

## **Saturated Fats and the Virtues of Coconut Oil**

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When I am asked about saturated fats, the question is normally along the lines of 'how bad are they?' The questions should really be: are they actually bad at all? Is there benefits of some saturated fats above others?

Since the 1970s, the government has recommended that we reduce our intake of saturated fats on the basis of our health. Many of these guidelines were based upon the findings of Dr Ancel Keys, whose 1953 research compared the diets of several nations and linked higher saturated fat intake to increased risk of heart disease. The flaws in this pivotal paper – Keys excluded 16 of 22 of the countries then researched in order to support his hypothesis – have been repeatedly highlighted since, although these critical voices are generally drowned out by the food industry, who make much more profit from value-added carbohydrate foods and processed vegetable oils (Nestle, 2007). It would appear that saturated fats have been falsely accused, and their usefulness underplayed; saturated fats are required for hormone production and the phospholipid membrane of each cell, but also for energy production. The increased stability of saturated fatty acids conserves the anti-oxidant resources of the body and there is scant evidence for any negative health effects when consumed in physiological amounts, other than epidemiological studies.

This contrasts sharply with the official stance on 'artery-clogging' saturated fats and, following years of non-stop propaganda, the general view held by the public. However, the suggestion that saturated fats cause heart disease was dispelled as just that a long time ago. The renowned Framingham Study, which has tracked the diet/lifestyle habits and health markers in a cohort of citizens over the course of several decades, spent 22 years studying the link between intake of saturated fat and cholesterol, and concluded that there was no correlation whatsoever (Kannel and Gordon, 1970). These conclusions were made when in a meta-analysis of the dietary habits of several nations and their rates of CHD (Gordon, 1981). An article appearing in *Lancet* in 1994 showed that the fatty acids found in arterial clogs are three-quarters unsaturated, of which 41% are polyunsaturated (Felton et al, 1994). Thailand is a country known for a high consumption of saturated fat through their daily use of coconut oil, yet have the lowest rates of cancer incidence amongst 50 nations studied by the World Health Organisation (Harras and Angela, 1996).

Whilst overconsumption of any substance will likely make you fat, we can safely conclude that – at the very least - saturated fats do not cause the body harm, relative to other energy sources. However, there are many different forms of saturated fatty acids and lumping all of them into one category and making sweeping statements about them, as politically-correct nutritionists love to do, doesn't do justice to the impressive biological actions that some display. Whilst the majority of foods high in saturated fats are made up of the relatively unspectacular long-chain saturated fatty acids (any fatty acid with a length of 14 or more carbons), attention should be paid to the function of the short-chain fatty acids (which have between 2 and 6 carbons) and that of the medium chain fatty acids. Short-chain fatty acids (SCFAs) are acetic acid, butyric acid and propionic acid. Butyric acid is found in butter, but the majority of these compounds in the body are manufactured

from fibre by friendly bacteria in the intestine. SCFAs serve as fuel for the epithelial cells in the colon, improve intestinal movement, improve insulin sensitivity and are a potent fuel for muscular cells; another reason to take care of your intestinal bacteria.

Medium chain fatty acids (MCFAs) also have some very impressive functions, yet they are not manufactured in the body. When introduced through the diet, they exert anti-bacterial, anti-viral, anti-fungal and anti-parasitical effects; this effect is achieved by diffusion of the acids into the membrane of these pathogens, which causes death by increasing the membrane permeability until it bursts. This mechanism means that, unlike antiviral and antibacterial drugs, resistance cannot develop. On top of this systemic cleansing effect, MCFAs unique structure means that they are absorbed differently to other fats; rather than diffuse into the lymphatic system and wait to be packaged onto cholesterol-containing chylomicrons for circulation, these fatty acids are absorbed straight through the portal vein like carbohydrates. They are also oxidised by the liver in a similar way to carbohydrates. The end result is that requirement for carbohydrates is reduced, together with cravings for carbohydrates; this is good news for anyone following a reduced-carbohydrate diet or those undergoing an intestinal cleanse. The way that MCFAs are processed in the body has been repeatedly shown to increase the metabolic rate of an individual. A Canadian study showed a 6% increase in metabolic rate in women that consumed a diet that contained coconut oil, compared to those who did not (St-Onge et al, 2003). Other studies show that individuals who were provided with MCFAs lost 40% more weight over a 12-week period compared to the control group who used 'normal' long-chain fats (Tsuji et al, 2001).

MCFAs are present in butter and palm kernel oil, but the richest source is coconut oil. As you will see in Figure 1, the fatty acids in coconut oil are almost entirely saturated. Almost three quarters of coconut oil is made up of MCFAs, and a 10g serving (tablespoon) provides 4750mg of the antibacterial lauric acid and 670mg of caprylic acid, revered for it's anti-fungal effects. When you compare these amounts to that offered in lauric acid or caprylic acid supplements, you'll agree that this is a lot of immune support for one tablespoon!

Figure 1.

<b><i>Coconut Oil</i></b>	<b><i>Amount per 100g</i></b>
<b>Saturated</b>	<b>92.1g</b>
Of which MCFAs	72.8g
Caproic Acid	0.5g
Caprylic Acid	6.7g
Lauric Acid	47.5g
Myristic Acid	18.1g
<b>Mono-unsaturated</b>	<b>6.2g</b>
<b>Polyunsaturated</b>	<b>1.6g</b>

It is a tragedy that politically-correct nutrition marginalises coconut oil, an immune-boosting, intestinal-cleansing, metabolism-boosting food, on the basis of it's high fat content; the official suggested fat intake is of just 67g for females, compared to a carbohydrate intake of 293g (USDA, 2005) . Perhaps those responsible for the business-

friendly guidelines – which recommend 2,000kcal for women with 30% of energy from fat, 55% from carbohydrates and 15% from protein - might care to explain when, in the history of mankind, humans ate 6-11 servings of grains each day?

Whilst the interests of big business mean that a change in official policy will be a drawn out process, but that is no reason not to add in these healthy oils now. Because the impressive effects mentioned above reside in the the fatty acids of the coconut, there are a variety of options for those who wish to add them to their daily diet. Coconut oil can be used in place of butter, as a spread or in recipes; this is normally sold in tubs, and can be stored in a cupboard as its high saturated fat content keeps it stable for up to two years. Dessicated coconut or coconut chips are another convenient option (62% of the coconut meat is oil), although I would suggest that you avoid these products that are preserved with sulphur dioxide. Coconut milk can be consumed as a drink (perhaps with a large scoop of raw ground cacao and a little stevia to mask any bitterness) or as the base to sauces; I, and several clients, have also used this as the medium from which to create a kefir culture, a powerful probiotic food. In any case, there are many easy ways to include coconut oil – just don't neglect your omega-3 intake.

So how much coconut oil should we consume each day? And how much saturated fats in general, for that matter? Arguments continue as to the most beneficial level of fats, saturated fats, and MCFAs in the diet. Bruce Fife, author of *The Coconut Oil Miracle*, suggests around 35g of coconut oil each day (Fife, 2004) and the imminent lipid researcher Mary Enig PhD concluded that at least 25% of energy should come from saturated fats (Enig, 2009); in the 2,000-kcal diet, this equates to at least 56g. In the diets that I create, I typically give clients 1.25-1.75g of fats for every kilogram of lean mass, depending on their aims and intake of protein and carbs, with a focus on the MCFAs and omega 3 oils. As an example, a diet that I created this morning was for a female client with a lean mass of 51kg and a primary aim of losing weight. Her low-carbohydrate diet totalled 1,590 kcal and featured 77g of fats in total; 29g of these were from saturated fats, of which 18g were MCFAs, 18g were mono-unsaturates and 30g were from polyunsaturated fats, of which 14.4g was omega-3.

Whilst there is clearly a multitude of factors that will determine the exact intake of saturated fat and MCFAs, the important message is that they both have a very important role to play in human nutrition, a role that has been effectively dismissed for decades by large food manufacturers and the authorities that act to placate them. Whilst the coming years will likely see a slow emergence of coconut oil into mainstream recommendations, placing appropriate focus on the intake of it's special fatty aids – together with a generous supply of omega 3 oils – is an effective and important step in improving both health and body composition.

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