

## Does coconut oil live up to the hype?

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Every month there seems to be a new "superfood" that is promoted heavily on the Internet and TV talk shows and endorsed by semi-celebrities. But rarely has a food gone through as dramatic a transformation from dietary villain to superhero as coconut oil and, indeed, all things coconut.

Coconut oil is extracted from the "meat" inside the hard-shelled fruit of the coconut palm (*Cocos nucifera*). Like lard, it is solid at room temperature and has a long shelf life, which makes it attractive for many kinds of food processing and baking. For years it had a bad reputation because it is very high in [saturated fat](#), the kind found mostly in animal products. This is also true of its tropical brethren, palm kernel oil and, to a lesser extent, palm oil (in contrast, [vegetable oils](#) are high in

unsaturated fats). In fact, coconut oil is the most concentrated food source of saturated fats, even more so than butter.

## **A nutty history**

In the 1980s a media campaign demonized coconut and other tropical oils and blamed them for heart attacks because of their saturated fat content; the health establishment quickly jumped on board. As a result, food companies stopped using tropical oils, replacing them largely with partially hydrogenated oils.

This was a bad move, of course, since those oils contain trans fats, which were subsequently found to be more of a health hazard than any saturated fat—and as we know now, tropical oils turned out to be not so bad after all.

So what did food companies do next? They began removing [trans fats](#) from many of their processed foods, often replacing them with—you got it— tropical oils.

## **Nutty claims**

Coconut oil, in particular, has now garnered shelf space at health food stores and supermarkets, as well as in restaurants and home kitchens, where many cooks now use it for frying and baking, instead of butter or lard. Its fans rave about the rich, nutty, almost sweet flavor of the oil, especially if it has been minimally processed ("virgin" oil).

The tide has turned so much that its proponents now claim that coconut oil is actually healthful—downright medicinal. It is said to promote weight loss; prevent heart disease, diabetes, arthritis, and other chronic diseases; improve digestion; treat AIDS and herpes infections; and

strengthen the immune system.

Apply it topically, it rejuvenates skin and hair; swish it around in your mouth, it fights gum disease and cavities. What can't it do? The title of one book calls coconut oil a "miracle," and another suggests it's a "cure" for Alzheimer's disease.

Then there are the websites offering lists of 50 or 101 uses of the oil and 10 or 20 "proven" health benefits. No surprise, Dr. Oz has promoted the "super powers" of coconut oil (especially for weight loss) on his show—more than once.

Such grand claims about a food or supplement should always provoke a skeptical reaction. But is there any truth to any of the claims about coconut oil and other coconut products?

## **Blood cholesterol and heart health**

Saturated fats tend to raise LDL ("bad") cholesterol, but they vary in chemical structure and thus in their cardiovascular effects, as we've previously reported.

Though research in humans has been remarkably limited, the saturated fats in coconut oil (like those, for example, in chocolate and dairy products) appear to be more neutral in their effect on blood cholesterol than those in, say, meat.

Coconut oil's main saturated fatty acid is lauric acid, which is in few other foods. Some research has found that lauric acid raises HDL ("good") cholesterol and probably LDL as well.

In a 2009 Brazilian study in the journal *Lipids*, for instance, young obese women who consumed an ounce of coconut oil a day for 12 weeks had

increases in both HDL and LDL, but their HDL rose proportionately more, so their LDL/HDL ratio improved.

But, in fact, it's unclear how the lauric acid in coconut oil affects LDL cholesterol, since this depends on what the oil replaces in the diet. If it takes the place of poly-unsaturated fats (as in many vegetable oils), it's likely to raise LDL; if it replaces butter or lard, it may have a neutral effect or even lower LDL slightly. As for the HDL-raising effect, recent research on drugs that boost HDL has called into question whether this actually reduces cardiovascular risk.

Promoters of coconut oil often point out that in places where people consume a lot of it, such as Sri Lanka and Polynesia, cholesterol levels tend to be healthy and rates of cardiovascular disease relatively low. But that could be due to various factors, such as genetics, exercise, and other dietary differences. We still don't really know how coconut oil affects the risk of cardiovascular disease.

## **Weight control**

There's no convincing evidence to support the claim that coconut oil can promote significant [weight loss](#).

The claim is based on the fact that the oil contains medium-chain triglycerides (triglycerides are the main component of dietary fats and are usually long-chain). Lab research has shown that medium-chain triglycerides are metabolized differently than other fats, with slightly more calories used in the process.

However, the few human studies on the effect of coconut oil itself on body weight have had inconsistent results. Like all edible oils, coconut oil is high in calories—about 120 per tablespoon— so it would be counterproductive to consume large quantities in hopes of losing weight.

## **Alzheimer's disease**

As we reported in 2012, a widely publicized book claimed that very large doses of coconut oil can treat Alzheimer's (and other neurological disorders), based on theoretical research, preliminary animal studies, and primarily the author's anecdotal evidence involving her husband.

The theory is that medium-chain triglycerides such as those in coconut oil, by boosting the liver's production of ketones (byproducts of fat breakdown), provide an alternative energy source for brain cells that have lost their ability to use glucose as a result of Alzheimer's.

Since then, there have been no published human studies to back the claims about coconut oil for Alzheimer's. It's still not known whether medium-chain triglycerides reduce dementia risk—and if so, under what conditions. Even if they do, it's unlikely that coconut oil would yield enough ketones to have a meaningful effect. Keep in mind that all of this is about treating people who have Alzheimer's. There's no reason to think that coconut oil or other medium-chain triglycerides can help prevent the disease.

## **Other claims**

A few lab studies have found that the fats in coconut oil may lower blood glucose levels a little. This doesn't justify a claim that it can treat or prevent diabetes, however. As for the litany of other proposed benefits, the evidence is either insufficient or not convincing.

Bottom line: While coconut oil didn't deserve its bad reputation, it also doesn't deserve its new stardom as a health food. Don't buy the hype that it will keep you healthy and slim or that it can treat or prevent chronic diseases. It's fine to cook with it if you like it, especially as a

replacement for butter or lard, though we recommend olive, canola, and other nontropical oils for regular use. It's also okay to buy foods that contain [coconut oil](#), but don't think that makes them healthy choices. Many are high-calorie snack foods like candies.

Provided by University of California - Berkeley

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