

Fat Facts

the truth
about fats

Fat has gotten a bad reputation over the last few decades due to a misconception that all types of fat have a negative impact on health, such as increasing the risk for chronic conditions like heart disease. Now scientists are switching the focus from total fat to type of fat because type may have the greatest impact on health. Research in this area has prompted government agencies and health organizations to revise dietary recommendations for fat intake to emphasize the quality of fat in the diet rather than the quantity of fat.

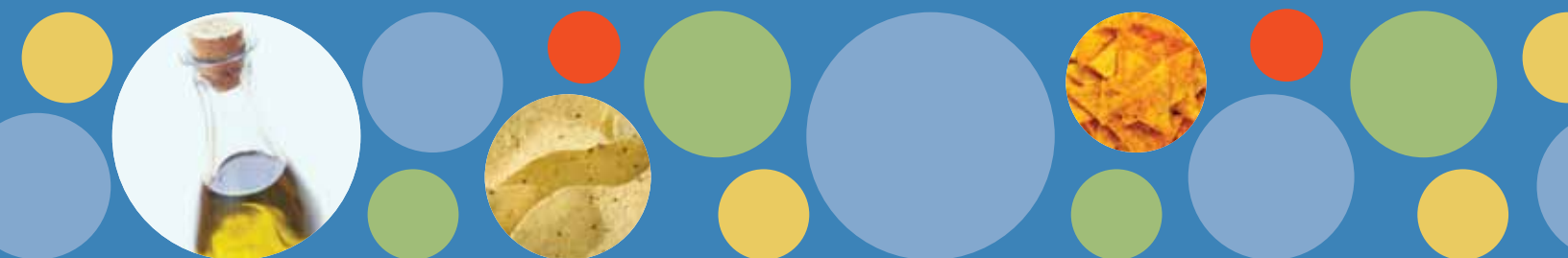


Research Drives Change

After years of recommending a low fat diet, researchers are recognizing that the amount of fat should no longer be considered a principle dietary factor in preventing heart disease.

Current Recommendations for Intake of Fats and Oils

	United States Department of Agriculture (USDA) Dietary Guidelines, 2010	Institute of Medicine Dietary Reference Intakes (IOM DRI), 2002	American Heart Association (AHA) Dietary Guidelines, 2006	National Cholesterol Education Program-Adult Treatment Panel III (NCEP-ATP III), 2009
Total Fat	20-35%	20-35%	25-35%	25-35%
Monounsaturated Fat (MUFAs)	Replace saturated fats with MUFAs and PUFAs Most fat sources should come from MUFAs and PUFAs	Most fats should come from MUFAs and PUFAs	Most fat should come from MUFAs and PUFAs	Up to 20%
Polyunsaturated Fat (PUFAs)	Replace saturated fats with MUFAs and PUFAs Most fats should come from MUFAs and PUFAs	10% (5-10% from omega-6 PUFAs; 0.6-1.2% from omega-3 PUFAs)	Most fat should come from MUFAs and PUFAs	Up to 10%
Saturated Fat	<10% by replacing with MUFAs and PUFAs <7% for individuals specific to cardiovascular risk	As low as possible	<7%	<7%
Trans Fat	Limit intake	As low as possible	<1%	Keep intake low



Rationale for Changes to the Recommendations

USDA and Institute of Medicine

The range of total fat intake recommended by the USDA Dietary Guidelines is based on the Institute of Medicine's (IOM) Acceptable Macronutrient Distribution Range (AMDR), which was published in its 2002 report, Dietary Reference Intakes (DRI) for Energy, Carbohydrate, Fiber, Fat, Fatty Acids, Cholesterol, Protein, and Amino Acids.¹

Based on this report, the lower limit for fat intake is set at 20 percent of calories because:

- It would be difficult to achieve recommended intakes of several nutrients, such as vitamin E and essential fatty acids, with lower levels of fat intake.
- Total fat intake of less than 20 percent of calories may contribute to unfavorable changes such as decreases in HDL cholesterol and increases in triglyceride levels.¹

The upper limit for fat intake increased to 35 percent in the 2005 USDA Dietary Guidelines which remained unchanged in the 2010 Dietary Guidelines.² While limiting the quantity – or amount – of saturated and trans fats is important, the guideline now emphasizes quality, since consumption of unsaturated fats is associated with positive cardiovascular benefits. The increased total fat allowance now provides an opportunity to achieve higher intakes of mono- and polyunsaturated fats.¹

At the same time, the upper limit for total fat intake was established over concern about the saturated fat content of diets that provide more than 35 percent of calories from fat.

- Advisory committees for both sets of guidelines agreed that without a limit for total fat intake, saturated fat would be consumed in quantities higher than recommended for a heart healthy diet.¹
- It is also more difficult to stay within caloric needs with a fat intake above 35 percent of calories.

In addition, diets that provide more than 35 percent of calories from fat may increase risk factors for heart disease and cancers. For example, high fat diets may promote a prothrombotic state, a risk factor for heart disease.

Two Harvard studies have received much attention from the scientific community and have been a driving force behind providing the evidence to support the revisions to the current recommendations for dietary fat intake.

- One Harvard study, a review of 147 original investigations and meta-analyses, concluded that by only lowering the percentage of calories from fat in the diet, it is unlikely to improve the lipid profile or reduce heart disease incidence. In contrast, meta-analyses confirmed that lipid profiles improved when saturated fat was replaced with polyunsaturated fat, regardless of whether or not total fat was reduced.³
- Another Harvard analysis examining data from the Nurses Health Study predicted that making small substitutions, such as

replacing calories from saturated fat, trans fat or carbohydrates with calories from mono- and polyunsaturated fats could reduce risk for heart disease.

The authors estimated that:

- Replacing five percent of calories from saturated fat with calories from unsaturated fats would reduce risk of heart disease by 42 percent.
- Replacing two percent of calories from trans fat with calories from unsaturated fats would reduce risk by 53 percent.⁴

American Heart Association

The American Heart Association (AHA) Nutrition Committee, which revises the AHA Dietary Guidelines, recommends an intake of 25 to 35 percent total fat as appropriate for a healthy dietary pattern. The committee emphasized intake of unsaturated fats because of the body of research supporting the cardio-protective role of mono- and polyunsaturated fats. Additionally, there are recommended limits for saturated fat and trans fat intake due to the research supporting the role of these fats in the development and progression of heart disease.⁵

According to the committee, research indicates that individuals should aim to improve their overall diet rather than focusing on a single nutrient or food. The AHA guidelines support that there is no evidence that macronutrient composition of a diet (i.e., the amount of fat, carbohydrate, and protein an individual should consume) has a meaningful effect on energy balance.⁵

NCEP-ATP III

The Adult Treatment Panel III of the National Cholesterol Education Program recommends a multifaceted lifestyle approach, known as therapeutic lifestyle changes (TLC), for managing cholesterol levels and reducing the risk for heart disease.⁶

The ATP III was the first body, in 2001, to increase the total fat recommendation to 35 percent (up from 30 percent), provided that intake was mostly in the form of unsaturated fats and that saturated and trans fats were kept low. Although these guidelines were modeled after the 2000 USDA Dietary Guidelines, which recommended an upper limit of 30 percent, the TLC diet allowed for higher total fat. A review of the research supported this as the most effective cholesterol-lowering therapy, again when the diet included higher intakes of unsaturated fats. As discussed earlier, the Dietary Guidelines for Americans followed suit in their revised 2005 recommendations, increasing the upper limit of total fat allowance to 35 percent.⁶

Research Drives FDA Health Claim

As of May 2007, the U.S. Food and Drug Administration (FDA) allows food manufacturers to carry a health claim stating that “Replacing saturated fat with similar amounts of unsaturated fat may reduce the risk of heart disease. To achieve this benefit, total calories should not increase.” The claim is authorized under the Food and Drug Administration Modernization Act of 1997 (FDAMA). For more information on this claim and additional comments FDA has with regard to its use, please visit <http://www.cfsan.fda.gov/~dms/ffats2.html>

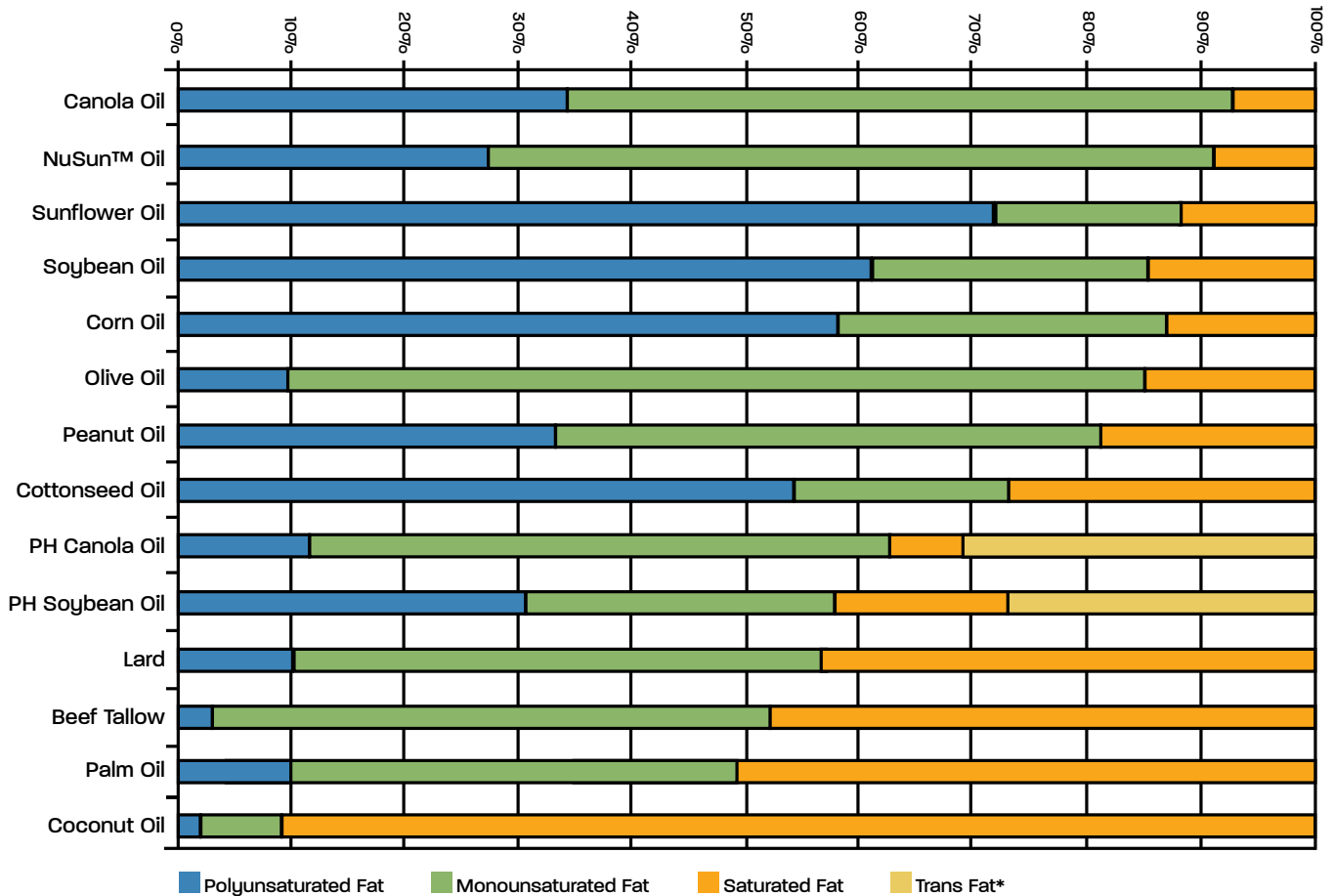
Under FDAMA, a health claim can be made based on an authoritative statement from an appropriate scientific body of the United States Government or the National Academy of Sciences (NAS) or any of its subdivisions without FDA

approval or authorization of the claim. The FDAMA claim was based on authoritative statements from 1989 NAS report titled Diet and Health: Implications for Reducing Chronic Disease Risk:

“Clinical and animal studies provide firm evidence that omega-6 polyunsaturated fatty acids when substituted for saturated fatty acids result in a lowering of serum total cholesterol and LDL cholesterol and usually also some lowering of HDL cholesterol levels.”

“Clinical studies indicate that substitution of monounsaturated for saturated fatty acids results in a reduction of serum total cholesterol and LDL cholesterol without a reduction in HDL cholesterol.”

Fatty Acid Profile of Oils and Fats (in descending order by PUFA and MUFA content)



* Trans fat content may range from 15%-45% depending upon the processing
Based on USDA Nutrient Database SR-18



Guidance for Explaining Nutrition “Flip-Flops”

While health professionals understand that diet recommendations are based on ever-changing scientific research, such changes can be confusing to consumers. For many people, revised recommendations are viewed as “flip-flops,” or contradictions, to what they have heard and learned. After years of hearing that “fat is bad” and being told to be mindful of their total dietary fat intake, it may be difficult for consumers to accept new schools of thought. It is important to discuss the research and the rationale for the revisions with your patients and clients in a way that will help them understand the changes and provide guidance on how to incorporate the current guidelines for fat intake into their diets.

Types of Fats

Defining and distinguishing the different types of fats will help consumers understand the revised guidelines for dietary fat intake. The following graphics and simple explanations may be a helpful tool to share with your patients and clients.

Total fat is the sum of the saturated, monounsaturated, polyunsaturated and trans fats present in food; all foods have a varying mix of these types of fats. Although all fats have the same number of calories per gram, they act differently in the body.

Unsaturated fat is the “good” fat primarily found in oils and plants, and comes in two types – monounsaturated and polyunsaturated. Unsaturated fats may have a beneficial effect on heart health if they replace saturated fats in a person’s diet, but not if they’re simply added, which would make the diet higher in total fat and total calories.

Monounsaturated fat is a type of “good” fat found in sunflower and canola oils, olives and olive oil, nuts, seeds and avocados. Monounsaturated fats (MUFAs) have been shown to decrease total cholesterol and LDL (“bad”) cholesterol and maintain HDL (“good”) cholesterol.

Polyunsaturated fat is a type of “good” fat found in greatest amounts in corn, soybean, and safflower oils, fish and many types of nuts. Omega-6 polyunsaturated fats (PUFAs) have been shown to decrease risk for heart disease by decreasing total cholesterol and LDL cholesterol. Omega-3 PUFAs from fish have been shown to play a role in reduction cardiac arrhythmia and sudden death. The modes of action are not fully understood, but are due in large part to anti-inflammatory/anti-thrombotic capacity.

Saturated fat is a “bad” fat most often found in animal food products

including milk, eggs, meat and butter. Saturated fat is also found in significant amounts in some tropical oils such as coconut and palm oils, and some vegetable oils, such as cottonseed oil. Studies show that too much saturated fat in a person’s diet increases heart disease risk by increasing total cholesterol and LDL cholesterol.

Trans fat is a “bad” fat that is formed during the process of hydrogenation, which helps to keep oils stable at room temperature for use in foods, such as margarine, French fries, doughnuts, cookies and crackers. Trans fat is also found naturally in meat and milk in small quantities. Similar to saturated fat, trans fat increases heart disease risk, but is thought to be even more harmful because not only does it increase total and LDL cholesterol, but decreases HDL cholesterol as well.

A Closer Look at MUFAS and PUFAS

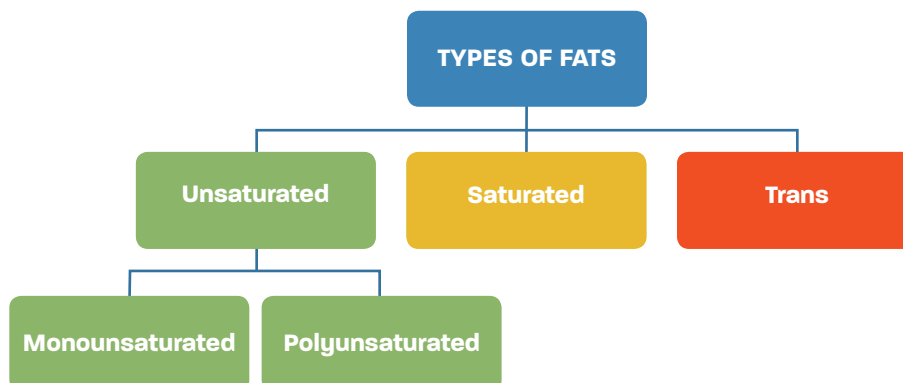
Liquid oils are a major source of MUFAs and PUFAs in the diet. It is helpful to explain to your patients that all oils contain all three of the fatty acid classes, but are generally categorized as monounsaturated, polyunsaturated or saturated according to the highest concentration of fatty acids they contain. Then, by providing a visual representation such as the Fatty Acid Profile of Oils and Fats chart, on the previous page, consumers will not only understand what oils are preferred to cook with and why, but also what oils to look for in the ingredients of food products they purchase.

Dietary Guidelines for Fat

Monounsaturated and polyunsaturated fats: Health guidelines now permit a higher total fat allowance in the diet so that a higher intake of the “good” monounsaturated (MUFAs) and polyunsaturated (PUFAs) fats can be achieved.

Saturated fat: It is recommended that intake be kept as low as possible while maintaining a nutritionally adequate diet. Completely eliminating saturated fat is not possible because all fats contain some saturated fat. For example, although olive oil is a healthier fat with unsaturated fat content of 83 percent, the remaining fat is saturated. But the healthier oils contain much less saturated fat than the solid fats such as butter, which is has over 60 percent saturated fat. This is why the US Dietary Guidelines recommend that most dietary fat should come from vegetable oils.

Trans fat: Trans fat should generally be limited since it is known to increase heart disease risk.



Incorporating Guidelines into the Diet

You can help consumers incorporate these guidelines into their daily meal planning. The following are some tips for bringing the guidelines to life.

Panel Power: Paying attention to the Nutrition Facts Panel will help you know how much of the total fat is coming from the different types of fats. Look for foods higher in unsaturated fats, lower in saturated fat, and with no trans fat. As of 2006, panels are required to list the amount of trans fat, so you are able to make a more informed decision about the foods you are eating. Panels may not always specify the amount of unsaturated fats, but you can determine this by subtracting the amount of saturated and trans fats from the amount of total fat.

For example:

14 grams Total Fat

- 6 grams Saturated Fat

- 2 grams Trans Fat

6 grams Unsaturated Fat

In the left example, more than half (57 percent) of the total fat is saturated and trans. If an individual's diet typically includes foods with a similar nutrition profile, it would not comply with recommended dietary guidance to be less than 10% saturated fat and as low as possible in trans fat.

Here, on the right, is an example of a food that has a very desirable ratio (90 percent) of unsaturated fats per serving. This Nutrition Facts Panel also specifies the amount of polyunsaturated and monounsaturated fats. Food manufacturers are only required to provide this information in certain scenarios; however a few companies are starting to provide more comprehensive fat information voluntarily.

Identify Ingredients: The ingredients list illustrates the sources of the saturated, unsaturated and trans fats in a food. Choose foods that list ingredients high in "good" fats over foods high in "bad" saturated fat, as well as those with no trans fat. The best way to determine if there are healthier oils present is to become familiar

Nutrition Facts

Serving Size 1oz.

Amount Per Serving	
Calories 150	Calories From Fat 90
% Daily Value*	
Total Fat 10g	15%
Saturated Fat 1g	5%
Polyunsaturated Fat 4.5g	
Monounsaturated Fat 4.5g	
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 180mg	7%
Total Carbohydrate 15mg	5%
Dietary Fiber 1g	4%
Sugars 0g	
Protein 2g	
Vitamin A 0%	Vitamin C 0%
Calcium 0%	Iron 2%
Vitamin E 10%	Thiamin 2%
Niacin 6%	Vitamin B6 4%
Phosphorus 4%	Magnesium 4%

with those rich in MUFAs and PUFAs, such as sunflower oil and corn oil. The best way to determine if there are meaningful amounts of trans fat is to look at the Nutrition Facts Panel.

Portion Control: Even though the focus of dietary guidelines have shifted from quantity (amount of fat) to quality (type of fat), the size of the portion you eat is still very important. Instead of eating directly out of the package or container, select an amount of food you think will satisfy you and put it in a separate plate, cup or bowl. If you are still hungry, you can always go back for more.

It is critical to be aware that serving size and portion size are not always the same. The Nutrition Facts Panel defines what a serving

Nutrition Facts

Serving Size 1cup(228g)
Servings Per Container 2

Amount Per Serving	
Calories 260	Calories From Fat 120
% Daily Value*	
Total Fat 13g	20%
Saturated Fat 5g	25%
Trans Fat 0g	
Cholesterol 30mg	10%
Sodium 660mg	28%
Total Carbohydrate 31mg	10%
Dietary Fiber 0g	4%
Sugars 5g	
Protein 5g	
Vitamin A 4%	Vitamin C 2%
Calcium 15%	Iron 4%

size of the food is and all the information on the panel refers to that amount. Your portion size is the amount of food that you select to eat, which may be larger or smaller than the serving size. Use the serving size on the panel as a reference to determine the nutritional value of your portion size.

In the example on the left, one serving is equal to 1 cup, which contains 13 grams of total fat and 5 grams of saturated fat. If the portion you select is 2 cups, you are eating 26 grams of fat and 10 grams of saturated fat.

Nutrient Density: Choose foods high in MUFAs and PUFAs, which offer the most nutrition "bang for your buck," over those high in saturated and trans fats. For example:

- Add nuts to tossed salads instead of bacon.
- Put slices of avocado on a sandwich instead of cheese.
- Choose products like snack chips cooked in sunflower, soybean or corn oil over those cooked in other oils.

Vote for Variety: MUFAs and PUFAs are found in a wide range of foods from nuts, avocados and fish, to vegetable oils like corn, soybean, sunflower, canola or olive oil to packaged foods cooked in healthier oils. It is important to know what the sources of "good" fats are and replace other, less healthful fats with these daily.

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