Does Meat Cause Cancer? Yes and no…

We cannot truthfully say that meat causes cancer.

It's not that simple.

Although many studies have linked meat consumption, particularly of red and processed meat, to cancer, heart disease, stroke, diabetes, obesity, and a shorter lifespan, this does not mean that meat consumption causes these issues.

It is important to consider the other factors that contribute to these findings, like the fact that meat-eaters tend to exercise less, eat fewer vegetables, and smoke more than vegetarians and vegans – who tend to be more health conscious.

In studies where the researchers accounted for these factors, there was a weak correlation between red meat and cancer and a stronger correlation between processed meat and cancer. This appears to be the general consensus, though there are some studies that find no association between meat and cancer and others that suggest that meat promotes health.

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For example, one study conducted in Austria found people who did not eat meat to be less healthy (in terms of cancer, allergies, and mental health disorders). Red meat was also found in another study to be essential for maintaining muscle mass and cognitive function in elderly women.

With all of this conflicting information, how can we possibly know if meat is good or bad for us?

The truth is we will never know unless we consider what could be behind the positive and negative findings of these studies. First, let's start with what meat in its purest form does to

the body.

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Meat Does Not Create Cancer

Hypothetically, if we ate raw meat from healthy animals that are completely free of all additives, chemicals, and infectious bacteria and parasites then there is no way that it can create cancer.

According to the Food and Agriculture Organization of the United Nations, meat is an effective way to combat malnutrition and under-nourishment. This is because meat promotes health by providing us with complete proteins, minerals, vitamins, co-enzymes, antioxidants, and fats that are essential for our health. In fact, organ meats from pastured animals like beef liver are filled with more minerals, vitamins, antioxidants, and amino acids than many of the healthiest and most popular plant foods.

But organ meats are a rare commodity now. Instead, we tend to have the least healthy cuts of meat (muscle meat) from sick and diseased animals that are raised in concentrated animal feeding operations (CAFOs). This means that the steak that you love so much and the chicken breast that you thought was healthy is coming from the least nutritious part of an unhealthy animal that has trace amounts of antibiotics and pesticides in it from what it was fed.

These antibiotics and pesticides are toxic to the body, but we can most likely handle them in small quantities. What renders the meat cancerous is when we process it and cook it in ways that create highly carcinogenic compounds. These compounds are the main culprit for the association between red and processed meat consumption and cancer.

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How We Prepare Our Meat Causes Cancer



Heterocyclic amines, polyaromatic hydrocarbons, methyl carbonium, advanced glycation end products, and acrolein are all carcinogenic compounds that are formed at some level when we process and cook our meat. Each compound creates chaos in its own way within the body that can either indirectly or directly mutate genes and cause cancer.

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Acrolein and Advanced Glycation End Products Don’t Discriminate

Acrolein, for example, has been found to directly mutate genes, which can lead to cancer formation. Smoking is known to cause lung cancer because acrolein is created when tobacco is burned. The acrolein is then inhaled into the lungs, causing genetic mutations in lung cells that lead to cancer.

Acrolein is also created when we expose carbohydrates, vegetable oils, animal fats, and amino acids to high heat. This partially explains why fried foods and overcooked or burned meat are toxic to the body. Advanced glycation end products are another cancerous compound that is formed when we cook our foods (not just meat) at high temperatures.

Why Smoked Meat, Deli Meat, and Grilled Meat is Bad For You

Heterocyclic amines, polyaromatic hydrocarbons, and methyl carbonium are the carcinogenic compounds that are most often found in processed, smoked, and cooked meats. Heterocyclic amines and polyaromatic hydrocarbons are both formed when the meat is cooked at high temperatures, and polyaromatic hydrocarbons can also be formed during periods of low oxygen exposure. You will find polyaromatic hydrocarbons in high amounts in smoked meats and fish. This makes these popular foods highly carcinogenic.

You may not have heard of methyl carbonium before, but you are probably familiar with its distant relatives, nitrate and nitrite. Nitrates and nitrites are commonly added to processed pork products like bacon to maintain their color and prolong shelf-life, but when these compounds interact with amino acids they can form nitrosamines.

So why does it matter? It doesn’t, especially for the body,

because nitrates, nitrites, and nitrosamines aren’t toxic at all. But if nitrosamines degrade any further they become methyl carbonium, which is highly toxic to the body.

Methyl carbonium, heterocyclic amines, polyaromatic hydrocarbons, advanced glycation end products, and acrolein are by no means the only carcinogenic compounds that are created through cooking and processing meat, and some of them can still be found in high quantities in vegetarian and vegan diets. For example, cooked vegetable oils and plant foods can be a potent source of acrolein and advanced glycation end products.

This means that even if you are eating a vegan diet you will not be able to escape from pro-inflammatory carcinogenic compounds that can cause cancer – so what can you do?

How To Make Meat Healthy

It is actually simple and easy to reduce the carcinogenic compounds in your food.

First, marinate your meats in lemon juice, vinegar, herbs, and spices. This acidic marinade helps to prevent advanced glycation end products from forming, while the herbs and spices have a high antioxidant content that will keep the other carcinogenic compounds from forming when the meat is exposed to heat.

When it comes to cooking your food, it is best to replace your frying pan and grill with a slow cooker, steamer pot, or sous vide. Boiling, poaching, stewing, and steaming is the healthiest way to cook your meat, while frying, broiling, grilling, roasting, and smoking renders the meat carcinogenic.

It is also better to cook your meat at low temperatures and consume with other herbs and vegetables to ensure that carcinogenic compounds that are in your food will meet the

extra antioxidants from the plant foods.

But it is important to mention that even if your meat contains no cancer causing compounds, it can still lead to the growth of existing cancer cells due to something called IGF-1.

Meat Can Feed Cancer

IGF-1, also known as insulin-like growth factor, is a protein that has growth promoting effects on every cell in the body. This makes it essential for the growth and development of muscle and brain cells, and the healing of damaged tissues.
When we consume a high amount of complete protein – which is found mainly in animal products – IGF-1 levels will rise accordingly to help our cells use the amino acids from the protein. This is exactly what we need our body to do to maintain the health and growth of our cells, but there is one problem.

IGF-1 does not know the difference between your cells and cancer cells, so it can aid the growth of cancer cells as well. This is why high protein diets are linked to a higher risk of all-cause and cancer mortality – and the high protein content of meat explains why it has been linked to an increased risk of cancer.

This also means that meat is not the primary culprit for the association between cancer and meat consumption. Meat is just pointing to the fact that the combination of high amounts of toxic compounds with high IGF-1 levels will create the perfect environment for cancer to form and grow. In other words, cancer can be created and grown with or without meat consumption. What really matters is how you prepare your food and how much protein you are consuming.
Fortunately, we have already learned how to lower our exposure to toxic compounds in food – and that is relatively easy – but is there a way to hack your IGF-1 levels?

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Hacking Your IGF-1 Levels to Starve Cancer

Although low levels of IGF-1 are correlated with lower rates of cancer, IGF-1 is still important to have at high levels at the right time. When we are adults, the right time for IGF-1 to be at high levels is when our cells need to heal from a workout or any other form of physical trauma is done to the body.

This means that if you time your protein consumption in response to when you need it most (before and after resistance training), you will increase IGF-1 at the right time so that you can build the cells that need it the most while preventing cancer cell growth. Although this is just a theory, it may be the best way to get the most health promoting effects from your meat.

On days that you don't workout, it may be best to consume mostly plant foods and limit your protein consumption to below 20% of your daily caloric intake to keep your IGF-1 levels low and quality of health high. After the age of 65, however, protein seems to be more important for health and longevity – so people in this age group can benefit from consuming more than 20% of their calories from protein.

Increasing your activity levels is also another important tool you can use to maintain lower IGF-1 levels. To do this you can go for walks, take a hike, or do any other form of low-intensity aerobic activity everyday. Not only will this help reduce your cancer risk, it will improve your overall health and reduce your risk of other diseases – like diabetes – as well.

Putting it all Together

The meat we eat and what it does to our body is a complex issue that depends on the individual who is eating the meat, the quality of the meat, and how the meat is processed and cooked – so to say that meat causes cancer or does not cause cancer is an oversimplification. As we understand cancer more deeply and the effects that meat consumption has on our body though, we will soon be able to know who would benefit from eating more meat, who should limit their meat consumption, and if there is anyone that would be healthier by not eating meat at all.

One thing we do know for certain is that the way we cook and process meat can create carcinogenic compounds that directly and indirectly cause cancer. To prevent these cancerous compounds from forming – simply marinate your meat in lemon juice, vinegar, herbs, and spices, cook it at low temperatures, and eat your meat with a variety of vegetables, herbs, and/or fruit. This will allow you to get almost all of the health promoting benefits of eating meat while balancing deleterious effects.

We are also certain that high IGF-1 levels will lead to more cancer growth. Complete proteins – like those found in meat – cause an increase in IGF-1 levels. If we keep our IGF-1 levels low throughout the day, we can prevent cancer growth. We can do this by limiting our meat consumption to when we need to recover from resistance training and by increasing our levels of low-intensity activity like walking.

We dug deep into the science in this article, but the science has little to say about the effects of 100% grass-fed red meat consumption vs. conventional, GMO grain-fed red meat consumption on human health. We can, however, make some sound assumptions based on the differences between each type of meat.

Does Quality Really Matter?



When researchers compared grass-fed beef to conventional, grain-fed beef, grass-fed beef had elevated precursors for Vitamins A and E, more of the health-promoting fatty acids CLA and Omega 3s, and more cancer-fighting antioxidants such as glutathione and superoxide dismutase. Conventional grain fed beef, on the other hand, has much lower levels of this health promoting compounds, while simultaneously providing us with more inflammatory fats like omega 6s, a small dose of antibiotics, and a higher risk of bacterial infection from salmonella.

This is part of the reason why many studies find meat to increase the risk of cancer because they use meat from sick, fat, and unhealthy animals.

When it comes to promoting health and preventing cancer, 100% grass-fed and grass finished pastured red meat is the best meat to have. Make sure you prepare it in the ways that we discussed earlier in this article to ensure that you don’t have any unhealthy compounds with your healthy meat.

Recommended Reading:

- *Detox Cheap and Easy Without Fasting – Recipes Included*
- *How to Detoxify and Heal the Lymphatic System*
- *Cure Cancer Naturally*

Sources:

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- *Chemicals in Meat Cooked at High Temperatures and Cancer Risk* – National Cancer Institute
- *Association between red meat consumption and colon cancer: A systematic review of experimental results* – Sage Journals
- *CLONAL EVOLUTION IN CANCER* – NCBI
- *Diets and selected lifestyle practices of self-defined adult vegetarians from a population-based sample suggest they are more 'health conscious'* – NCBI
- *Meat consumption and mortality—results from the European Prospective Investigation into Cancer and Nutrition.* – NCBI
- *Does red meat cause cancer?* – Examine
- *Mortality in vegetarians and comparable nonvegetarians in the United Kingdom.* – NCBI
- *Red and processed meat consumption and risk of incident coronary heart disease, stroke, and diabetes mellitus: a systematic review and meta-analysis.* – NCBI
- *Nutrition and Health – The Association between Eating Behavior and Various Health Parameters: A Matched Sample Study* – PLOS One
- *Effect of Low-Intensity Aerobic Exercise on Insulin-Like Growth Factor-I and Insulin-Like Growth Factor-Binding Proteins in Healthy Men* – Hindawi
- *How can I make red meat healthier?* – Examine
- *Advanced Glycation End Products in Foods and a Practical Guide to Their Reduction in the Diet* – NCBI
- *Effect of Carcinogenic Acrolein on DNA Repair and Mutagenic Susceptibility* – Journal of Biological Chemistry
- *Acrolein* – NCBI
- *Low Protein Intake is Associated with a Major Reduction in IGF-1, Cancer, and Overall Mortality in the 65 and Younger but Not Older Population* – NCBI
- *A review of fatty acid profiles and antioxidant content*

in grass-fed and grain-fed beef – BioMed Central
- *Determination of macrolide antibiotics in meat and fish by liquid chromatography–electrospray mass spectrometry* – Science Direct
- *Effect of feeding systems on omega-3 fatty acids, conjugated linoleic acid and trans fatty acids in Australian beef cuts: potential impact on human health.* – NCBI
- *Meat and cancer: meat as a component of a healthy diet* – ProQuest
- *Liver: nature's most potent superfood* – Chris Kresser
- *Meat Consumption* – FAO