evaluation mean?

The IARC conducts hazard analysis, not risk assessments. This distinction is important. It means they consider whether meat at some level, under some circumstance, could be a hazard. The IARC evaluation does not give any indication of risk level in reality.

Furthermore, the rating (probably carcinogenic, or carcinogenic) is based on the IARC's opinion of how certain the relationship is between an agent (meat) and cancer. It is not intended to show an agent is equally as dangerous as other agents in that group. Clearly, meat and tobacco do not represent the same risk.

The IARC does not recommend how much meat we should consume

The IARC says, "it is a research organization that evaluates the evidence available on the causes of cancer but does not make health recommendations as such". The Working Group were not able to reach a conclusion about a safe level of meat consumption and considers it the role of each country to set their own red meat recommendations based on a careful evaluation of the risks and benefits of red meat for their specific populations.

Further, the IARC says eating "meat has known health benefits. Many national health

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recommendations advise people to limit intake of processed meat and red meat, which are linked to increased risks of death from heart disease, diabetes, and other illnesses."

The IARC admits it is not yet fully understood how cancer risk is increased by red meat or processed meat in relation to proposed mechanisms such as Polycyclic Aromatic Hydrocarbons (PAH) and Heterocyclic Amines (HCA) from high temperature cooking methods (source: http://www.iarc.fr/en/media-centre/iarcnews/pdf/Monographs-Q&A_Vol114.pdf)

Is there a Scientific Consensus on Red and Processed Meat and Cancer?
It is noteworthy that the Working Group's decision was not unanimous. The lack of consensus in the evaluation is a reflection that the evidence is not conclusive and consequently, there is not a single view held by the scientific community. This evaluation does not introduce any new evidence. It is based on existing scientific literature.

The IARC evaluation, like many of the studies on which its findings are based, rely on analysis of statistical correlation. Many similar studies show no statistically significant correlation. These two recent reviews illustrate the point:
http://www.tandfonline.com/doi/abs/10.1080/07315724.2014.992553
http://www.ncbi.nlm.nih.gov/pubmed/26043666

What does this mean for red meat's role in a healthy diet?
This report does not mean that red meat and processed meat should be excluded from the diet. IARC and WHO have cautioned that their conclusions relate specifically to excessive intakes. At the same time, WHO underlined that red meat has nutritional value and that the results are important to balance the risks and benefits of eating red meat and processed meat.

Cancer is a complex disease. There are a multitude of factors that contribute to one's risk of chronic diseases, including cancer. We believe there is no compelling evidence to suggest that red and processed meat, consumed as part of a balanced diet, increases the risk of cancer. No single food has been proven to cause or cure any type of cancer.

It was important to note that the IARC evaluation did acknowledge the importance of red and processed meat as part of a healthy diet. In addition to providing high quality protein, red and processed meat are important sources of nutrients such as B-vitamins, iron and zinc, which support growth, development, maintenance, and repair of the body. Some segments of the population –e.g. children, teen girls and women of childbearing age -may benefit from an additional serving of red or processed meat.

Enjoy meat as recommended in your country's guidelines.

Australia	www.eatforhealth.gov.au/ www.mlanutrition.com.au
Canada	www.hc-sc.gc.ca/fn-an/food-guide-aliment/index-eng.php https://canadabeef.ca/wp-content/uploads/2015/04/3208_CANBEEF_factsheet_HEALTH-2016.pdf www.cpc-ccp.com/nutrition.php
Denmark	www.altomkost.dk/raad-og-anbefalinger/de-officielle-kostraad/
France	www.mangerbouger.fr/bien-manger/que-veut-dire-bien-manger-127/les-9-reperes/

	www.la-viande.fr/nutrition-sante/place-viande-dans-votre-alimentation
Ireland	www.bordbia.ie/consumer/aboutfood/nutrition/pages/default.aspx
New Zealand	www.health.govt.nz/publication/eating-and-activity-guidelines-new-zealand-adults www.recipes.co.nz/NUTRITION/nutritionfaqs.html
Norway	www.helsenorge.no/kosthold-og-ernaring/kostrad/velg-magert-kjott
South Africa	www.fao.org/3/a-as842e.pdf
United Kingdom	http://meatmatters.redmeatinfo.com/health/default.aspx
United States	www.choosemyplate.gov/ www.meatpoultrynutrition.org/ www.factsaboutbeef.com/
Wales	www.hccmpw.org.uk/health_education/