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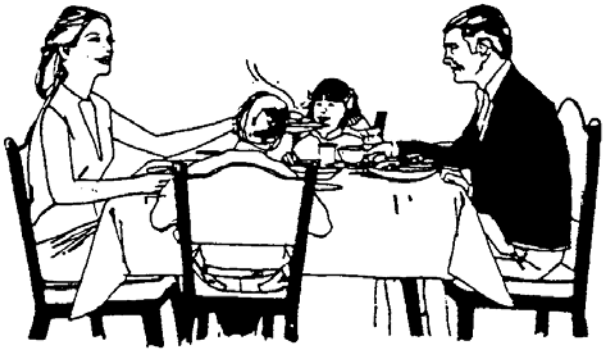
FATS

Overconsumption of fat, particularly saturated fat, has been related to six of the 10 leading causes of death. The two diseases most closely linked to fat intake are coronary heart disease and cancer.

Despite its bad reputation, some fat is needed in our diet. Fats serve many functions in the body. In addition to providing more than twice the energy supplied by carbohydrates and proteins and supplying essential fatty acids, fats serve as carriers for fat-soluble vitamins (A, D, E and K) and as parts of cell membranes.



Fat also adds to the aroma, texture and flavor of food and makes us feel full.

What is fat?

Fats, also referred to as lipids, are compounds that do not dissolve in water. The word “fat” covers a wide range of compounds and there are many terms associated with dietary fats.

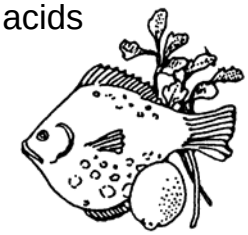
These terms include saturated fatty acids, monounsaturated fatty acids, polyunsaturated fatty acids, omega-3 fatty acids, trans fatty acids, triglycerides, and cholesterol. Because of recent advances in our understanding of the role of each of these different components, it is important to understand these constituents.

Fatty acids are one of the building blocks of fats. The three basic kinds of fatty acids are saturated, monounsaturated, and polyunsaturated. The difference in these three kinds of fatty acids is the way the carbons are linked together to form chains; these chemical differences become important since our body handles each of these types of fatty acids differently.

Saturated fatty acids occur when all carbons along the carbon chain are linked with at least two hydrogen atoms. The more saturated fatty acids that fat contains, the more solid the fat. Saturated fatty acids are found in all foods containing fats, but as a general rule, animal fats tend to contain more saturated fatty acids than plant fats.

Monounsaturated fatty acids occur when two adjacent carbons on the fatty acid chain are linked to only one hydrogen. The bond between the two carbons is called a double bond. Monounsaturated fatty acids are found in all foods containing fats, but the richest sources are canola oil, olive oil, avocados, and nuts.

Polyunsaturated fatty acids contain more than one double bond. An omega-3 fatty acid is one kind of polyunsaturated fatty acid whose first double bond occurs in a specific place on the carbon chain. Fish, especially fatty fish, and fresh soybean oil are good sources of omega-3 fatty acids. Diets high in omega-3 fatty acids are linked to a decreased risk of coronary heart disease. Individuals eating diets high in omega-3 fatty acids have blood platelets that are less sticky so the chance of developing blood clots is decreased. A downside of consuming a diet high in omega-3 fatty acids is an increased risk of bleeding to death if cut.

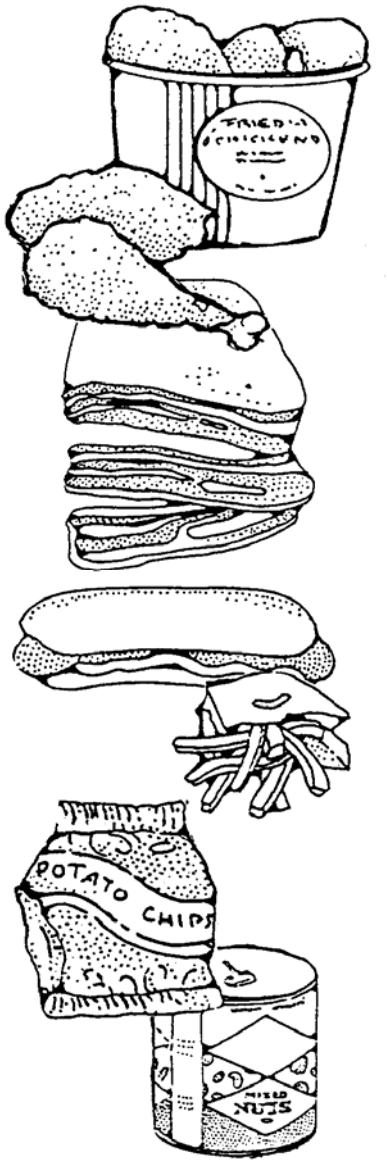


Trans fatty acids result from processing oils into solid fats. Trans fatty acids are one of two possible geometrical orientations for an unsaturated fatty acid. (The other type, called cis fatty acids, is the geometrical orientation found in nature.) Diets high in trans fatty acids have been linked to increases in LDL cholesterol (bad cholesterol), a decrease in HDL cholesterol (good cholesterol), and an increase in blood triglycerides and lipoproteins. Recent studies suggest that a diet high in trans fatty acids can also increase the risk of type 2 diabetes.

Most dietary fats are a mixture of triglycerides. A triglyceride is made of glycerol with three fatty acids hooked to it. The fatty acids may be identical, but are more likely different. The fatty acids can be saturated, monounsaturated, polyunsaturated, or a combination of these. Similar to triglycerides, mono and diglycerides contain only one and two fatty acids, respectively. They are frequently added to foods in small quantities to improve the quality of the product, such as to decrease staling in bread products.

Cholesterol is a fat-like substance found in animal foods and is produced by our bodies. Cholesterol is a necessary part of body cells and serves as a precursor for bile acids (needed to digest fats), steroid hormones, and vitamin D. Because adults can make cholesterol, it is not essential in the diet.

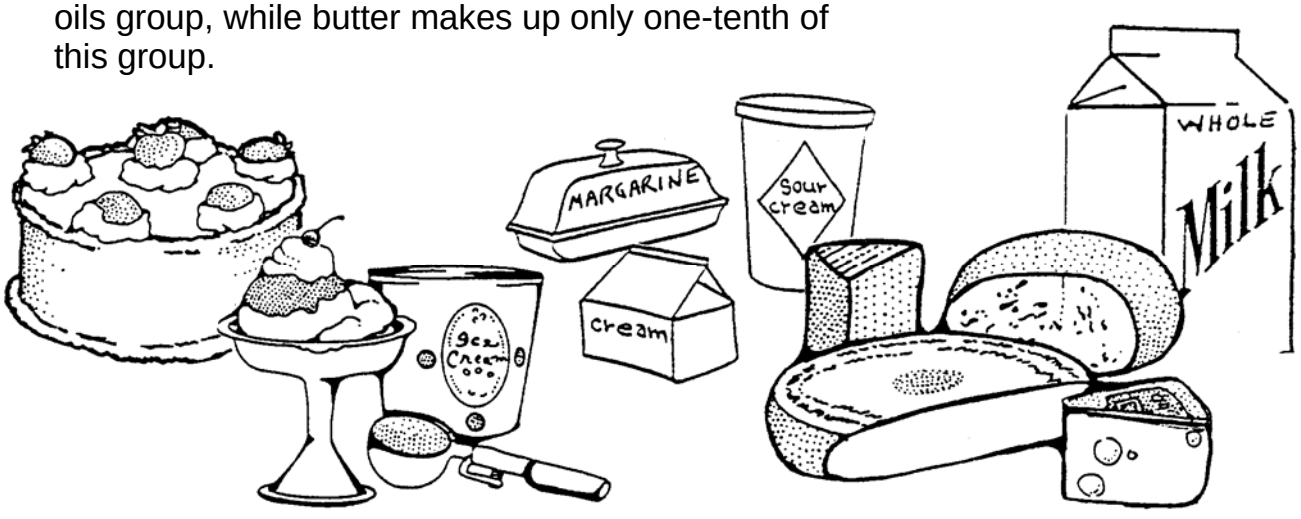
What are sources of fat?



Ninety percent of the total fat in the nation's food supply comes from three groups of foods: 1) fats and oils; 2) meat, poultry and fish; and 3) dairy foods. The fats and oils, which include salad and cooking oils, butter, margarine and cream, are referred to as visible fats because they are easily seen and identified. The two other groups contain invisible fats, which can not be easily separated from the foods. Visible fats can become invisible once they are integrated into a food such as addition of oil, butter, or margarine in making cookies or cake.

The difference between visible and invisible fat can also be described by looking at meat as an example. After trimming the outer layer of fat from the meat (the visible fat), 20 to 40 percent of its calories still come from fat distributed in the lean portion (the invisible fat). Other invisible fats are found in baked goods, nuts, peanut butter, processed meats and deep-fried foods such as potato chips.

The increase in the fat content of the American diet has come primarily from increased consumption of salad and cooking oils and shortening. The use of animal fats has actually decreased. For example, margarine, which is made from vegetable oil, now accounts for one-seventh of the fat from the fats and oils group, while butter makes up only one-tenth of this group.



How can you reduce fat in your diet?

The level of fat intake recommended by experts is 35 percent or less of the total calories consumed daily. This means that a person eating 2,000 Calories a day should eat no more than 700 of those Calories as fat, which is equal to about 6½ tablespoons of fat. Someone requiring 3,000 Calories a day would ideally eat no more than 1,050 Calories or 10½ tablespoons of fat per day.

Of the 30 percent, no more than 10 percent should come from saturated fatty acids, up to 10 percent can come from polyunsaturated fatty acids, and with the remainder coming from monounsaturated fatty acids. Although it may not be possible to totally limit trans fatty acids, strive for as close to zero as possible.

The first step in reducing fat intake is to look at the foods eaten. Most of the fat in the diet comes from visible fats, which are easier to identify. The following guidelines will help reduce visible fats in the diet:

- Bake, roast or broil foods instead of frying in fat.
- Use non-stick skillets without fat or use vegetable sprays.
- Remove any visible fat from meats and the skin from poultry. Visible fat and skin may be removed either before or after cooking with no difference in fat content.
- Add spices and herbs to vegetables instead of butter, sauces or gravies.
- Cool and refrigerate stews, broths and meat drippings and skim off fat before serving.

Reducing the invisible fat in the diet may be harder to do, but adopting the following practices will help.

- Choose lean cuts of meats such as flank, round or rump of beef; leg or loin of pork and all cuts of veal instead of high-fat meats such as corned beef, sausage, cold cuts, bacon and spare ribs.
- Include fish, chicken and turkey in meals.

- Serve high-fat foods less often by substituting lower fat foods. Compare the amount of fat in the following items:

Devil's food cake with frosting 8 grams	Angel food cake trace		
Milk chocolate 9 grams	Hard candy none		
Danish 12 grams	Doughnut (cake-type) 12 grams	Croissant 12 grams	Blueberry muffin 5 grams
Roll (without butter) 2 grams	Roll (with 1 tsp margarine) 6 grams	Roll (with 1 tsp butter) 6 grams	
Fried shrimp 10 grams	Boiled shrimp 1 gram		
Ice cream 14 grams	Ice milk 6 grams		
French fries 8 grams	Potato chips 7 grams	Hash browns 6 grams	Baked potato (without butter) trace
Fruits trace	Vegetables trace		

- Limit the intake of nuts, peanuts and peanut butter, which are all high in fat.

- Substitute skim or low-fat milks and their products (uncreamed or low-fat cottage cheese, low-fat yogurt, ice milk and mozzarella cheese) for whole milk and its products (cream, butter, ice cream and most cheeses).

- Check Nutrition Facts labels on foods. Margarine may have high levels of saturated fat due to hydrogenation. Choose margarines with liquid or pure vegetable oils as the first ingredient. Non-dairy whipped toppings and cream substitutes may also be high in saturated fats.

Nutrition Facts

Serving Size 1 cup (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 3g	
Cholesterol 30mg	**10%**
Sodium 660mg	**28%**
Total Carbohydrate 31g	**10%**
Dietary Fiber 0g	**0%**
Sugars 5g	
Protein 5g	

Vitamin A 4%	Vitamin C 2%
Calcium 15%	Iron 4%

*Percent Daily Values are based on a 2,000-calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories:	2,000	2,500
Total fat	Less than	65g	80g
Sat fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total carbohydrate		300g	375g
Dietary fiber		25g	30g

Calories per gram:
Fat 9 Carbohydrate 4 Protein 4