

BENEFITS OF A DIET CONTAINING PARTICULAR SATURATED FATS

ABSTRACT

Conventional wisdom has held for many years that saturated fat is something that is at best useless from a nutritional standpoint. However, new research on the subject demonstrates that there are in fact specific health benefits to consuming saturated fat. These benefits are not provided by other foods. In order to go beyond the conventional knowledge, a close examination of current peer-reviewed articles was necessary. In this process, I discovered increasing scientific evidence that the right kind and right amount of saturated fat can aid in preventing strokes and decreasing kidney problems. To help understand these developments, the types and correct amounts of saturated fats that offer these benefits are specified, and examples are provided of how a healthy diet can provide them.

INTRODUCTION

At one point all types of fats were considered potentially harmful in terms of formulating a diet to support a healthy life. However, many people were at the time unaware that fat is an essential nutritional component, vital to maintaining proper nutrition and energy levels. Fat is a primary source of energy for the body, and it aids in the absorption of vitamins A, D, and E. It is true that the caloric value of fat is 9 Calories/g, while protein and carbohydrates both carry only 4 Calories/g, but science years ago began to note the different types of fats that foods contain. Unsaturated fat, in particular polyunsaturated fat, which contains many double bonds (see Table 1), has gotten a strong endorsement in nutritional literature in recent years for its benefits. Conversely, trans-fat, which has trans-, as opposed to cis-double bonds, has developed into something which is demonized by nutritionists (2). Similar to trans-fat, saturated fat has retained an unhealthy reputation, and it is only recently that scholarship has begun to question whether the original findings, that labeled saturated fat as a cause of high cholesterol and heart disease, were valid. To understand the distinctions between these fats, it is important to know that fatty acids vary in length. Significant dietary fats range from 8 up to 22 carbon atoms long.

METHOD

The method of my study involved examination of peer-reviewed scientific and medical journals, in order to find articles concerning saturated fat. In particular, I placed emphasis on finding recent articles, in order to relate information based on recent scientific discovery. Additionally, I analyzed government statements about saturated fat (as well as other types of fats), in order to analyze the strength of the information being released to the public relative to current scientific discoveries.

TABLE 1

Basic Chemical Structures of Saturated and Unsaturated Fats (7)

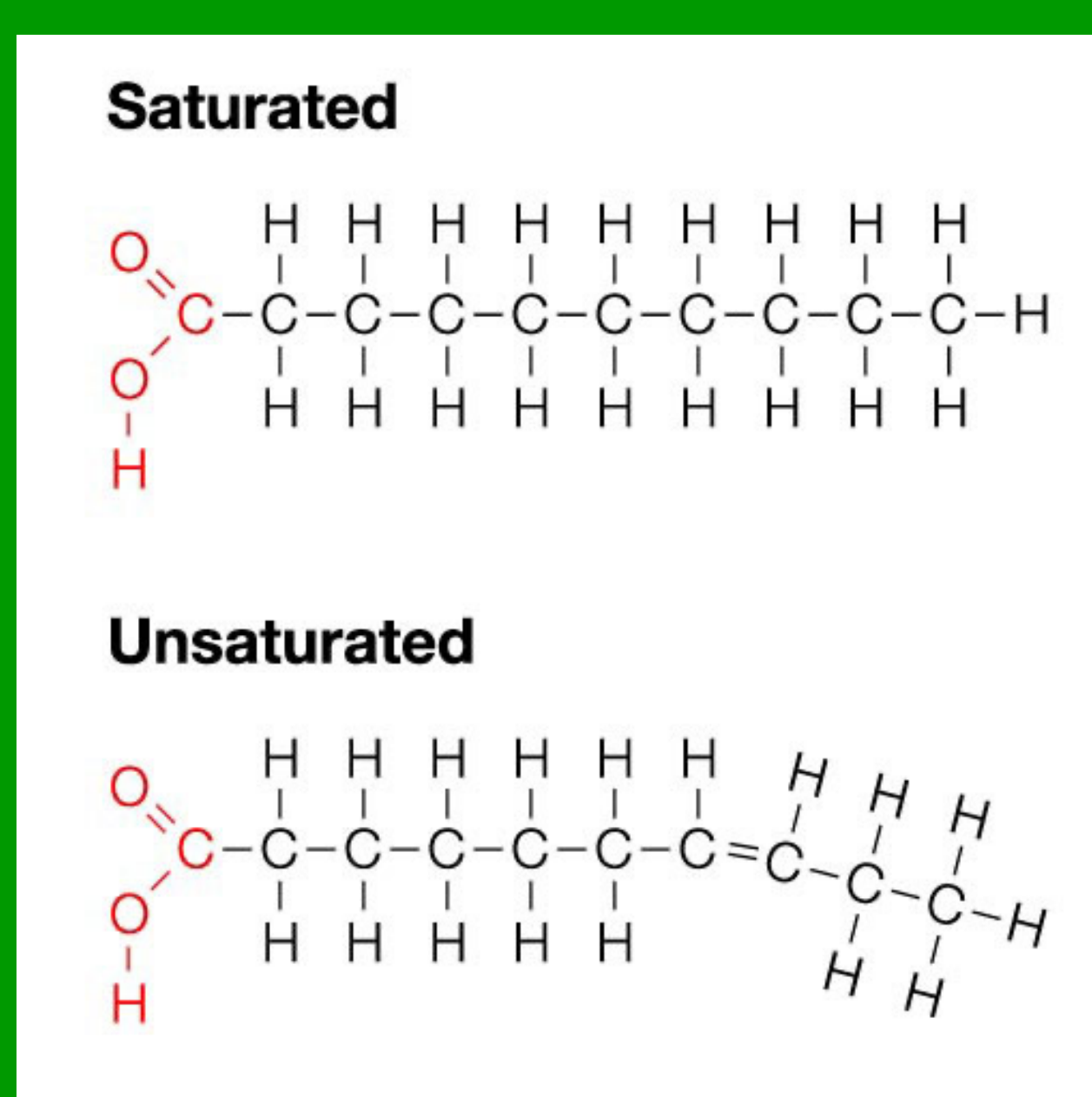


TABLE 2

Common Sources of Saturated Fats (8)

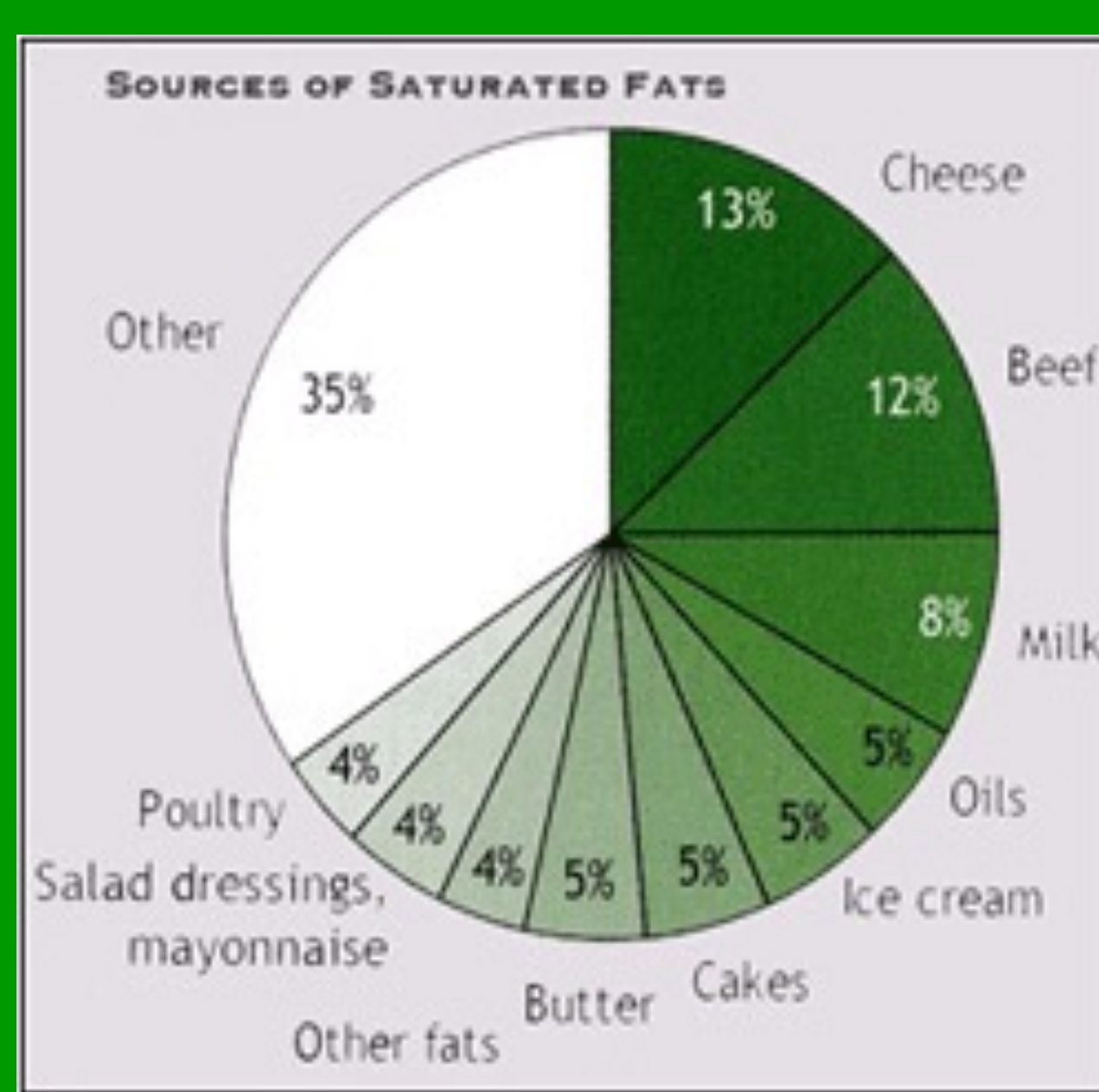
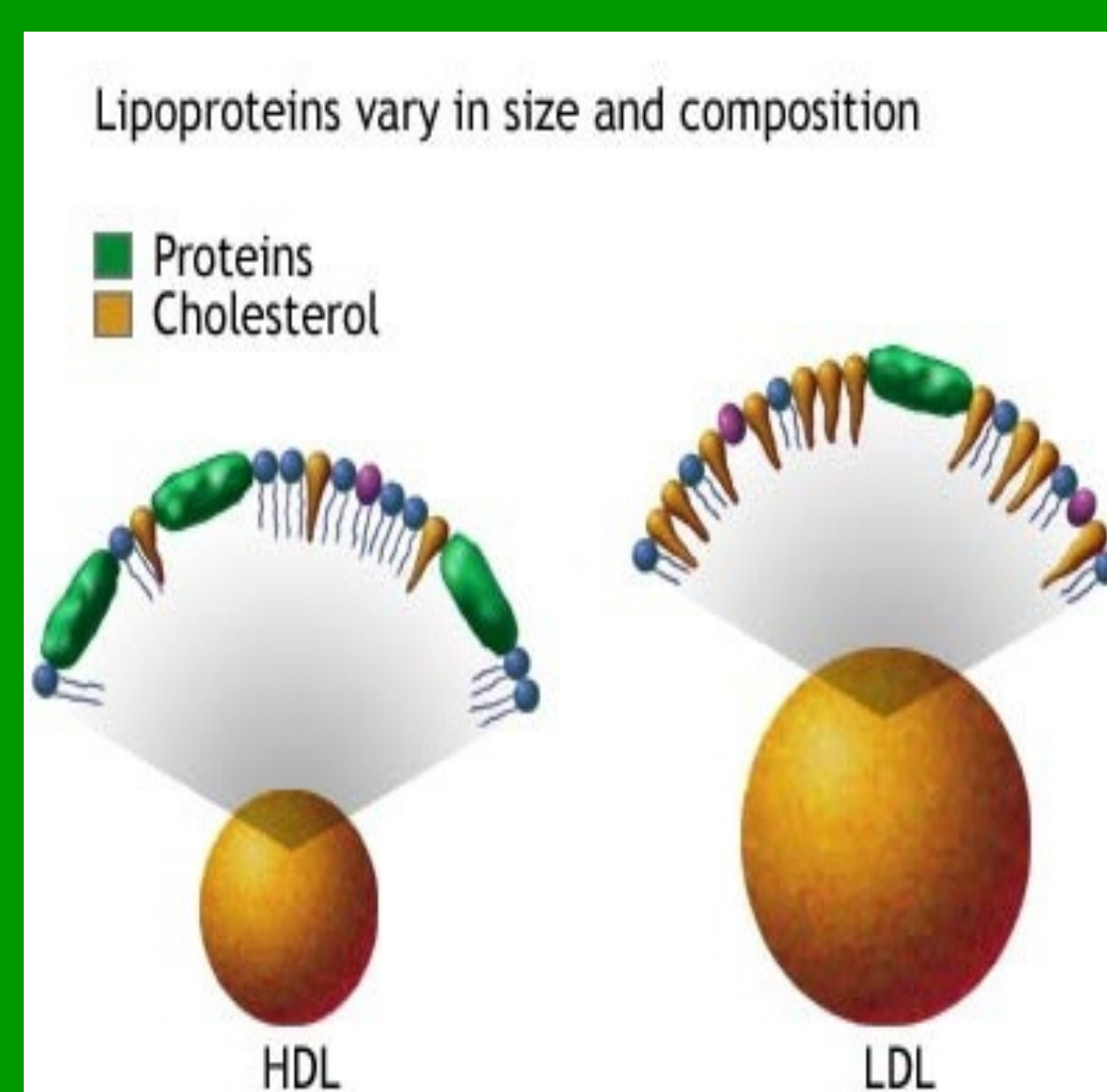


TABLE 3

An illustration of the chemical differences between HDL (good) cholesterol and LDL (bad) cholesterol.



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RESULTS

Several studies with results that contradict previous research concerning saturated fat have been published in peer-reviewed journals during the last five years. While government literature still depicts saturated fat as something containing no specific nutritional value other than as an energy source (6), there are now studies to contradict this. The first study that was located was published in 2004. This study found that it is not scientifically a clear cut fact that saturated fat leads to greater risk of heart disease (4). This study prompted a second publication which showed that the original research on saturated fat, long accepted, was not dependable in showing that saturated fat was linked to heart conditions (5). Additionally, a third study published in 2008 showed that the level of fat present in a diet seemed to demonstrate little to no correlation to cholesterol levels (1). In particular, the study highlighted saturated fat and its questionable connection to levels of Low Density Lipoprotein (LDL) cholesterol, commonly referred to as the “bad” cholesterol (3). Specifically, the study found that although some types of saturated fat raised LDL levels in clinical trials, they also raised the levels of HDL (High Density Lipoprotein) cholesterol in the test subjects. HDL is referred to colloquially as the “good” cholesterol. Scientists explain the relationship between HDL and LDL most simply by depicting them as opposing forces. High levels of LDL can form a plaque around important arteries which feed both the heart and the brain (3), where high levels of HDL carry cholesterol from the arteries and into the liver, where it is passed harmlessly (3). Clearly, these three studies demonstrate that the commonly held notion that saturated fat is closely tied to high cholesterol and heart disease is not correct.

However, there is one more important research study to consider. Research from May 2008 has drawn some conclusions regarding the discrepancies between different types of saturated fat and the impact these discrepancies on which fatty acids are beneficial. The most recent research has found rather conclusively that medium chain length fatty acids (fatty acids which contain between 8 and 14 carbon atoms) in particular are very beneficial from a nutritional standpoint. As opposed to what popular knowledge would dictate, medium chain fatty acids reduce the absorption of fat by the intestines, an effect which could be beneficial to prevent obesity. The primary medium length chain fatty acid which makes up a great deal of saturated fat is lauric acid. Lauric acid therefore is a nutritional component which reverses the commonly held belief that saturated fat is something which is a “bad” nutritional component. In fact, if you are eating items high in saturated fat, which consist primarily of lauric acid, the research seems to suggest that you are actually not at risk for gaining weight, but instead you are likely reducing the amount of fat which is absorbed by your intestines. Research clearly shows that in order to gain the nutritional benefits of saturated fat, people must examine the specific fatty acid makeup of whatever saturated fats they are eating.

TABLE 4

Percentages of specific acids contained in foods high in saturated fat, as well as the number of carbon atoms in each. (9)

Food	Lauric Acid, C12	Myristic Acid, C14	Palmitic Acid, C16	Stearic Acid, C18
Coconut oil	47%	18%	9%	3%
Butter	3%	11%	29%	13%
Ground beef	0%	4%	26%	15%
Dark chocolate	0%	0%	34%	43%
Salmon	0%	1%	29%	3%
Eggs	0%	0%	27%	10%
Cashews	2%	1%	10%	7%
Soybean oil	0%	0%	11%	4%

DISCUSSION

This discovery exemplifies the state of research on saturated fat, and how scientific knowledge is constantly evolving. While there are disagreements about certain qualifiers, particularly over the correct amount of saturated fat, there are now reports that saturated fat may have benefits to any sensible diet. Foods containing primarily particular saturated fats, either lauric or myristic acids, may be given preference over others (see Table 4, dairy products and coconut oil). Food containing saturated fats based in palmitic and stearic acids have not been found to be beneficial nutritionally, and the primary examples of foods containing this type of saturated fat are animal products such as meat and eggs. For many years all saturated fats were considered to be equivalent, and because of this there is some trouble distinguishing between long chain saturated fat (useful for energy), and short chain saturated fat (may reduce caloric intake). A look at Table 4, located at the bottom of this poster, will help clear up some of the confusion. It is important to remember the difference between the foods rich in saturated fat that is based in palmitic and stearic acid (generally laden with calories raising LDL levels) and those which have saturated fat of the myristic or lauric acid variety.

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