

Busting myths about red meat

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Red meat, while very popular, has not been shown to have health benefits. Credit: Natalia Lisovskaya/Shutterstock.com

More than half of Americans who make New Year's resolutions [resolve to "eat healthier."](#) If you're one, you might be confused about the role meat should play in your health.

It's no wonder you're confused. One group of scientists says that reducing red and processed [meat](#) is a [top priority](#) for your [health](#) and the planet's. Another says these foods [pose no problems](#) for health. Some of your friends may say it depends, and that grass-fed beef and "nitrite-free" processed meats are fine. At the same time, plant-based [meat alternatives](#) are surging in popularity, but with uncertain health effects.

As a [cardiologist and professor of nutrition](#), I'd like to clear up some of the confusion with five myths and five facts about meat.

First, the myths.

Myth: Red meat is good for health

Long-term observational studies of [heart disease](#), [cancers](#) or [death](#) and [controlled trials](#) of risk factors

like blood cholesterol, glucose and inflammation suggest that modest intake of unprocessed red meat is relatively neutral for health. But, no major studies suggest that eating it provides benefits.

So, while an occasional serving of steak, lamb or pork may not worsen your health, it also won't improve it. And, too much [heme iron](#), which gives red meat its color, may explain why red meat increases risk of [Type 2 diabetes](#). Eating red meat often, and eating [processed meat](#) even occasionally, is also strongly linked to [colorectal cancer](#).

Myth: You should prioritize lean meats

For decades, dietary guidance has focused on lean meats because of their lower fat, saturated fat and cholesterol contents. But these nutrients [don't have strong associations](#) with heart attacks, cancers or other major health outcomes.

Other factors appear more important. Processed meats, such as bacon, sausage, salami and cold cuts, contain high levels of [preservatives](#). Sodium, for example, raises blood pressure and stroke risk, while the body converts nitrites to cancer-causing [nitrosamines](#). Lean or not, these products aren't healthy.

Myth: Focus on a 'plant-based' diet

"Plant-based" has quickly, but somewhat [misleadingly](#), become a shorthand for "healthy." First, [not all animal-based foods are bad](#). Poultry and eggs appear relatively neutral. Dairy may have metabolic benefits, especially for reducing body fat and Type 2 diabetes. And, seafood is linked to several health benefits.

Conversely, many of the worst foods are plant-based. Consider white rice, white bread, fries, refined breakfast cereals, cookies and so on. These foods are high in refined starch and sugar, representing [42% of all calories in the U.S.](#), compared to about 5% of U.S. calories from

unprocessed red meats, and 3% from processed meats.

Either a "plant-based" or omnivore diet is not healthy by default. It depends on what you choose to eat.

Myth: Grass-fed beef is better for your health

Conventional livestock eat a combination of forage (grass, other greens, legumes) plus hay with added corn, soy, barley or grain. "Grass-fed," or "pasture-raised," livestock eat primarily, but not exclusively, forage. "Grass-finished" livestock should, in theory, only eat forage. But no agency regulates industry's use of these terms. And "free range" describes where an animal lives, not what it eats.



Sausages wrapped in bacon are a double whammy of unhealthy meat, as both bacon and sausage are processed meats. Credit: MShev/Shutterstock.com

"Grass-fed" may sound better, but no studies have compared health effects of eating grass-fed versus conventional beef. Nutrient analyses show [very modest differences](#) between grass-fed and conventionally raised livestock. You might eat grass-fed beef for personal, environmental or philosophical reasons. But don't expect health benefits.

Myth: Plant-based meat alternatives are healthier

Products like Impossible Burger and Beyond Meat are clearly better for the environment than conventionally raised beef, but their health effects remain uncertain. Most nutrients in plant-based alternatives are, by design, similar to meat. Using genetically engineered yeast, Impossible even [adds heme iron](#). These products also pack a lot of salt. And, like many other [ultra-processed foods](#), they may lead to higher calorie intake and weight gain.

So, what are the facts?

Fact: Processed meats are bad for health

Processed meats contain problematic preservatives. Even those labeled "no nitrates or nitrites added" contain nitrite-rich fermented celery powder. A current [petition](#) by the Center for Science in the Public Interest asks the FDA to ban the misleading labeling.

Besides the sodium, nitrites and heme, processed meats can contain other [carcinogens](#), produced by charring, smoking or high-temperature frying or grilling. These compounds may not only harm the person who eats these products; they can also cross the placenta and [harm a fetus](#).

Fact: A meatless diet is not, by itself, a healthy diet

Most diet-related diseases are caused by [too few health-promoting foods](#) like fruits, nuts, seeds, beans, vegetables, whole grains, plant oils, seafood and yogurt. Additional health problems come from too much soda and ultra-processed foods high in salt, refined starch or added sugar. Compared to these major factors, avoiding or occasionally eating unprocessed red meat, by itself, has modest health implications.

Fact: Beef production is devastating the environment

In terms of land use, water use, water pollution and greenhouse gases, unprocessed red meat production causes about [five times the environmental impact](#) of fish, dairy or poultry. This impact is about 20 times higher than that of eggs, nuts or legumes, and 45 to 75 times higher than the

impact of fruits, vegetables or whole grains. A 2013 [UN report](#) concluded that livestock production creates about 15% of all global greenhouse gas emissions, with nearly half coming from beef alone.

Fact: Plant-based meats are better for the environment

[Production](#) of plant-based meat alternatives, compared to conventional beef, [uses](#) half the energy, one-tenth of the land and water, and produces 90% less greenhouse gas. But, no studies have yet compared plant-based meat alternatives to more natural, less processed options, such as mushrooms or tofu.

Fact: Many questions remain

Which preservatives or other toxins in processed meat cause the most harm? Can we eliminate them? In unprocessed red meats, what exactly increases risk of Type 2 diabetes? What innovations, like feeding cows [special strains of seaweed](#) or using [regenerative grazing](#), can reduce the large environmental impacts of meat, even [grass-fed beef](#)? What are the health implications of grass-fed beef and plant-based meat alternatives?

Like much in science, the truth about meat is nuanced. Current evidence suggests that people shouldn't eat unprocessed [red meat](#) more than once or twice a week. Grass-fed beef may be modestly better for the environment than traditional production, but environmental harms are still large. Data don't support major health differences between grass fed and conventional beef.

Similarly, plant-based meat alternatives are better for the planet but not necessarily for our health. Fruits, nuts, beans, vegetables, plant oils and whole grains are still the best bet for both human and planetary health.

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