

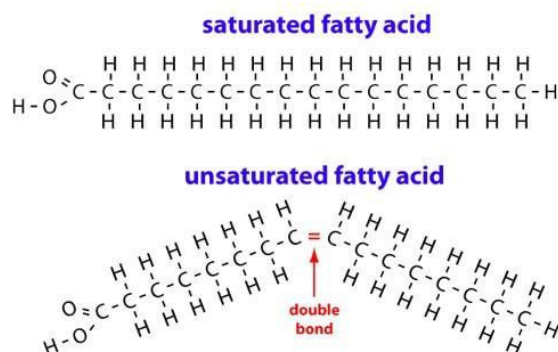
# Saturated Fat: Good or Bad?

by Kris Gunnars, Healthline Article June 22, 2017

We've been told that saturated fat is unhealthy. It is claimed to raise cholesterol levels and give us heart attacks. However, many recent studies suggest that the true picture is more complicated than that. This article takes a detailed look at saturated fat and whether it is good or bad for your health.

## What Is Saturated Fat?

"Fats" are macronutrients. That is, nutrients that we consume in large amounts and give us **energy**. Each fat molecule is made of one glycerol molecule and three fatty acids... which can be either **saturated**, **monounsaturated** or **polyunsaturated**. What this "saturation" stuff has to do with, is the number of double bonds in the molecule. Saturated fatty acids have no double bonds, monounsaturated fatty acids have one double bond and polyunsaturated fatty acids have two or more double bonds. This picture here shows the difference:



Another way to phrase this, is that saturated fatty acids have all their carbon (C) atoms fully "saturated" with hydrogen (H) atoms. Foods that are high in saturated fat include fatty meats, lard, full-fat dairy products like butter and cream, coconuts, coconut oil, palm oil and dark chocolate. Actually, "fats" contain a combination of different fatty acids. *No fat is pure saturated fat, or pure mono- or polyunsaturated.*

Even foods like beef also contain a significant amount of mono- and polyunsaturated fats. Fats that are mostly saturated (like **butter**) tend to be solid at room temperature, while fats that are mostly unsaturated (like **olive oil**) are liquid at room temperature. Like other fats, saturated fat contains 9 calories per gram.

**BOTTOM LINE:** Saturated “fats” are fats that contain a high proportion of saturated fatty acids, which contain no double bonds. Saturated fats are solid at room temperature.

## Why Do People Think That It Is Harmful?

Back in the 20th century, there was a major epidemic of **heart disease** running rampant in America. It used to be a rare disease, but very quickly it skyrocketed and became the number one cause of death... which it still is.

Researchers learned that eating saturated fat seemed to increase levels of **cholesterol** in the bloodstream. This was an important finding at the time, because they also knew that having high cholesterol was linked to an increased risk of heart disease. This led to the following assumption being made:

“If saturated fat raises cholesterol (A causes B) and cholesterol causes heart disease (B causes C), then this must mean that saturated fat causes heart disease (A causes C). However, at the time, this was **not based on any experimental evidence in humans**. This hypothesis (called the “**diet-heart hypothesis**”) was based on assumptions, observational data and animal studies.”

The diet-heart hypothesis then turned into public policy in 1977, before it was ever proven to be true. Even though we now have plenty of experimental data in humans showing **these initial assumptions to be wrong**, people are still being told to avoid saturated fat in order to reduce heart disease risk.

**BOTTOM LINE:** Saturated fats have been assumed to cause heart disease by raising cholesterol in the blood. However, no experimental evidence has ever directly linked saturated fat to heart disease.

## Saturated Fat Can Raise LDL (The "Bad") Cholesterol, But Also HDL (The "Good") Cholesterol

*It's important to realize that the word "cholesterol" is often used inaccurately.*

*HDL and LDL, the "good" and "bad" cholesterol, are not actually cholesterol...*

they are proteins that carry cholesterol around, known as **lipoproteins**. LDL stands for *Low Density Lipoprotein* and HDL stands for *High Density Lipoprotein*. All "cholesterol" is identical.

At first, scientists only measured "Total" cholesterol, which includes cholesterol within both LDL and HDL. Later they learned that while LDL was linked to increased risk, HDL was linked to **reduced** risk. "Total" cholesterol is actually a highly flawed marker because it also includes HDL. So, having a high HDL (protective) actually contributes to a high "Total" cholesterol. Because saturated fat raised LDL levels, it seemed logical to assume that this would increase the risk of heart disease. But scientists mostly ignored the fact that saturated fat also raises HDL.

All that being said, new research has shown that LDL isn't necessarily "bad" because there are different subtypes of LDL:

- **Small, dense LDL:** These are small lipoproteins or **Lp(a)** that can penetrate the arterial wall easily, which drives heart disease.
- **Large LDL:** These lipoproteins are large and fluffy and don't easily penetrate the arteries.

The small, dense particles or Lp(a) are also much more susceptible to becoming **oxidized**, which is a crucial step in the heart disease process. People with mostly small LDL particles have three times greater risk of heart disease, compared to those with mostly large LDL particles. So, if we want to reduce our risk of heart disease, we want to have mostly large LDL particles and as little of the small ones as possible. Here's an interesting bit of information that is often *ignored* by mainstream nutritionists... "eating

saturated fat changes the LDL particles from small, dense to Large.” What this implies is that even though saturated fat can mildly raise LDL, they are changing the LDL to a benign subtype that is associated with a *reduced* risk of heart disease.

Even the effects of saturated fat on LDL aren't as dramatic as you may think. Although they increase LDL in the short-term, plenty of long-term observational studies find no link between saturated fat consumption and LDL levels. It also seems to depend on the "chain length" of the fatty acid. For example, palmitic acid (16 carbons) may raise LDL, while stearic acid (18 carbons) does not.

Now scientists have realized that it's not just about the LDL concentration or the size of the particles, but the number of LDL particles (called **LDL-p**) floating in the bloodstream. **Low-carb diets**, which tend to be high in saturated fat, can lower LDL-p, while **low-fat diets** can have an adverse effect and *raise* LDL-p.

**BOTTOM LINE:** Saturated fats raise HDL (the “good”) cholesterol and change LDL from small, dense (bad) to Large LDL, which is mostly benign. Overall, saturated fats do not harm the blood lipid profile like previously believed.

## Does Saturated Fat Cause Heart Disease?

The supposedly harmful effects of saturated fat are the **cornerstone** of modern dietary guidelines. Because of that, this topic has received enormous amounts of funding. However, despite decades of research and billions of dollars spent, scientists still haven't been able to demonstrate a clear link. Several recent review studies that combined data from multiple other studies, found that there really is no link between saturated fat consumption and heart disease. This includes a review of 21 studies with a total of 347,747 participants, published in 2010. Their conclusion: there is absolutely no association between saturated fat and heart disease.

Another review published in 2014 looked at data from 76 studies (both observational studies and controlled trials) with a total of 643,226 participants. They found no link

between saturated fat and heart disease. We also have a systematic review from the Cochrane collaboration, which combines data from numerous randomized controlled trials. According to their review, published in 2011, reducing saturated fat has **no effect** on death or death from heart disease. However, they found that *replacing* saturated fats with unsaturated fats reduced the risk of cardiac events (but not death) by 14%.

This does not imply that saturated fats are "bad," just that certain types of unsaturated fats (mostly Omega-3s) are protective, while saturated fats are neutral. So, the **biggest** and **best** studies on saturated fat and heart disease show that there is no direct link. It was a myth all along. Unfortunately, the governments and "mainstream" health organizations seem reluctant to change their minds and continue to promote the old low-fat dogma. For more, read this review of [5 recent studies on saturated fat and health](#).

**BOTTOM LINE:** The link between saturated fat and heart disease has been studied intensely for decades, but the biggest and best studies show that there is no statistically significant association.

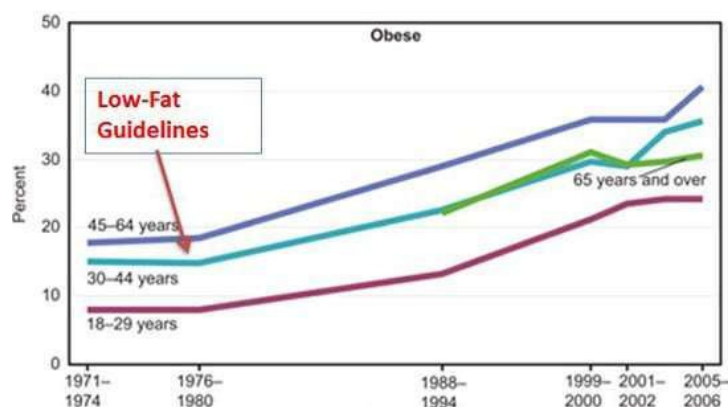
## **Does a Diet Low in Saturated Fat Have Any Health Benefits, or Help You Live Longer?**

Several massive studies have been conducted on the **low-fat diet**. This is the diet recommended by the USDA and mainstream health organizations all over the world. The main purpose of this diet is to reduce the intake of saturated fat and cholesterol. This diet also recommends increased consumption of fruits, vegetables and whole grains... along with reduced consumption of sugar.

The Women's Health Initiative Trusted Source was the biggest nutrition study in history. It was a randomized controlled trial with 46,835 women, who were instructed to eat a low-fat diet. After 7.5-8 years, there was only 0.4 kg (1 pound) difference in weight and there was **zero** difference in heart disease, cancer or death. Other massive studies

have confirmed this... the low-fat diet provides no benefit for heart disease or the risk of death. Several studies that replaced saturated fat with polyunsaturated vegetable oils showed that more people in the vegetable oil groups ended up dying.

It is interesting to see that since the low-fat guidelines came out, the prevalence of obesity has skyrocketed:



This graph shows that the obesity epidemic started full-force at the same time the low-fat advice was peaking. The type 2 diabetes epidemic followed soon after. Of course, this graph alone doesn't prove anything (correlation does not equal causation), but it does make sense that replacing traditional foods like butter and meat with processed low-fat foods high in sugar had something to do with it. It's also interesting when looking at the literature, that in almost every single study comparing the "expert approved" low-fat diet to other diets (including paleo, vegan, low-carb and Mediterranean), it loses.

**BOTTOM LINE:** Studies on the low-fat diet do not show a reduced risk of heart disease or death and some studies show that replacing saturated fat with vegetable oils increases the risk.

## People with Certain Medical Conditions May Want to Minimize Saturated Fat

The results of most studies are based on averages. The studies clearly show that, **on average**, saturated fat does not raise the risk of heart disease. However, within those averages, there is room for individual variability. Perhaps most individuals see no

effect... while others experience decreased risk and yet others experience an increased risk. That being said, there are definitely some people who may want to minimize saturated fat in the diet. This includes individuals with a genetic disorder called Familial Hypercholesterolemia, as well as people who have a gene variant called ApoE4. With time, the science of genetics will most surely discover more ways in which diet affects our *individual risk* for disease.

**BOTTOM LINE:** Some people may want to minimize saturated fat intake, including people with Familial Hypercholesterolemia or a gene called ApoE4.

## **Saturated Fat is Excellent for Cooking and Foods That Are High in it Tend to be Healthy and Nutritious**

Saturated fat has some important beneficial aspects that are rarely mentioned. For example, saturated fats are **excellent** for cooking. Because they have no double bonds, they are highly resistant to heat-induced damage. Polyunsaturated fats, on the other hand, easily oxidize when they're heated. For this reason, coconut oil, lard and butter are all excellent choices for cooking, especially for high-heat cooking methods like frying. Foods that are naturally high in saturated fat also tend to be healthy and nutritious, as long as you're eating **quality** unprocessed foods. These include naturally fed/raised meats, dairy products from **grass-fed** cows, dark chocolate and coconuts.

**BOTTOM LINE:** Saturated fats are excellent cooking fats and foods that are high in saturated fat tend to be both healthy and nutritious.

## **The "Bad" Fats You Should Avoid Like the Plague**

There are many different types of fat. Some of them are good for us, others neutral, yet others are clearly harmful. The evidence points to saturated and monounsaturated fats being perfectly safe and maybe even downright healthy. However, the situation is a bit more complicated with polyunsaturated fats. When it comes to those, we have both **Omega-3s** and **Omega-6s**. We need to get these two types of fatty acids in a

certain balance, but most people are eating **way too many** Omega-6 fatty acids these days.

It is a good idea to eat plenty of Omega-3s (such as from fatty fish), but most people would do best by reducing their Omega-6 consumption. The best way to do that is to avoid seed- and vegetable oils like soybean and corn oils, as well as the processed foods that contain them. Another class of fats, artificial **trans fats**, is also very harmful. Trans fats are made by exposing polyunsaturated vegetable oils to a chemical process that involves high heat, hydrogen gas and a metal catalyst. Studies show that trans fats lead to insulin resistance, inflammation, belly fat accumulation and drastically raise the risk of heart disease. So, eat your saturated fats, monounsaturated fats and Omega-3s... but avoid trans fats and processed vegetable oils like the plague.

**BOTTOM LINE:** The truly harmful fats are artificial trans fats and processed vegetable oils high in Omega-6 fatty acids.

## **Blaming New Health Problems on Old Foods Doesn't Make Sense**

The health authorities have spent an immense amount of resources studying the link between saturated fat and heart disease. Despite thousands of scientists, decades of work and billions of dollars spent, this hypothesis still hasn't been supported by any good evidence.

The saturated fat myth wasn't proven in the past, isn't proven today and never will be proven... because it's just **flat out wrong**. Not only is this myth NOT supported by scientific evidence, it is easily refuted with some plain common sense...Humans and pre-humans have been eating saturated fat for hundreds of thousands (if not millions) of years, but the heart disease epidemic started a hundred years ago. Blaming new health problems on old foods just doesn't make sense.