

Heart disease: Consuming too much saturated fat may raise risk

Written by [Catharine Paddock PhD](#)

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New research reveals that consuming high levels of four major saturated fats - such as those found in butter, lard, red meat, dairy fat, and palm oil - may raise the risk of coronary heart disease. However, replacing just 1 percent of them with healthier fats, nuts, whole grains, and plant proteins appears to reduce the risk by up to 8 percent.

The study - led by Harvard T.H. Chan School of Public Health in Boston, MA - is published in *The BMJ*. Senior author Qi Sun, assistant professor in the School's Department of Nutrition, says the findings "strongly corroborate what the current USDA [United States Department of Agriculture] Dietary Guidelines recommend."

Sun notes that the current [guidelines](#) recommend people limit saturated fat consumption to no more than one tenth of total [calories](#), maintain an overall healthy diet that includes fruits, vegetables, whole grains, nuts, legumes, fish, and low-fat dairy, and use vegetable cooking oils rich in polyunsaturated fats and monounsaturated fats.

He and his colleagues note that while there is scientific evidence of the effect that individual fatty acids have on blood lipids, we know little about the links between consumption of individual fatty acids and the risk of having coronary heart disease.

Research suggests [coronary heart disease](#) arises when [certain factors](#) damage the lining of the arteries that supply oxygen-rich blood to the muscles of the heart.

These factors include smoking, high levels of [cholesterol](#) and certain fats in the blood, [high blood pressure](#), and high blood sugar - such as from [diabetes](#) or [insulin resistance](#).



Researchers say eating too much saturated fat can increase the risk of developing coronary heart disease.

Fatty deposits called plaque begin to accumulate at the site of damage. This can start in childhood. As the plaque builds up, it can harden and break open. Hardened plaque restricts blood flow and can lead to [angina](#) (chest pain or discomfort).

Ruptured plaque gives rise to blood clots that further narrow the arteries and worsen angina. If a clot is big enough, it can completely or nearly completely block a coronary artery, causing a [heart attack](#).

Findings refute idea that 'butter is back'

For their study, the researchers pooled and analyzed data on nearly 116,000 people taking part in two large cohort studies during 1986-2010: the Health Professionals Follow-up Study (nearly 43,000 men) and the Nurses' Health Study (just over 73,000 women).

The data came from questionnaires about diet and health that the participants filled in every 4 years.

The researchers found that a 5 percent higher intake of longer chain dietary saturated fatty acids - such as found in hard cheese, whole milk, butter, beef, and chocolate - was linked to 25 percent increased risk of coronary heart disease over the 24-28 years of follow-up.

Further analysis revealed that replacing just 1 percent of daily consumption of the four saturated fatty acids - lauric acid, myristic acid, palmitic acid, and stearic acid - with equivalent calories from monounsaturated fats, polyunsaturated fats, whole grain [carbohydrates](#), or plant proteins, could reduce the relative risk by 4-8 percent.

The strongest risk reduction came from replacing palmitic acid - which is found in palm oil, dairy fat, and meat.

One of the researchers, Frank Hu, a professor of [nutrition](#) and epidemiology, says their findings refute the idea that "butter is back."

He says it is impractical to pick out different saturated fatty acids in making dietary recommendations, as these fats share the same food sources - for instance, dairy foods, red meat, butter, lard, and palm oil.

"Instead, it is healthier to replace these fatty acids with unsaturated fats from vegetable oils, nuts, seeds, and seafood as well as high-quality carbohydrates," he adds.



Fast facts about coronary heart disease

- Coronary heart disease is the most common type of [heart disease](#)
- In the United States, coronary heart disease [killed about 365,000 people](#) in 2014
- Heart disease costs the U.S. about \$207 billion each year.

[Learn more about coronary heart disease](#)

"Replacing sources of saturated fat in our diets with unsaturated fats is one of the easiest ways to reduce our risk of heart disease."

Co-author Prof. Walter Willett, Harvard T.H. Chan School of Public Health

Main message: Address overall pattern of diet

In an accompanying editorial, Canadian experts Russell de Souza and Sonia Anand say the main message of the study is that it is the overall pattern of one's diet that matters to health.

They say it is important to aim for a general healthy diet, rather than focus on specific nutrients, because "dietary patterns might be more consistent with how people consume nutrients, and these patterns can predict heart disease risk."

For example, they do not advise cutting saturated fat intake by replacing it with refined carbohydrates, because that replaces one unhealthy item with another. A diet high in refined carbohydrates is not recommended.

They favor the advice of new national guidelines because these focus on dietary patterns, which they note are "a welcome improvement over single nutrient targets which, although of interest to nutrition scientists, are often confusing for the public, and undermine the effectiveness of dietary guidance."

No reason, therefore, not to enjoy your Thanksgiving dinner.

[Discover how yo-yo dieting may increase risk of heart disease death.](#)

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[Intake of individual saturated fatty acids and risk of coronary heart disease in US men and women: two prospective longitudinal cohort studies](#), Geng Zong et al., *The BMJ*, doi:10.1136/bmj.i5796, published online 23 November 2016.

Editorial: [Saturated fat and heart disease](#), Russell J de Souza and Sonia S Anand, *The BMJ*, doi:10.1136/bmj.i6257, published online 23 November 2016.

Harvard T.H. Chan School of Public Health [news release](#), accessed 24 November 2016 via EurekAlert.

The BMJ [news release](#), accessed 24 November 2016 via EurekAlert.

Additional source: CDC ,[Heart disease fact sheet](#), accessed 24 November 2016.

Additional source: National Heart, Lung, and Blood Institute, [What causes coronary heart disease?](#), accessed 24 November 2016.

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