


The Coconut Craze!


It is rare in the history of medicine to find substances which have such useful properties and still be without toxicity or even harmful side effects.



If coconut fat were bad for you, then we should see some very sick people in populations that eat a lot of it. But we don't. Populations who eat a large percentage of calories from coconuts are MUCH healthier than Western nations.

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“ According to the *Natural Medicines Database*, there is insufficient evidence to rate the effectiveness of coconut oil for weight loss, hypercholesterolemia, diabetes, chronic fatigue, Crohn's disease, irritable bowel syndrome, and thyroid conditions. ”



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Coconut Botany

- Grown on the coconut palm
 - Yield up to 75 fruits per year, average is less than 30
 - Takes approx 6,000 coconuts to produce a ton of the dried "meat" or kernel
- It's a drupe, not a nut!
 - Other drupes include olives, peaches, plums, and cherries



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Coconut Cultivation



- Grown in 90 countries and total 62 million tons per year
 - Indonesia, Philippines, India top producers
- Sustainable agriculture
 - The "Tree of a Thousand Uses"
 - Coastal erosion protection

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Coconut & Culture

- In Sri Lanka coconuts are common in the diet and the main source of dietary fat
- Coconut is an indispensable ingredient in Indonesian cooking
- Dried half shells are used as the bodies of musical instruments
- Part of cultural rituals in many countries

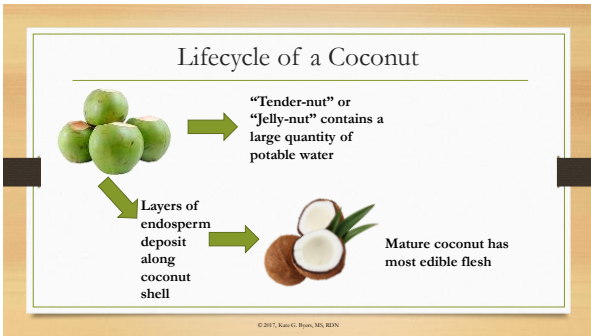


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Coconut Shopping Tips

- Look – Green vs. Brown
- Shake – Listen for the water
- Feel – Should feel heavy for its size
- Shop for coconuts at high turnover markets
- Ask produce manager to order for you

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Edible Coconut Products

Coconut water:

- Coconut water
- Coconut wine

- Coconut vinegar
- Nata de coco

White coconut "meat":

- Fresh coconut
- Dried coconut (chips & shreds)
- Coconut flour
- Coconut oil
- Coconut butter

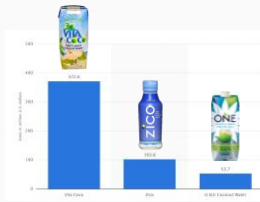
- Coconut milk
- Coconut cream
- Cream of coconut



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If It Says Coconut, It Sells

- Coconut production growth is 8% behind demand growth
- Coconut water sales in the US in 2015 totaled more than \$525 million
- Coconut oil exports across Asia have grown 3.3% annually
- Coconut milk popular soy-free base for vegan yogurts



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Coconut Water



Nutrition Facts

Serving Size: 1 Cup (240g)
Amount Per Serving

Calories	40	Calories from Fat	14
% Daily Value*			
Total Fat	0.40 g		1%
Saturated Fat	0.40 g		8%
Trans Fat			0%
Cholesterol	0 mg		0%
Sodium	200 mg		40%
Potassium	600 mg		12%
Total Carbohydrate	0.9 g		2%
Dietary Fiber	2.64 g		11%
Sugars	1.20 g		2%
Sugar Alcohols			
Protein	1.72 g		3%
Vitamin A	0.50 IU		1%
Vitamin C	5.76 mg		10%
Calcium	37.8 mg		8%
Iron	0.7 mg		1%

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Coconut Water vs. Sports Drinks

Coconut Water (8 fl oz)	Gatorade (8 fl oz)
Calories 45	Calories 30
Carbohydrate 11g	Carbohydrate 14g
Fat 0	Fat 0
Protein <1g	Protein 0
Sodium 45mg	Sodium 110mg
Potassium 490mg	Potassium 30mg



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Coconut Milk

Nutrition Facts	
Serving Size 1 Cup (240mL) Serving Per Container 8	
Amount Per Serving	
Calories 80	Calories from Fat 50
% Daily Value*	
Total Fat 5g	8%
Saturated Fat 5g	25%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 45mg	2%
Potassium 490mg	11%
Total Carbohydrate 7g	2%
Dietary Fiber 0g	0%
Protein 1g	
Vitamin A 10%	Vitamin C 0%
Calcium 40%	Iron 4%
Vitamin D 25%	Vitamin B6 30%



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Coconut Cream & Cream of Coconut



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Coconut Oil



Nutrition Facts	
Serving Size 1 Tablespoon (14 g)	
Servings Per Container about 25	
Amount Per Serving	
Calories 120	Calories from Fat 120
	% Daily Value*
Total Fat 14 g	22%
Saturated Fat 12 g	60%
Polyunsaturated Fat 1 g	
Monounsaturated Fat 1 g	
Sodium 0 mg	0%
Total Carbohydrate 0 g	0%
Protein 0 g	

Not a significant source of trans fat, cholesterol, dietary fiber, sugars, vitamin A, vitamin C, calcium or iron.
 *% Daily Values are based on a 2000 calorie diet.
Ingredients: Organic coconut oil

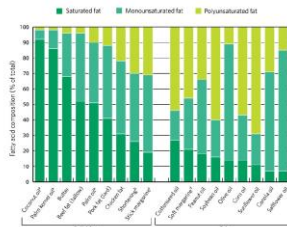
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Coconut Oil Label Jargon



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FIGURE 3-3. Fatty Acid Profiles of Common Fats and Oils



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Fatty Acid Comparison

Fatty acid type	Coconut oil	Corn oil
Medium chain	63%	None
Long chain saturated	30%	20%
Long chain unsaturated	7%	80%

Long Chain Saturated Fatty Acids

vs.

Long Chain Unsaturated Fatty Acids (Omega-3)

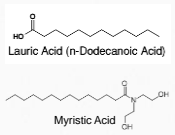
Long Chain Unsaturated Fatty Acids (Omega-6)

vs.

Medium Chain Fatty Acids

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Fatty Acids in Coconut Oil



Lauric Acid (n-Dodecanoic Acid)

Myristic Acid

- Long-chain sat fats have >12 carbon atoms
- Medium-chain sat fats have 12 or < carbon atoms
- Medium-chain lauric acid is most abundant in coconut oil
 - Broken down into monolaurin in the body
 - Lauric acid and monolaurin have antimicrobial/antiviral/antifungal properties

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He Said vs. He Said

- "I'd use coconut oil sparingly. Most of the research so far has consisted of short-term studies to examine its effect on cholesterol levels. We don't really know how coconut oil affects heart disease. And I don't think coconut oil is as healthful as vegetable oils like olive oil and soybean oil, which are mainly unsaturated fat and therefore both lower LDL and increase HDL. Coconut oil's special HDL-boosting effect may make it "less bad" than the high saturated fat content would indicate, but it's still probably not the best choice among the many available oils to reduce the risk of heart disease."

- Dr. Walter C. Willett

- "Most of the studies involving coconut oil were done with partially hydrogenated coconut oil, which researchers used because they needed to raise the cholesterol levels of their rabbits in order to collect certain data. Virgin coconut oil, which has not been chemically treated, is a different thing in terms of a health risk perspective. And maybe it isn't so bad for you after all."

- Dr. Thomas Brenna

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Coconut Water & Hydration

- A study published in the *Journal of the International Society of Sports Nutrition* found that coconut water was equally effective at rehydrating after a tough workout when compared to a sports drink.
- HOWEVER...
- There is no evidence at this time to suggest that coconut water will hydrate any better than regular tap water.

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Coconut Water & Blood Pressure

- 2005 study published in *West Indian Medical Journal*
 - 28 subjects
 - 4 Treatments:
 - Control – H₂O only
 - Coconut water
 - Mauby
 - Coconut water + mauby
- Significant decreases in the mean systolic blood pressure were observed

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Coconut Oil & Cardiovascular Health

- In rats, virgin coconut oil reduced total cholesterol, triglycerides, phospholipids, LDL, and VLDL cholesterol levels and increased HDL cholesterol in serum and tissues.
- In a 2009 Brazilian study in the journal *Lipids* 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.
- Research in humans is limited, but the saturated fats in coconut oil appear to be more neutral in their effect on blood cholesterol → neutral, not necessarily beneficial.

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Hunger, Metabolism & Weight Management

- In a 2009 study published in *Lipids* women with abdominal obesity who supplemented their diet with coconut oil were able to lose more weight than those who were given a soy bean oil supplement.
- Few human studies on the effect of coconut oil itself on body weight have had inconsistent results.
- Coconut oil is high in calories—about 120 per tablespoon.
- There's no convincing evidence to support the claim that coconut oil can promote significant weight loss.

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Other Coconut Oil Science

- A study conducted on mouse cells published in the *Journal of Alzheimers Disease* found that treatment with coconut oil helped protect cortical neurons.
- Hypothesis that medium-chain fatty acids boost the liver's production of ketones and provide an alternative energy source for brain cells that have lost their ability to use glucose as a result of Alzheimer's.
- No research directly assesses the effects of coconut oil on diabetes or thyroid function.

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Current Dietary Recommendations

- Limit intake of saturated fat → Shift from solid fats to oils
- Replace saturated fat with monounsaturated or polyunsaturated fat
- Reduce saturated fat to no more than 5 to 6 percent of total calories
 - For someone eating 2,000 calories a day, that's about 13 grams of saturated fat.
- Avoid tropical oils, including coconut oil



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What About The Polynesians?

- Consider other aspects of their native lifestyle
- Traditional diet high in dietary fiber, omega-3 fatty acids and very low in sodium
- Tend to be non-smokers
- Physically very active



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Topical & Non-nutritional

- Moisturizer for skin and hair
- Oral health aid via oil pulling
- Diaper cream
- DIY toothpaste
- Natural "sunscreen" (SPF 4-8)
- Sunburn relief aid
- Season cast iron skillets
- Soften & condition leather
- Bug repellent (carrier oil)



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Summary

- There is no evidence to suggest that coconut water will hydrate any better than regular tap water.
- Since foods contain a mixture of saturated fatty acids with differing effects on blood lipid levels, it is not recommended to select foods based on individual saturated fatty acid content.
- The argument for high coconut oil in traditional Polynesian diets does not take into consideration other aspects of their native lifestyle that likely counteract the cholesterol-raising effect of the coconut fat.
- All or nothing is generally not a good idea – some coconut oil is o.k., but it is not prudent to replace all oil in the diet with coconut oil.

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